ECODISTRICTS

Urban Sustainability at the Neighborhood Level

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INTRODUCTION

The world is rapidly urbanizing -- approximately 54 per cent of the global population currently resides in urban areas, or about 3.9 billion people. By 2050 it is expected that 66 per cent of the total world population will reside in urban areas, with the largest growth occurring in Africa and Asia.[i] This means that the challenges we face regarding climate change, land use, economic inequality, energy, natural resource management, environmental degradation, etc. will increasingly be confronted and tackled in an urban setting. Cities of the developed world will need to transition to sustainable, equitable, low-carbon futures, while cities of the developing world will need to bypass the earlier mistakes of the industrialized nations by planning for smart, inclusive, systems-conscious urbanization.

The task we are faced with is a substantial one: it requires no less than a complete rethinking and reshaping of the entire way our cities are built, powered, and governed, as well as our relationship as citizens to the communities in which we live, and the community's relationship to the ecosystem of which it is a part. Furthermore, we are not theorizing in a vacuum; the world's cities will grow substantially in the coming decades (and new cities will emerge), requiring concrete, real-world plans and policies in order to avert the worst effects of climate change. Our cities must become laboratories of sustainability, testing solutions in real-time.

There are many challenges associated with this undertaking, from the practical (for instance, how to provide potable water to a growing urban population in an area threatened by water scarcity[ii]) to the theoretical (i.e. what constitutes a "limit to adaptation"?[iii]). One challenge of major importance is the question of scale: at what level can we most efficiently plan and implement sustainable urban solutions?[iv] What is the scale at which these solutions become less a nod towards "green" design principles and more the foundation for a new way of urban living -- the beginning of a paradigm shift? And finally, at what level can our plans most easily be scaled up or down in order to replicate them in other case-specific contexts?

Rationale

A concept that has emerged recently in response to these questions is that of EcoDistricts, "a neighborhood or district approach" which "offers the most likely and effective scale at which the overall goals for city sustainability can be addressed[v]." The EcoDistrict concept offers a framework for neighborhoods to build upon, combining both the "hardware" of green design (LEED buildings, green infrastructure, public spaces, etc.) with the "software" of citizen participation (social capital, cultural resources, participatory planning, etc.) in order to build model, sustainable communities. This process can ideally be undertaken on a case-by-case basis throughout cities, thereby relegating the herculean task of making cities sustainable to the neighborhood level (or more accurately, sharing the responsibility), and eliciting greater citizen participation in the decision-making process.

The goal of this paper is to provide an overview of what constitutes an EcoDistrict, while focusing specifically on the questions of scale and adaptation, and how neighborhood-based sustainability might make adaptation easier. Also of particular interest is the related concept of Civic Ecology, or the "software" of sustainable communities;[vi] how might the transition towards sustainable urban living utilize a neighborhood's social capital and reinvigorate the democratic, participatory process? These questions are important given the urgency of the problems we face as well as the tension between top-down, expert-driven policy and horizontal, collaborative pathways towards sustainability; EcoDistricts offer potential solutions to both.

Brief case studies of existing EcoDistricts will provide a real-world context as to how they are implemented, governed, and what sorts of issues they might choose to focus on. Finally, the paper will conclude with a speculative case study of how a New York City neighborhood might implement the EcoDistrict framework, namely, East New York, Brooklyn. I will review the Department of City Planning's "Sustainable Communities: East New York" report, analyze its benefits and shortcomings from a Civic Ecology perspective, and outline pathways towards true neighborhood sustainability.

KEY QUESTIONS

1. What are EcoDistricts?
2. What are the main components -- including both hardware and software -- of an EcoDistrict?
3. How can the neighborhood-based scale of the EcoDistrict approach to sustainability make urban climate adaptation more feasible?
4. Urban resilience versus urban transformation -- why is a paradigm shift necessary, and how might EcoDistricts facilitate such a shift?
5. How can EcoDistricts promote citizen participation, and what are the benefits?
6. What are some examples of EcoDistricts in practice?
7. Where might a New York City EcoDistrict be located and what would it look like?

