

TOWARD A 21ST CENTURY CITY FOR ALL



PROGRESSIVE POLICIES FOR
NEW YORK CITY IN 2013
AND BEYOND

A Sustainable City for All

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Why care about environmental sustainability in a city with a high level of inequality where many are being displaced by rising costs of living? Isn't sustainability a fanciful policy goal that will divert critical resources from essential items to the merely nice? And even if improving environmental sustainability yields real benefits, can't government just get out of the way of private innovation, set long-term goals, and encourage voluntary efforts?

"Superstorm Sandy" made it crystal clear for New York City that our vacillation between making incremental environmental improvements and ignoring climate change has problematic consequences for all – especially for the least mobile and the least wealthy. It is going to be hotter. More storms will test our infrastructure more frequently and more severely. New and unexpected challenges, like invasive species and pandemic diseases, will continue to present themselves.

The immense damage from Sandy taxed the region. That tax must be paid, and largely will be paid, by federal funds (just as federal funds have helped many other regions of the country after disasters). But many other tax bills will come due in the future – and we need to decide how they will be paid. Business as usual means repeated destruction and economic disruption at unpredictable points in the future. The other path involves making significant public and private investments in protecting our city and making it more sustainable. Over the long run, investing will likely be cheaper and can be more just than continuing the status quo.

Despite this immense challenge, Mayor Bloomberg leaves an undeniably substantial environmental legacy that is a foundation for climate adaptation and prevention. PlaNYC (started in the wake of Hurricane Katrina's devastation of the Gulf Coast) is a nationally cited model for advancing environmental policy. That effort focused a number of city agencies on complementing their core mission with new attention to environmental issues.

The next New York City administration is not guaranteed to continue a strong commitment to environmental policy. The next mayor may look at the topic, see a range of previous accomplishments, and decide that the area is not a ripe place to make his or her distinct legacy. Further, they may (correctly or incorrectly) perceive the subject as carrying political baggage when austerity will be the order of the day. The consequences of Sandy certainly make it more likely that the next mayor will address the issue, but the temptation to rely on higher levels of government and to duck politically

difficult policy choices (e.g., mandating strict new requirements for rebuilding in flooded areas) will be strong.

Adapting to climate change is just one challenge facing the city over the next decade and beyond. Transit ridership has jumped by leaps and bounds and is only outpaced by the rate at which New Yorkers are taking to bicycles (leading to media-driven political conflict over the allocation of street space). Meanwhile, Albany has failed to address the chronic Metropolitan Transportation Authority (MTA) budget shortfalls that threaten New York's financial health. The cost of relying on disposing city waste in landfills has also grown rapidly in recent years. The demands on the electricity grid continue to grow, even as the Indian Point nuclear plant could be taken offline.

Structural reasons will force us to confront these kinds of environmental issues. PlaNYC is enshrined in local law (although its content and policies largely are not) and the framework will need to be reexamined in 2015. The main political actors largely have records of supporting various environmental efforts. And the underlying political DNA of New Yorkers, particularly the Democratic primary electorate, is more supportive of such efforts than a generation ago.

Therefore, the next administration will need to have a thoughtful environmental policy. Yet it is a challenge to formulate a distinct agenda that A) fits within a progressive governing narrative, B) provides a big enough break with past policies to satisfy a new mayor's political needs, and C) is continuous enough with past efforts not to erode current progress.

In a city that is host to a deep set of inequalities and already has the largest public transport network in the nation, the next environmental agenda must move beyond traditional policy debates. The green vs. blue frame – that new environmental mandates impose costs that undermine economic growth – has unfortunately dominated the environmental politics for the past decades. While this frame has been succeeded in some areas by green consumerism (the idea that buying less-environmentally damaging products is desirable), it largely fails the challenge of bridging the green-blue divide that threatens a potential progressive coalition.

Sustainability has become a popular frame for organizing otherwise disparate progressive environmental, economic and social policies. It has several dimensions: preventing and adapting to climate change, reducing society's ecological impact, reducing the inequality of how negative impacts are distributed, accounting fully for the economic impacts of our actions, and increasing the quality of life for all segments of society. There is no inherent reason we should divorce the pursuit of the pure environmental dimensions of sustainability from other dimensions. Yet this is too often the case – environmental policy is often isolated from other sustainability goals, in the hope that the environmental benefits are self-evident, making it easy to push the debate into the “blue versus green” frame.

