



Further Utilizing the Zoning Resolution to Create a More Sustainable New York City, Better Prepared to Adapt to Climate Change

Committee on Land Use, Planning, and Zoning

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Discussion Paper

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City, Better Prepared to Adapt to Climate Change**

Land Use, Planning and Zoning Committee of the Bar Association of the City of New York

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Introduction

In April of 2007, when Mayor Michael Bloomberg unveiled New York City's long-term sustainability plan, "PlaNYC 2030," land use attorneys, planners, developers, environmentalists and other stakeholders eagerly pored over the Plan's 96 initiatives to learn what effects, burdens and benefits the Plan had in store for them. Many welcomed its vision, scope and pragmatism, while others viewed the formidable document with skepticism. Some, impressed by PlaNYC's forward-thinking strategies, believe that the City's Zoning Resolution could play an even larger role in a greener New York.

The Zoning Resolution delineates residential, commercial, and manufacturing districts throughout the City. It regulates the use of property, the size, height and shape of buildings, grants bonuses for amenities, and outlines the approval processes for special permits and variances. With such a broad reach, the Zoning Resolution can be utilized by New York City to foster a greener environment, improve sustainability, and assist in adapting to climate change.

In accordance with PlaNYC recommendations, the City Planning Commission amended the Zoning Resolution to concentrate development around certain large transit hubs; require bicycle parking in new buildings and garages; and impose stricter permeable surface regulations, such as required vegetation in parking lots and yards in certain districts.¹ In April of 2011, the City unveiled an update to PlaNYC acknowledging that further amendments to the Zoning Resolution can assist the City in realizing its goals.²

Purpose

This Discussion Paper is designed to advance the dialogue of how the Zoning Resolution can be amended to shape a more sustainable New York City, better prepared to adapt to climate change. It is not advocating any particular idea; rather, it is exploratory in nature and seeks to

¹ PlaNYC also urged changes to the City's Building Code, recognizing that the existing building inventory and as-of-right developments are the primary consumers of energy. Thus, under the leadership of Mayor Bloomberg and Council Speaker Christine Quinn, and with recommendations from a variety of professional organizations, including the NYC Green Codes Task Force of the Urban Green Council (the "Green Codes Task Force"), the City overhauled the Building Code to include new standards and rules related to sustainability and long-term, environmentally-friendly growth.

² We understand that the New York City Department of City Planning is reviewing proposals of the Green Codes Task Force. Given the existing and thorough work by the Green Codes Task Force to identify impediments to sustainability in the Zoning Resolution, we have not reiterated their proposals in this Discussion Paper. DCP is proposing amendments to the Zoning Resolution that will complement the Greener Building's initiative and remove impediments to energy efficiency in existing buildings, such as modifying the definition of "floor area" so that energy efficient insulation may be added to buildings without being considered floor area or an encroachment into a required yard, and expanding the permitted obstructions to the height of buildings to accommodate energy efficient mechanical equipment. We applaud DCP's efforts.

stimulate an open discourse among a broad spectrum of interested parties of how the Zoning Resolution could be further utilized to realize the goals of PlaNYC.

In the upcoming months, the Land Use, Planning and Zoning Committee of the New York City Bar Association (“LUPZ”) will invite professionals, City officials, and educators to analyze the feasibility of the ideas contained in this Discussion Paper and others that may evolve, and most importantly, assess the effect a proposed text amendment will have on both the City and on the developer, including its costs and benefits to the private sector and the public.

Sustainability and Adaptation to Climate Change

In this Discussion Paper, “sustainability” and “adaptation to climate change” have particular meanings.

- “Sustainability” is defined narrowly, as the means of reducing the carbon-footprint of New York City.
- “Adaptation to climate change” refers to measures that would increase the City’s resiliency to the two primary manifestations of climate change: 1) extreme weather conditions in the form of peak precipitation and intense heat waves; and 2) sea level change.

History of the Discussion Paper

Prompted by PlaNYC, the Sustainable Zoning Subcommittee of LUPZ (the “Subcommittee”) was established in 2007. At two workshops (the “Workshops”) held by the Subcommittee, a cross section of land use attorneys, architects, and environmental professionals considered the challenges of climate change, population growth, and the City’s deteriorating infrastructure and proposed innovative ideas for utilizing the Zoning Resolution to realize the goals of PlaNYC.