LITERATURE REVIEW

Climate Change Governance, Scale, and Citizen Participation

Cities are in a unique position in that, as centers of population growth and energy use, they contribute substantially to the greenhouse gas (GHG) emissions driving global climate change, and are particularly vulnerable to the projected extreme weather events given their geographic locations and/or general lack of resiliency.[vii] At the same time, however, their status as centers of political and economic power and innovation provides them with the ability to confront and adapt to climate change, and most cities have begun to do so with the implementation of various mitigation and adaptation strategies.[viii] Early plans tended to focus more heavily on mitigation, or the curbing of GHG emissions to prevent future warming[ix]; with climate models now projecting an essentially guaranteed increase in temperature and sea level rise, adaptation strategies have gained more prominence, and an extensive literature on urban adaptation and resilience has developed.[x]

As urban responses to climate change have progressed, it has become clear that a flexible approach to governance -- or a new mode of governance altogether -- is required to effectively overcome adaptation barriers and transition towards sustainable modes of living.[xi] In Ekstrom and Moser's study of the San Francisco Bay Area, they found that, at least in the early stages of urban climate adaptation, institutional governance issues presented the most barriers, whereas factors such as adaptation options, understanding of the science, and the availability of technological/structural solutions posed very few barriers to adaptation comparatively; that is to say, the problem and its potential solutions are generally understood, but are impeded by deficiencies in the formal governance structures. Furthermore, when identifying potential pathways for overcoming these barriers, those surveyed named "policy & management changes" as the most common approach, followed by "conscious and strategic communication" (that is, adequately framing the problem to the public), and "cooperation and formalized partnerships," (or adaptation efforts made by non-governmental or informal coalitions in order to bypass institutional barriers). These results highlight the need for urban governing institutions to rethink their approach to climate

adaptation, as well as the power-sharing dynamic with informal and non-governmental actors at all levels of the urban landscape.[xii]

Inclusivity in the planning and adaptation process is another governance challenge for urban authorities tackling climate change, and one that must be addressed if cities are to adapt in an equitable way. This is particularly true for cities of the developing world, where poor and/or indigenous communities, often lacking representation, are most vulnerable to climate risks. It holds for poor and vulnerable residents of industrialized cities as well, who may lack the social or economic capital to simply relocate in the event of a crisis.[xiii] Citizen involvement in adaptation planning is also necessary simply because of the scope of the problem; if urban climate plans require residents of a city to change, or adapt their behavior as the city transitions towards sustainability, ask Larsen and Gunnarsson-Östling, "is it legitimate to expect all people to change even if they did not feel they were represented?"[xiv]

Sherry Arnstein's famous "A Ladder of Citizen Participation" describes the eight levels of citizen involvement in the planning and policy process, rising gradually from levels of "Non-Participation" (Therapy and Manipulation) to "Degrees of Tokenism" (Informing, Consultation, and Placation), and finally to the three "Degrees of Citizen Power" (Partnership, Delegated Power, and Citizen Control), where community stakeholders are not only represented in these urban processes, but wield considerable influence in their development and implementation.[xv] Active citizen participation in urban climate adaptation is desirable not only because local community members have a deeper understanding of their environs and the complex systems at work there, but because the process might actually strengthen local democratic institutions and streamline the otherwise complex, imposing adaptation process. Write McCarney et al.:

> "When citizens are effectively engaged in their city's development, engaged in everyday decisions and in longer-term planning and policy development, they develop a sense of ownership of and loyalty to the city. So too are citizens more apt to embrace an action agenda on climate change if they are given such opportunities to lay claim to that agenda. If people feel more empowered to shape their own destinies in the city while embracing and participating in forging a common agenda such as climate change, then not

only is governance being strengthened but that agenda is more likely to gain political traction."[xvi]

