SCAPES 8

FALL 2010

SCHOOL OF CONSTRUCTED ENVIRONMENTS
PARSONS THE NEW SCHOOL FOR DESIGN

Triggers: Urban Design at a Small Scale

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PARSONS THE NEW SCHOOL FOR DESIGN

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Dean's Letter William Morrish

Scapes 8 represents a creative turning in the evolution of this School's history, from a group of affiliated departments into the new School of Constructed Environments. Secondly, it inaugurates a new generation of digital publications and knowledge exchange. Scapes is going global and local online in real time.

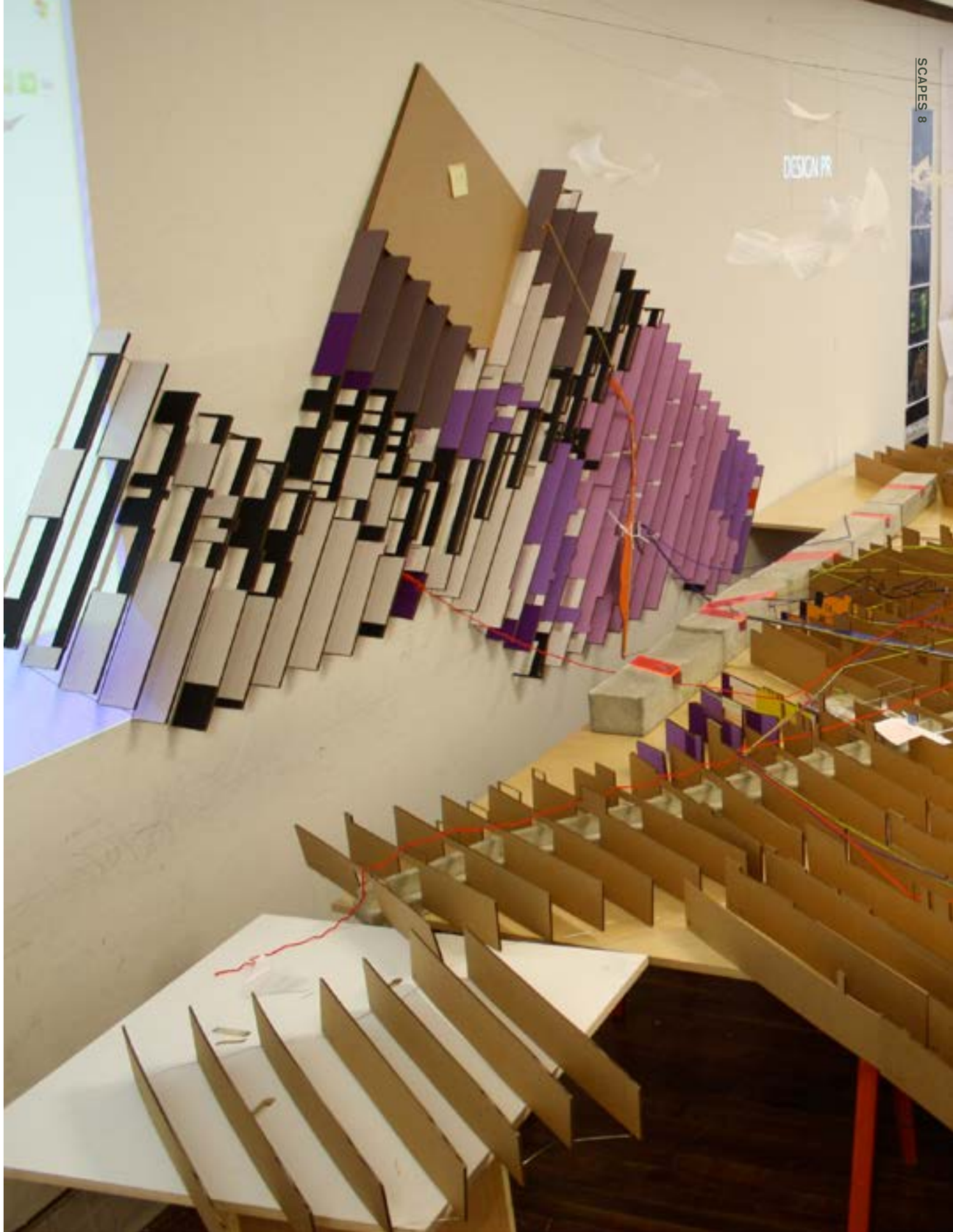
How?

In my first year as Dean of SCE, I read most the past issues of Scapes. In the past, for me, the word "scapes" has been problematic, recalling numerous "streetscapes" — retail commercial streets that are filled with benches, pseudo historic architectural details and colored banners beckoning car passengers looking for parking spaces to become "pedestrians". When I finished reading Scapes, I was relieved to discover a far richer design practice and research narrative. Behind the cover, authors explored a number of everyday tools, routine cultural transactions, and micro-ecological patterns that are used by various urban actors to operate in the voids and open spaces of the city. Scapes in many ways has laid the ground work for the creation of the School of Constructed Environments that today is home to the four disciplines of architecture, lighting, interiors and product design.The term "constructed environments" is a clear statement that all "scapes" whether they are urbanscapes, or landscapes are acts of human design and marshalling community resources towards sustaining a productive and healthy habitat. These writings have inspired the SCE's mission:

> Architecture, interior, lighting and product design students work with faculty and citizens of global communities to learn the skills of design engagement, integrated thinking and urban practice in a collective effort to transform our cities into sustainable urban habitats.

The other narrative is about public scale. What I mean by scale is the constant foregrounding and identification of critical social, cultural, physical and ecological relationships and acts that reflect pubic life and define urban habitat. Joanna Merwood-Salisbury's timely article about Union Square and its design to accommodate ideas about political and social crowding reminds us of the loss of civic political discourse into today's city streets, or not. Maybe Twittering or digital cell phone videos of political acts sent immediately around the global via the Internet is the new union square. The common theme is what brings people together around a busy city arterial street, a polluted river, a worn public housing project, a historic square, or vacant lot as if these spaces were "civic" places. These ad hoc civic places draw diverse folks to convene and design and construct a new environment that reflects their hopes and desires its physical form, and attracts others in the future to carry forth the ideas into new forms of expressions. This insight has helped me shape the School's new digital magazine.

This digital magazine is in the final construction phases of becoming its own "scape" a digital environment for daily exchange of new knowledge as well as the distribution point for future digital publishing of the next issues, Scapes, design studio pamphlets, projects case studies and public event podcasts. Union Square is right around the corner from the School of Constructed Environments. Each day I pass through it to take the subway, shop in the organic market, join a protest, or enjoy the rich crowding of diverse and interesting people, being public. We hope that our magazine will attract a crowd and swarm of creative and innovative design transactions. It is the School of Constructed Environments' new Scapes, carrying forth the rich set of ideas contained in this publication. Please share it with a fellow citizen.



Dean's Lawn & Editor's Intervention

Bill Merrish & Joanna Merwood-Salisbury

Editor's Introduction: Triggers: Urban Design at a Small Scale

Joanna Merwood-Salisbury
& Brian McGrath

In 1922 the organizers of the Salon d'Autome asked a young Swiss architect to prepare an exhibition on urbanism. As Le Corbusier tells it, the organizers defined "urbanism" as "sort of like street art…for stores, signs and the like; it includes such things as the ornamental glass knobs on railings." In response he created a 100-square-meter diorama depicting his version of the "Contemporary City." This iconic and influential project contained the elements that would define modernist urbanism until late in the twentieth century: an enlarged grid organization structure, rigid differentiation of urban functions into zoned areas, vertical separation of traffic circulation into layers of different types, the creation of a universal "green" ground plane, and widely spaced skyscraper towers. For Le Corbusier, the only truly effective urban design went far beyond the level of street furniture, it meant planning on the largest possible scale.

As Liu Dong discusses here in an essay on Beijing, almost one hundred years later Corbusier's large scale model of urban planning, dominates the rapidly developing and urbanizing world. However, the early twenty-first century has also seen the introduction of different kinds and scales of urban design tactics and strategies. This issue of Scapes asks the following questions in order to bring together several examples of urban design at a small scale. How can design at the scale of the object, the body, and the interior, "trigger" different kinds of inhabitation and use of the city, recognizing multiple urban publics? Do these triggers have to be systematic in order to be effective? Can they be immaterial, operating through the media of information, light and sound? Is the time duration of a small-scale urban trigger necessarily shorter than that of a monumental urban plan? Can they be designed to work in concert with local ecosystems to create urban environments that respond to the seasons and to changes in local climate and geography?

Triggering suggests an automatic release of an immanent force. It is precise, controlled and calculated; an unclenching action that has serial effects that can cascade within larger urban systems. While small in scale, triggers unleash changes at multiple scales. The work shown in Scapes 8 considers how urban design can be effective at a small scale by acting as a trigger for larger and more long lasting changes. Examples presented here include the redesign of Red Hook Park based on the logics of individual food vending; two models for urban ecological restoration based on considering the humble street tree or urban fountains systematically; and small scale and low cost experiments in carving out new bike lanes and pedestrian spaces in order to trigger the redefinition of mobility in New York City. While the modern global city has been created through the enormous concentration of money, labor and materials in large scale urban planning, the sustainable city of the future requires a multitude of urban designs at a small scale.

Essays

SCAPES 8

Design for the Crowd in Union Square

Joanna Merwood-Salisbury

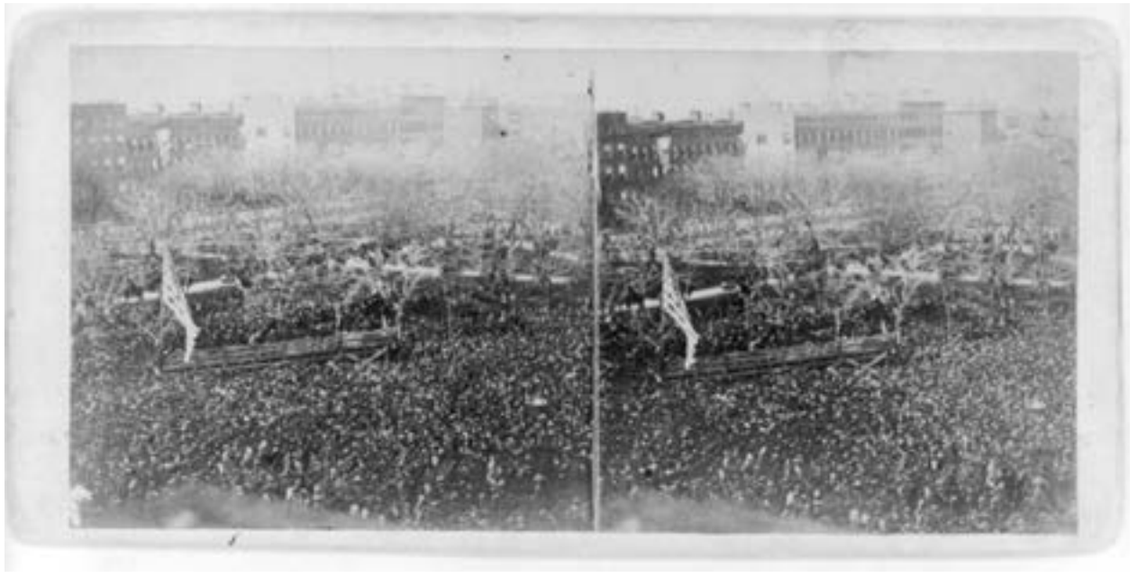


Fig. 1.
The great union meeting in Union Square, New York, April 20, 1861.
Library of Congress.

Union Square Park has a problem built into its name. Is it possible to be both a "square" and a "park"? Can an outdoor public space designed for necessarily crowded civic meetings co-exist with a green space designed for peaceful respite from the city? This contentious question has troubled the conceptualization, design, maintenance and policing of Union Square Park from its founding in the early-nineteenth-century until today. The process of making and re-making this small but important parcel of land has always been as much a matter of politics as of landscape architecture and urban design. In 2004 the New York City Department of Parks and Recreation announced the latest "renovation" of Union Square Park, focusing on the wide paved area facing Seventeenth Street at the park's north end. Despite recent appearances (an unattractive asphalted surface), this zone is one of the most celebrated and contentious public spaces in America's urban history. In announcing their plans for the north end, a City press release claimed that, "this project will complete the restoration of one of the City's most important and historic public spaces."[1] As conceived by the Parks Department, this latest incarnation of Union Square Park illuminates the eternal dilemma of "restoration" (to what moment in its over 150-year history is the park being restored?) as well as the continued problem of the design of public space (while it is supposed to be free and open, the smallest aesthetic changes imply and reinforce particular uses over others).

Designed by Michael Van Valkenburgh Associates and Architecture Research Office for the New York City Department of Parks and Recreation, the so-called North End project now under construction is the third and final phase of a major public/private project to "restore and rehabilitate" the Park that began in the early 1980s. During this period Union Square Park, like many others in Manhattan, suffered from neglect by its City owners and was occupied mainly by drug dealers and the homeless. In 1986 the Union Square Partnership – made up of the Parks Department and local businesses - began a long-range restoration project, including the reconstruction of the southern end of the park as a large stepped plaza, and the reconfiguration of the center of the park according to the principles of "defensible space" (as a result turning it into a largely inaccessible lawn). The second phase of this project, the landscaping of the southeastern and western corners with new plants and statues, was completed in 2002.

As Rosalyn Deutsche has argued, though presented as being of benefit to the city as a whole, the impetus behind this 1980s renovation was gentrification. The Partnership used the renovation of Union Square Park to encourage interest in the new residential towers being built along its eastern edge as well as other local real estate projects. In this way the renovation echoed the original purpose of the park. Created in 1839 out of the awkwardly shaped lots formed by the intersection of the 1811 grid with Broadway, it was intended to promote residential development in what was then the northern periphery of the city. In 1839, as in the 1980s, a clean and attractive park, presented as a quiet and green respite from the city around it, was a powerful real estate advertising tool.

As Deutsche has pointed out, developers and local business owners were deliberate in their selective preservation of the park's components and in they way they recalled only certain aspects of the park's history.[2] In particular, the 1980s restoration project conjured up images of the parks' mid-nineteenth century past as a place of national unity, using as an example the large civil war era gatherings around the Washington memorial at the southeastern corner of the park – images they reproduced in their reports (Fig. 1) – and suppressed memories of more contentious late-nineteenth-century labor demonstrations that took place there. This effort was in the service of pacifying what had been a tumultuous and sometimes violent urban space, emphasizing the square as a peaceful and quiet memorial to long ago and now resolved struggles. The latest and final component of the thirty year reimagining of Union Square Park appears to arise from the same motivation: the desire to promote the gentle kinds of urban leisure that will appeal to middle class users (strolling, playing, and now shopping too).

The Parks Department program for the North End, now dubbed a "plaza," is not really a restoration at all. While it aims to enhance two of the existing functions of that area, the playground and the Greenmarket, these date from the 1960s and 70s respectively, not an era usually thought worthy of preservation, at least when it comes to urban design. Nor does the plan by Michael Van Valkenburgh Associates aim to re-create any particular era with historical exactitude. Rather it involves replacing the current asphalt surface with hex blocks and planting a line of Japanese Pagoda trees between the plaza space and Seventeenth Street. While they nod to history these two simple and seemingly uncontroversial design moves - resurfacing the plaza and defining its northern boundary with a line of trees – simultaneously reinforce and erode the most storied component of Union Square Park: Frederick Law Olmsted and Calvert Vaux's 1875 creation of a "muster ground" along Seventeenth Street.

Olmsted and Vaux's redesign of Union Square Park dramatically changed the function and image of the park from a quiet and contemplative green space to an active public meeting place. Responding to concerns

1 — City of New York – Parks and Recreation, "Mayor Michael R. Bloomberg, Parks and Recreation Commissioner Adrian Benepe and Union Square Partnership Announce $14 Million Reconstruction of Union Square Park," City Press Release, October 25, 2004. See also, City of New York – Parks and Recreation, "A New Plan for Union Square Park," City Press Release, January 2006.

2 — Rosalyn Deutsche, "Krzysztof Wodiczko's Homeless Projections and the Site of Urban 'Revitialization'," in Evictions: Art and Spatial Politics (Cambridge: MIT Press, 1998), 3-48.

Fig. 2 & 3 Socialists in Union Square, New York, May 1st 1908.
George Grantham Bain Collection (Library of Congress).

that the once quiet residential neighborhood was being encroached upon by large and boisterous public gatherings around the edges of the park, the two men truncated the northern section of the park's elliptical plan, creating a 300-by-100-foot open space or "muster ground." This new area, a third space between the park and the street, was a more like a square in the generally accepted sense of the word. It was an open public space used for all kinds of civic gatherings, from Fourth of July and Columbus Day parades, to working-class political marches (including the first Labor Day parade on 5th September 1882), to mass meetings of anti-war demonstrators during WWI and gatherings of unemployed workers during the Depression (Fig. 2). In effect Olmsted and Vaux took the informal function of the Washington memorial as a public gathering space outside of the park, and moved it inside, creating a purpose-built meeting space. In doing so they created a hierarchy of functional zones between the inner park (a quiet green space), the hardscaped area to the north (a place for public gathering), and the busy street surrounding the park. As contemporary critics realized, in its new form the north end of Union Square Park provided nothing less than a place for the sanctioned exercise of democracy, a "theater adequate to the utterance of the national voice" in the words of local real estate developer Samuel Ruggles.

While Michael Van Valkenberg Associates claim that their design "supports the continued use of this space for large public gatherings," city documents supporting the 2004 plan for the North End make it clear that the new "plaza" is not primarily intended for use as a meeting place for large groups. Instead it is intended as an amenity for the Greenmarket and as the site of an enlarged children's playground. Together the Greenmarket and the playground have come to represent public life in Union Square Park, at the expense of other uses and users. The proposed line of trees between the plaza and Seventeenth Street will deny the porous boundary created by Olmsted and Vaux, closing up the park's northern perimeter so that the privileged functions of the plaza (the Greenmarket and playground) can function better. The proposed treatment of the existing neo-classical pavilion, built in 1935 as part of an effort to subdue the park's radical reputation through an active campaign of "beautification," reinforces the same idea.