The Subcommittee then invited experts, stakeholders, City planners and policy makers to comment on ideas from the Workshop at a Bar Association public forum: “Green Zoning: Zoning for Sustainability and Adaptation to Climate Change” (the “Forum”).³

While acknowledging that the City is making progress toward meeting the challenges of PlaNYC, this Discussion Paper prioritizes ideas from the Workshops and the Forum which have

³ For a list of invited panelists and speakers see Appendix B.

yet to be implemented by the City and supports a broader vision of the Zoning Resolution's role in fostering New York City's sustainability and ability to adapt to climate change.⁴

Part One

Zoning Resolution amendments that may promote sustainable development

I. Create a Sustainable Building Program to encourage construction that exceeds current “green” code requirements.

A key issue raised during the Workshops, Forum and the Committee's discussions is the potential cost that mandatory sustainable building requirements may add to a construction budget. One response to this concern is to encourage higher standards of sustainability through a voluntary “Sustainable Building Program,” which could be based on the Zoning Resolution's Quality Housing Program.⁵ Although some green building construction methods and technologies pay for themselves, a Sustainable Building Program could provide additional incentives for developers to exceed required sustainability standards. Benefits of participation in the Program could include a floor area bonus, an expanded list of permitted obstructions, or waivers of certain height and setback requirements.

The higher standards appropriate for participation in the Program should be discussed thoroughly with experts in various affiliated fields. As a starting point, they might include “passive design” energy savings methods, such as: efficient high R-value wall and roof assemblies; on-site storm water detention, retention or management plans (i.e. permeable surfaces, green and blue roofs, and green walls); private links to mass transit; and renewable energy sources. A development that achieves these higher standards would be able to take extra deductions from floor area or gain bonuses. To the extent current zoning provisions prevent these standards from being achieved and are not amended to remove such obstacles, the Sustainable Building Program could offer a waiver to facilitate the incorporation of energy saving design features.

⁴ Included in this Discussion Paper is an extensive list of possible amendments to the Zoning Resolution gathered from the Workshops and the Forum that could further promote sustainability and assist in adaptation to climate change. See Appendix C. Many of the suggestions raised in 2007 have been implemented in the interim and others are under active consideration by the Department of City Planning; those suggestions are not reiterated in the body of this Discussion Paper.

⁵ The Quality Housing Program was established to encourage multifamily housing in a way that recognizes the relationship between building design and quality of life in a dense urban environment. In return for providing certain design features, such as enhanced safety measures and on-site recreation space, the permitted floor area ratio and building height on the zoning lot may be increased.

To be able to keep pace with the changes in technology to promote energy efficiency, storm water management and other aspects of sustainability, the special permit could include a bonus for new innovations that have been demonstrated to achieve measurable gains.

Such an incentive program would enable developers to make informed decisions about which criteria to pursue based on a cost-benefit analysis weighing available incentives against requirements of participation in the Program.

II. Facilitate the Installation of Renewable Energy Resources

Admirably, the City has spent a significant amount of resources on developing improved flood hazard and thermal mapping tools to determine which areas of the City, such as portions of Queens, are prone to flooding and experience multiple brown- or black- outs. Utilizing this valuable information, the City has been able to identify neighborhoods in need of additional or more reliable energy resources. Several of those areas have been selected as “Solar Empowerment Zones” by the New York City Solar America City Partnership in 2010 and enacted by the New York City Council under the guidance of Council Member Daniel Garodnick. The Solar Empowerment Zones legislation identified areas that experience power failures during heat waves and are able to support a large-scale solar energy market in these designated areas.⁶ Through coordination with key stakeholders, such as Con Edison, the Department of Buildings, the New York Power Authority and NYSERDA⁷, a city ombudsman is appointed to ease permitting and offer financial assistance for installers of solar power.

Several ways in which the Zoning Resolution inhibits the introduction of renewable energy resources with respect to solar energy that were expressed in the Workshop and Forum have been confirmed by the New York City Solar Program at City University of New York, which is participating in the New York City Solar America City Partnership.