Community-based adaptation (CBA) initiatives have attempted to place decision-making power in the hands of local residents, supported by their governments, in assessing climate risks and implementing adaptation strategies, though these have taken place largely in rural and developing areas.[xvii] EcoDistricts, in their place-based and democratic approach to neighborhood sustainability, may be the urban equivalent of CBAs. By delegating planning and policy power to citizen-led EcoDistrict committees, city governments will be 1) including citizens in the adaptation process, 2) drawing on local knowledge and expertise, 3) revitalizing a sense of civic responsibility in neighborhoods and cities, and 4) distributing the adaptation process, which is a formidable and complex undertaking, across broad levels of urban society, thus relieving any one central agency of total responsibility.[xviii] The final three rungs of Arnstein's ladder (Partnership, Delegated Power, and Citizen Control) may also be the proper governance scale at which climate adaptation becomes efficient, equitable, and replicable.

ECODISTRICTS

Overview

EcoDistricts, as defined by the Portland Sustainability Institute (PoSI), are neighborhoods or districts that have "committed to achieving ambitious sustainability goals over time. EcoDistricts…target existing neighborhoods through the powerful combination of public policy, catalytic investments from local municipalities and utilities, private development, and the participation of residents who are motivated to improve the quality of life and environmental health of their own communities."[xix]

The idea of ecologically-minded, sustainable communities is not necessarily new; the German Vauban EcoDistrict in Freiburg, a car-free community located on a former military base, began as a squatter settlement in the 1980s and sustainable housing construction began in the '90s.[xx] Similarly, the Dutch *ecoquartier* EVA Lanxmeer, in the town of Culemborg, was constructed in 1994 to be a sustainable, citizen-led community.[xxi] Both

districts, however, while they share the sustainable ethos of EcoDistricts in the North American context, had the benefit of beginning from a clean slate; their end goals (net zero building emissions, pedestrian-friendly streets, etc.) were established at the outset by their future residents, and construction took place with these goals in mind. What makes "EcoDistricts" (as discussed in this paper) different are the existing community foundations upon which they are designed. The urgent need for urban climate adaptation won't allow us to begin with a clean slate, nor should we; it is more cost efficient -- and equitable -- to begin the hard but necessary work of transforming our existing neighborhoods, guided as much as possible by the people currently living there.

In North America, Portland, Oregon has seen the greatest research into and implementation of EcoDistricts, though there has been a push for similar projects in cities such as Denver[xxii], Seattle[xxiii], Washington, D.C.[xxiv], and others, including a short-lived effort in Gowanus, Brooklyn.[xxv] In 2009 the City of Portland began working collaboratively with PoSI to develop EcoDistrict pilot studies in an effort to meet the goals of its Climate Action Plan, a city-wide sustainability effort which calls for an 80 per cent reduction of the city's greenhouse gas emissions by 2050[xxvi]; in 2012, official oversight of the five designated EcoDistricts passed to the City, and PoSI now acts primarily as a technical resource for the districts and other neighborhoods seeking to become more sustainable.[xxvii] Much of the information on EcoDistricts used in this paper comes from these PoSI studies.

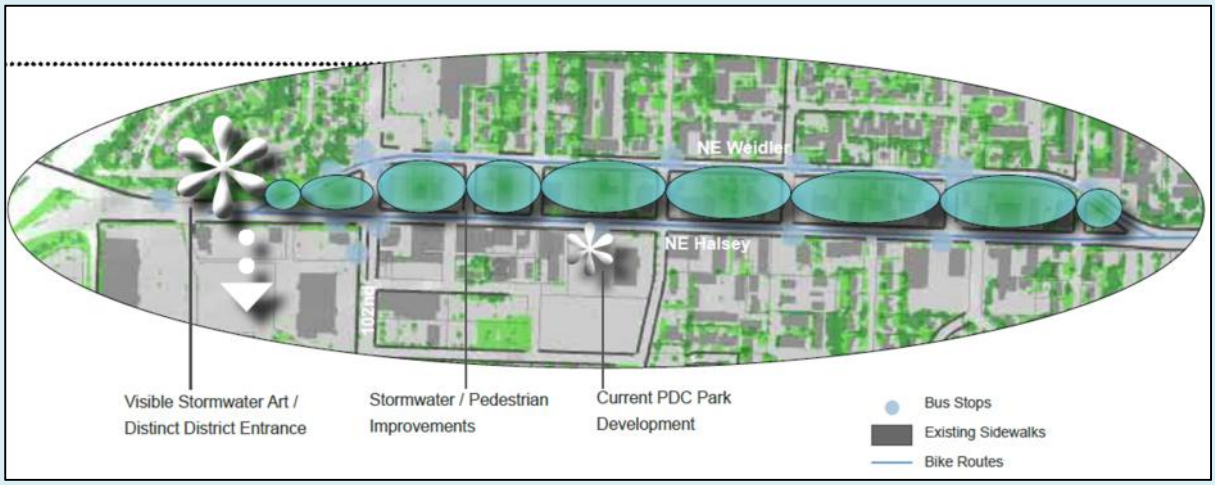
CASE STUDY
Gateway EcoDistrict, Portland, OR