Local community groups, organized as the Union Square Community Coalition, waged a campaign against plans for the restoration of the pavilion on the grounds that they give over too much of the building to a restaurant and provide insufficient space for public amenities like bathrooms and indoor play areas.[3] A larger question is, why preserve this mediocre building anyway? Unlike the Calvert Vaux-designed neo-gothic cottage that previously occupied the spot, a building that served as a podium for fiery speeches in the late-nineteenth and early-twentieth century, it has little aesthetic or historic value (Fig. 3). A new and imaginatively designed building on this site might refer directly to the celebrated history of the north end of Union Square Park, while still providing the amenities demanded by community groups.

Announcing the restoration project in 2004, Parks Commissioner Adrian Benepe said, "Union Square Park's improved amenities will now reflect its standing as a city commons where parents bring their children to play and their dogs to walk, where New Yorkers congregate from across the City to buy fresh produce, grab a bite to eat, gather to express opinions, and meet friends." In this skewed definition of public space, "expressing opinions" comes low down the list, and seems to suggest a lively debate between good friends over an organic muffin rather than anything larger or more confrontational. In privileging amenities like the Greenmarket and the playground (worthy functions though they are), the renovation aims to restore the reputation of this famous nineteenth-century park without recreating the truly innovative aspect of Olmsted and Vaux's plan. Unfortunately it comes less close to offering a solution to the tricky problem of mediating between park and square than one made over 130 years ago. ◊

3 — http://www.unionsquarecommunitycoalition.org/northend.html

Food Fence

Carolina Cisneros & Mateo Pintó

Fig. 1.
Broad Street lunch carts, New York, N.Y., c. 1906. Detroit Publishing Company. 1880-1920 Collection, American Memory Collection. Library of Congress

The Red Hook Food Vendors (RHFV) have returned to their fields with less tents, but more flavor, after waging a fierce battle with the New York City Parks and Recreation Department and the Department of Health and Mental Hygiene (DOHMH). In their crusade to reinforce food preparation regulations, the DOHMH almost removed a thirty-year tradition of food street vending in Red Hook. May 2008 marked the second year in which the vendors operated under a new six year permit given by NYC Parks that requires them to adhere to DOHMH regulations. To comply with the new rules, the food vendors gave up their tents, open grilles and cooking areas and moved inside compliant food trucks. Not all of the vendors, however, are back because some of them could not afford to buy a truck.

These dramatic changes call for an alternative design solution--one capable of recapturing the market's original spirit while incorporating the new norms. In October 2008, the New York Chapter of Architecture for Humanity[1] decided to confront this challenge by organizing a design competition for the RHFV market place. Working with the Food Vendors Committee of Red Hook Park[2], this initiative sought to find common ground among community, city agencies and vendors in order to create a positive resolution.

OPEN CALL FOR A NEW MARKET PLACE
ALL INGREDIENTS WELCOME

The design competition "A New Marketplace for the Red Hook Park Vendors – An Open Call for Ideas" opened the discussion about the vitality of the original market and the vendors' need to cook and serve food according to health department regulations.

The distinctive approach of this competition was that, unlike others it did not award a single prize nor did it promise to build one winning design. Instead, Architecture for Humanity (AFH) selected a few teams of professionals to volunteer their expertise and ideas as part of a wider public discussion promoting involvement between patrons and the community. This initiative presented an innovative way to address the situation attuned with AFH's goal of promoting socially responsible volunteerism through design advocacy, public education, and community action[3]. Much like the Red Hook food vendors market, where all ingredients are welcome, this process is not about finding a unique solution, it is about promoting variety, diversity and exchange.

Representatives of the NYC Parks and Recreation Department, AFH representatives, and the executive director of the Food Vendors Committee of Red Hook Park gathered information and comments about the needs and scope of the project, selected five teams were selected to develop their ideas further.[4] The latest designs, corresponding to the second phase of the competition, were displayed in September 2010 together with the launching of the Red Hook Food Vendors new website. As yet it is uncertain how these ideas will be incorporated into the final resolutions taken by city agencies, but for now they are very receptive to implementing new designs for the market.

As food enthusiasts encouraged by our Latin roots and curiosity, we saw the open call for ideas as the perfect opportunity to cross the river and take a savory tour all the way to the Red Hook ball fields. This resulted in repeated visits to eat, enjoy and understand the market in order to work on our proposal, Food Fence – Field Fence, which later became one of the selected entries in the design competition.

STREET VENDING *TO SUIT ALL TASTES*

Throughout the history of New York City, as in other dense metropoli, the practice of street vending was a common economic strategy for newcomers and immigrants. Over

1 — Architecture for Humanity New York is the New York City chapter of Architecture for Humanity, an all-volunteer group of design professionals promoting socially responsible volunteerism through design advocacy, public education, and community action. For more information go to www.afhny.org
2 — Food Vendors Committee of Red Hook Park, Inc. is a group of artisan cooks hailing from all corners of Latin America. For more information go to www.redhookfoodvendors.com
3 — http://afhny.org/content/about
4 — All selected entries can be viewed at http://afhny.org/news/news.php?id=34

2. (above, across)
Red Hook ball fields, vendors' appropriation of public space. Chronological progression of the food vendor setup.
From left to right:
(A) Vendor's tents along Bay Street side walk, 2006
Image courtesy of the Bridge and Tunnel Club blog, bridgeandtunnelclub.com
(B) Vendor's tents inside the Park, 2007
Image courtesy of the Red Hook Food Vendors Committee
Photograph Marcos Lainez
(C) Vendor's food trucks along Bay Street after Department of Health regulations, 2009
Photograph by Mateo Pinto

3. (below, top)
Outside - Red Hook ball fields
Vendor food trucks at the corner of Clinton Street and Bay Street, Red Hook, Brooklyn, 2009. Photograph by Mateo Pinto

4. (below, opposite)
Inside - Red Hook ball fields
View of the open field on a typical summer weekend, 2009
Photograph by Mateo Pinto

ten thousand people currently make their living selling their wares on the streets, in every neighborhood and all through the five boroughs. Sometimes called peddlers or pushcart vendors, street vendors perform an important service by providing convenient and affordable goods to New Yorkers and visitors from all economic backgrounds.

In most cities street vendors face an extensive and confusing set of regulations and restrictions. Over time this practice has been the subject of intensive debates between city agencies and planners, particularly in New York. On many occasions street vending has been the target of politicians, business owners and even the police, who deny access to vending licenses, unjustly harass vendors, and illegally seize their property. Organizations and initiatives like the Urban Justice Center, the Center for Urban Pedagogy (CUP) and the Union of Needletrades, Industrial and Textile Employees (UNITE), work to support vendors by educating them about their legal rights and helping them to organize and participate in the political processes that shape their future.[5]

In New York, street vendors are categorized in three groups for the purpose of regulation: food vendor, general vendor, and first amendment vendor, depending on the type of goods they sell. Yet no categorization covers the range of cultural diversity and economic models of street vending. The Red Hook food vendors present a clear example of the vast cultural exchange produced by the adaptation of foreign traditional cooking and culture to a new context. In this case their influence goes beyond the food. It translates also into the way food is served and prepared, in the setting of the vending areas, and in the character of the market, making it an altogether exceptional experience. This is where the inherent value of street vending lies, especially in a city so immensely influenced by immigrants like New York, where food and goods for all tastes and cultural backgrounds are available.

THE RED HOOK FOOD VENDORS *WITH LATIN FLAVOR*

It all started many years ago when a group of Latin American families formed a soccer league and began playing regularly on the public sports field. The RHFV began their tradition of nourishing, sharing, and selling their cooking in the mid 1970's. Due to the isolated location of the park and its distance from refreshment and food sources, some of the player's followers started to cook at the edge of the fields to feed their families. After a while it became a tradition and the supporters began to sell their specialties to athletes and spectators. This marked the beginning of a long tradition that continues to display the variety and richness of Latin Cuisine and the vibrant diversity of the neighborhood up until the present time.

Distributed along Bay and Clinton Streets around soccer field number 1 in the Red Hook Park ball fields, about ten food carts and trucks provide their awaited traditional dishes every weekend from spring to fall. Before the DOHMH reinforced their regulations there were more food stands, yet the patrons kept coming and the lines got longer. Reminiscent of a small Latin American town, as the vendors note, every weekend the park is flooded with ethnic culinary specialties from Mexico, Central America, South America and the Caribbean. Some of the specialties regularly served are pupusas, grilled corn, huaraches, tacos, baleadas, lemonade and agua fresca.

The Red Hook food vendors are praised for providing not only delicious and affordable dishes but friendly people too. Major publications including the New York Times, the New York Post and New York Magazine have featured the vendors and some have been finalists of the prestigious "Vendy Awards", a cook-off amongst the top street chefs from New York City, serving as a fundraiser to support the Street Vendor Project of the Urban Justice Center.

From an informal gathering started in 1974, the Red Hook food vendors are now the Food Vendors Committee of Red Hook Park Inc. with Cesar Fuentes serving as Executive Director. Over time, the food has kept its exceptional quality and the vendor's relentless spirit has earned them fame and support.

IN THE NEIGHBORHOOD *BOILING DOWN*

Red Hook was originally settled by the Dutch colonists in 1638. It is located in the southwest of Brooklyn surrounded by water on three sides (Gowanus Bay, Erie Basin and the Buttermilk Channel), and the Gowanus Parkway and the Brooklyn Battery Tunnel to the north. Named after the word Hoeck, which in Dutch means "corner," and the dense organic layer of red clay in its soil. This neighborhood, combining residential and manufacturing uses, was one of the busiest ports in the United States from the mid 1800's to the mid 1900's, home to mainly Irish and Italian dockworkers. By 1950 Red Hook was also a Puerto Rican neighborhood with 21,000 residents, most of them longshoremen living in the Red Hook Houses, a public housing project built in 1938 to accommodate the workers and their families. In the 1960's with the introduction of the shipping container, many of the docks became obsolete, and businesses at the Red Hook ports moved to New Jersey, creating increased unemployment as industries abandoned the neighborhood.

With the rapid economic decline in the 1970's and the 1980's, Red Hook turned into a desolate neighborhood and became one of the most dangerous in the city, with high youth and poverty levels compared to other areas. By the late 1990's gentrification had begun, when middle-class artists looking for affordable office and studio space came to the neighborhood. In 1996 the City Planning Commission revised the plan entitled "Red Hook: A Plan for Community Regeneration" submitted by the Community Board Six. Many of the elements of the plan, including housing improvements, transportation and community services have been implemented through a combination of municipal entities and private interests.

The '90's marked the beginning of two prosperous decades for Red Hook. It gained its first Landmark building in 2001, the Fire Brick and Clay Retort Building; park properties have been recently renovated, including the publicly accessible reconstructed Luis Valentino, Jr. Park and pier at the waterfront; the recently opened Red Hook Community Justice Center provides social services; a $30 million passenger ship terminal project was constructed through a long-term lease agreement between New York

5 — The Urban Justice Center serves New York City's most vulnerable residents through a combination of direct legal service, systemic advocacy, community education and political organizing. (http://www.urbanjustice.org/). The Center for Urban Pedagogy makes educational projects about places and how they change. Bringing together art and design professionals - artists, graphic designers, architects, urban planners - with community-based advocates and researchers — organizers, government officials, academics, service-providers and policymakers. (www.anothercupdevelopment.org). The Union of Needletrades, Industrial and Textile Employees represents workers throughout the U.S. and Canada who work in the hospitality, gaming, food service, manufacturing, textile, laundry, and airport industries.

City and the Port Authority; finally the first Fairway supermarket in Brooklyn and the controversial IKEA superstore have been built on the waterfront.

Besides all these improvements, Red Hook has been subject to abuse from private and public sectors because of its industrial zoning. Disregarding the interest and well being of the inhabitants, there have been attempts to develop harmful industries in the neighborhood. In response, the community has developed a broad network of organizations and communication systems to rapidly respond to any menace. Like the Red Hook food vendors, the history of the neighborhood embodies the determination to endure new challenges.

THE PARK SPORT FIELDS *AT LARGE*

Red Hook Park, initially known as Red Hook Recreational Center, was opened in 1936, around the same time as the Red Hook Houses. Under the term of Major Fiorello La Guardia and the tenure of Parks Commissioner Robert Moses, the prominent landscape designer Gilmore Clarke laid out the original development plan.

Stretching over a 59 acre extension, Red Hook Park came under the jurisdiction of the New York City Department of Parks and Recreation progressively over time. Originally part of the land acquired by the city in 1913 was to be used for terminal facilities for the marginal freight railroad. Later in 1934 this ground was assigned to the Parks department and between that year and 1947 the other parcels of Red Hook Park also came under the department's jurisdiction. Occupying a broad area of the neighborhood, the park houses numerous sports fields and facilities for recreational purposes, handball courts, baseball fields, the adjacent Sol Goldman Pool, football and soccer fields, all under the common name of Red Hook ball fields.

Generations of immigrants have made use of Red Hook Park. Feeling back at home for a moment, many have played soccer, others have cheered, and still more have enjoyed their home cooking. The soccer field, located atop an almost imperceptible hill in the center of the east block of the park, allows for views from all around, favoring the location of the food vendors around its perimeter.

FOOD FENCE – FIELD FENCE *MAKING A MEAL WITH WHAT'S ON THE FIELD*

In order to confront the question of designing a new place for an existing market, recapturing the spirit of the former one, taking into account the new health department regulations and the evolution of the Red Hook food vendors , many visits to the market were needed. Based on our observations, we came upon the premise of delivering a cost effective and open-ended strategy: a project capable of reshaping progressively over time to address the growing and constantly changing needs of the vendors and the vicinity.

Specifically the project revises the role of the fences in Red Hook Park, their meaning, their current use and potential new uses. "Fences are in essence symbolic orderings: they demarcate particular spheres, without harsh isolation or exclusion… This symbolic significance of fences often sits uncomfortably with the principles of 'fluid space', openness, neutrality and collectivity found in modern urbanism." [6] In Food Fence – Field Fence we rethink the existing fences as flexible links more than as barriers, as expandable frames generating a space for integration of the activities already present on the market, giving a new meaning to this common urban element.

From the street up towards the soccer field (Fig. 9), two existing rings organize the space: an outer fence encircling the park and an inner fence around the soccer field. In our proposal the outer ring, a typical New York City Park fence, becomes the Food Fence where additions and permeable elements promote the interaction between the prepping/vending area and the seating/eating area. This fence opens in rhythmic lengths, becoming the support for customizable add-ons such as tarps, countertops, lighting, trash cans, displays and flag supports. The inside ring or Field Fence, is altered to take on a larger scale. Following the elliptical promenade around the field, this fence re-draws the geometry and topography up in the air, embracing new elements like solar powered lights for the soccer field, canopies, seating, wind turbines and other sustainable features. Additionally a multipurpose building housing back-up services for the park is located along side the re-activated Halleck Street, opposite the border where the market is proposed. This back bone of services - restrooms, storage, lockers, changing rooms and a trash and recycling center - takes place in reconditioned and retrofitted containers equipped with solar panels and serviced by a vehicular accessible driveway behind it.

Following the layout of the park around the two fences, we identify a series of concentric rings of activities and uses as follows: Food Parking Spot, on the outside perimeter where all the prepping and cooking will happen; Sidewalk Order, between the food stands and the outside fence; Self Delivery Deck, over a leveled deck area for sitting and eating; Flexible Landscape, where open space is kept clear; Go Around, the loop bordering the field; Play, inside the field for players and spectators; Backup Incorporated, a service building providing expanded services.

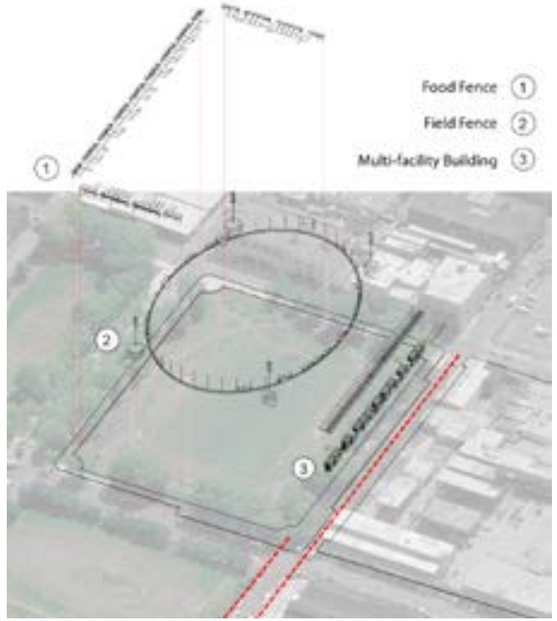
Fig.5
Aerial view of Red Hook, Brooklyn
At the center the Red Hook Park
Recreational Area

6 — "In Search of New Public Domain, Analysis and Strategy" Maarten Hajer, Arnold Reijndorp. Chapter 4, page 121. Nai Publishers

Fig.7
Site plan

Fig.8
Overall cross section
Programmatic section showing the concentric rings of uses and activities proposed

Fig.9
Axonometric



The main goal of the project is to develop strategies that reinforce the economic and cultural impact of the market and the value of the park as a public space at the heart of the neighborhood. Through the design of customizable and portable elements the market's expressive nature is recaptured while addressing variable temporal settings that minimize the impact on the existing grounds. As semi-permanent structures these new layers can be added or removed as the seasons, the neighborhood and the city change.

MOBILE STRATEGY *AN OPEN MENU*

Cultural exchange is an essential urban quality, inherently mobile; it is not always present in our understanding of public space. "We seem to think to much about public space in the sense of fixed permanent physical spaces, and we give insufficient consideration to the way in which public domain comes into being in places in flux, often temporarily." [7] In order to comprehend the true nature of public space, we feel compelled to reinforce the ideas of mobility and exchange within a shared common space, to reconsider pre-existing structures as means, not only as ends.

Addressing the dynamics of public space at a small scale allows us to achieve further mobility and

7 — "In Search of New Public Domain, Analysis and Strategy" Maarten Hajer, Arnold Reijndorp. Chapter 1, page 16. Nai Publishers

adaptability, which by multiplicity and association refer to the larger scale. In this sense we envision Food Fence – Field Fence as a project with the supple ability to adjust to different contexts and contents. Studying and implementing standardized solutions can lay the grounds for other itinerant vending models beyond the Red Hook food vendors. Satellite operations generated by the mobility of itinerant vending contribute to the renewal of our constantly changing public space. Furthermore, progressions into a larger scale can be established by liaisons between itinerant vending and existing local initiatives in order to structure a reciprocal cooperative cycle. Specifically, in the case of the RHFV it could begin by synchronizing the vendors and the recently established local Community Farm. Some of the Farm's products could be sold to the vendors, who could establish a composting center to feed the plantings of the Community Farm.