A. Height and setback, and yard provisions

Specifically, the Zoning Resolution’s height and setback provisions and yard regulations inhibit the installation of solar panels on rooftops and in yards. Only items listed as “permitted obstructions” may exceed the maximum height of a building. Solar panels, whether positioned horizontally and flat on a rooftop, or vertically, at an angle, projecting from the roof, are not

⁶ “Solar Empowerment Zones were strategically selected geographical regions where solar power is most viable and beneficial from a technical standpoint, and where the Solar America City Partnership focused its outreach and program development. See <http://www.cuny.edu/about/resources/sustainability/solar-america.html>.

⁷ New York State Energy Research and Development Authority.

permitted obstructions to the height of a building. They also are not permitted obstructions in a yard.

Similarly, wind turbines are not allowed as permitted obstructions on a roof or in a yard, and due to the extreme height of wind turbines, a roof installation could be made only in a district without an absolute height limit. It may not be financially practical to install solar panels or wind turbines on a new building below the maximum permitted height, if it results in a loss of allowable floor area. Therefore, the Zoning Resolution's height and setback, and yard regulations could be modified to facilitate the installation of either of these renewable energy technologies on a building,

B. Block-by-block or neighborhood approach

Providing a supply of energy based on renewable energy resources is typically considered either on a building-by-building basis or, at the other extreme, on massive scale. The Workshop and Forum participants encouraged exploration of an intermediate approach to the provision of renewable energy, such as a block-by-block or neighborhood approach. On a block-by-block basis, one building may provide a platform for the installation of renewable energy technologies that could serve not only that building, but also other buildings on the block, crossing tax lot and zoning lot lines. On a neighborhood basis, mini-wind farms and mini-solar power stations could provide power to supplement the standard energy supply,⁸ reducing the likelihood of black-outs and facilitating the restoration of power after an outage.

Certain provisions of the Zoning Resolution could be revised to enable the block-by-block and the neighborhood approach to renewable energy. To the extent that energy is provided for the building on which the technology sits, it is likely the renewable energy source would be considered an "accessory" use of the premises, as defined in the Zoning Resolution. However, the provision of energy for a zoning lot other than the premises on which the building is located may not be considered an "accessory" use of the premises. The Zoning Resolution and the Department of Building's interpretation of "accessory" use would need to be addressed in order to allow such energy sharing.

⁸ Urban wind mini-farms use different technologies than non-urban installations. They consist of a series of compact turbines suitable for rooftop or vacant lot installation that are designed to maximize the increased turbulence and slower wind speeds characteristic of urban environments. Urban solar installations are arrays of photovoltaic cells. Both wind and solar power generating equipment are then linked to battery storage and/or to the electrical grid. "The Neighborly Substation." Hope Cohen. Manhattan Institute, Center for Rethinking Development, December 2008.

The prohibition against having a commercial use in a residential district also might have to be revisited. If the renewable energy generated on one lot is used and paid for by consumers located on another lot, even if it is on the same block, such energy sharing may be considered a commercial use of the first lot, not just an accessory use of the lot. Commercial uses are allowed in commercial or manufacturing districts, but prohibited in residential districts. Therefore, the use of one lot to provide energy for another lot on the same block in a residential district may be prevented by the use regulations.

Finally, another obstacle to the block-by-block or neighborhood approach to renewable energy to be analyzed is the how such use is defined. A “power plant,” regardless of its size, is classified as Use Group 18 and is allowed only in M3 manufacturing districts. As independent sources of energy, each of these block-by-block renewable energy centers or a neighborhood energy center might be considered a power plant and, therefore, would not be allowed more widely. A new use group classification could be created for small-scale renewable energy centers.

Alternatively, block-by-block renewable energy centers, mini-wind farms and mini-solar power stations may be considered “electricity substations” instead of power plants. If so, they would be subject to special permit requirements.⁹ Under the Zoning Resolution, “electricity substations” are not allowed in residential districts on an as of right basis. Small substations, up to 10,000 square feet are considered Use Group 6 and are allowed as of right in all commercial districts. All electricity substations in residential districts and all larger substations in commercial districts require a special permit from either the NYC Board of Standards and Appeals (“BSA”) or from the City Planning Commission (if greater than 40,000 square feet). Electricity substations of any size are allowed in manufacturing districts. Power plants are allowed only in M3 districts.