The Gateway neighborhood of east Portland is a mixed commercial/residential area slated for significant growth in the coming decades. Incorporated into the city in the late 1980s, it has repeatedly been hailed as a potential "new downtown" and been the subject of various development and urban renewal plans. Residents

complain, however, that plans have never resulted in any of the promised results, with city resources usually being diverted to other areas.[xxviii]

A community stakeholder meeting in June of 2010 brought together business owners, neighborhood association leaders, residents, Gateway's major health care provider, planning professionals, as well as developers and landowners to discuss priorities for the neighborhood. The three major areas of concern among those participating were connectivity, identity, and security and appearance. Also of importance was stormwater runoff management and environmental education. The three catalyst project proposals resulting from the meeting were a walkable stormwater mitigation corridor to promote walkability and address lack of permeable surfaces; a sustainable education center to serve as a meeting point for disparate segments of Gateway and promote the neighborhood's rebranding as an EcoDistrict; and a recycling/reuse center to create jobs and manage the waste generated by the neighborhood's health care provider.[xxix] Long-term goals for the neighborhood include 100% energy demand reduction by 2050; 50% diesel emissions reduction; 100% carbon emissions reduction; greater social cohesion, etc.[xxx]

The incorporation of Gateway as an EcoDistrict may give residents the agency to implement their own visions for neighborhood development, and the political leverage to engage in dialog with the overarching city government. It also serves as an example of how the EcoDistrict framework allows neighborhoods to tailor their approach to sustainability to meet pressing needs.



A proposed stormwater corridor would address runoff during storms and improve neighborhood walkability. (Image: Gateway EcoDistrict Pilot Study)

EcoDistricts and Scale

When one considers adaptation efforts in cities, two scales generally come to mind: the individual (LEED-certified green buildings, the choices and habits of individual households, etc.) and the city-wide (emissions reductions targets, recycling and composting programs, large-scale infrastructure renovations, and the like). While efforts at these scales are certainly necessary, they both entail certain limitations in successfully addressing and adapting to climate change. Actions taken at the household or individual building level are essentially just drops in the bucket, and might not necessarily produce the results needed in a timely or meaningful way. At the city-wide level, implementation, enforcement, and monitoring of adaptation or sustainability efforts can be expensive and difficult, as well as exclusionary in terms of citizen participation. EcoDistricts seek to address these inefficiencies by outlining a mid-scale approach to urban sustainability at the neighborhood level.

By choosing to pursue sustainability as a common neighborhood endeavor rather than a household lifestyle choice, citizens of an EcoDistrict dramatically scale up their individual efforts and gain access to greater social and fiscal resources, as a larger urban entity, that they might not have had access to on a smaller scale. For instance, financial limitations may prevent a business owner from retrofitting her individual storefront to “green” standards. If the entire block of storefronts banded together, however, as well as perhaps the residential stakeholders living above the businesses, not only would the retrofitting become more financially attainable, but it would benefit significantly more people. Rather than a block of individually-operating businesses and tenants, it becomes an interconnected system of stakeholders collaboratively managing its resources.