The Red Hook food vendors case is an opportunity to confront our understanding and use of public space, from the perspective of its spatial occupation shaping the city's landscape as well as a socio-economic force for integration. We believe that a dialog between empirical approaches and city policies must be established in order to profit from this opportunity and give place to renewed civic activities. ◊

Carolina Cisneros & Mateo Pintó

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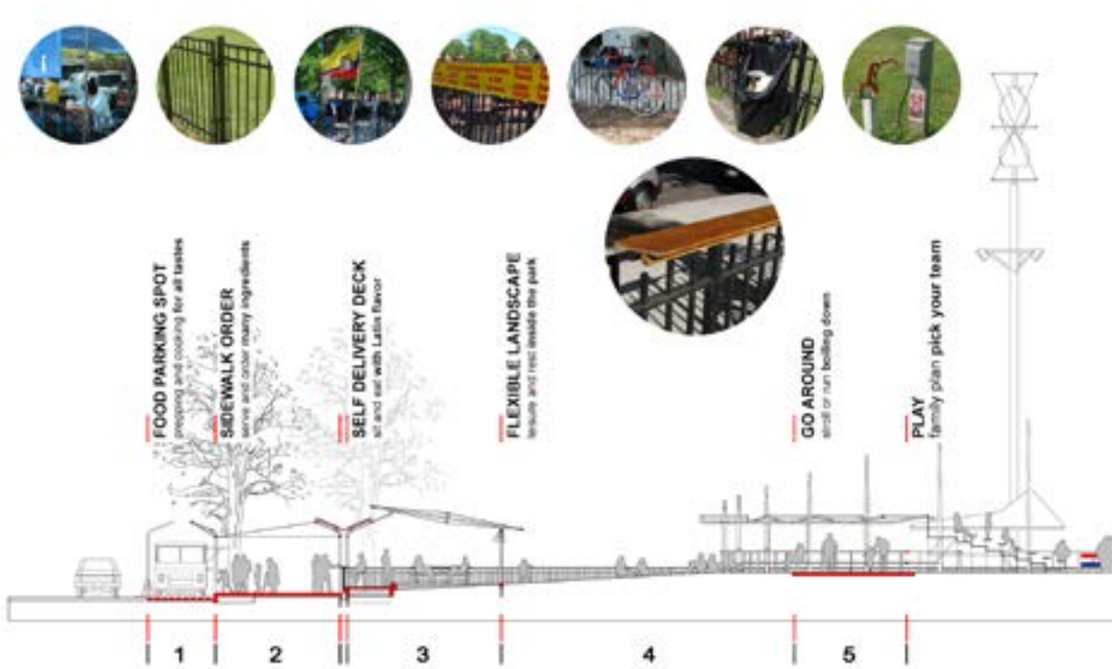

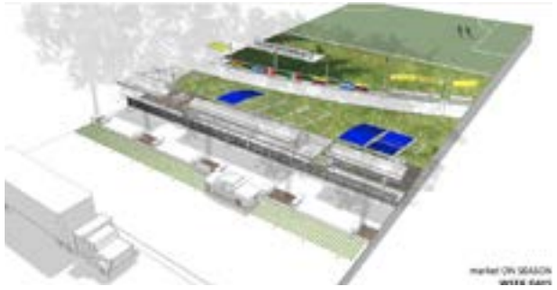

Fig. 15 Red Hook ball fields with and without vendors, 2009
Photograph by Mateo Pinto

Food parking spot
View from inside a food truck

Fig. 11
Sidewalk order
View standing on Bay Street sidewalk

Fig. 12
Self delivery deck
View from inside the Park, in the eating area

Fig.13
Flexible landscape
Market scene viewed from the Field Fence

Fig 14
Markets' seasonal occupation
The design of portable elements allows for different patterns of occupation of the Park according to the season and schedule of the market

Tree Studio

Natalie Fizer

In response to the pedagogical lack in the architecture design curriculum around the particular subject of trees, the Spring Semester Junior Studio took as its point of departure Mayor Michael Bloomberg's sustainability plan (PlaNYC 2030) that called for planting a million trees across the five boroughs. The studio had two overlapping goals: first, to focus the wide-ranging discourses regarding sustainability and its practices in a design school through the discrete subject of the tree; and second, to foster platforms that host the hybridization of scientific research with artistic inquiry constructed around the tree.

Over the course of two spring semesters, the Junior Studio produced two distinct tree maps – "The East Village Arboretum" (spring 2008) and "The New School Campus Field Guide of Trees" (spring 2009). Base maps for both studios were constructed from the Sanborn Map, field survey, and Google Earth. For primary data sources, both studios utilized the New York City Department of Parks and Recreation's 2005/06 Leaf Key and Street Tree Census that identified street trees by species, size, location and condition in each New York City neighborhood.

Students in the junior studio engaged both the conceptualization of nature and its realization within the built environment through representational and mapping techniques. Each student chose a tree species to study, documenting its history, botanical position, cultural importance and then modeled the tree species at 1/8" scale. Coinciding with the individual tree studies, the studio collectively constructed a map representing the existing street trees within a prescribed urban site. In juxtaposing a single tree and an urban scape, students had to grapple with diverging scales (city and artifact) and modes of representation (map and model).

TREE MAP NO.1
"THE EAST VILLAGE ARBORETUM"

The spring 2008 junior studio developed around the premise that the existing street trees found in New York City's East Village constituted an arboretum. Mapping the trees of the East Village appraised the existing three hundred street trees as a collection for observation and protection. By combining the plan of the East Village with elevational silhouettes of the various tree species the studio developed an iconography using color coding to categorize the trees into eleven families. The position of each silhouette corresponded to the city's census data which utilized house numbers for approximate location. In limiting the depiction of the tree to an idealized silhouette, the resulting site map annotated the diversity of species found in the site as well as offered a synoptic view of East Village street trees.

SCE JUNIOR ARCHITECTURE STUDIO
SPRING 2008

SCE FACULTY:
Natalie Fizer

STUDENTS
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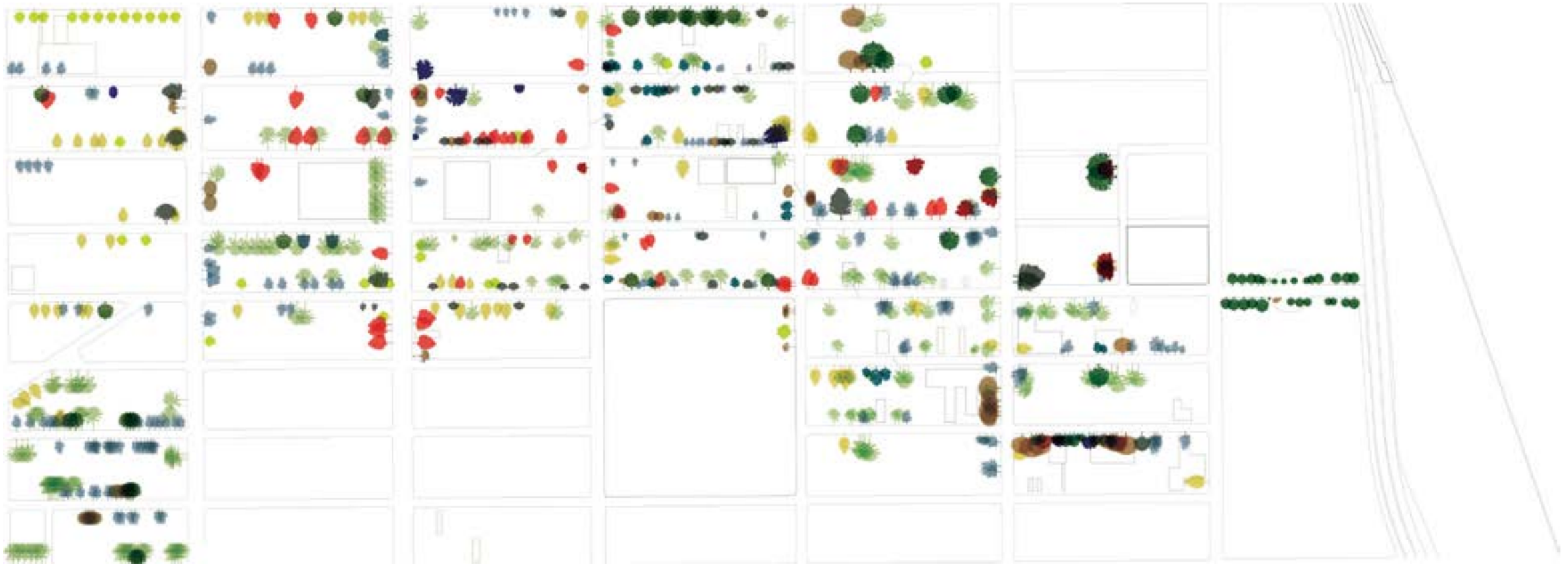
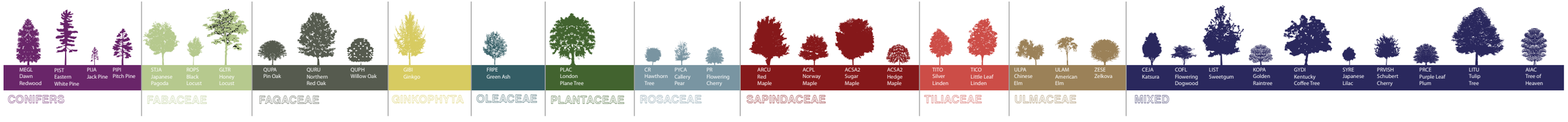
Mark DeRose
Jisoo Kim
JungMin Kim
Jennifer Lim
Shushuke Nakajima
Charles Osawa
Kristen Ruller
Clare Alexandra Smith
Sarah Green
Claudia Garay
Myung Shin





TREE MAP NO.2
"THE NEW SCHOOL CAMPUS FIELD GUIDE OF TREES"

The New School Campus Field Guide of Trees, produced in conjunction with the New School Environmental Studies Program, had a twofold purpose. First, as a prototype for use in a New School tree stewardship program. Second, as an introduction to surveying techniques and collating cartographic information, the map was to serve as a conceptual armature for the student's subsequent studio work.

The boundaries of the New School Campus Map consisted of Fourteenth Street to the north, Waverly Place to the south, Broadway to the east, and Sixth Avenue to the west. The twenty-five students in the studio broke into seven teams to survey over six-hundred trees located in the thirteen block site. Unlike the city's census which approximated the location of a street tree, the studio made a measured drawing that located each tree based on fixed reference points collated from the site. Dividing the site into seven zones and using the tree census as a template, each student team located, identified, photographed and measured the diameter of each tree at breast height within each zone (DBH - a standard method in determining a tree's approximate age and status). Adapting the previous studio's color iconography of tree families, the New School Campus Map represented each tree as a colored circle. Although located and measured, unidentifiable species were rendered as colorless circles. In addition, each tree was assigned an identification tag that positioned the tree as a unique point that could serve as the foundation for a future interactive New York City tree project.

SCE JUNIOR ARCHITECTURE STUDIO
SPRING 2009

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Fatima Durkee
Tzs Ching Fan
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Merily Jurna
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Daniel Lee
Ei Yee Emily Mak
Gabriel Medina
Kelsey Peterson
James Ro
`Anastasia Shimchick
Kendall Tynes
Mandissa Whittington
Lily Wong
Eri Yamagata
Yuta Kinai

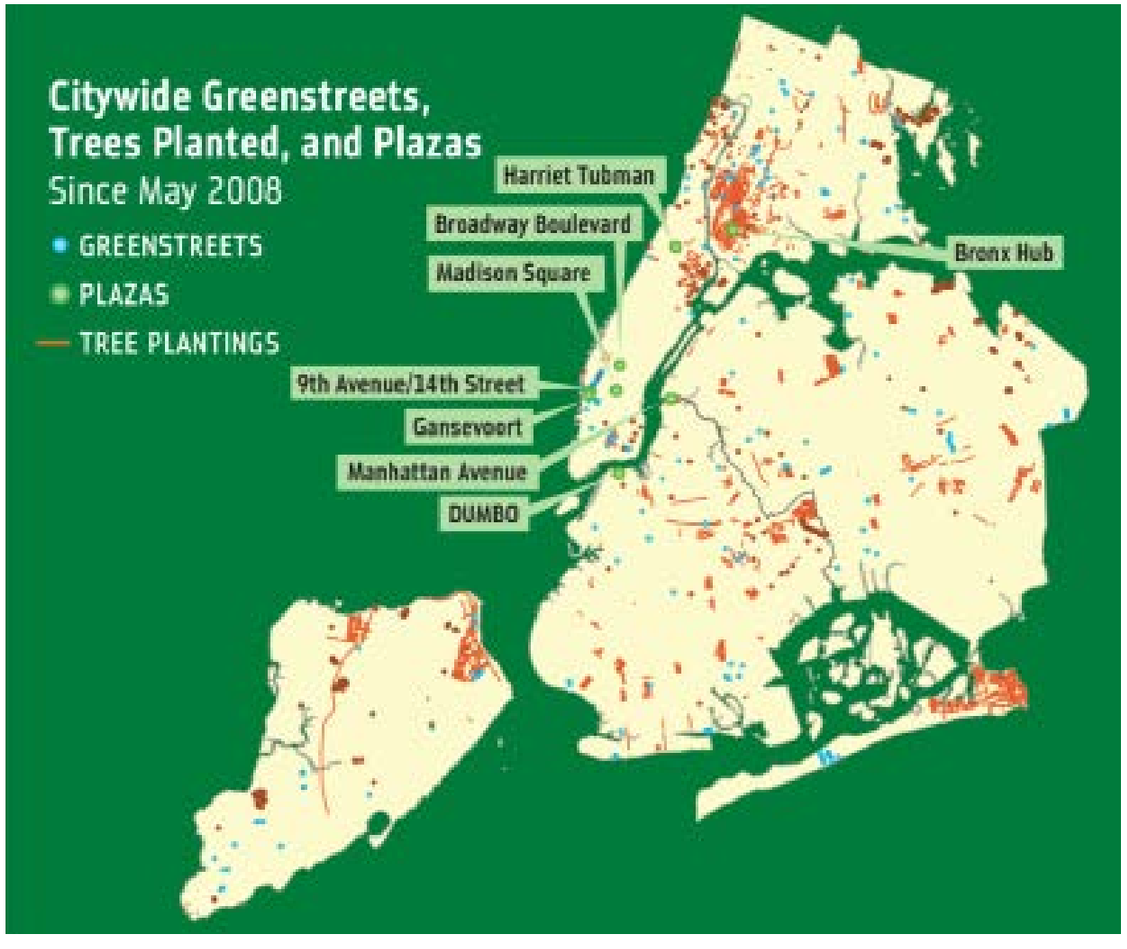
TREE FAMILY KEY AND SPEICIES

FAMILY	COLOR	SPECIES
TILIACEAE		TICO, TIAM, TITO
ROSACEAE		CR, PYCA, HAZ, PR
FAGACEAE		QUPH, QUAC, QUPA, QUBU, QUBI, QURU, QUAC
CONIFER		MEGL, PIST, TABI
OLEACEAE		FRPE
SAPINDACEAE		ACPL, ACPLCK, ACRU ACSAT, ACSA2, ACCA ACGI, ACPS
PEA		STJA2
FABACEAE		GLTD, BOPS
GINKGOPHYTA		GIBI
ULMACEAE		ULAM, ULPA, ZESE
PLATANACEAE		PLAC
OTHER		ALL OTHERS

Cities as Highly Functional Socio-Ecological Systems

Solving the Environmental Crisis with a Tree?

P. Timon McPhearson



GREEN AMBITION

What constitutes an improvement in the green infrastructure of cities? Is greening the urban landscape mostly about designing it to display more "greenish" things, or can we ask landscapes to be highly functional as well? And if so, what ecological and sociological functions are most important to pursue when designing urban landscapes? The current priority on climate change mitigation through carbon sequestration and storage in both government and industry is replacing the more recent ecological focus on maximizing biological diversity, though both provide important functions. However, the average citizen may be more concerned with the beauty or openness of a particular green space rather than the city's need for it to perform critical ecosystem functions, such as the capture of storm water. How should urban designers, planners, and policymakers decide which functions to maximize, and what will be lost in prioritizing one over another? Below I discuss the New York City Human Ecosystem Project, which includes two specific research projects, the NYC Urban Forest Restoration Study and the StEM Project, in the context of the need to maximize ecological functions and services in urban areas over both the short- and long-term. Both projects are designed to study the interaction between social, political, and management goals and the potential of urban ecosystems to meet these goals.

On Earth Day 2007 New York City's Mayor, Michael Bloomberg, announced an ambitious multi-decadal plan, PlaNYC 2030, to make New York City more sustainable by 2030[1]. PlaNYC includes 127 ambitious sustainability initiatives including a goal to plant one million trees in New York City by 2017[2]. Since then the MillionTreesNYC (MTNYC) campaign has allocated $400 million over ten years to the NYC Parks and Recreation Department (NYC Parks) to expand the City's urban forest by 2000 acres by adding another 400,000 trees to public and private land and planting 220,000 street trees, which will, with additional partnerships including the New York Restoration Project, collectively add 20 percent more tree canopy cover to the city. Since its launch, public, private and non-profit organizations have rallied nearly 4,000 citizen volunteers to plant trees across New York City in what has become an unprecedented tree planting campaign and citywide environmental movement. Now in its third year, the city has already added over 200,000 young trees to existing urban parks, private lands, and city streets (Figure 1). But what will this extra tree canopy do for New Yorkers, other biological species, and the climate? Is the time duration of a small-scale urban trigger such as a citywide tree planting campaign sufficient to increase long-term sustainability

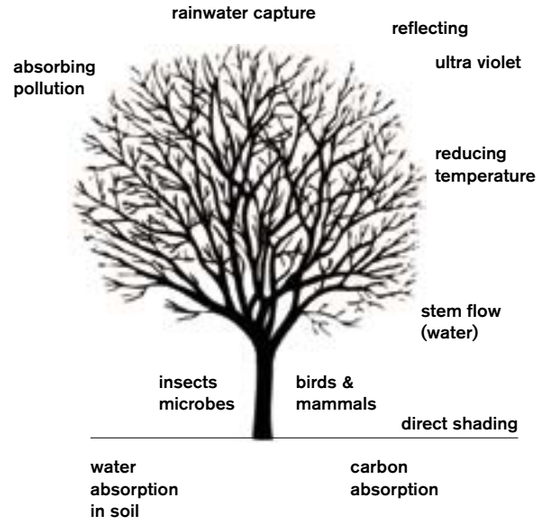


Figure 1

in New York City's ecosystems? In the case of enlarging and restoring urban forests to make NYC more sustainable, many of the publically touted benefits of trees will not be felt until well after 2017. Indeed, it is not yet clear that merely planting trees will achieve any of the ambitious goals set forth in PlaNYC. The one million new trees must first survive the early years of city life in order to function as intended.