The special permit processes at the BSA and the City Planning Commission (“CPC”) are lengthy and involve review by the local community board. The CPC special permit also includes review by the Borough President, City Planning Commission, and the City Council. Both processes are discretionary and approvals are often difficult to obtain.

Thus, to promote the generation of power from renewable energy resources on one lot for use on that lot and others on the same block or in the neighborhood, a new use may have to be

⁹ “The Neighborly Substation.” Hope Cohen. Manhattan Institute, Center for Rethinking Development, December 2008.

described and classified in the Zoning Resolution. This new use classification for local renewable energy resources would avoid the geographic limitations of being a power plant and the procedural challenges of a special permit. Such an amendment should classify passive power generating installations, such as small wind and solar farm power stations, into a specific Use Group that would be permitted as-of-right in a variety of residential and commercial zoning districts.

C. Special Energy Districts

A more modest approach may be to create “Special Energy Districts” in which these new regulations would apply – at least on a trial basis. Based on current data identifying districts that are vulnerable to brown- and black-outs, the City could outline several Special Energy Districts as overlays to existing zoning districts,¹⁰ much like the Special Transit Districts are overlays.¹¹ In these special districts, the permitting process for the installation of electric substations could be streamlined – either made as of right or reduced from a special permit to an authorization. Such an amendment could enable as-of-right renewable energy stations in more neighborhoods and facilitate private multi-party renewable energy installations as primary or secondary (or redundant) power sources. Consideration could be given to the appropriate minimum lot or roof size, and the appropriate density for areas where these small wind and solar farms would be located. Once the new zoning provisions are tested on the trial basis in the Special Energy Districts, they could be applied throughout the city.

Modifying Zoning Resolution provisions that inhibit the installation of renewable energy technologies, modifying the special permit requirements for electric substations and adding districts where renewable energy power plants may be located could enable areas that are at-risk to become more sustainable and resilient to the impacts of climate change and foster the City’s energy efficiency.

¹⁰ The energy needs of a neighborhood change over time, depending on the uses, improvements made to buildings, and the development pattern in that area. Therefore, the City may be reluctant to create and map Special Energy Districts that are permanent in nature. Instead, Special Energy Regulations might be adopted. Just as certain programs in the Zoning Resolution had filing deadlines for their application, Special Energy Regulations might have threshold standards for eligibility (such as, an announcement by the City that energy usage in a particular area is above a certain amount) and filing deadlines, to spur the introduction of renewable energy into the neighborhood.

¹¹ The Zoning Resolution currently provides unique regulations for 43 different special zoning districts throughout the City.

Part Two

As both a regulatory and an incentive tool, the Zoning Resolution could be utilized to assist in adaptation to climate change.

I. Stormwater and Heat Management

According to PlaNYC, nearly half a million of New York City residents live within the current floodplain. In years to come, climate change will result in intense precipitation which, combined with sea level rise, will result in increased flooding. Property damage, failed utilities, poor emergency response, drainage problems, pollution, and combined sewer overflow are among the most direct impacts of flooding. In New York City, dense development utilizing impervious materials, such as concrete, has contributed to flooding by limiting the City's ability to absorb rainwater. There is a scarcity of natural elements, such as plants, trees, wetlands, and soil that are largely responsible for soaking up rain in less urban areas. As a result, rainwater runoff typically floods sewers, subways, and roads. According to PlaNYC's Sustainable Stormwater Management Plan, for every inch of rain that falls on rooftops and impervious surfaces, the City must accommodate 27,000 gallons of water in its sewer system.

To address the problem, infra-structure related "end-of-pipe" solutions, such as water treatment plants and storage tanks are utilized to intercept combined sewer overflow before it reaches the City's waterways. There are also source solutions that target water runoff where it is generated, slowing its flow. Examples include: rooftop and yard water detention and retention systems, green roofs and green walls, and an increase in permeable ground surfaces to soak up rain.¹² The City's Task Force on Sustainable Stormwater Management recognized that these source solutions could forestall or reduce the need for more expensive infrastructure solutions and significantly reduce pollution over the years.