A similar example involves community energy resources and resilience. For individual households, switching to renewable energy may be impractical or impossible given financial constraints or lack of a suitable area to install solar panels. If the community were to utilize a common area such as the rooftop of a local school, with resources for the project coming from both the city and the neighborhood’s stakeholders (represented by some sort of EcoDistrict planning committee or development agency), the problems of finances and

space are solved collaboratively, with a much wider distribution of benefits. These sorts of community-scale micro-grid projects could strengthen neighborhood energy resiliency during extreme weather events, as well.

By uniting community residents in common cause -- the sustainable transformation of their neighborhood -- EcoDistricts scale up individual efforts to a more collaborative and more impactful level. Likewise, by scaling *down* from the city to the neighborhood level, they promote greater citizen involvement in planning and adaptation and offer a vehicle by which individuals, represented by their district, can engage with the larger city government. Not only does this empower citizens to take ownership of their community's development, as McCarney et al. write, but it reduces the burden on city bureaucracies by delegating planning power across different levels. It also allows citizens to address those issues they feel have high priority in their communities, rather than allowing resources to be allocated towards some well-intentioned, yet unbeneficial, project.

Finally, the EcoDistrict concept as it pertains to scale is important because the framework can be scaled up, eventually, to the city level, so that each individual district becomes one component in the larger tapestry of the sustainable Eco-City. As districts make their transitions towards sustainability in a fashion tailored to their individual needs, the idea is not that they become self-sufficient urban enclaves, but rather that they share best practices with districts across the city. The mitigative and adaptive gains made by each district, when shared, replicated, and aggregated, will result in a stronger, more sustainable, and more resilient city as a whole.

CASE STUDY
Hammarby Sjöstad, Stockholm, Sweden

Hammarby Sjöstad was constructed in the 1990s on a reclaimed former industrial area on the Hammarby Sjös lake in Stockholm, Sweden (the country's second major EcoDistrict after BO01 in Malmo[xxxi]). The use of sustainable building materials and practices, as well as energy efficiency, are central components of the district, which was planned according to what is known as the "Hammarby Model." Buildings are heated primarily by combustible

waste products and cooled by treated wastewater, forming a closed system.[xxxii] Buildings are designed to use 50 per cent less energy than typical Swedish buildings, and residents are encouraged to use public transport.

Like most European EcoDistricts, Hammarby focuses primarily on the “hardware” of sustainability (see the following section, “Components of EcoDistricts”). Its construction was undertaken by the city, which consults with waste management, energy, water and sewage companies in meeting the district’s environment al goals. There seems to be very little citizen involvement in the management of the neighborhood, which was built from the ground up and therefore lacks the social capital of an EcoDistrict in the North American context; this may change as the neighborhood develops and residents take ownership of its future. In the meantime, the Hammarby Model is being exported to other Swedish cities.

The GlashusEtt serves as a sustainability education center. (Image: Hallbar Stad)

Components of EcoDistricts

One person's interpretation of what makes a neighborhood "sustainable" may differ from another's, and in fact communities are encouraged to tailor their approach to their specific needs and priorities, such that various EcoDistricts within the same city may be very distinct from one another in their implementation and expected outcomes.[1] For the most part, however, the concept of "green," "eco-friendly," or "sustainable" neighborhoods and cities calls to mind certain archetypical images, from the clichéd (bike lanes, farmer's markets, ubiquitous wind turbines and solar panels, abundant green spaces and infrastructure) to the cutting-edge (blue infrastructure, "living" buildings, community-owned renewable energy projects, etc.). These characteristic aspects of the "sustainable" or "green" neighborhood are collected by PoSI into seven "sustainability performance goals," all of which must be addressed by an EcoDistrict regardless of its primary focus (i.e. brownfield redevelopment, sustainable economic revitalization, etc.). They include:

