



Creating Sustainable Neighborhoods

A Town+Gown Symposia Event

AIA Center for Architecture

April 3, 2012 (8:30 a.m. to 10:30 a.m.)

A Deconstruction. *How to Create Sustainable Neighborhoods*, the research question generating the four Town+Gown projects that are the subject of this symposium event, contains three powerful words—create, sustainable and neighborhoods. This précis begins by deconstructing these three words, in reverse order of appearance.

The **neighborhood** is at once many things. As an actual place, it is one of the smaller geographical areas that correspond to our lived reality, a “fragment of the city.” As “one kind of urban identity,” the neighborhood is also “the stuff of the narratives and tales of the city, the site of soap operas, the bases of communities and grounds for protests, social movements and group nostalgias, and sites of memory.” (King, p. 2) It is not surprising that, for example, in the Borough of Brooklyn, where there are 18 community boards, its residents identified almost five times as many distinct neighborhoods, consisting of 90 primary neighborhood distinctions, some of which contain secondary neighborhood distinctions and “ghost” neighborhoods. (Jackson and Manbeck) This phenomenon is visible at the city-wide level as 336 distinct neighborhoods are embedded in the city’s official 59 community boards. (See Department of City Planning) Conceptual and administrative neighborhood boundaries co-exist—although the boundaries are not always identical, they are “central to the task of imagining the city.” (King, p. 3) Our cognitive maps of the city as a whole and its component neighborhoods differ “. . . in meaningful ways from the cartographer’s map, with its solidity and boundedness.” (Çinar and Bender, p. xii)

Jane Jacobs elevated the neighborhood and, in particular, the mechanism of its streets, in 1961, to subjects and objects of urban planning (Jacobs, *Life*), and the concept of the neighborhood and reality of the

many neighborhoods remain significant concerns of urban planners and designers. But the function of land use planning, one of several local governmental functions, in as big and as varied place as New York City, it is a challenge to plan and design at the neighborhood level.

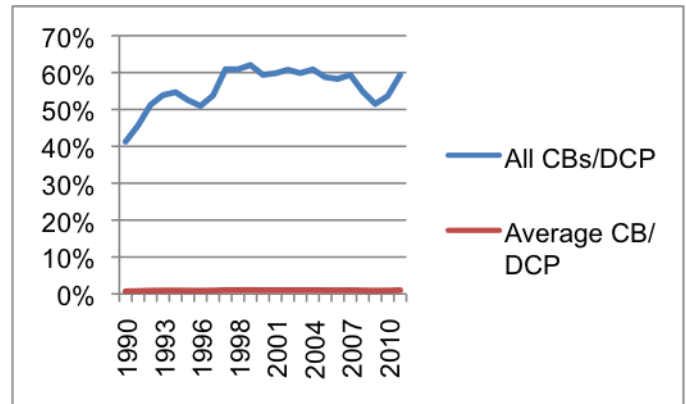
The recent **sustainability** agenda represents the current application of the public economics externality pricing model to environmental concerns. The private market’s pricing mechanism does not account for costs associated with environmental pollution and waste, so that levels of pollution and waste are higher than levels society deems to be acceptable. Thus, the public wishes the prices of goods and services to reflect the costs associated with pollution and waste, and the various levels of representative governments intervene in the market, either by taxation or by regulation, to raise the costs of producing such goods and decrease the level of their consumption or to increase the production of substitute goods that pollute or waste less. (See Musgrave; see also Myers)

The private market’s pricing mechanism also does not account for social concerns, so this externality pricing model can also include social costs of private market transactions, leading to the “full cost accounting” method or “triple bottom line” accounting. This cost-benefit model requires analyzing the impact of an activity across several inter-related criteria—environmental, social, and economic. In the absence of understanding the impact of an activity from all three perspectives, the activity’s “true” cost will be underestimated, leading to inefficient allocation of resources. (See Litman) The full cost accounting methodology underlies this research question, and the resulting projects focus on at least some aspect of the externalized or indirect costs of a course of action, including environmental sustainability efforts

themselves, viewed through the lens of the neighborhood. (See also Jacobs, *Economy*, chapters 2, 3 and 7).