Climate change is also expected to increase air temperature. According to PlaNYC, average temperatures on this continent could rise two degrees by 2030. The urban heat island effect, caused by the City's infrastructure retention of heat, increases temperature by four to

¹² Green walls (also referred to as vertical gardens, living walls, or biowalls) are walls covered by vegetation. Green walls can help reduce heat build-up in cities through absorption of solar radiation, reducing overall building temperatures. Living walls may also be a means for water reuse, with the plants providing purification of slightly polluted grey water.

seven degrees. This increase in temperature could result in poor air quality and excessive demand for air conditioning.

The Workshop group recognized that many of the administrative and regulatory efforts needed to adapt to climate change are outside the purview of the Zoning Resolution. Nevertheless, it identified ways the Zoning Resolution could assist in reducing the ambient air temperature and demand for power, while also facilitating increased power supply.

The following are ideas of how the Zoning Resolution could encourage source solutions to reduce flooding and ambient air temperature:

A. Increase the number of lots that must be vegetated or made of pervious surfaces.

Expand the requirements for vegetation and pervious surfaces to include all residential, commercial, and manufacturing districts. Currently, a minimum percentage of planting for front yards is required only in R1 through R5 residential districts. This requirement was enacted as part of a 2008 Citywide text amendment aimed at certain goals articulated in PlaNYC—promoting green streetscapes, addressing safety in front yards, and increasing the permeability and amount of open space. For new developments and enlargements in the affected districts, this planting requirement limits the amount of permitted pavement in the front of a residence and prevents an entire front yard from being paved. Similar limitations on impermeable surfacing could be expanded to other districts throughout the City.

B. Increase the amount of required open space on a zoning lot, but at the same time qualify vegetated roofs, setbacks, and exterior walls, as well as water retention systems as permitted obstructions in a zoning lot's open space.

The Zoning Resolution could foster stormwater retention and improved drainage by encouraging vegetated and permeable surfaces. This might be accomplished by increasing the amount of open space required on a zoning lot. To counter the perceived burden of this requirement on developers, the Zoning Resolution could qualify vegetated surfaces on roofs (above the maximum permitted height), within required setbacks areas, and on exterior walls as permitted obstructions to the maximum height of a building or in the setback area, in the yard, and in open space and not an increase in “lot coverage,” as pertinent.¹³

¹³ Extensive green roof installations are shallower and weigh less than more traditional intensive green roofs. Extensive green roofs typically cover a large expanse of the roof's area and are planted with low-maintenance, drought-resistant native species. Installation and upkeep costs are lower than for deeper green roofs that can accommodate a greater variety of plantings.

The increase in vegetated surfaces would not only help to enhance stormwater retention, but would also help to insulate buildings year round.¹⁴ If adopted in a neighborhood-wide Special Energy District, it could serve to mitigate the urban heat island effect, resulting in an increase in energy savings.

Water retention systems, which not only decrease water flow, conserve the potable water supply by providing rain water harvested “gray” water for irrigation and toilet flushing. However, bulky water retention systems, such as cisterns, are often discouraged by the Zoning Resolution because installation creates an obstruction in a yard or a building’s setback. To address this conflict, water retention systems could also be qualified as a permitted obstruction.

C. Protecting against the Impacts of Flooding.

In addition to the proposals relating to storm water management, above, in flood-prone neighborhoods in zoning districts with fixed maximum heights, those height limits could be increased for new construction where the developer raises the ground floor above a flood hazard level. As the zoning in more waterfront areas changes, the City could continue to create buffers, such as esplanades, between the waterfront and development.

Part Three

Approaches to planning that promote sustainability and assist in adaptation to climate change.

In addition to considering modifications to the Zoning Resolution, it is critical to integrate concerns about sustainability and adaptation to climate change into the planning process. The planning process ultimately leads to Zoning Resolution amendments through programs or special districts, and zoning map changes. Using state-of-the art information and well-coordinated inter-agency action in the planning process can improve the City’s response to sustainability and adaptation concerns.