1. "Community Vitality - Healthy, equitable, and vital communities with active and diverse participation.
2. Air Quality and Carbon - Beyond carbon neutrality and healthy air quality.
3. Energy - Net-zero energy use annually.
4. Access and Mobility - Healthy, clean, and affordable transportation options.
5. Water - Water, in all its forms, meets both natural and human needs.
6. Habitat and Ecosystem Function - Integrate built and natural environments for healthy urban ecosystems.
7. Materials Management - Zero waste and optimized materials management."[xxxiii]

By pursuing these performance goals, a neighborhood is taking substantial mitigative action (by reducing carbon emissions through smart transit and energy use), becoming more resilient by strengthening community institutions, and potentially initiating an urban transformation in its conscientious approach to urban ecology and natural systems[xxxiv]. Within each of these goals are two potential pathways for achieving them: what's described by PoSI as the "hardware" and "software" of EcoDistricts.[xxxv]

[1] The four general neighborhood types to which the EcoDistrict approach might be applied are Urban Regeneration, Brownfield Redevelopment, Campuses and Institutions, and Community Development (Condon, Otto. "EcoDistricts: A Primer." ZGF Architects LLP, June 18, 2014. PowerPoint presentation, 19). The existing neighborhood type and the desires of its residents will significantly determine the path the EcoDistrict takes.

"Hardware" encompasses those aspects of the built environment that so quickly come to mind when envisioning sustainable cities and neighborhoods: storm water management infrastructure, a variety of transportation options, retrofitted buildings and emissions reduction targets, power and communications lines effectively protected from climate events, etc. In short, they are the most visible aspects of sustainable neighborhoods, or those policies which can be measured quantifiably. Performance goals two through seven would most likely be met through hardware interventions. The "software" of an EcoDistrict, then, is the qualitative, or the less easily defined social strengths of a community. Markers of a neighborhood's social resilience and sustainability might be strong participation in local democratic processes and management of community resources, an interconnected and equitable local economy, vibrant cultural institutions, or a shared sense of responsibility for and ownership of the neighborhood's future and the health of its natural and social systems.

Civic Ecology

A district or community that cultivates and places heavy importance on its "software" could be said to be practicing Civic Ecology, defined by Tim Smith as "the integrated web of energy, nutrient, resource, financial, information, and cultural flows and interactions that are envisioned, created and managed by citizens acting for the common good within a geographically-defined community and its city-region. It is a human ecology of place, intimately integrating both natural and social/cultural systems."[xxxvi] Smith argues that our current sustainability paradigm relies heavily on expert-driven engineering solutions to quantifiable "hardware" problems; "non-expert" citizens are reduced to consumers of "green" products, the end result being urbanization rather than community building, and a green-washed continuation of our unsustainable consumption patterns.[xxxvii] "EcoDistricts," he writes, "can be a vehicle to challenge the current economic paradigm (homo economicus) and move community members from consumers of expert-driven technology-based sustainability to citizens that produce and manage their sustainable community."[xxxviii]

Up till now we have discussed two strategies for dealing with climate change, namely, mitigation and adaptation. Generally, both are discussed in terms of urban "hardware," or

the built environment (though there is, of course, a "software" approach to mitigation and adaptation, as well[xxxix]). A third, less discussed strategy is transformation, or the wholesale shift in how our cities and societies function -- a process which entails "the questioning of values, the challenging of assumptions, and the capacity to closely examine fixed beliefs, identities, and stereotypes."[xl] Though difficult, transformation encompasses both mitigation and adaptation and allows us to chart the transformative path we want to take, as opposed to having it forced on us out of necessity. It also addresses climate change on a deeper level than the "Band-Aid" approach of resiliency strategies and the determinism of adaptation.[xli]

The Civic Ecology framework for neighborhoods presents the potential for urban transformation in that it calls for a reevaluation of the citizen's relationship to their district and city as well as greater citizen ownership of a neighborhood's pathway to sustainability. It seeks not just to "green" a neighborhood, but to create a living community based on shared values and democratic participation, committed to true sustainability and resiliency. "Directional transformations"[xlii] undertaken by citizens sidestep the expert/consumer paradigm Smith warns of, and shoot EcoDistricts to the top of Arnstein's Ladder of Participation. A city composed of various EcoDistricts operating under this framework might initiate, at an impactful scale, the paradigm shift we need to live equitably and sustainably in an urbanized world.