The question of how to **create** sustainable neighborhoods raises the *a priori* question of “Who can create?”. As noted above, land use planning is one of many local governmental functions that must at some point, of necessity, be performed by city-wide entities. The functions and relationships of neighborhood creation activities are defined by law, which is primarily, though not exclusively, the city charter. In New York, the legal entities closest to the neighborhood are the 59 community districts, whose boards the charter invests with power to act in land use—yet “. . . [t]he average community district has a population of over 100,000, which makes it comparable in size to Elizabeth, New Jersey, and Albany, New York.” (MAS, *Livable*, p. 11.) As a corollary to the focus on the neighborhood in urban planning, Jacobs also focused on the need for planners, versed in techniques, theories and services, to know “the terms of the precise and unique places in a city with which they are dealing” by turning to “the people of the place” who “understand thoroughly” the specific place. (Jacobs, *Life*, p. 533) Jacobs coined the term “locality coordination” to describe a vertical communications mechanism that would capture place-based expertise for “locality knowledge in planning, whether the planning is creative, coordinating or predictive.” (Jacobs, *Life*, pp. 543-545)

politics. (Schwarz and Lane, p. 866) While an earlier commission had introduced the power of community boards to initiate community-based land use plans in 1975, such power was largely stillborn due to number of factors that the 1989 Commission sought to address. (Schwarz and Lane, p. 868) The 1989’s Commission’s efforts represented an act in the well-documented drama between two valid approaches to planning in New York—the professional centralized approach and the community-based planning approach—that is still evolving. (See Municipal Art Society, *The State and Livable Neighborhoods*; see also Brash)



Source: New York City Independent Budget Office

Neighborhood Views of the Sustainability Paradigm.

Four projects, two completed in academic year 2010-2011 and two nearing completion in academic year 2011-2012, provide different views of the sustainability agenda through the lens of neighborhoods.

In Planning for the Future of the Park Avenue Corridor:

Park Avenue Study Area, a Columbia/GSAPP planning team explored, for Manhattan Community Board 11, how the urban planning function can take advantage of the full accounting cost methodology, focusing on the Park Avenue corridor between 116th and 132nd streets as the case study. (See Chang *et al.*) The team utilized a variety of traditional planning tools and methods, such as a foot survey, photographs, historical review of the area, demographic analysis, review of the zoning code and current uses, a survey of area residents and interviews with institutional stakeholders, as the foundation for identifying a set of inter-related and reinforcing land use and urban design strategies, in the context of PlaNYC, to increase affordable housing, visually improve the Park Avenue corridor and spur the local economy.

2010 Primary Land Use: Each Borough's Lot Area by Land Use Type

	One- and Two-Family Houses	Multi-Family Residential	Mixed Residential & Commercial	Commercial Office	Industrial/Manufacturing	Transportation/Utility	Public Facilities & Institutions	Open Space	Parking Facilities	Vacant Land	No Data*	Total
Bronx												
Lot Area (Acres)	3,710	3,388	197	917	796	538	2,368	6,398	421	763	879	28,876
% of Borough	17.8%	15.8%	0.9%	4.4%	3.8%	2.4%	11.3%	31.4%	2.0%	3.7%	4.2%	100.0%
Brooklyn												
Lot Area (Acres)	8,889	6,339	1,444	1,238	1,770	1,149	2,278	13,182	431	1,204	297	38,194
% of Borough	22.6%	16.3%	3.8%	3.2%	4.6%	3.0%	6.8%	34.5%	1.1%	3.2%	0.8%	100.0%
Manhattan												
Lot Area (Acres)	153	2,316	1,441	1,141	218	702	1,266	2,787	144	382	266	18,877
% of Borough	1.4%	21.3%	13.3%	10.3%	2.0%	6.3%	11.4%	25.4%	1.3%	2.4%	1.9%	100.0%
Queens												
Lot Area (Acres)	19,141	5,466	920	1,744	1,823	4,242	3,393	10,948	439	2,423	1,147	52,170
% of Borough	36.4%	10.3%	1.7%	3.2%	3.4%	7.7%	6.2%	20.4%	0.8%	4.6%	2.2%	100.0%
Staten Island												
Lot Area (Acres)	10,315	918	167	1,078	891	2,275	2,364	7,950	202	4,238	196	30,488
% of Borough	33.6%	2.9%	0.5%	3.3%	2.8%	7.0%	7.4%	24.3%	0.7%	13.9%	0.6%	100.0%
New York City												
Lot Area (Acres)	42,888	18,717	4,372	4,140	5,478	10,907	10,372	41,464	2,058	6,942	2,740	153,465
% of City	27.9%	12.2%	2.8%	2.7%	3.6%	7.1%	6.8%	27.0%	1.3%	4.5%	1.8%	100.0%