I. Increase Transit Oriented Development

At the Forum, Projjal Dutta, Director of Sustainability Initiatives at the Metropolitan Transit Authority, described the many benefits of Transit Orientated Development (“TOD”). Mr. Dutta explained that sustainable development includes fostering the proximity between residential and local retail uses and assuring access to mass transit to mitigate the negative

¹⁴ The Green Building Research Laboratory. Portland State University. See <http://www.greenbuilding.pdx.edu>.

impacts of automobile use. The City's recent up-zonings around major transportation hubs are a positive step towards TOD.

The City is one of the most carbon-efficient cities in the nation, in large part due to its density and reliance on mass transit. However, due to recent downzonings and contextual rezonings, maximum permitted density has been reduced for some communities well-served by mass transit. According to New York University's School of Law Furman Center for Real Estate & Urban Policy, 59 percent of the downzoned lots were within a half mile of a rail station entrance.¹⁵

A study released in January 2011 by Jonathan Rose Companies with funding from the EPA, identifies certain housing factors that are significant variables for energy consumption and carbon emissions.¹⁶ In particular, the study finds that TOD is more efficient than conventional suburban development (CSD), and that multifamily and single-family attached homes are more efficient than single-family detached homes.

The study illustrates how the proximity of housing to transit and the type of housing, along with energy-efficient features of homes and vehicles, are major variables for household energy consumption. Significantly, the study also demonstrates that housing location and type can outweigh the value added by energy-efficient building measures. Even the most efficient conventional, non-green CSD households do not match the least efficient conventional TOD scenarios. Based on these findings, the study encourages the implementation of sustainability techniques that consider both where and how development occurs in order to reduce household energy consumption and carbon emissions.

While the City cannot be called a "suburban" area, its communities that are deficient in mass transit function as suburbs insofar as their residents rely on automobiles to get to and from work. Given the political and economic impracticality of extending subway service to certain parts of the five boroughs, a combination of service-related and zoning initiatives could reduce residents' use of cars for commuting to work and for shopping, even in our heavily mass transit oriented city. From a service perspective, New York City Transit might expand its local bus service to connect neighborhoods to subway stops, and continue to expand its SBS bus network, which is currently limited to the far east side of Manhattan and Fordham Road in the

¹⁵How Have Recent Rezoning Affected the City's Ability to Grow?", Furman Center for Real Estate & Urban Policy, New York University, School of Law, Wagner School of Public Service, March 2010 Newsletter.

¹⁶ "Location Efficiency and Housing Type--Boiling it Down to BTUs," Jonathan Rose Companies, March 2011.

Bronx. Bus service in the outer boroughs could be significantly improved by the installation of priority bus lanes on the East River Bridges/Battery Tunnel and/or camera-enforced bus lanes. The success of bus service in speeding up service in the South Bronx and on the east side of Manhattan could serve as a model on which to expand and improve service to the most transit-starved sections of the City.

From a zoning perspective, incentives or up-zonings could encourage residential development near local mass transit stops. Floor area bonuses could also be utilized to encourage private businesses located more than walking distance from a subway stop to provide private shuttle service to and from the subway to work for their employees. Boston's zoning code is an example of this type of policy.¹⁷ In addition, more commercial overlay districts should be mapped in the lower density residential districts that are more than walking distance from an existing commercial district. This would enable residents to shop locally by foot, at least for the basics, without relying on a private car.

The April 2011 update to PlaNYC reinforced the need for TOD in New York City. The consensus that arose from the Forum is that there is a need to facilitate more Transit Oriented Development and less reliance on private vehicles.

Conclusion

In 1916, New York City enacted its first Zoning Resolution in response to dissatisfaction with development in lower Manhattan. In 1961, the current Zoning Resolution was enacted to reflect the City's changing views and respond to the City's evolving needs and conditions. Now, a half century later, the Zoning Resolution could be further amended to respond to the challenges of sustainability and adaptation to climate change that we face today.

We hope that this Discussion Paper serves its purpose, to stimulate thinking and spur discussions regarding the complex issues related to how land use planning and the Zoning Resolution impact the sustainability of our great City and its ability to adapt to climate change. The Committee believes that this is an important step toward realizing the goals of PlaNYC.