Planting lots of trees, especially a million trees, will potentially provide New Yorkers important health, economic and environmental benefits. However, there are many assumptions behind the rhetoric to this effect seen on MTNYC billboards and placards across NYC. A solid understanding of the benefits of tree planting for urban sustainability requires careful socio-ecological study, something we have very little of in New York City. Additionally, the momentum behind the MTNYC campaign has made it slow to organize and carry out related research in a scientifically rigorous manner because the campaign has had other priorities, namely its need to meet ambitious annual planting goals (~100,000 trees/year). This has meant that research has been relegated to a status lower than getting trees planted. Though city officials and park managers understand that evaluation of existing planting strategies and site designs are critical to the long-term success of the MTNYC campaign, providing mechanisms, incentives, and opportunity for such research has been slow, even though the motivation

1 — PlaNYC 2030 Full Report, 2007. Available at: http://www.nyc.gov/html/planyc2030/downloads/pdf/full_report.pdf
2 — MillionTreesNYC 2030. Available at: http://www.milliontreesnyc.org/

clearly exists amongst Parks personnel. This is not surprising given the pressure put on small departments to deliver results in short periods of time.[3] To their credit, MTNYC has a specific Research and Evaluation Subcommittee of their Advisory Board and has already hosted, in collaboration with The New School, MillionTreesNYC, Green Infrastructure, and Urban Ecology: Building a Research Agenda in April 2009, which brought together nearly 100 researchers and practitioners to develop a research strategy for the MTNYC campaign. One of the outcomes of this research workshop was a critical examination of the goals of MTNYC and the strategy currently employed to meet them[4]. The result was a consensus that we need to understand urban ecosystems much better than we do. It also became clear that there is an important role for The New School to play in both civic engagement and primary research in order to broaden and increase the accessibility of knowledge on the urban forests and environmental stewardship.

URBAN ENVIRONMENTAL STEWARDSHIP

Young urban trees, those most at risk of mortality during the first five years, are exactly the trees that are being planted in the re-greening effort currently underway across New York City (NYC). Afforestation[5] plantings in city parks and on degraded or existing parkland are typically small two-gallon container trees that are ½-1m tall and 1-2 cm in diameter. MTNYC volunteers and contractors strategically plant these susceptible trees in the fall and spring months to avoid harsh drought conditions in the summer. However, expectations are that without adequate care, many of these trees will fail to survive the first year.

Street trees are similarly stressed, living in extremely harsh conditions where they are tucked into "tree pits" cut into sidewalks, with little room for roots to expand. With thousands of young street trees already being planted, it is crucial to establish the required level of stewardship as soon as possible. Turning young trees into large old trees is important if they are to function as we hope, which is to say as small-scale climate mitigation machines. We already know that large, mature trees are more effective than small, young trees at controlling surface water runoff, storing carbon, capturing atmospheric pollution, surviving seasonal drought conditions, and providing increased thermoregulation through shading (which is crucial to reducing urban heat island effects).[6] (Fig. 2)

The MTNYC trees will take at least 10 years, and likely more, to realize many of the proposed benefits, and only if they survive the initial mortality that strikes most young urban trees. The city also needs to maintain it's current forest of five million existing trees. In candor, these challenges are simply too large for a city government to handle alone, even with a well trained, well-funded NYC Parks department. New Yorkers will have to take more responsibility for caring and protecting their forest if they want a cleaner, healthier, more sustainable city, a fact which is already clear to a small group of motivated individuals at MTNYC, NYC Parks, Trees New York, other area non-profits, and more recently StEM[7].

StEM

Individuals, small community organizations, and businesses all need to play an increasingly important role in helping cities like NYC care for the street trees, parks, waterways, and open spaces that make up the urban environment. The StEM (Stewardship and Environmental Mapping) Project was initiated in 2008 at the New School's Tishman Environment and Design Center to address the need for research on, and increased stewardship of, the urban forest. Since then StEM has been working to develop the ecological and digital infrastructure to both track and motivate urban forest stewardship through the most up-to-date, publicly available, interactive and open-source map of the socio-ecological dynamics of urban trees. StEM's overarching goal is the development of a robust community-based urban forest stewardship network to more fully grow and promote a healthy, mature forest throughout all of New York City's neighborhoods. To achieve this the StEM Project is primarily focused at the scale of the individual street tree. By focusing on the small scale of an individual tree, we intend to influence the functioning of the urban forest at the scale of the entire city by linking socio-ecological relationships through web-based mapping, coupled human ecosystem research, community organization, and efficiently and engagingly designed information architecture.

The StEM project is essentially an experiment in design, mapping, and socio-ecological research to create the baseline data and working digital infrastructure for social engagement with the green infrastructure (i.e. trees) of the city. The evolving tree map will serve multiple functions, including: 1) Providing stewards with the information necessary to manage their individual contributions; 2) Allowing stewards to share information on the work they've done to help individual trees thrive; 3) Creating opportunities for social networking amongst stewards in order to develop more vibrant and lasting community-based stewardship efforts; and 4) Building a growing database of the long-term ecological effects of socially connected tree stewards on the urban forest.

StEM's evolving mapping and data management tools are therefore designed to empower NYC's volunteer and professional environmental stewards to coordinate their efforts and collaborate on the large project of caring for and assessing, in real-time, the state of the city's forest. Urban environmental stewards with complimentary interests and overlapping local scale geographies will be able to use StEM's platform to connect and share resources, ultimately facilitating increased structure and functioning of urban ecosystems.

The StEM Project in its pilot form was conceived as an interactive, high-resolution map-based field guide to The New School area trees. A focused mapping component of StEM was brought to the Parsons undergraduate Architectural Design program in order to utilize and pique student mapping and design skills to create the first map of New School area trees. A collaborative Parsons studio was launched in spring 2009, which involved 24 undergraduates in collecting initial street tree distance measurements, photos, and tree diameter measurements.[8] Students used species identification data from a 2005 NYC Parks tree census (facilitated via collaboration with NYC Parks) to map the ecology of trees in a large geographical footprint around the New School stretching east/west from Broadway to 6th Avenue and north/south from 14th Street to Washington Square Park North. The initial student map (Figure 2) was important in establishing a working dataset for StEM to test the various technical issues involved in coding and organizing the database structure to deal with many dozens of interrelated ecological variables, map distances, and user profile data. It also demonstrated to the broader StEM team the ease and efficiency with which high-resolution map data can be gathered by students acting as citizen scientists to help researchers and practitioners better understand the functioning of the urban forest. This New School area map is currently being re-sampled to increase accuracy of both geographic and ecological measurements, to verify species identification of the ~600 street trees in the New School footprint, and will soon be available on a redesigned home for StEM at stemproject.org.

The StEM project has since expanded into a non-profit organization working under the auspices of the Open Space Institute[9] involving designers, ecologists, social networking and mapping professionals (including a critical partnership with OpenGeo.org), and web designers and developers to solve what is now understood to be a significant urban problem: how to both provide data to and receive data from a small, socially disconnected urban environmental stewardship corps that is actively caring for trees. Similarly, StEM's goal is not to merely track but also to enhance environmental stewardship in New York City, as the current level is wholly inadequate to solve the dilemma of the one million new, highly vulnerable trees on which New Yorkers have placed large ecological, environmental, and economic demands. The need for citizen-based urban forest stewardship has yet to reach an audience equal to the task. And yet there are more citizens than trees in New York City, a ratio that is likely to remain in effect for the foreseeable future. If every person took responsibility for caring for a single tree in their neighborhood, we could safely assume that tree mortality rates would decline and the ecological, environmental and economic benefits we receive from trees would increase.

TREES AS ENVIRONMENTAL CLEANUP MACHINES

Trees are not simply landscaping agents in the city. They are the major structural and functional elements in terrestrial ecosystems including urban ecosystems. Walk into any terrestrial system on Earth and look up. If you can observe a large living structural element it is probably a tree. Trees are homes to birds, mammals, invertebrates, and microbes, all of which perform important ecological services. Trees also provide cities with a long list of additional ecological benefits including: regulating local surface and air temperatures, filtering pollution from the local atmosphere which may positively impact the health of urban residents, trapping rainwater during heavy storms which prevents pollution to local waterways, and storing and sequestering atmospheric carbon dioxide which offsets New York's contribution to global climate change. One recent study by scientists at the U.S. Forest Service put the economic value of NYC's forest at over $5 billion.[10] Indeed, many of the city's plans to offset urban contributions to global and regional climate change assume that the urban forest will grow, mature and store an ever-increasing amount of carbon, as well as provide many other ecosystem services.

Urban environments are notoriously difficult places to live for many biological species, including trees. Urban trees suffer from a vast array of damaging pollutants from acid rain washing over their leaves to being doused with bleach water as part of morning sidewalk cleaning routines. Road salt application in the winter and prolonged heat spells in the summer can create extreme drought-like

3 — This is even more understandable when one realizes the relatively small staff of ecologists employed at the NYC Parks Department, Natural Resource Group office.
4— You can download the full 2009 Workshop Report at: http://www.milliontreesnyc.org/research
5 — Afforestation is the process of establishing new forests on previously unforested land. In the case of New York City, this involves planting trees on degraded and abandoned urban soils, which are typically fill material from city construction and dredging projects, though this type of forest restoration is also taking place on lawns and old fields in parks across the city.
6 — Nowak, D. J., Hoehn, Robert E., Crane, Daniel E., Stevens, Jack C., and Jeffrey T. Walton. 2007. Assessing urban forest effects and values, New York City's urban forest. Resource Bulletin NRS-9. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station.
7 — StEM is a non-profit project (co-founded by the P. Timon McPhearson, Philip Silva, Liz Barry, and Griffin Johnston) of the Open Space Institute that works collaboratively with the New School's Tishman Environment and Design Center to connect activist citizens with each other and their environment. The early pilot is currently being updated at http://www.stemproject.org/
8 — The studio was run in collaboration with Parsons Bachelor of Fine Arts in Architectural Design Program faculty Natalie Fizer, Michael Morris, and Shai Turner, and Eugene Lang Ecologist Timon McPhearson, who collectively taught a Parsons studio ("TREE") to showcase the important of trees to urban architecture while engaging students in the living biota of the built environment.
9 — The Open Space Institute works to protect and preserve open space at http://www.osiny.org/
10 — Nowak, D. J., Hoehn, Robert E., Crane, Daniel E., Stevens, Jack C., and Jeffrey T. Walton. 2007. Assessing urban forest effects and values, New York City's urban forest. Resource Bulletin NRS-9. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station.

conditions for trees living in city streets. Street trees are particularly susceptible to stress due to the small spaces in sidewalks where they are forced to grow, their highly compacted and acidic soils, and the many injuries they suffer from living in such close proximity to urban life (see Figure 3).

Young urban trees (<5 years) are probably the most at risk with extremely high mortality rates (up to 30% in a recent study) in New York City due largely to common urban stressors (heat, salt, pollution), but also from lack of individual care during the first five years of their lives. With climate change predicted to increase the frequency of extreme heat events in NYC[11], newly planted young trees may fail to reach maturity and perform ecologically, environmentally, and economically as intended. Can the urban forest reliably function at the level urban sustainability campaigns such as PlaNYC expect and predict? What are the best planting strategies to maximize the many functional demands we place on trees as environmental cleanup machines? These questions are currently unanswerable because the study of urban systems as human ecosystems has only recently been established as a legitimate field of inquiry. We simply do not know what species of tree will best meet all the challenges of urban environments, or how best to design new parks to maximize both carbon sequestration and beauty (or other desirable functions). Meeting the functional design challenges of where and how to add 2000 acres of forest to New York City are the same challenges urban ecologists face as they seek to understand how urban ecosystems function and how best to maximize those functions in the face of climate change and urban population growth. Ecologists, urban planners, and designers alike are asking: How do we simultaneously accommodate more urban dwellers and design cites as sustainable ecosystems (CASE[12])?

THE URBAN DILEMMA

The need to understand the intricacies of urban ecosystems emerges from two trends.[13] First, urban ecosystems are home to an increasing fraction of humanity. Hence, most people's experience of nature is urban.[14] It is hard to overstate this fact. It follows then that cities must manage to better exemplify environmental principles [15] and find ways of existing in long-term sustainable relationships with their urban environment. Second, cities have a disproportionate impact on both regional and global systems.[16] For example, the sprawl of many cities threatens agricultural lands and puts stress on neighboring wild and managed areas.[17] There are already some 110,000 square kilometers in the United States that are impervious to water[18] and urban lands affect a much larger area than this by altering climate, hydrology, and atmospheric chemistry.[19] Among the many human activities that cause habitat loss, urban development produces some of the greatest local species extinction rates[20] and frequently eliminates a large majority of native species.[21] Certainly, the increased energy use by humans in and around cities is a significant driver of changes in ecosystem function in the largest sense.[22] At the same time, densely populated cities like NYC can be a net benefit to global ecosystems because they provide efficiencies that can limit the human impacts of more dispersed, resource-intensive settlement patterns. All these facts point to the need for a different manner of urban living, which in turn requires that we develop a more nuanced understanding of urban ecosystems, and improve and adaptively use socio-ecological theory to explain and predict their dynamics.[23]

THE STUDY OF HUMAN ECOSYSTEMS

Urban ecosystem research is still a nascent field of scientific inquiry. Urban ecology has progressed primarily from the focused long-term study of two cities, Baltimore and Phoenix, over the last two decades, which are now producing important empirical observations of the relationship between urbanization and ecosystems.[24] Though these two long-term ecological research (LTER) sites now define the current field of urban ecology, it remains to be seen whether the findings from these studies, in particular the Baltimore Ecosystem Study (BES), are indeed generalizable and applicable to New York City.

The first on-the ground study of cities as human ecosystems arguably began in New York City with the establishment of a long-term urban-rural gradient study in the late 1980s by McDonnell and Pickett (1990). It has taken the intervening period to develop the supporting theory and for the dialogue between different disciplines to mature.[25] As the most densely populated city in the U.S., a long-term study of NYC as a coupled natural-human system could yield important advances in urban ecosystem theory while adding significantly to the growing empirical understanding of the dynamic interplay of patterns and processes that influence the functioning of urban ecosystems generally. New York City is only now beginning to initiate such a study, which is to say, a large scale, interdisciplinary, socio-ecological study of the city as an ecosystem. A recent collaboration between The New School, Columbia University, Rutgers University, the U.S. Forest Service, and NYC Parks will begin examining the dynamics of forest stewardship activity and it's impact on urban ecosystems in a study funded by a $300,000 grant from the National Science Foundation (NSF) in 2009, part of the new NSF ULTRA-Ex (Urban Long-term Research Areas Exploratory Award) program. Researchers at The New School are also involved in the creation of a multi-collaborator, interdisciplinary study of NYC as a system called the NYCHE Project.

THE NYCHE PROJECT

The New York City Human Ecosystem (NYCHE) Project, an initiative of The New School's Tishman Environment and Design Center,[26] is an attempt to understand the complex socio-ecological system of New York City based in part on the Human Ecosystem Framework (HEF) model developed in the Baltimore Ecosystem Study (BES).[27] The NYCHE Project is a multi-institutional, interdisciplinary, long-term study of the coevolving socio-ecological dynamics of the human ecosystem that is New York City. Focused NYCHE research includes the StEM Project and the NYC Urban Forest Restoration Study, a long-term study of the effects of the urban forest restoration efforts of the MTNYC campaign on the functioning of urban forests.[28] The NYC Urban Forest Restoration Study includes scientists from The New School, Yale University, Columbia University, Cornell University, and the U.S. Forest Service who teamed up in 2008 with NYC Parks to study the short and long-term impacts of the MTNYC tree planting strategy on forest ecosystem structure and functioning. Core research questions include the following: What planting strategies should managers employ to maximize ecosystem functioning such as atmospheric carbon absorption by urban terrestrial ecosystems? How well do heterogeneous urban forests sequester and store carbon? What are the short and long-term effects of climate change on urban ecosystem structure and functioning? How will newly forested urban land affect invasive species dynamics at the scale of the city and the region? Will current forest management practices increase or decrease biodiversity? These are some of the questions the NYC Urban Forest Restoration Study will address over the next ten years in order to provide basic scientific data to inform park design, forest management, and climate mitigation decision-making by policymakers, land managers, and practitioners in NYC. The study ultimately examines the effect of forest restoration efforts on the dynamics of urban ecosystems in order to evaluate best management strategies for maximizing functions and services in complex urban biological systems.