*Lots for which land use information could not be derived
 Note: Lot Area includes lots with missing boundaries
 Source: Department of Finance, adjusted by DCP for condominiums and Parks, 2010 NYFC DCP PLUTO® (10c)

Source: New York City Department of City Planning

Echoing this idea, the 1989 Charter Revision Commission included, as the last of its several goals, increasing “. . . the participation of . . . the people in the things [that] affect their lives”. (Schwarz and Lane, pp. 751-752) The 1989 Commission sought to enhance the ability of community boards to participate in the land use planning process as a way to increase the counterweight of long-term planning to short-term

The place-based facts uncovered during the research provided context for the team's specific proposed integrated public planning and urban design interventions that account for the area's natural and built environment, its economy and embedded equity issues. These facts included a high level of surface parking lots, an attribute rarely found in Manhattan that also illustrates the underutilization of several blocks along the corridor; a mix of residential, commercial and industrial land uses, including vacant land; the partial re-zoning of East Harlem between 2003 and 2007, recent construction of market-rate housing and significant demographic shifts during that period; a percentage of open space that is 55% of the Manhattan average; and higher than average public transit and bicycle usage among residents. The integrated proposals treated the viaduct, a man-made public transportation artifact, as an urban design opportunity to improve the area instead of an obstacle. This structure, under the jurisdiction of the Metropolitan Transportation Authority, a separate state-created public owner, could provide a basis for stakeholders to align the City's interests in guiding future economic and residential development and anticipated growth, the interests of the community itself and the City's environmental sustainability priorities set out in PlaNYC.

In **Gowanus Sustainable Development Plan**, the researcher also explored full accounting cost urban planning, focusing on the neighborhoods surrounding the Gowanus Canal, currently undergoing federal Super Fund remediation. (See Jones) Unlike the MTA viaduct, however, which is a completely man-made artifact, the Gowanus Canal has its origins in the earth, though it has been altered by man over time. Thus, the proposed plan for neighborhood development centered on the Canal and has, as its foundation, a focus on the natural features related to the site and the science implicit in its features, assuming full environmental remediation. The researcher applied the biomimetic approach to articulate the elements of a development plan for the Gowanus neighborhoods that would be suitable to a post-remediated site, working from the science of the natural systems present at the site and then applying them to the man-made systems. The researcher also focused on the neighborhood at the building level, identifying a variety of building and operating techniques to support implementation of the biomimetic planning approach.

In **Utilizing the Pro Forma Investment Model in a Sensitivity Analysis to Move towards a Full Cost Accounting of Proposed Built Environment Regulation**, the researcher explored how analysis of built environment regulation might take advantage of the full accounting cost methodology. (See Henri) This analysis picked up from an earlier analysis that identified possible tensions between unintended economic consequences of environmental sustainability regulations that impose costs that private market ordering does not and the need for affordable housing in neighborhoods across the city, whether subsidized or unsubsidized. (See O'Malley) The researcher conducted an extensive literature survey on construction economics, the full accounting cost methodology and fiscal impact analysis methodologies, including the methodology required for proposed local legislation, and interviews with a range of finance and real estate development specialists. He found support in the literature and interviews for a correlation between built environment regulation and construction costs, and concluded that the full cost accounting methodology, falling between the static estimate methodology required by local law and the more difficult dynamic scoring methodology, would assist in capturing the impact of regulation on the regulated activity and larger economy. Recent analysis of local legislation that applied costs imposed by proposed regulation to the *pro forma* balance sheets of selected built environment activities provided a "real-time" example of the application of this methodology and supported the researcher's conclusion that this type of sensitivity analysis would provide a fuller analysis of proposed regulations during the public decision-making process. (See Charles River Associates) Future researchers would need to reach out to developers in the field to collect project construction and operations data to apply this sensitivity methodology to a range of built environment regulations.