CASE STUDY
East New York, Brooklyn

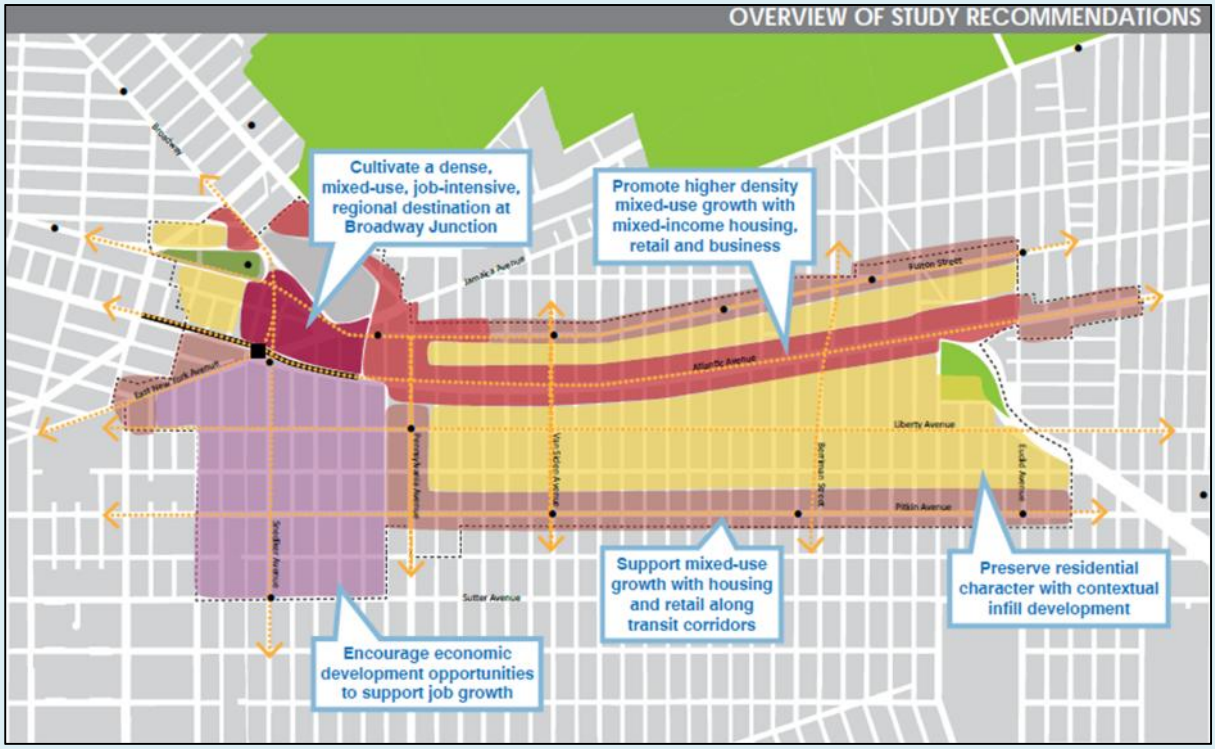
East New York is an area of southeastern Brooklyn encompassing a number of smaller neighborhoods, such as Cypress Hills, Starret City, and New Lots. Historically it has suffered from urban blight and high crime rates as a result of disinvestment, the loss of the area's traditional manufacturing jobs, and other factors. Nevertheless, it retains significant transit infrastructure as well as a strong community fabric, including a network of various community-based organizations (CBOs) servicing the area. Furthermore, crime in recent years has decreased dramatically, though rates are still higher than in the rest of the borough.[xliii]

Why choose to implement an EcoDistrict in East New York? Ideally in the long-term, the transformation necessitated by climate change will mean all our neighborhoods become EcoDistricts in some sense, that being the new normal. The term "EcoDistrict," in fact, may even become unnecessary; we won't need to distinguish between sustainable and unsustainable communities. In this initial stage of implementation and experimentation, however, there is a certain ethical component in choosing where to focus our energies. The benefits of the sustainable community and the empowerment afforded by the Civic Ecology framework, though the right of all urban citizens, must be made available first to the most vulnerable residents of our cities. In certain affluent neighborhoods, "going green" remains almost an aesthetic luxury or lifestyle choice; in communities such as East New York, the transition to sustainability would bring economic benefits, citizen empowerment, and a redressing of past environmental wrongs.