THEORY: PATCH DYNAMICS

Thinking of cities as ecosystems allows us to have a holistic understanding of the relationships between social structure, order and norms—not just as sociological concerns, but also as key contributors to the biophysical functioning of our cities.[29] The NYCHE Project once fully operational will expand the biophysical and social knowledge base for how we think of cities. It will expand previous theoretical work from BES motivated by conceptual frameworks including ecological, hydrologic and social patch dynamics, the HEF model, the role of invasives in community organization, socio-spatial theory, resilience, biocomplexity, and urban design theory. The questions driving the NYCHE Project require the quantification of spatial heterogeneity in the New York metropolitan area. This research uses patch dynamics as an organizing framework for integrating empirical scalar data (including research plots) into the theoretical frameworks of the study. Patch dynamics are a conceptual approach to ecosystem analysis that emphasizes dynamics of heterogeneity within a system. Diverse patches of habitat created by human and/or natural disturbance regimes are critical to understanding structural and functional aspects of systems. Patches have a definite shape and spatial configuration, or heterogeneity. Urban ecosystem research uses patch dynamics to bridge the gap between the temporal

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23 — Pickett, S. T. A., M. L. Cadenasso, J. M. Grove, P. M. Groffman, L. E. Band, C. G. Boone, W. R. Burch, C. S. B. Grimmond, J. Hom, J. C. Jenkins, N. L. Law, C. H. Nilon, R. V. Pouyat, K. Szlavecz, P. S. Warren, and M. A. Wilson. 2008. Beyond urban legends: An emerging framework of urban ecology, as illustrated by the Baltimore Ecosystem Study. *Bioscience* 58(2):139-150.
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25 — Pickett, S. T. A., M. L. Cadenasso, J. M. Grove, P. M. Groffman, L. E. Band, C. G. Boone, W. R. Burch, C. S. B. Grimmond, J. Hom, J. C. Jenkins, N. L. Law, C. H. Nilon, R. V. Pouyat, K. Szlavecz, P. S. Warren, and M. A. Wilson. 2008. Beyond urban legends: An emerging framework of urban ecology, as illustrated by the Baltimore Ecosystem Study. *Bioscience* 58(2):139-150.
26 — Tishman Environment and Design Center launched a new Environmental Studies program at The New School in 2008. Available at: http://www.newschool.edu/environmentalstudies/
27 — The Baltimore Ecosystem Study is perhaps the most important scientific investigation of an urban ecosystem to date and is still ongoing. Available at http://beslter.org/
28 — By ecological functions I mean examining how effective tree planting is at boosting biodiversity, creating ecological conditions for systems to resist invasive species, enhancing carbon capture by sequestering and storing atmospheric carbon dioxide in both soils and plants, resisting damaging effects of urban pollutants, removing atmospheric pollution which should in turn have positive benefits for human health (cleaner air), and absorbing stormwater and thereby reducing pollution loading to our rivers, streams, lakes, ponds, and reservoirs.

and spatial scales and is used in the NYCHE Project to link plot and landscape scale data over time.

Urban ecosystem research approaches are often focused on emphasizing socio-economic, ecological, or physical features as patch delimiters. The eventual goal in NYC is to integrate approaches and develop a synthetic patch delimitation scheme for the entire study area, including all five boroughs. The patch dynamics approach will be used as an organizing framework for integrating data in the NYCHE Project across scales in order to determine relationships between social and ecological drivers of change[30]. To address the core research questions of the NYC Urban Forest Restoration Study, team members began by defining ecological and physical patches at the plot scale as the most effective place to begin collecting fine resolution ecological data on the dynamics of urban forests. Of course, the spatial structure of human, natural, and physical patches in urban areas changes through time due to social, economic, behavioral, successional, erosional, and other forces. Therefore, it was recognized early on that it is crucial to investigate the temporal dimension through long-term research to understand the linkages, feedbacks, controls, and cycles in patchiness in urban ecosystems[31].

METHODOLOGICAL APPROACHES TO STUDYING HUMAN ECOLOGICAL SYSTEMS

Long-term study of forest restoration and regeneration is critical to understanding New York City as a human ecosystem because so much of the system is forested, or about to be forested. Research activities such as the NYC Urban Forest Restoration Study that are plot based, ground scale approaches are crucial to evaluating both the success of the current tree planting effort, but also to provide recommendations for future design and management strategies at much larger scales. This research capitalizes on the MTNYC campaign to reorganize tree-planting events into structured long-term experimental study plot treatments.[32] The focus of the study is a plot scale analysis that has already installed (and begun baseline vegetation and soil monitoring on) dozens of long-term permanent plots in parks across all five boroughs of NYC. Parks in this effort so far include Highbridge, Pelham Bay, Spring Creek, Kissena, Willow Lake, Old Place Creek, Marine Park, Clove Lakes, Alley Pond, Canarsie, and Roy Wilkins. We will add approximately another 5 sites in Fall 2010. The combined target is to establish a minimum of 40 permanent field plots in parks across NYC over the next five years that will be consecutively monitored annually for a minimum of ten years. This will require significant sustained

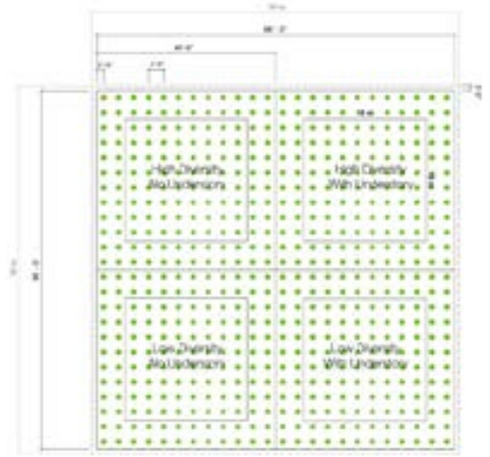

Figure 3
Experimental field plot plan.

commitment from NYC Parks, current academic collaborators, funders, and a host of volunteers.

The methodological approach to evaluating long-term ecological dynamics of highly heterogeneous systems requires simplicity. Local scale study plots need to be large enough to capture relevant dynamics but small enough to be sampled intensely and efficiently on an annual basis. Researchers chose 30m2 plots (Figure 3) because they are large enough to satisfy ecological research goals but small enough to fit into forest restoration plantings of the MTNYC campaign. Evaluating park planting and management designs requires clear experimental treatments with adequate replication to be confident that empirical results will reflect real world dynamics, and yet simple enough that they can be replicated across many different sites in very different park settings across the large land area of New York City. Researchers chose a nested plot design with high and low tree diversity treatments in order to allow scientists to evaluate the importance of varying levels of tree diversity on ecosystem functioning while also evaluating the utility of individual tree species and species combinations. Buffer areas of 2.5m around each subplot were established to minimize edge effects between subplot treatments (Figure 5). Additionally, plots were designed to adapt to current planting practices of the NYC Parks Department, which in both volunteer and contractor planted forest restoration sites plant trees ~4ft on center. Tree planting in research plots is spaced similarly with the expectation that as the canopy closes subsequent tree mortality will be a natural process of competition for light, nutrients and water.

29 — Machlis, G.E., Force, J.E., and Burch, W.R. Jr. 1997. "The human ecosystem. 1. The human ecosystem as an organizing concept in ecosystem management." Society and Natural Resources 10(4):347– 367; Burch, William and Donald DeLuca. 1984. Measuring the Social Impact of Natural Resource Decisions. Albuquerque, NM: Univ. of New Mexico Press.
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31 — Pickett STA, Cadenasso ML, Grove JM, Nilon CH, Pouyat RV, Zipperer WC, Costanza R. 2001. Urban ecological systems: Linking terrestrial ecological, physical, and socioeconomic components of metropolitan areas. Annual Review of Ecology and Systematics 32: 127–157.
32 — MTNYC hosts large, organized planting days in April and October. You can sign up to plant trees at: http://www.milliontreesnyc.org/

Analysis of current vegetation at the plot scale is a fundamental part of the patch analysis approach that is being used to characterize the spatial structure of the urban ecosystem. Researchers in this study are collaboratively monitoring tree survivability, growth, and time to canopy closure, but more importantly they are also assessing the rest of the vegetated community either preexisting in sites, or recruited to sites over time. Vegetation analysis is important to biodiversity, aesthetic, climate modification and pollution and water absorption functions of soil in the urban ecosystem and will thus provide a basis for further ecosystem function studies in the future. This study will supply the critical ecological data for comparison across patches within the NYC park system, yet will also allow comparison of forest dynamics between New York City and other urban centers. By looking at a large number of heterogeneous sites across the city, researchers hope to begin to build, literally from the ground up, a comprehensive picture of the ecological dynamics of New York City as a cohesive ecosystem.

DESIGNING SUSTAINABLE URBAN LANDSCAPES

Can urban trees really achieve the ambitious goals we set for them? It is possible, but only with a concerted effort to find out. Designing sustainable urban landscapes requires at least three issues be addressed.

1. To judge the effectiveness of urban improvements such as tree planting, we need proper and well-designed scientific research. Urban ecological research in New York City must take a front seat in the challenge to make New York City more sustainable. This will require government and private foundations to sponsor research over short and long time frames to provide the fundamental science that policymakers, managers and practitioners need in order to make decisions that can predictably achieve the noble sustainability goals set forth in PlaNYC 2030.

2. Designers must actively make use of available ecological science. Urban ecology is most useful when it is applied to the problems it was originally designed to address. Urban ecosystem research has the potential to provide important data on how best to maximize various functions we all want from the ecological infrastructure of the city, but only if urban designers commit to doing the hard work of understanding and incorporating research results into their creative enterprises. Similarly, urban ecologists must commit to interdisciplinary dialogues that make use of the storehouse of knowledge designers and practitioners working in urban areas already have.

3. The average New York citizen will need to become a more engaged, environmentally aware, and hopefully activist participant in the urban ecosystem if it is to mature into the environmental cleanup machine it is currently envisioned to be. Projects like StEM are an important effort to develop novel methods to reach across traditional divisions between humans and the environment they depend on.

Finally, it is important to evaluate whether the global challenge to plant trees (laudable indeed) is a true cure to our environmental ills or merely another, if better, bandwagon that puts a green facade on a continued global cultural practice of unsustainable living. Sustainable living may indeed involve more tree planting, but it also requires a shift from twice a year volunteer planting days[32] to a sustained daily engagement and committed stewardship of the vast diversity of environmental resources we already enjoy. The StEM Project and the NYC Urban Forest Restoration Study, both part of the growing NYCHE Project at The New School, are studies in how to leverage the tools and goals of government managers with urban ecosystem research and design in order to maximize the ecological functions and services of the green infrastructure of the city. ◊

33 — MTNYC hosts large, organized planting days in April and October. You can sign up to plant trees at: http://www.milliontreesnyc.org/

Designing Patchy Microclimates

Victoria Marshall

Fig. 1. Monroe Hightide – The coincidence of a rain event and high tide in the Hudson River temporarily reveals the ancient shoreline of the buried Hoboken wetland.

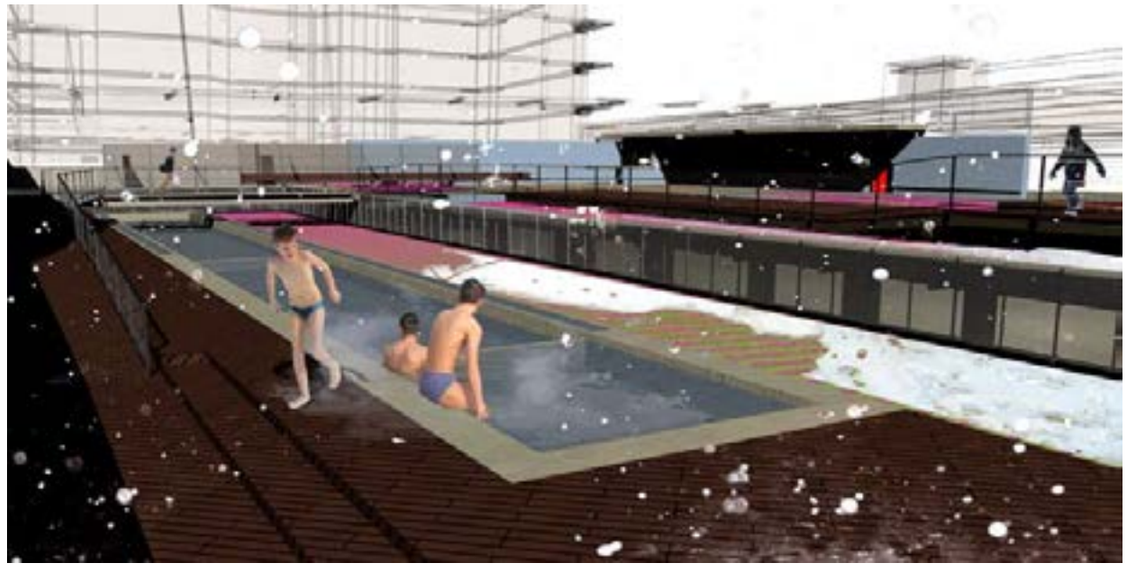


Fig. 2. Monroe Roof Fountain – Heat released via geothermal piling circuit delays winteri-zation of a rooftop fountain creating a warm microclimate for shoulder season outdoor recreation.

WATER

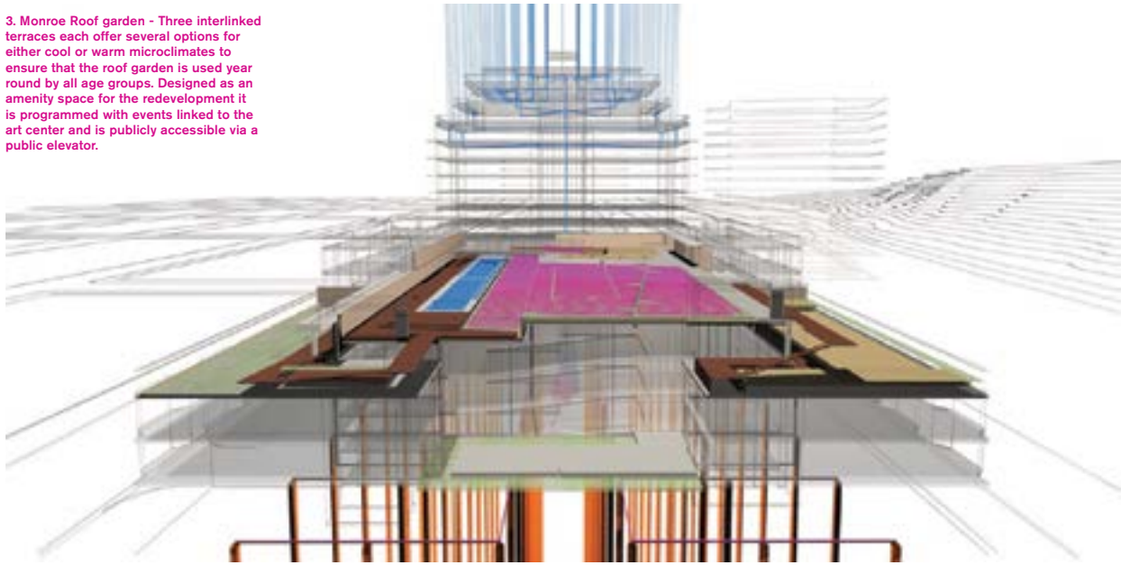
The upper fountain holds rain water from the rooftops of the surrounding buildings. Excess water is stored in underground tanks which are used for street tree irrigation. Air released into the fountain water offers an audible measure of the volume of recent rainfall or drought as well as the delight of listening to bubbles pop. Fountain water evaporation is apparent in the decreasing wet reach of a long, sloped trench. Mini-runnels cut into the surrounding concrete pavement function as micro-tributaries. Hammocks afford a relaxing mode in which to observe this microclimatic landscape constructed atop a former wetland amidst circuits of shoppers, commuters and diners. Everyday maintenance of hosing the plaza surface is a microclimatic event and a performed water feature.

This paper examines the landscape design of microclimates at Monroe Center in Hoboken, New Jersey as an example of urban design at a small scale. These new landscapes are temporal, like any landscape, however they are intentional in their arranged adjacencies within circuits of everyday life. Each new climate landscape is created with water, including drinking water, rain water and ground water. These landscapes offer a fine grain of comfortable and unexpected climatic conditions. They aim to inform and inspire reflection to ancient pools, streams and rivers of water as well as offering experiments towards understanding future flows of water and neighborhood identity.

Hoboken was once an island in the Hudson River, with an extensive wetland separating it from the Palisades escarpment and this marshy legacy is positioned as a trigger for a shift in imagination of what this – the city's second waterfront – could be.

The lower fountain holds rainwater from the surrounding plaza surface. The splash of its shallow weir is softer during a drought and bolder after a rain event. The ring of tall grasses that surrounds this fountain act to filter water, providing a small zone for groundwater infiltration and forming enclosure to intensify this cool plaza patch. The lower fountain is surrounded by an arc of wooden bleachers that provide event and everyday seating. Their upper level forms the edge of Hoboken's renewed inland waterfront which appears regularly on the coincidence of a rain event and high tide in the Hudson River (Fig. 1). This promenade functions as such until the local flooding subsides.

These landscapes are designed toward a goal of catching the distracted attention of residents, repeatedly and over a long duration. For example rather than providing spectacular displays of drinking water spray and splash, the landscape design of microclimates intensify temperature relative to existing dramatic climatic events such as a thunderstorm, fog or heat wave. They are registers of quantitative change through difference in pattern,



3. Monroe Roof garden - Three interlinked terraces each offer several options for either cool or warm microclimates to ensure that the roof garden is used year round by all age groups. Designed as an amenity space for the redevelopment it is programmed with events linked to the art center and is publicly accessible via a public elevator.

pace or rhythm of heat, cool, volume and flow. They are also registers of qualitative change as each microclimate is used, disused and reused by humans and non-humans in ways that are improvisational, shared and repetitive. This is therefore a patchy or mosaic approach where professional landscape design and everyday climatic decisions such as what clothes to wear, when to close your window or where to have lunch are seen as neighborhood systems which have both ecosystem effects and meaning.

Across the street, the differential between the groundwater and ambient air temperature provided by a geothermal piling field is felt in the ambient temperature of the lobby as well as the delay of winterization of a rooftop bathing pool. This rooftop garden also has a pergola which compensates for summer shortened by the new high rise tower shadow. An outdoor shower offers a chance to rinse your body in luxurious reservoir water. In winter mobile fire pits offer warm hubs for star gazing. Two hot tubs are also provided in response to a demand from expert lifestyle marketing consultants. In summer two mobile BBQs offer flexibility in cooking location and dining mood. A public elevator provides access to these amenities which intensify summer rooftop neighborhood life, extend the shoulder seasons of outdoor recreation exposure and offer flood refuge.