In **Sustainability Assessment: East Side Community High School**, the researcher performed an energy use assessment of P.S. 60, a large school building constructed in 1924, to identify short- and mid-term strategies to assist the school in raising its Energy Performance Rating over the next five years. (See Bacon) As a site of education, an important public good, and a community site, representing a valuable community resource, the school building is an important public artifact. The connection between a school, physically represented by its building, and the

neighborhood in which it is located is often revealed during public discussions of changes in use to the building itself, here in the city and elsewhere. There is also evidence of a relationship between highly performing schools and the desirability of their catchment neighborhoods. (See Chung *et al.*)

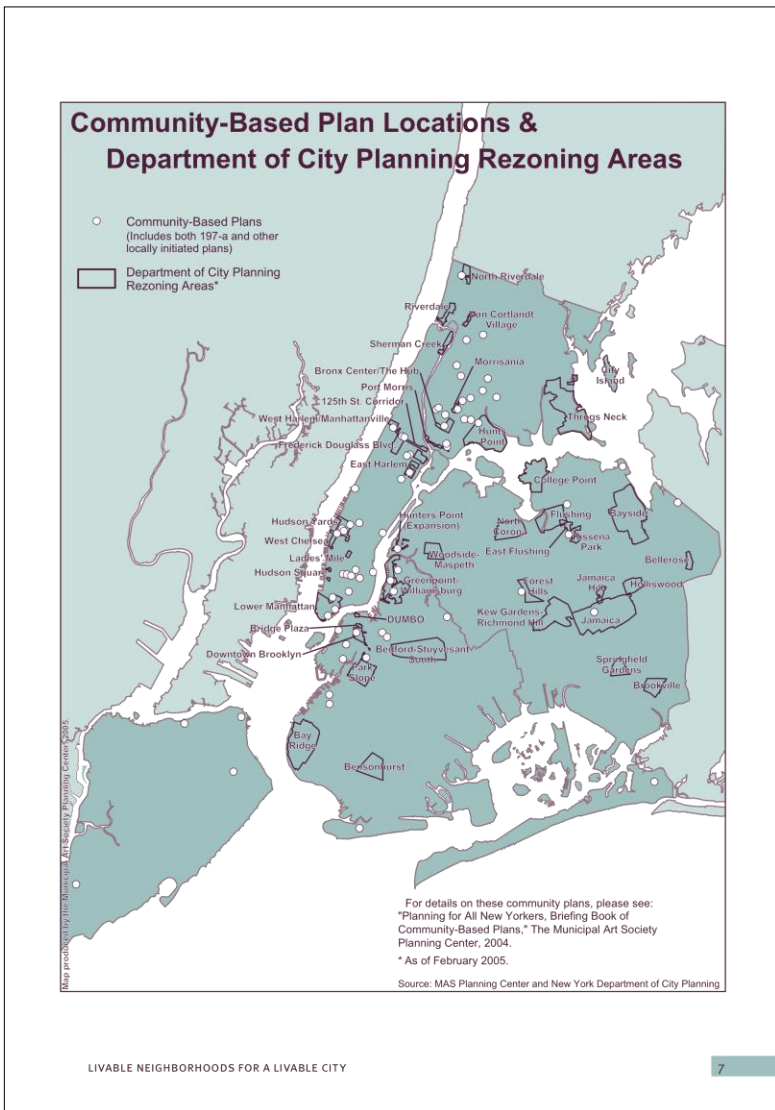
Public school buildings also generate a significant share of emissions—about a quarter of the total public building emissions come from schools. As part of the city’s goal reduce greenhouse gas emissions 30 percent by 2030, the city is striving to lead by example and reduce emissions at all city agencies by 2017. The resulting focus on city-owned facilities has led to a planned audit of all school buildings by 2017. The poor energy performance of an old building that, in the case of P.S. 60, houses an academically high performing school, in the context of public goods competing for scarce public resources, is the challenge facing a majority of neighborhood school buildings and their administrators across the city. The researcher found that not only do old school buildings require systems modifications and/or upgrades in lighting, computers and procurement practices, but also that their administrators must proceed while being held accountable for waste output and energy usage before the necessary investments can be made.