That being said, East New York warrants consideration for a number of other reasons as well, including its aforementioned transit infrastructure, strong neighborhood identity, wealth of community resources, and its proximity to Jamaica Bay (and the subsequent climate-related hazards that entails). For these reasons, the neighborhood was the subject of a 2011-2013 Department of City Planning sustainability assessment, "Sustainable Communities: East New York,"[xliv] which outlines a long-term plan for the area's development and resiliency. Principle planning goals, as per stakeholder input, are to:

1. Facilitate new housing opportunities, including affordable housing;
2. Improve access to fresh food and retail services;
3. Enhance the physical environment;
4. Facilitate job creation and improve access to job centers, and;
5. Incorporate sustainability into neighborhood efforts.[xlv]

The majority of the report focuses on the area immediately surrounding the Broadway Junction transit hub, the East New York Industrial Business Zone, and the East New York/Cypress Hills residential core.[xlvi] Understandably given the neighborhood's low-income status, the plans tend heavily towards commercial development along Atlantic Avenue and other corridors in the hopes of creating jobs and encouraging investment, as well as rezoning to allow for more affordable housing options. In terms of environmental sustainability, which is dealt with at the end of the report, the DCP recommends 1) transit-oriented development, 2) brownfield redevelopment, 3) green building practices and expanded renewable energy use, 4) green infrastructure (trees, bioswales, and green roofs), 5) waste management programs to encourage recycling and composting, and 6) healthy food access.[xlvii]



Map of the DCP's targeted area. Most recommendations deal with changes to the built environment. (Image: NYC Department of City Planning)

Most of the DCP's recommendations fall in the realm of neighborhood "hardware," and the benefits of renewable energy, walkability, etc. can't be overstated. In order for true sustainability as outlined by the Civic Ecology framework to be realized, however, greater attention must be given to the existing, or potential, software of the community. Comparisons to Downtown Brooklyn are made throughout the study regarding East New York's various vacant lots and transit infrastructure, and thus its potential for development;

residents must have strong and effective representation to ensure that development takes the shape they want it to.[xlviii] CBOs such as the Cypress Hills Local Development Corporation and others have considerable organizing power within the community; in an ideal EcoDistrict setting, they and other stakeholders might form the nucleus of a local EcoDistrict committee to oversee the implementation of these plans (in partnership with the City and private developers) and ensure community ownership.

Recommendations

1. Convene a governing body of local residents, business owners, professionals, and other East New York stakeholders to propose, implement, and monitor sustainability projects. This committee will also serve as the platform through which East New York residents engage with the City.

2. Conduct an assessment of storm surge resiliency on Jamaica Bay, particularly in Starret City. Analyze the potential for blue and green infrastructure in the Gateway Center shopping Mall and Fresh Creek Nature Preserve.

3. Expand upon United Community Centers, Inc.'s successful urban farming program with an eye towards branding the neighborhood as an urban farming destination. Residents expressed their desire for a university to locate in the Broadway Junction area;[xlix] perhaps a satellite agricultural school could serve that purpose. As per the DCP's recommendation, repurpose the Chloe Food Plant on Atlantic Avenue as a food production center and rooftop farm.[l]

4. The Cypress Hills Local Development Corporation should continue promoting green building practices and renewable energy use in its affordable housing projects. A local Green Energy Task Force could also be convened, by the CHLDC or as a collaboration between CBOs and private interests, to convert existing commercial and residential areas to renewable energy use.

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