A more robust strategy is to ensure that sustainability policies aim beyond improving the environment, particularly in a city as unequal as New York. We can address inequality through green jobs programs and grants to economically constrained owners and tenants to save energy and install renewable sources of energy. We can find the funding for such programs by increasing the cost of polluting behaviors, ending incentives for environmentally harmful actions, and redirecting wasteful spending to more sustainable programs.

It is also not enough for policies to target less well-off individuals – we must target the most vulnerable and burdened neighborhoods. We can advance neighborhood fairness by creating a safe, robust public realm in all neighborhoods and by reducing the environmental burden on communities that host locally undesirable facilities that have a regional benefit. Our sustainability policies must be rooted in public participation and actively encouraging the development of civic capacity in neighborhoods with low levels of civic capital.

Building on recent local and national work, this chapter outlines a sustainability program for New York City that seeks simultaneously to promote economic growth, address political and economic inequality, and pursue robust environmental goals.¹ This program potentially addresses many of the major sustainability challenges facing New York. It is not a comprehensive list of important environmental issues. Maintaining our city's drinking water, cleaning the harbor, etc. were not left out because they fail to meet a test of importance, but rather because this essay focuses on how to unite sometimes-disparate political interests around a handful of concrete, meaningful policy ideas that are executable by the next administration and specifically advance a broad, inclusive vision of sustainability.

1. Stopping Storm Surges

Climate change is an overwhelming challenge to governing New York City in the first decades of the 21st Century. The summer of 2012, in an ominous foreshadowing of Sandy's destruction, broke numerous heat records and brought wall-to-wall coverage of scientific studies that underlined the challenges climate change will bring (Dolce 2012).² It is undeniable that our future will be hotter. As a coastal city with a dense, diverse population, old infrastructure, concentrated energy usage, a large heat island effect, and extremely valuable low-lying real estate, New York City is highly vulnerable to increased heat, flooding, and disruption of long-established economic patterns.

The city has a large role to play as a national leader and the locus of a significant portion of the global economy in facing the overriding imperative to prevent as much future damage to the atmosphere as possible. This means reducing the carbon footprint of our buildings and transportation systems. As we do that, we will also need to harden infrastructure against storms and coastal flooding. Even before Sandy hit, Hurricane Irene in the late summer of 2011 came only one foot short of causing major damage to subway tunnels, despite the MTA having engaged in a rigorous flood-prevention program following 2007 flash floods during a spring tide (Navarro 2012).

No matter how farsighted or deep-pocketed we can be in protecting the city from climate threats, the city can only mitigate these impacts, not prevent. Beyond increased coastal flooding and heat, we should expect strong storms to cause more power outages and economic disruptions, increasing energy and food costs, and more exotic diseases and invasive species will migrate into the region as our ecology changes. The city's low-income residents, elderly and immigrants are most vulnerable to these challenges.

¹ Richard DeLeon famously outlined this synthesis in *Left Coast City* (1992) as "material liberalism," quality-of-life oriented environmentalism, and neighborhood-oriented "populism."

² Positive feedback effects of global warming just being identified now are the most alarming. In particular, coverage of unexpected thawing of methane in Arctic landscapes (Gillis 2011) and heating climate driving air conditioner usage in the third world that relies on coolants with powerful GHG effects (Rosenthal and Lehren 2012).

The Adaptation Toolbox

For years, academic and urban planning circles have discussed “outside-the-box” ideas: building a storm surge barrier in the harbor, spending lots of money to weather-proof our critical transportation and utility infrastructure, and doing what we can to prevent climate change. Post-Sandy, these ideas now appear daily in the headlines and on the lips of key policymakers. The next administration needs not so much to build political support and shepherd a planning process through the vacuum of state and federal inattention – it must keep up the political pressure, help channel political will effectively, and balance the various goals and methods involved in storm protection at the local level. There is no doubt that an effective storm protection system must be largely federally financed and regionally coordinated, but local policies will often be the key to a successful, cost-effective system.