Neighborhoods and Sustainability: A Reconstruction?

Echoes of Jacobs continue, as the planning community has already noted the relationship neighborhood-based activities and sustainability, this time with a reference, not to the community board level, but to the level of far smaller organizations. “New York City is gradually but perceptibly being re-shaped, one neighborhood, sometimes even one block, at a time. New York City residents are joining forces with each other and like-minded organizations to find creative solutions to local problems.” (MAS, *Livable*, p. 5) A catalogue of neighborhood-focused and neighborhood-based planning efforts reveals residents partnering with community-based organizations on projects with a strong environmental sustainability focus that, of necessity, also include a focus on inter-related neighborhood economic and social issues. (MAS, *Livable*, pp. 6, 8; see also Acknowledgements page) Ironically, planners acknowledged, in 1998, that there existed a menu of appropriate community-based planning tools, such as a “zoning action under ULURP, an economic development plan, or a more targeted neighborhood services plan,” in addition to the formal 197-a plan, presaging the present-day reality of people and organizations outside the formal government space focusing on “a specific issue or a smaller geographic area” and providing a foundation, more quickly and less expensively, for those in the formal government space. (MAS, *The State*, p. 13 and *Livable*, p. 12)

Some Facts re: New York City	
Geography	305 square miles; highest elevation, Todt Hill on Staten Island, 409.8 feet above sea level
Population	8,175,133, equivalent to total of next three largest cities: Los Angeles, Chicago and Houston
Density	27,016/square mile, approximately 55 % more dense than next three dense cities: Paterson, N.J., San Francisco and Jersey City
Boroughs	5—consolidated into single city in 1898
City Council Districts	51
Community Boards	Citywide: 59 Bronx: 12 Brooklyn: 18 Manhattan: 12 Queens: 14 Staten Is.: 3
Climate	Humid subtropical, with average: 234 days of some sunshine 58 % annual possible sunshine 2,400-2,600 hours sunshine/year 49.7 inches precipitation annually 32.1° F in January and 76.5° F in in July

Source: Wikipedia, U.S. Census and nyc.gov



Source: The Municipal Art Society, *Livable Neighborhoods*

This tale of activity “on the ground” in city neighborhoods finds confirmation in the fairly recent academic expression of “governance”. Governance refers to “horizontal networks of public, private, and non-profit organizations as a phenomenon of governance as opposed to hierarchical organizational decision making.” Public administration researchers have also acknowledged that “[p]ractice is leading theory in developing processes for the new governance” and that practitioners in the governmental space require both new governance skills and a methodology for use. Fundamental concepts that are typically relegated to political philosophy and the law become operational when considering new governance issues. (Bingham, Nabatchi and O’Leary, p. 547) Of the models public administrators and public policy analysts learned about in graduate school—“the public as interest group (pluralist), consumer (public choice), represented voter (legislative), client and citizen”—only

one, that of the citizen going back to ancient Greek and Roman political philosophy, appears to be relevant. (Bingham *et al.*, p. 549) This is heady stuff, but as future research efforts put the new governance issues through the standard analytical gauntlet, those within and outside the government space will likely “muddle through” first. (See Bingham *et al.*, pp. 554-555)

A very recent analysis suggests that this “muddling through” at major American cities may have already produced an “evolution of a new type of local governance regime.” (Portney and Berry, p. 11) Of the three strong patterns identified from analysis of survey data from 50 large American cities to identify the reasons some cities succeed in adopting environmental sustainability policies and programs, “neighborhood associations demonstrate[ing] surprising levels of interaction with policymakers [is one]. Despite scant resources, neighborhood associations are clearly part of the policymaking process in urban systems.” (Portney and Berry, abstract page) In New York, it may be that the sustainability agenda, explicitly expanded to include economic and social issues and measures, provides the wherewithal for the city’s robust community of resilient neighborhood-based planners and other neighborhood-based nonprofits focused on economic and equity issues to succeed in the “politics of place.” (Portney and Berry, pp. 6-8)

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