¹⁷ Boston Zoning Code's (Chapter 665 of the acts of 1956, as amended, Boston Zoning Code, Article 37) unique adaptation of LEED-based zoning requirements to projects greater than 50,000 square feet, Boston awards LEED-type points for a variety of building design features that help reduce private automobile use. Among the options for an office development, Boston's zoning qualifies the provision of shuttle service between a Metro rail station and an office development located more than a quarter mile away.

Appendix A
Workshop Participants

Nancy Anderson, Executive Director, The Sallan Foundation, Inc.
Eve Baron, Director, The Planning Center, Municipal Arts Society of New York
Rick Bell, AIA New York Chapter
Joan Byron
Allison Clements, Deputy Corporate Counsel, Natural Resources Defense Council
Rob Craderueff, Program Coordinator, Sustainable Alternatives, Sustainable South Bronx
Miquela Craytor
Tony Daniels, Principal, Cycle Architecture, PLLC
Veronica Eady Famira, Assoc. General Counsel, N.Y. Lawyers for the Public Interest
Alexander J. Felson, Director of Ecological Design, EDAW, Inc.
Zara F. Fernandez
Kenneth Fisher, Wolf Block LLP currently at Cozen Conner, LLP)
Nick Goldsmith, FTL Design Engineering Studio
Susan Gooberman
Eva Hanhardt
Caroline G. Harris, Troutman Sanders (currently at GoldmanHarris LLC)
Daniel Hernandez, Jonathan Rose Companies LLC
Allegra Johnson,
Vivian Krieger
Sophia Kwon
Larry Levine, Natural Resources Defense Council
Lindsey Lusher, Director, NYC Streets Renaissance Campaign, Transportation Alternatives
Craig Maxey
Trisha Miller, Deputy Director, Green Communities, Enterprise Community Partners
Dania Nasser
Alison Novak
Wesley O'Brien
Munson Park, Jonathan Rose Companies LLC
James F. Pincow
Samantha Plessner
Paul Proulx
Joyce Rosenthal

Le Ann Shelton Arch

Brad Siegel

Emily Simons

Kendra C.M. Stensven, Jonathan Rose Companies LLC

Shin-Pei Tsay

Margot Walker

Dart Westphal, President, Mosholu Preservation Corp.

Summer Woodson,

Appendix B

Forum

Green Zoning: Zoning for Sustainability and Adaptation to Climate Change

Projjal Dutta, AIA, LEED, Director of Sustainability Initiatives, Metropolitan Transportation Authority

John Martin, Professor of Planning, Pratt Center for Community Development

Mark Ginsberg, FAIA, LEED, President, Citizens Housing and Policy Council

Sandy Hornick, Deputy Executive Director for Strategic Planning, NYC Department of City Planning

Appendix C

An extensive list of possible amendments to the Zoning Resolution gathered from the Workshops and the Forum that could further promote sustainability and assist in adaptation to climate change.

Ideas to Promote Sustainability

I. Remove the Zoning Resolution's inhibitions on sustainable building designs.

- A. Modify the definition of Floor Area.
- B. Modify the list of Permitted Obstructions to allow structures that generate energy to penetrate height limits and to be located in yards.
- C. Modify height and setback restrictions to allow for renewable energy technologies, such as solar panels and wind turbines that may exceed height limits or penetrate set back and sky exposure plane regulations.
- D. Impose an additional finding for zoning special permits and variances.

Special permits and variances are discretionary land use approvals from the City Planning Commission and the Board of Standards and Appeals. The required special permit and variance findings under the Zoning Resolution could be amended to impose an additional finding as to how the project goes above and beyond the City's Environmental Review thresholds or other applicable laws and further promotes sustainability of the City in general, or a neighborhood in particular, and/or as to how a project is addressing adaptation to climate change. Specifically, the additional finding could require an applicant to show how the project reduces storm water runoff, potential flooding or carbon emissions, or provides easy access to mass transit.

- E. Eliminate special permit requirements for the installation of power substations that could increase energy supply and reduce the likelihood of power outages.