These shifting social responses to microclimates resonate with an understanding of nature as open, dynamic and marked by disturbance and disequilibrium, rather than more sentimental notions of nature as a closed system in equilibrium or balance. They also resonate with the idea that space is not an empty container which holds objects in movement, but rather an understanding that space is continually created through repeated qualitative transformations in time. The landscape design of microclimates can therefore be understood as facilitating an ecosystem attentive infrastructure of which our memories and bodies continually narrow into more layered and nuanced feelings, actions and practices.

A temporary park carved out of a remnant concrete factory floor offers a leak of water that trickles along mini-runnels cooling the toes of mid-summer film watchers. The Palisades Forest offers a deep green movie backdrop, its spring and fall seasons bracketing the film series. A wooden fence screens the film waters view from passing car headlights as well as offering a vegetative scaffold. Umbrellas offer mid-day deep shade and mid-evening intimate summer dining. This temporary garden also floods at high tide after a significant rain event. Its dirty pond, leaves traces as it evaporates, staining the concrete and runnels with dirty dirt layered on deposits from past ponds.

Designing with the aim of bringing attention to and interaction with shifting microclimates has a goal of deepening individual sensorial perception, fostering social cooperation and registering socio-natural flux and change. It creates modes of detecting change toward a larger goal of creating change. For example the new high-rise residents are inspired to protect the headwaters falling on their private balconies and roof terraces. They add more absorptive vegetative surfaces and water pots as the frequency and intensity of flooding disrupts their daily commute to Manhattan. The lower watershed actors observe drought dynamics from the distracted and iterative rhythm of the weekly volleyball match or movie night. They modify their extended, hot and dusty summer social season by hosing and leaking stored rainwater.

The designed microclimates described above are embedded with built elements such as lighting, walkways, corridors, benches, stairs, ramps, privacy screens, sand boxes, grassy plots, organized games, programmed concerts and movies, two public elevators, parking and three hundred and twenty new apartments. In addition there are fifty artist studios, ten retail stores, two restaurants, a dance school, theater and cinema. Contrary to the patch change model of dispossession occurring in the rest of the neighborhood, Monroe Center is a profit driven real estate development project that offers a model that also continues to provide economic life and health support systems for existing residents. Low-income housing is offered and micro-economies are supported through formal vending and open studio opportunities or through informal relationships with studio tenants and tenant initiated events.

PATCHES

The shifting microclimates of Monroe Center are nested within a larger, even more heterogeneous and patchy landscape. Monroe Center is located in the Southwest Redevelopment Area which is an Overlay Zoning instituted in 2004. A former post-industrial backwater, it has almost completed its transformation into a mixed-use zone serviced by a new light rail connection. The Palisades escarpment is a linear forest which extends 40 miles upstream to Bear Mountain and 7 miles south to Bayonne. The Meadowlands is a massive wetland which filters the Raritan and Passaic Rivers as well as housing the industrial support system and transportation corridors to Manhattan. This inhabited cliff and wetland coast is called the Urban Complex, a special designation given by the New Jersey Office of Smart Growth in 2004. This designation was created as the extreme heterogeneity of this region couldn't fit the homogeneous normative categories such as metropolitan, suburban or fringe.

The heterogeneity of the Urban Complex continues to increase despite The city of Hoboken's urban design guidelines, which attempt to control patch change according to rules. For example; there is a rule that for a specified number of square foot of façade there is required a change in material, elevation, color and articulation. This rule extends horizontally and vertically. The façade is required to match buildings across the street or those in the same block in their look and height as much as possible. Fenestration requirements rule on the percentage of transparency which determines the amount of windows. In addition, even though it is not part of their mandate, the planning board is opposed to any non-brick facades and likes to opine on the color and size of bricks in the facade.

These rule privileging values of sameness were set in 1838, when the Hoboken Land & Improvement Co. was given power to 'purchase, improve, mortgage and dispose of lands and other estates in and about Hoboken, for the purpose of grading and laying out the streets and squares and erecting wharves.' They filled the wetland to a uniform level of five feet above sea level, set out a uniform grid and restricted development 'to certain businesses and required the purchaser to erect brick or stone

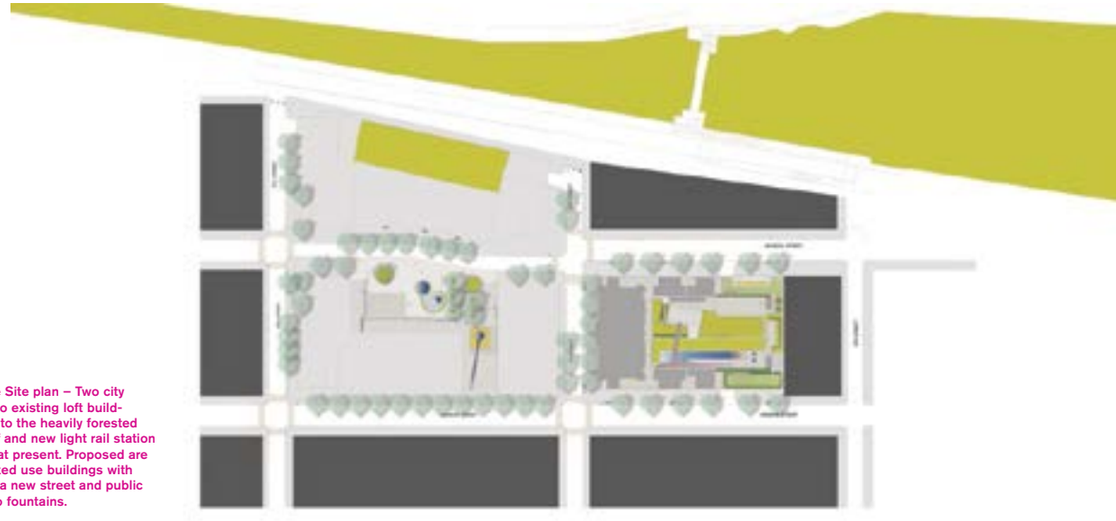


Fig. 4. Monroe Site plan – Two city blocks and two existing loft buildings adjacent to the heavily forested Palisades cliff and new light rail station form the site at present. Proposed are three new mixed use buildings with roof gardens, a new street and public plaza with two fountains.

1. The History of Hoboken, Hoboken Board of Trade, Hoboken NJ 1907
2. Steward Pickett, Mary Cadenasso 'Meaning, Model and Metaphor of Patch Dynamics' *Designing Patch Dynamics*, Brian McGrath, et al eds. Columbia University Press, New York, 2007.

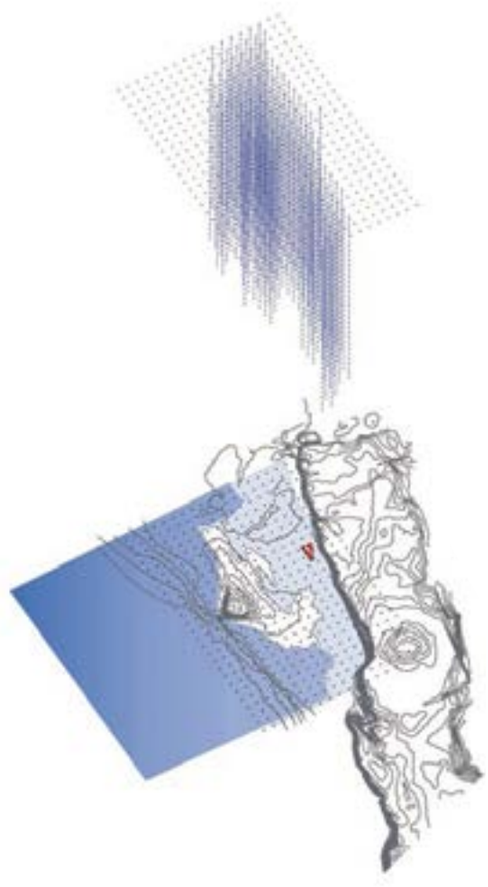
buildings not less than three stories in height.'[1] The city's focus on the style of façade articulation which was set at this time has distracted attention from the ecosystem effects of the more recent bulkier urban buildings. These new block scale development projects which accommodate above ground car parking cover absorptive back yards and seal vacant lots creating a less complex urban grain, missing the unique uses scales, densities, and textures that provide important ecosystem services.

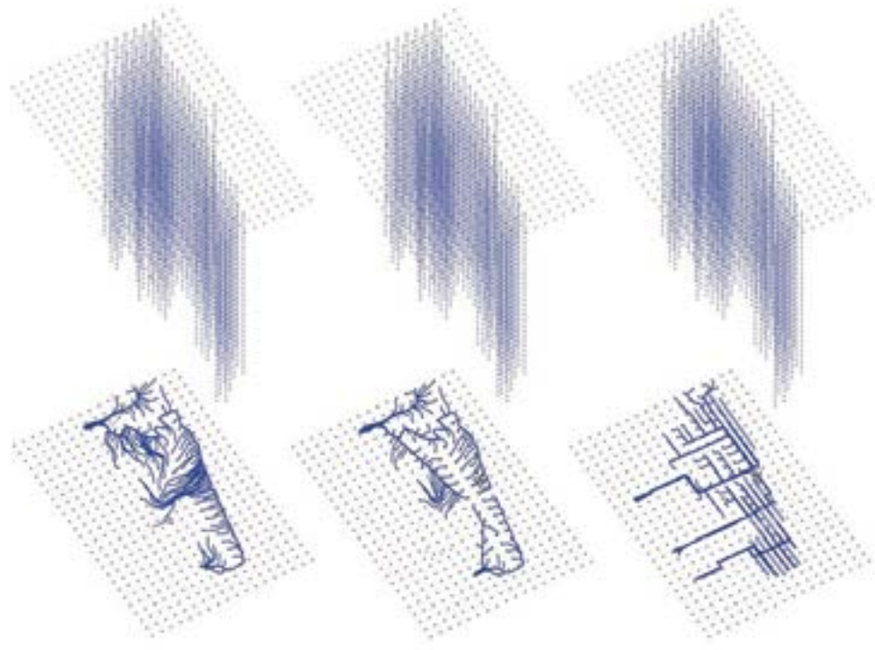
The word patch comes from the ecological framework called Patch Dynamics, where patches have porous and flexible boundaries. Patches mediate change through the influx of flows of people, matter and information.[2] Iris Marion Young argues that the ideal of community fails to offer an appropriate alternative vision of a democratic polity. For her this ideal expresses a desire for the fusion of subjects with one another which in practice operates to exclude those for whom the group does not identify.[3] The patchy and dynamic microclimates of Monroe Center have been designed to affirm social relations of difference without exclusion. They are designed to cultivate experimental neighborhood practices and informed decision processes inspired by the openness and uncertainty of the 21st century patchy and sustainable city rather than the desires of homogeneity and hygiene initiated by the 19th century middle class and sanitary city which drained, buried and filled the former wetland.

Climate change modelers who are studying remote sensing for the Hudson Raritan Estuary are searching for ways to incorporate diverse patch change types and patch change speeds into their projection scenarios. National government organizations such as the Environmental Protection Agency and the US Army Corps of Engineers are beginning to consider the structure and dynamics of human-ecosystems as creative rather than something that can be predicted or controlled. When these state and federal scenario models become real time interactive models the seemingly minor attentive microclimates of Monroe Center can become more attuned as digitally sensed microclimates and therefore responsive to larger cascading patterns.

Social ecologists, economists and epidemiologists note that systems are 'leaky' particularly at the stage of reorganization, therefore for long term research, the challenge is not to gather information over time but rather, to measure in time, particularly with relation to collective memory and lagged effects.[4] Geographical mapping currently dominates scientific and design research in urban design and ecology, however, attentive and digitally sensed shifting microclimates can offer real-time modes of gathering information, sampling data and generating knowledge in every-day life. This is urban design at the small scale which engages the emergent nature of cities rather than designing emergence. Urban designs as experimental models of patch dynamics therefore draws on our imagination as well as digital feedback as an interlinked ecosystem process which creates practices and forms that are conscious, sustained and collectively have transformative effects in larger urban patterns.

Ecologist Steward Pickett notes that given the changing forms of cities globally, novel ecological circumstances will probably emerge for which prematurely fixed codes and best management practices may not fit.[5] Non-equilibrium ecosystem models imagine the world as comprised of multiple stable transitions between states of material flux and resilience refers to the capacity of a system to adjust to these changing rhythms and to persist. In this view, sustainability is maintaining flexibility and functional soundness rather than the capacity of a system to return to some fixed or equilibrium point after perturbation. This rhythmic and unstable image is also found in the way science and art frame chaos: 'what science and art share is precisely the vibratory structure of the universe. Art makes this vibrational force a sensation whereas science makes of it a pattern and eventually, measurement, ratio or formula.'[6] Inhabiting the familiar spatial types of the apartment, street, garden, park and waterfront promenade, everyday urban actors at Monroe Center offer emergent sensory patterns, material constructions and climatic modifications that engage both of these models. ◊





5. Monroe Water – Hoboken was once an island in the Hudson River. Its marshy western waterfront was drained then traversed via a long boardwalk to the higher ground of the Palisades. Later it was filled to create a landscape of production. Today the legacy of this slow flow landscape is emerging in a gentrified neighborhood creating temporary pools which contain dissolved legacies of its recent industrial past.

3. Iris Marion Young. Justice and the Politics of Difference, Princeton University Press, NJ 1990
4. Erika Svendsen, 'Lifecourse: Micro-macro' Designing Patch Dynamics, Brian McGrath, et al eds. Columbia University Press, New York, 2007 p33.
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"So poor, all we have left is money":

Architectural Culture in Consumerist China

Liu Dong AUTHOR
Haun Saussy TRANSLATOR
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1.
Beijing International Airport's new Terminal 3, designed by Sir Norman Foster, opened in 2008 as the international portal to the Beijing Olympics.

1
BUILDING IN A CONSUMERIST ERA

"I am so poor, all I have left is money!" This is the sigh of a Chinese nouveau-riche. Mixing lament with boasting, this complaint can only make others envy him the more. However, phrases like this have already become proverbial. People use them to indicate a condition of spiritual poverty, that is, not owning anything except material things.

In the days of Chairman Mao, the typical complaint would have been "so poor, we have nothing left and especially no housing!" Indeed, Chairman Mao left us with the greatest population in Chinese history and the smallest amount of housing. Therefore, people had no alternative but to crowd together like ants.

In the evenings, you might find every bench along the bank of the Huangpu River in Shanghai crowded with three pairs of lovers. Nobody had, or could afford to have, a concept of privacy.

At that time, many young couples could not marry due to the lack of housing. As one popular joke had it, finding a fiancée was far easier than finding a room. If people at that time had heard somebody complaining about "having nothing left but money," they would take him for a madman.

Up to the end of 2005, the total area of unfinished new housing in China reached 1,666,000,000 (one billion six hundred sixty-six million) square meters, and the total reported price of this housing reached 4,600,000,000,000 (four trillion, six hundred billion) Chinese Yuan. That alone is a quarter of our GDP. But according to some economists, the real value of the Chinese housing market may be as high as 35% of GDP.

Even if this building activity seems exorbitant, the demand for housing is still strong. As a result, housing prices continue to rise, and the main concern of the central government for the past two years has been to keep the rate of increase of housing prices under control. What is the reason for the increase? A real-estate broker joked in the newspaper that housing prices are a factor of the number of marriageable girls. Suppose that all these girls resolve to turn down any suitor who cannot afford a house; then the social preference for buying over renting will push prices up.

The output of cement is a good indicator. In 2005, the total annual output of cement in China reached 1,050,000,000 (one billion, fifty million) metric tons, a little more than 40% of the total world output of cement. Nearly half of worldwide house construction, it seems, is occurring in mainland China. That is why it would be better to call the place I live in a huge building site, rather than a city.

The pun in the original is between two meanings of the compound "du cheng"—"gambling city" (like Las Vegas) or "traffic jam city."

2.
Media ceiling covers plaza in front of "The Place" shopping mall in Beijing's new Chaoyang Central Business District.

One of our great poets, Du Fu, in the eighth century already had this dream: "What if a vast building with a thousand rooms were raised, where every poor scholar could find rest and joy?" As we can see, the dream of building a safe and beautiful house is an eternal one. But today the "vast building with a thousand rooms" would be an incorrect analogy, for there are reportedly now some five million empty dwellings in China. Never before have we seen such astonishing wealth.

2
BUILDING ACTIVITY WITHOUT CULTURAL MEANING

On the other hand, we still go on complaining of poverty. Now we are "so poor, all we have left is houses." Suddenly we find that amidst our forest of buildings, we still lack that thing named culture. The area where I live, outside the fifth ring road of Beijing, is said to be the largest subdivision in all Asia, with three hundred thirty thousand inhabitants, and it does not contain a single decent bookstore, let alone concert halls, theaters or libraries.

The contradiction is truly ironic! On the one hand, China is genuinely becoming richer; as befits its role as the so-called factory of the world, it is producing the most steel, cement, and housing. On the other hand, China still behaves like a poor country, and even poorer than ever, because although people are rich enough to

3.
CCTV Headquarers, by OMA, still unopened looms behind a rusting construction fence in downtown Beijing,

contemporary Chinese cities hardly makes sense in terms of architecture, it provides good material for cultural studies. It is a symptom of the lunacy of the people. For instance, one of the strange symptoms of today is that every family is madly remodeling, with the same energy that every family put into "battle brigades" during the Cultural Revolution. People spend almost all of their money and energy trying to make their homes magnificent. However, the result of their effort is that the air inside their home is becoming more polluted, while outside their homes, piles of construction debris rise up. The whole country is suffering from this new fever of remodeling. If there were no other evidence, this would be enough to prove the imbalance of our whole society.

It seems that the original cultural DNA of Chinese lacks the antibodies to resist the temptations of material enjoyment in the present. In addition, following the broad repression at the end of the 1980s, people suppressed their desire to participate in politics and retreated instead into their private worlds, neglecting the public sphere.

Thus the worsening of the appearance of the whole city, and the dramatic changes in residential space, plus the destructive effects of the over-emphasis on decorating private space, combine to form the symptom of our communal consciousness.

Another indication of the vicious character of building in China today is the use of mirrored glass. When a few years ago I. M. Pei used this material in his John Hancock Tower, the intention was not to make the building gaudy and flashy. On the contrary, he intended to make full use of the invisibility-effect of mirrors, so as to lighten the sense of the skyscraper's material thickness and make it almost transparent. The glass sheath rising delicately amid the blue sky and white clouds gives one a feeling of lightness, as opposed to the usual heaviness and monstrosity of office towers.

But unfortunately, when the architectural language of mirrored glass is spoken by people who belong to a different level, its effect becomes something thoroughly different. If I. M. Pei used thousands of mirrored windows to emphasize his understated style, our architects in Beijing need only a few hundred mirrors to bring out their petty, overstated style. If I. M. Pei used the idiom to make the whole building melt into its background, our architects choose the same material only for the sake of its dazzling effect.

As I once put it very sarcastically, just as a cheap prostitute will never abandon spangles and costume jewelry, so our low-class "architects" will never be cured of their addiction to mirror glass, but stick it on their buildings right and left.

By dazzling the eye with their visual pollution they try to seduce the pedestrian, competing to achieve the most down-market effect and prove the poverty of their education.

Accordingly, although the mirrored glass is an imported device, it has already melted into the Chinese national character. During the war in Yugoslavia, I was deeply worried about beautiful Belgrade. One day while watching the news from that city, I suddenly saw a building with mirrored surface. "What a decadent taste," I thought to myself. Later, I realized that this was none other than my country's embassy.

Needless to say, it is exactly this building that was bombed out by the American Air Force. The CIA's excuse that the missile attack had been caused by a mistake in planning could not be anything but a lie, I joked. There was only one ugly building in the city with such a glaring surface, so it was impossible to turn a blind eye to it!

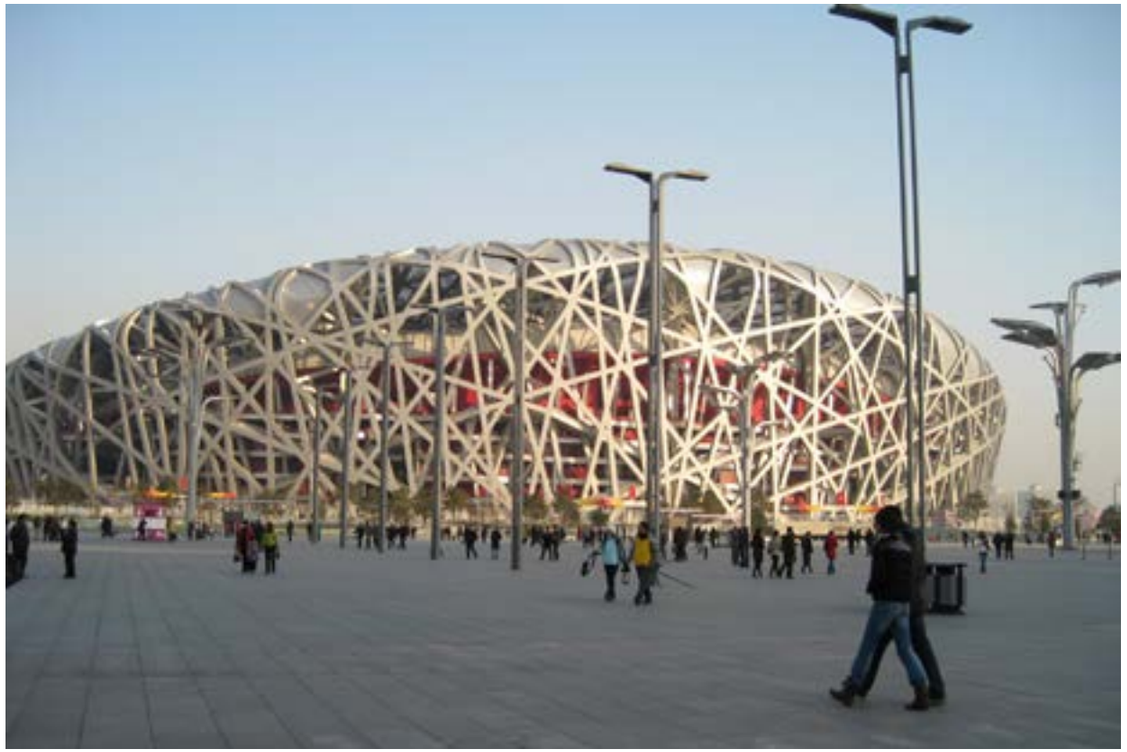
pay for a house, they still cannot afford the expense of design. Worse yet, even when they are willing to hire a designer, they will soon regret that somebody failed to pay good money to support the education of those so-called architects.

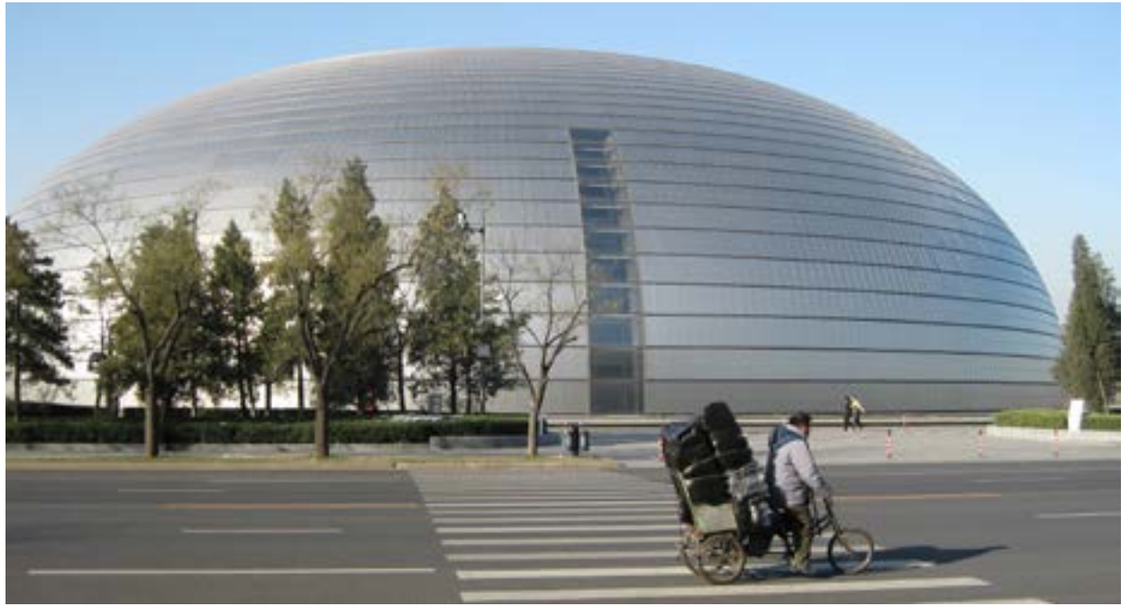
Take the example of urban design in Beijing, which has been described as "grabbing for a share of the pie." The need for rapid urbanization becomes an unopposable bulldozer, destroying ancient architecture, while the overheated market for housing results in monotonous reduplication of buildings. The language of architecture is disrupted. In this way, the urban landscape has been completely altered, eliminating both cultural memory and individuality.

Such a vision of the city can only be called vicious. In spite of the veneer of official socialism, bureaucrats tacitly adhere to naked market fundamentalism, while ordinary people openly lust for an American dream of ever increasing, never satisfied consumption.

Therefore, although the appearance of

4.
The Beijing National Aquatic Center, PTW Architects, also known as the "water cube" is currently under conversion to a shopping center at Beijing's Olympic Park.





5.
The National Stadium – the "bird's nest" - by Herzog and DeMeuron, has hosted few events since the Olympics, yet receives 20,000 – 30,000 paying visitors a day.

6.
The titanium and glass National Center for the Performing Arts by Paul Andreu, sits like a giant egg in a reflecting pool just west of Tiananmen Square.

7.
On the following spread;
A new Starbucks occupies a grand building at the head of the newly sanitized Qianmen Dajie pedestrian street just outside the Front Gate which leads to Tiananmen Square and the ancient inner city of Beijing.

3
THE LIFE-AND-DEATH OF CITIES

Every year I publish around 20 academic books in the series I edit, but I never pay attention to their market effect. Recently, however, I unwittingly sponsored a real best seller, that is Jane Jacobs' The Death and Life of American Cities. Standing in the booksellers' Top Ten list for several months, the book became an indispensable fashion item among modern readers, which made my publisher very happy.

However, I wonder how many readers really understood the book. For instance, I often learn that people recommend it as a landmark in the field of city planning. But from my point of view, the author's purpose in this book was to discredit such a subject itself.

Against rigid masculinist rationalism, Jacobs offered a protest and an antidote, with extreme feminine subtlety. She reveals the limitations of orderly rational planning when set against the vivid diversity of city life.

It was on a visit to London that I understood what Jacobs was about. The landscape of this city seems to reflect a kind of empiricist trial and error. Its elegance and variety emerge from the very lack of central planning; perhaps it is the best case to prove Jacobs's argument. Seeing this, I realized that architecture is only halfway a member of the fine arts, since it has to answer to humankind's functional demands. Architecture can tolerate inconsistency, incoherence, and even a degree of ugliness. What it cannot bear is uniform rationalist planning, even if this is proposed in the name of science or aesthetics.

It is obvious that old-time Beijing was damaged by this kind of rational planning, including the Chang'an Avenue and the Second Ring Road. Contemporary Beijing is being wrecked at a faster pace and for the same reasons. The "bar street" of Sanlitun, Xiushui Street and similar areas of lively activity were not planned, they just happened; unfortunately Xiushui Street has in the meantime been ruined by the planning impulse.

Similarly, in the 1950s the main universities of Beijing were exiled to a distant suburb, Haidian, and therefore disconnected from the famous press houses, bookstores, showplaces, concert halls, and museums. Under normal circumstances the teachers and students of these universities ought to be the core of the cultural life of the city, especially the fine arts. The result of their exile to the suburbs is easily imagined: it is very difficult, for example, for our students to see a play in the centre of the city, while it is also very difficult for actors to find an adequate audience for their performances.

Every misstep Jacobs mentions in her book has been replayed in our city. For instance, in contrast to her ideal of multi-use neighborhoods, the vast residential area I just mentioned, Tian Tong Yuan, has been designed by some rational planner to serve a single function only: sleep. That is why this residential area soon got the nickname of "Shui Cheng" (sleep city, or, as they say in America, the "bedroom community"). The people there have to leave their sleep city all at once in the morning to go earn their living. And as a result of such planning, Beijing's nickname is now "Big Jam."

In any case, as series editor, I can be proud of the fact that due to the popularity of Jacobs's work, "the death and life of cities" has become a phrase in common usage. The phrase helps at least to clarify a few things. And recently I learned from the newspaper that a city-planning official who read Jacobs's book, found that it completely reversed his previous understanding!

When I visited Harvard in the 1990s I mentioned my concerns about Beijing to Professor William Kirby. He instantly took the point and spoke of the imminent "Los Angelization" of Beijing. By now there's no need for a Harvard professor to point the way to that future. Plenty of Chinese have begun to understand that a city is the sort of thing that can live and die.

Whenever the power of highly-placed officials to impose their will is too great, the city under its rule begins to die. In the 1980s, before I moved to Peking University, I worked at the Chinese Academy of Social Sciences. The CASS is located on Chang'an Avenue, and its main gate should certainly open onto that wide boulevard. However, an order by the government directed that all the buildings along this road had to install a patch of green at their gate, in order to make a uniform park-like scene.

So our CASS had no choice but relocate its entryways to both sides. In this way, the whole of Chang'an Avenue could not become a "street" in Jacobs' sense, since all the buildings shut their gates on it and on each other.

Whenever a government misunderstands architecture as a form of sculpture, the city under its rule begins to die. For architecture designed for the leader's eye is planned from outside to inside, not from inside to outside. For instance, our National Library in Beijing was not designed for the readers inside it, but for the inspection of officials outside it. Most of its space has no function, and its only purpose is to allow the surface of the whole building to dissemble. You have to pass through a long series of useless spaces to find a reading room, and then you have to go through another labyrinth to find another reading room. Soon you tell yourself, better to avoid entering it at

all.

In sum, whenever we have nothing but architects in the modern western sense, the city, especially an ancient city like Beijing, begins to die. These architects can do nothing but compete with each other; their projects are like body-builders showing off their muscles. They strip off all their clothes and wipe the whole body with oil first, then they strike their most exaggerated poses and glower at each other on the stage. How can a harmonious street life be created out of such angry architecture?

In short, this time we are really so poor that we have nothing left but houses, because we have lost the basic culture of dwelling together. When every family, every building, and every residential area have to defend against possible harm from the neighbors, a city has begun to die. The dying process, I would like to point out, also has its curious paradoxes. Where you find burglar-proof bars bolted to first, second, and third floor windows, and even on the fourth, fifth, and sixth floors, and this is supposed to be a "safe and calm residential area," what kind of joke is this? Similarly, when the inhabitants have to surround their buildings with high walls and then spend a lot of money to hire security guards to watch them, the fiction of the "quiet neighborhood" is obviously a cheat.

4
THE REAL MEANING OF TRADITION

In the distress of cultural disorder we can not help recalling Professor Liang Sicheng. Recently a new book appeared: "The Plan for Beijing as Designed by Liang & Chen". Liang is Liang Sicheng, and Chen is Chen Zhanxiang. This book shows us another possible blueprint for the city of Beijing, presented to the new Communist government in the early 1950s before the first round of destruction and modernization took place; it enhances our regret and the pain of cultural loss. It also reminds people who are living in cultural poverty how rich they had once been.

It makes me think of the big cultural gap between China and Japan in the middle of the 19th century, as described by Samuel Wells Williams. When he accompanied Commodore Perry on his initial visit to Japan in July 1853, he found a sharp contrast between the elegant Chinese and the crude Japanese. But when I visited Kyoto the year before last, my impression was quite the reverse.

We have been too eager to smash our own culture! Last summer my wife and I went on an outing to the Great Wall with Professor Marshall Berman of the City University of New York, an authority on Marxist philosophy and urbanism. We passed by the imposing old city gate, Desheng Men, on our way. I told him that this gate was originally slated for demolition, like all the other city gates along the Second Ring Road. Fortunately Mao died just before the last gate could be knocked down. With Mao out of the way, a few courageous intellectuals dared to step up and beg for the preservation of this magnificent piece of ancient architecture. Professor Berman kept silent. Probably this sad story did not fit with the leftist sympathies of this New York intellectual.

The importance of Liang Sicheng is not just that in a time of war and national decay he did his best to salvage, by measuring and sketching, the forms of some rare traditional architecture; even his personal failure takes on a symbolic meaning for our times, reminding us of the cultural meaning of our old architecture. Only now do we begin to realize that the same ancient civilization that recently was the object of rejection and neglect, and that now has been lost beyond recovery, was of such maturity and subtlety that every last brick and tile glows with a sense of artistry that cannot now be reproduced.

To tell the truth, "architecture," originally a foreign term, seems too restricted and artificial to describe the dwelling aesthetic of ancient China. "Architecture" calls to mind some singular, independent structure standing

8.
McDonalds anchors the southern end of Qianmen Dajie pedestrian street, while a cordless electric tram carrying tourists along what was once the liveliest market street in Beijing.

out and apart from its natural surroundings and flaunting its human purpose. But that formerly complete Chinese art of living, whether you look at its individual products or take it as a whole, demonstrates an ability to fuse with nature. Rather than architecture, it would be better to call it "environmental art."

On the other hand, this solitary and detached way of building would have been inconceivable in ancient China. Between "housing" and "architecture" we sense an unbridgeable gap where our ancestors would have seen none. We might say that the accumulated trial and error of a civilization produced the cleverest and most skillful artists. They not only took care of basic needs, but also through their economical use of resources developed fascinating artistic forms.

Why is this so? Behind ancient architectural creations is a total shape of cultural life. Our ancestors started from pre-existing cultural values, like an atmosphere surrounding the whole city. This atmosphere provided the basis of urban life and provided a habitual feeling of form. Living in this atmosphere, people would, unconsciously and as if by chance, perform gradual creations, adding those small touches that perfect the whole.

Whatever content a civilization has, it must show itself in its aesthetic style, and this style will necessarily affect the forms of building, subconsciously determining the limits of architects' imagination.

I once published a piece arguing that whereas Su Dongpo's studio lacked the impressiveness of the palaces of the time and certainly could not compare with the splendor of modern gardens, it had a more inspiring harmony. This goes to show that standards of elegance emerge from history and must first be based on spiritual

9.
Careful reconstruction of the courtyard hutong neighborhood of Dashalar, southwest of Tianamen Square, just outside the old city wall.

content. To have spirit, a house has to be filled with the vitality of its inhabitants. Only if it has become a container for the contents of culture can it have a life of its own.

Therefore, we conclude that if a city refuses to be murdered, the most important thing will be to cultivate a total cultural atmosphere. In such a vivid culture, the various demands of all kinds of people and the judgment and commentary by educated citizens will provide a permanent spur to development and revision. Without it, a culture is cut off from its roots. For a city, such a conception of the functioning of culture is much more important than any mere demand for visual stimulation. Any formalist plan divorced from the cultural activities of human beings will have no other result than to accelerate a city's demise.

5
DOES CHINA STILL HAVE A CHANCE?

Nevertheless, I still want to say, in the mode of a challenge, that it is not enough to have one Liang Sicheng. The chair of Tsinghua's architecture department in a time of war and privation, he may have had no choice but to do architectural history instead of architecture. We on the other hand are living a time of large-scale redesign; an antiquarian spirit of conservation falls far short of our needs. Those predecessors could do no more than to advocate the preservation of fragments that were disappearing day by day.

Liang Sicheng played a triple role: as architect, historical preservationist, and archaeologist of architecture. There is a meaningful difference in principle among these three roles. An architect must trust himself, while an archaeologist trusts the ancients. An architect is moved to

10.
Construction worker poses next to newly rebuilt hutong in Dashalar.

action, while an archaeologist refrains from actions lest they prove destructive. An architect wants to create something new on the basis of function, whereas an archaeologist wants to keep the old traces for their historical significance. The architect is invested in the next project, while for the archaeologist, the older something is the greater its value.

I should also mention the special relationship between Liang Sicheng and his wife and John King Fairbank and Wilma Fairbank. As we all know, they maintained a decades-long friendship, and once went on an expedition together to survey ancient buildings scattered in the Chinese countryside. But it is rarely asked whether there might be some deep relationship between Fairbank's "impact-response" model of modern Chinese history and Liang's architectural thought. Why is it that in the thinking of these Americans and American-trained Chinese, the Chinese tradition so thoroughly lacks agency when confronted with contemporary society?