II. Promote Transit Oriented Development

- A. Expand the subway station floor area bonus to cover a larger radius from more subway stations.
- B. Discourage car ownership through limitations on required parking.
- C. Expand the off-street parking limitations to include other neighborhoods.
- D. Provide a bonus for adding to existing structures rather than demolishing and constructing a new structure, i.e. adaptive reuse.
- E. Couple these efforts with other City programs/incentives/goals. Encouragement of sustainable construction could be coupled with achieving MWBE/LBE goals or encouraging local hires for construction jobs.

III. Encourage Environmental Justice.

At the Forum, Majora Carter, from the Majora Carter Group, defined environmental justice as the idea that no community should have to bear the brunt of environmental burdens

without enjoying some environmental benefits. She stated that if the City would have uniformly located burdensome infrastructure, we might have a cleaner, greener environment now. Other Forum Speakers suggested that the Zoning Resolution be modified to better manage noxious uses usually found in lower-income neighborhoods and to introduce features that mitigate the effects of those uses, such as environmental performance standards for manufacturing uses.

IV. Establish green mixed-used manufacturing, commercial, and residential districts.

At the Forum, John Martin, from the Pratt Center for Community Development, enthusiastically supported the idea of sustainability tied to equity through industrial employment districts that could overlay existing manufacturing districts. By tailoring energy and environmental standards to urban life, these districts would promote green development of green products, renewable energy, and training for green jobs near housing for workers who walk or bike to work.

V. Other Sustainability Ideas.

Several other ideas relating to sustainability emerged from the Workshop and Forum:

- A. Utilizing zoning to trade local carbon emissions between buildings based on targets for reduced green house gas emissions.

This would mean dispensing with floor area ratio (“FAR”) calculations for determining a building’s size and using carbon emissions as a new calculus.

- B. Utilizing zoning to encourage walking and biking.

Require wider sidewalks to encourage walking (Miami, Florida has recently adopted such a regulation).

- C. Expand the pedestrian circulation bonus.

- D. Encourage local urban agriculture by removing zoning obstacles to farming in yards and rooftops.

Ideas to assist in adaptation to climate change

I. Adopt design standards in the Zoning Resolution to improve the efficacy of vegetation, open space, yards, and plaza regulations.

For example, require grading of surfaces toward vegetated areas, require fence-like tree guards that allow water to reach tree pits, planting strips, and curb inlets that direct water to soil. Such zoning text amendments would increase water retention, improve drainage, and prevent flooding.

II. Require new developments or enlargements to provide on-site storm water management or contribute to local improvements in storm water infrastructure, particularly in flood-prone neighborhoods.

In those identified neighborhoods, coordinate with City agencies in charge of streets so that parking lanes and parking lot spaces are required to be paved with pervious concrete.

III. Require that rezonings over a specified acreage or multiple rezonings (cumulative over a specified acreage) identify locations for and contribute to the creation of parks.

Additionally, require turf surfaces, not concrete or plastic grass, on a major percentage of the public parks.

- A. Amend the street wall, height and setback regulations to be more flexible to foster energy efficiency and passive sustainable design.

IV. Simplify the Zoning Resolution regulations regarding power sub-station installation.

This would enable as-of-right sub-stations in more neighborhoods and facilitate private multi-party renewable energy installations as primary or secondary (or redundant) power sources to prevent widespread power failures and facilitate restoration of power after a power failure caused by flooding or overuse.

V. Evaluate energy demands and heat production of highly illuminated signs.

Modify the sign regulations in the Zoning Resolution to add performance standards for the signs to reduce heat production.

Planning Ideas that Will Assist in Adaptation to Climate Change

I. Restrict use of basements and ground-floor space in flood-prone neighborhoods.

In flood prone neighborhoods, vital mechanical equipment should be installed above the flood hazard level so it can operate during a flood. To the extent such relocation affects floor area calculations, the Zoning Resolution's definition of floor area could be amended.

II. Expand Staten Island's Bluebelt program to cover other suitable areas within the City limits.

The Staten Island Bluebelt is an ecologically sound and cost-effective stormwater management for approximately one third of Staten Island's land area. The program preserves natural drainage corridors, called Bluebelts, including streams, ponds, and other wetland areas. According to Sandy Hornick, the City is looking at the west shore of Staten Island to examine whether it would lend itself to the expansion of Bluebelts.