To confuse Liang Sicheng's three roles will only introduce obstacles to understanding. On the most basic level: can an architectural relic still serve as a dwelling place? – Historical preservationists and architects are not likely to agree. Another question is how to handle the many layers of historical traces and the many phases of rebuilding affecting a cultural relic: here the archaeologist and the preservationist will have difficulty seeing eye to eye.

Preservation is important, to be sure, but mere preservation is not enough, and the mere copying of old architectural forms is insufficient as well. A culture is the product of active creation; it responds to and instigates changes in its environment, and responds to the demands of human psychology: its flavor and meaning are a result of action and sedimentation. The "national style" of ancient buildings was shaped in response to the environment of the past; otherwise history would have swept them away. This sounds simple but is the first principle of architecture; it is the precondition of the success or failure of trends in architectural design.

Liang Sicheng's concept of "repairing the old in the style of the old" is also far fro self-evident. From the architect's point of view, "repairing" in ancient style is just a special form of historical pastiche; from the preservationist's point of view, the accumulations of the centuries between the structure's first creation and the present also deserve to be retained, and cannot justifiably be wiped away; and considering the archaeologist's requirements, "repairing the old in the style of the new" is less of a hoax than "repairing the old in the style of the old."

For example, the Peking University campus was originally built in the 1920s as an imitation of traditional palace styles. Its American designer, Henry K. Murphy, sought to harmonize the new buildings with the existing surroundings, a former Qing princely residence. As a missionary school, this campus was preserved while the other buildings around it were destroyed, and now people come to this made-up Chinese scenic environment to enjoy the authentic flavor of traditional Chinese architecture. As a member of the Peking University faculty, I feel a sharp contradiction in the fact that this piece of colonial-period simulated architecture is so identified with the institution. Murphy's buildings occupy half the campus and have no functional effect on our teaching, except perhaps by serving the incidental function of giving lovers a place to stroll.

The gap between present-day China's huge population and limited natural resources, and the dramatic recent changes in the environment, make it obvious that to reproduce the building styles of the past, whether Chinese or Western, will lead up a blind alley. Maybe we should not endorse Michael Brown's phrase "People Pollution," because it repudiates human dignity. However, architectural planning must pay attention to the huge population pressure and consider it as an inescapable bottom line. The alternative is to perpetuate fakes on the order of those "villas" that are even more cramped than usual.

Please permit me to repeat: architecture is only half a fine art, it cannot be detached from function or utility. It is of course possible to waste the resources of a whole country on imperial palaces as was done in the past, or more recently on such extraordinary structures as the "boiled egg" (the National Opera House) next to Tian'an Men Square, or the "bird's nest" (the Olympic Stadium). But if you want to resolve the problem of 1.3 billion inhabitants, and do it successfully, you cannot deceive yourself about architectural structure and function.

It is another case of "dancing in fetters." The fetters are the disproportion between our huge population and our scant natural resources. The ratio of population to territory in China has never been ideal, but that did not prevent our ancestors from creating culture. Lacking pasturage, they resorted to pigs and chickens, animals that do not need grazing areas. But did this impede their creativity? Did it hinder the development of Chinese cuisine? If our architects really want to arrive at solutions, they must "make a virtue of necessity": they must pick up the pig belly rejected by other cultures and make spicy Szechuan pork belly strips from it.

What this will require is a thorough reversal and renovation, a revolution in visuality going from inside to outside, lacking which the creation of a few suburbs of luxury houses will have as its price the proliferation of shanty towns, and eventually the whole city will be overwhelmed.

In order to carry out this creation, the theory of "the determinism of the stage of economic development" must be rejected. This determinism is well-received in contemporary society, but it causes people to think that beautiful design is a luxury, and that the need is for cheap and functional building. But although there is an added cost, from the point of view of visual aesthetics, do the apartment towers of the Qian Sanmen district surpass the courtyards of old Beijing? Do they surpass the folk constructions of Anhui province? Do they even surpass Indian teepees? Between design and the economics of building, there is no mechanical proportion: a low cost of building does not necessarily imply a shabby visual effect, and economic progress does not bring about a sudden awakening to the virtues of form.

To this double question of design and economics, perhaps the future can bring a reconciliation. Perhaps the question of "native form" comes down to the special problems of China demanding a solution drawn from China's particular conditions. In the long term, it is only through seeking a style of building that fits our resources that Chinese cities can recover their cultural taste and character. The resurrection of Chinese architectural tradition may indeed arise from the limits on our resources, so that the old ways of building will live again and not be confined to archaeological interest.

All of this depends on our finding in ourselves the inspiration to consider architecture as not belonging to the realm of science or technology, but as an indispensable element of humanistic culture.

Interviews

Questions for NYC DOT Commissioner Janette Sadik-Khan

From Graduate Architecture students at Parsons The New School for Design

Theory of Urban Form
Brian McGrath, Instructor

Emily Anderson **EA**
Scott Baillie **SB**
Christopher Been **CB**
Keefe Butler **KB**
Kristen Chin **KC**
Lucia Eastman **LE**
Obinna Elechi **OE**
Margaret Green **MG**
Clinton Peterson **CP**
Jacob Sandnerman **JS**
Magnus Westergren **MW**

ABOUT THE COMMISSIONER/DOT

KC Who determines what is "good streetscape design"?

DOT Just like the city itself, good design concepts and practices are always in motion—they're always evolving. So we're always on the hunt for the next big—or small—idea that can make our streets look better and work better so they're safer and more sustainable.

Still, everyone needs a starting point. That's where the City's first-ever Street Design Manual comes in. Released last spring, it sets the tone by elevating the design and functionality standards for all street components, from lighting to roadway geometry to materials used. And while it provides a framework, it's a playbook that is flexible to accommodate the individual needs of the site and the project's goals.

EA What is the cost for these changes?

DOT Budgets will always vary based on a project's scope, but each of our initiatives begins with the mindset of doing more with less. I think that's a challenge every city agency faces not just in New York City but across the country.

At DOT, we've been creative with our implementation, using sturdy, yet temporary materials to transform our streetscapes. We also take a creative approach to recycling and see how we can create new uses for things already available. A good example is our new pilot to convert out-of-use parking meter poles into bike racks. We're retrofitting about 200 of these poles citywide, and in doing so, we're saving the city money on the cost of their removal and creating more spaces where people can lock up their bikes.

LE/KC Are there ways to better communicate what is going on in DOT in terms of planning, designing and how changes are implemented?

Janette Sadik-Khan

DOT Getting the word out about the work we do is very important to us and we look for ways to partner with local groups every step of the way. Throughout the year, DOT conducts over 2,000 meetings with community boards, district service cabinets, elected leaders and members of the community to keep people in the know. After all, collaborating and getting feedback is what helps us make good projects great. And in addition to our community outreach efforts, we recently added new online capabilities to reach and engage even more people. Stay informed and connect with DOT on Twitter, Facebook, Flickr and YouTube.

MW/CP What is the effect of street programs on housing and real estate costs?

DOT Better streets mean better business. That's the case whether you're a retailer or realtor. After reconfiguring several public squares to better accommodate and attract pedestrians, Glasgow's retail sector boomed. Closer to home, the revival of Bryant Park led to a renaissance for the area, which outperformed its surrounding property markets by up to 225%. And store owners in Times and Herald Squares are saying the temporary plazas created under the Green Light for Midtown pilot program were good for business, and that they're excited with the decision to make them permanent.

KC These initiatives seem very Manhattan-centric. What is being done in the outer boroughs?

DOT DOT is spearheading the most innovative public-space program in the country. As part of our NYC Plaza Program, we invite nonprofits from all five boroughs to submit proposals for transforming underused streets in their neighborhoods into permanent pedestrian plazas. We are currently procuring design teams for the program's first six plaza projects, and we're working on selecting the second round of sites. We put out a call for submissions for round three. The best part of it all is that by 2012, we plan to have ribbon-cutting ceremonies for four new plazas every year. By then the first projects will have gone though planning, design and construction. And this, of course, builds on our other efforts to transform the City's streetscapes at different levels—from our Urban Art Program to various traffic-calming projects that make our streets more walkable, livable and inviting places to be.

Janette Sadik-Khan

Janette Sadik-Khan

PUBLIC INPUT AND HOW DO WE SHARE STREET SURFACES?

EA If bicycle use continues to grow will you increase the width of bike lanes?

DOT We're looking to bring new and innovative bike facilities to our streets to help build a bike-lane backbone. New York City is already home to what were the nation's first protected bike lanes, which use a row of parked cars. While wider than many of their on-street cousins, these lanes also have dedicated bike-traffic signals to enhance safety and reduce conflicts at spots where car and bike traffic meet. We're experimenting with other bike lane designs, such as a raised/protected bike lane on Sands Street in Brooklyn, and a median-hugging bike lane on Pike/Allen Streets.

EA Which of the new bike lane designs have been proven the safest?

DOT All bicycle-lane designs offer a safe passage for bicyclists, though each provides different benefits. When we begin the design process, we start with the end in mind, and for DOT, that means safety. Safety is our top priority and our bottom line every day. We customize the design according to its location. So it may make sense to install a protected bicycle path on a major avenue with high traffic volumes, but use increased signage or markings on a quiet residential street.

CP It seems streets are seen as surfaces for recreation in the summer only. Are there any plans for winter recreation uses—"Winter Streets"?

DOT Our streets are for all seasons. Even in the colder months, there are always a lot of people in our public spaces. In fact, a massive snowball fight broke out in the new plazas in Times Square on Dec. 19, showing that good public space can be lively, even in a blizzard. And as we work to make our streets even safer, more vibrant places to be, I think we'll see even more people taking advantage of them in ways that are just as spontaneous.

FUTURE PLANS

KB Is there a plan for shared/on-demand personal rapid transit long the likes of zip-car?
A: We're open to exploring various options to reduce our vehicle fleet, and are piloting a car-sharing program to do just that. We also have a fleet of bikes that staffers—like our street inspectors—have access to. It's steps like these that move us in the direction to reduce the City's and municipal government's overall greenhouse gas emissions by 30% by 2030 and 2017, respectively.

KC Realistically, will New York City ever be a car free city?

DOT Currently 34% of trips in New York City are make by walking, 30% by transit and 33% by car, so we're building on the strength of our diverse transportation system. New York's fortunes have always been tied to the success of its transportation system. And the City's strength rests on the richness of that network—the efficiency and scale it gets from its 6,000 miles of streets, mass transit and waterway connections and bike network. It's all about creating safe streets that work for everyone, whether you walk, take a bus or train, drive or cycle.

Reviews

Redesigning New York's Public Realm:

Are we Hong Kong or Copenhagen?

Brian McGrath

The Skyscraper Museum's Designing Density Conference at the New School, October 18, 2008

New York City Department of Transportation World Class Streets publication, November, 2008

Late fall of 2008 offered New York City two diametrically opposed images for the design of its public realm in the 21st Century: Carol Willis of the Skyscraper Museum presented a public conference at the New School contrasting the new multiple level public walkway systems which have recently proliferated in Hong Kong, with New York's recent retreat to the imagined ground of our asphalt streets; and second the publication of a report by the architect of Copenhagen's legendary traffic calming system, Jan Gehl, for New York City's Department of Transportation. The conference and publication present two alternate models for the future design of New York's streets: Do we want the design of New York's public realm to be more like Hong Kong or Copenhagen?

A tragic event on April 23, 1992 in Washington Square Park is perhaps a turning point in the long battle for space in New York streets. In one of the city's worst pedestrian accidents, five people were killed and many more injured when an elderly woman lost control of her car on Waverly Street and careened into the crowded park. At the time the city's Department of Transportation's (DOT) mission was to move as many cars as quickly as possible through Manhattan's crowded streets. Community opposition was as intransient as the DOT's move-more-cars-faster attitude, together conspiring to halt any discussion of street closure or bike lanes that might take away parking spaces or slow down traffic flows. But with help of new federal government funding through Intermodal Surface Transportation Efficiency Act of 1991[1], traffic calming was initiated by Glynis Berry, Director of bicycle and pedestrian planning and eventuall Chief of Capital Planning at DOT. Tactically, Berry mapped traffic accidents and mortality in Community Board 2, and the slow process of improving pedestrian and bicycle movement through the city was begun.

Today, in a remarkable 180 degree shift, one can hardly walk a few blocks in New York City without seeing another bike lane or street space taken away from cars, as the Commissioner of DOT, Janette Sadik-Khan embraces the ideas famously championed by Danish architect Jan Gehl for Copenhagen. Gehl was commissioned by DOT to develop a framework to remake New York City's public realm which is available on line at: http://www.nyc.gov/html/dot/downloads/pdf/World_Class_Streets_Gehl_08.pdf

The report demonstrates how far DOT has come, as only a few cars can be seen in the background of the pedestrian friendly streets, and the plan is a key part of PlaNYC, Mayor Bloomberg's comprehensive sustainability plan for the city.

Gehls offers Copenhagen, Melbourne, Lyon, London and Barcelona as design models for New York by presenting examples of their incremental and coordinated visionary thinking about the public realm. The DOT conducted a survey for the report on how people used New York's streets. The report vividly illustrates the comedy of New York's congested sidewalks – a multiple obstacle course of street vendors, crowded bus stops and subway entrances with no available rest spots or seating but lots of scaffolding. For example the report points to the allocation of space for things at rest on Prince Street: 73% for car; 3% for people; 24% for bicycles. Few elderly or children can be found braving the mean streets of New York in the report, and rare public spaces are islands that are hard to access.

In contrast, the report points to new planning projects such as the Pearl Street Triangle Plaza in DUMBO, Brooklyn, and the Gansevoort Plaza in Manhattan's meat packing district, both of which transformed large surface parking areas into pedestrian plazas. Since then, the emboldened DOT has taken on closing many numerous lanes of Broadway in Herald and Madison Squares, and more recently the closure of several blocks of Broadway at Times Square completely to authomobile traffic. These, and new model streets, such as 9th Avenue below 23rd Street, are demonstration projects for the possibilities of a civilized "world class" public realm advocated in Gehls' report.

In late 2009, following the implementation of these projects, numerous complaints have started to follow in the wake of new public spaces. Times Square has been referred to as a "Tourist Containment Zone". Others note that cities should be congested and find the hustle and bustle of New York exciting. In the last 40 years, roughly 200 cities in the US built pedestrian malls since 1960, but currently only about 30 remain. The pacification of the urban realm can most notably felt in the new Union Square, where the kinds of social demonstrations that have marked its history can no longer find a place to erupt with all the street furniture, markets and sidewalk cafes.

One month before the release of World Class Streets, an entirely different model was presented in the Designing Density Conference at the New School. Chief

1. The Intermodal Surface Transportation Efficiency Act (known as ice-tea) was signed by the first Present Bush in 1991, and allowed transportation infrastructure spending to be redirected towards municipal intermodal, pedestrian, bicycle and other environmental friendly alternatives to the Interstate Highway System .

Curator and Director of the Skyscraper Museum Carol Willis brought together a panel to see if New York could learn a lesson about density and sustainability from Hong Kong. James Robinson, Executive Director of Hong Kong Land Limited promoted the multi-strata metropolis, by reviewing the history of the skybridges and elevated walkways that connect central Hong Kong's commercial buildings and transit hubs. Laurence Liauw from Chinese University of Hong Kong showed the Central escalators which climb Victoria Peak to the Mid-levels as a dynamic public realm made famous by Wong Kar Wai's film Chung King Express. The Midlevels escalators opened in 1993 and has played a major role in creating a vibrant pedestrian oriented cultural, entertainment, residential and commercial area climbing the steep slope of Hong Kong Island.

Paul Chu Convener of the Hong Kong Urban Design Alliance and Professor at Chu Hai College of Higher Education places these new forms of vertical density in the more traditional context of mixed use and street markets found in Wan Chai and Kowloon. Responding from a New York perspective, Alexandros Washburn, Chief Urban Designer, City of New York, Department of City Planning rearticulated the New York love of its streets that Jane Jacobs helped the city recognize, but at the same time celebrated the contradictory success of the Highline project, which when completed will cross more than twenty blocks with an overhead pedestrian park.

One hundred years before Hong Kong, New York constructed multi-level public realms. Walk down Park Avenue and you are on an elevated platform constructed over the New York Central Railroad tracks, and walk through the New York Central office building and watch the cabs climb the ramp that circles above and around Grand Central Terminal. A few blocks south and east and you can descend an interior hillside as the atrium of the Ford Foundation Building connects 43rd to 42nd Street some twenty feet below. Cross East 42nd Street and climb the stairs to Tudor City, atop the hilltop park connecting with a bridge across 42nd Street, while 41st Street ramps back down to Murray Hill and the elevated ramp coming down Park Avenue South from Grand Central. However, multi-level systems planned for both Midtown West and around the World Trade Center in the 1970s never were fully realized and have been severely criticized by street-loving New Yorkers.

In 2009, DOT presented for public review a new Street Design Manual http://www.nyc.gov/html/dot/downloads/pdf/sdm_hires.pdf which will undergo a public review before dictating the future of New York City's public realm. It is time to carefully consider the effect of attempting to turn New York into Copenhagen. While it is hard to follow Carol Willis wish to imagine New York as Hong Kong, it does have a history of multiple levels of public space, above and below street grade, and its topography is not flat, in spite of the flattening effect the grid has to our perception. On our bicycles, in our newly painted lanes, we can now truly understand the undulations and three dimensionality of New York's grids.

The recently completed Highline project reconnects New York to its long history of mult-level public realms. It begins near the end of 9th Avenue where DOT piloted its first experiments in new street design. Here a landscaped median separates traffic, parking and loading from a bike lane. Bicyclist no longer have to dodge an obstacle course of buses and trucks unloading and car and taxi doors swinging open. A few blocks south a pedestrian plaza has been carved out of a triangular cobble stone open space of Gansevoort Plaza, with the entrance to the Highline is just a few blocks west. If the Highline is completed as projected it has the potential, like the Midlevels escalators in Hong Kong to connect a pedestrian friendly cultural, entertainment, residential, and commercial area to a major transportation hub – New York's Penn Station. New York's future, if it follows this model, would be a unique hybrid of Hong Kong and Copenhagen. ◊

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