The basic physical and policy tools are now well known:

- ↳ A series of storm surge barriers at two to four key inlets to the harbor: the Narrows, the upper East River, Arthur Kill, and Jamaica Bay (Bowman 2009);
- ↳ Hardening key transportation and utility infrastructure against storm surges and large rain storms;
- ↳ Restoring natural shorelines and re-creating wetland barriers to “soften” the edges of the city to mitigate surges;
- ↳ Creating storm-resilient streetscapes that naturally capture storm water and channel flooding away from sensitive infrastructure;
- ↳ Changing the zoning and building codes to make buildings in areas vulnerable to flooding to be flood-resistant; and,
- ↳ As a last resort, compensating owners to abandon or not rebuild buildings in the areas most vulnerable to storm surges.

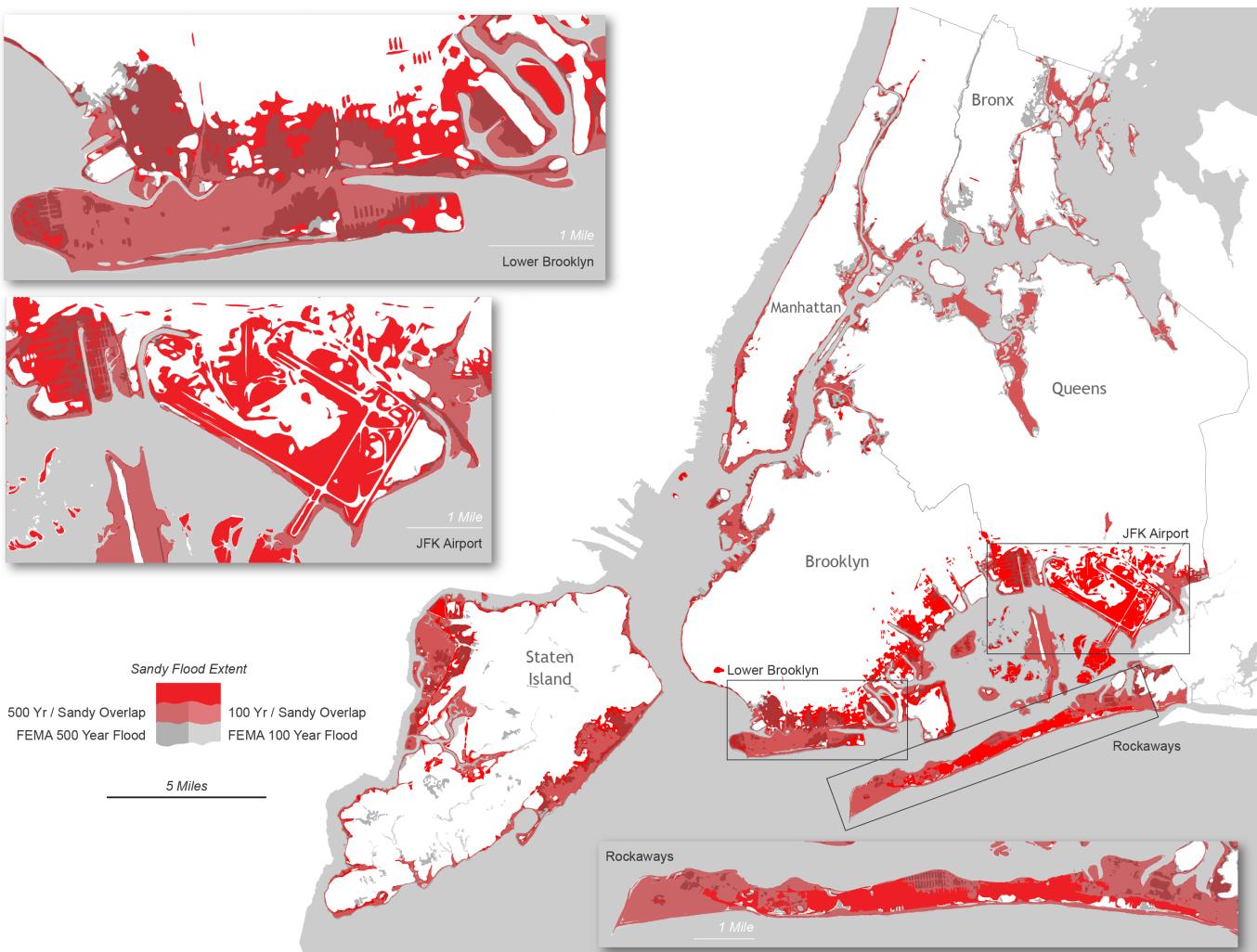
A successful strategy will balance these tools and create an interlocking set of approaches, acknowledging that some will come online before others and that there must be an inclusive public debate of whether to invest in large scale storm barriers. In adapting New York to a changing climate, the city should keep the following guiding principles:

Develop a standardized risk model

The risk of flooding is measured colloquially in how often a flood of a certain magnitude will occur. FEMA maps estimate hazards up to 500-year floods, although the 100-year floodplain is a frequently used definition for a vulnerable area. Yet the flooding from Hurricane Sandy went beyond the 500-year mark in many places in New York City (figure 1).

Unfortunately, American standards of risk estimation are far behind our global counterparts. The well-known Dutch storm barriers are designed for 10,000-year storms and the country is deciding whether or not to upgrade to a 100,000-year standard (Kleinfeld 2012; Janson 2009). The Dutch model is not just about building large earthworks and storm gates. They start with a target risk level they want to mitigate and figure out what projects will meet the goal.

Figure 1: Sandy flooding exceeded the pre-storm 500-year FEMA flood zones in many places.



Source: Office of the Mayor, City of New York, 2012

It is critical to standardize a risk-based approach because we too often plan to prevent the last disaster (think TSA screening policies). This would be a problem if storm barriers were built to prevent a 14-foot storm surge, and then a 16-foot storm surge overtopped or circumvented the barriers.

A risk-based approach should also be technology-neutral. It should not inherently favor the large-scale engineering project of a storm barrier versus the creation of an artificial barrier island versus recreating wetlands. This approach also offers a path to evaluate the effectiveness for paying for storm protection projects on privately owned land.

The downside in such an approach is that it requires agreement among numerous agencies and levels of government about the level of risk to mitigate as well as how to calculate the effectiveness of proposed mitigation. A collaborative approach is already underway with the FEMA updates of NYC's storm surge maps underway in early 2013 (using new data gathered as part of a complete elevation survey previously done as part of PlaNYC). While this will lead to the calculation of new 100- and 500-year floodplains, an interagency team can work together to identify the 1,000-, 5,000- and 10,000-year floodplains. This can be the nucleus of a cooperative effort to identify the effectiveness of various strategies to help plan investments.

Involve affected communities in planning

Large-scale projects like storm barriers (should an inclusive public process identify them as a priority project) have a political downside – they will inevitably leave many vulnerable neighborhoods outside the protected area (for example, there is probably no way to create a moveable storm barrier that protect the Rockaways or City Island). Line-drawing exercises pose many challenges, particularly ones with multi-billion-dollar implications. They are never completely without drama when opened up for public participation, but that is exactly the point – creating opportunities for public input is how our representative democracy defuses tension in deciding major policy issues.

Participation in storm defense planning should include open meetings that allow for reconciling of regional protection goals with local interests. Regardless of the actual mechanisms used – whether is putting a draft plan before the public or undertaking a more participatory “charrette” set of exercises, similar to those used for the 2012 update of the city’s Waterfront Revitalization Plan – our bottom line must be empowering regular New Yorkers, especially those in hard-hit communities, to help envision the city we are rebuilding. Already, concerns about mold infestations and toxic floodwaters in damaged buildings, as well as how reconstruction will involve local hiring, are bubbling up from affected communities. As decisions are made about protection infrastructure, the default choice of shutting out communities from the conversation will only have negative consequences.

A positive example of participatory flood planning emerges from the Netherlands, where the government decided that polders (reclaimed plots of land) would have to be turned into spillways in a flood.

“The government did not ask for volunteers to leave. It made a decision, based on real numbers and the economy of the area. The polder would be used as a spillway and the farms would have to go. The farmers would be compensated, but staying wasn’t an option.” (Kimmelman 2013)

Instead, the farmers proposed an alternative where the polder would indeed become spillways, but the government would also create more than a dozen 20-acre elevated plots for the relocated farms houses and critical infrastructure. Negotiations took years, but in the end the plan was accepted with changes. The process gave residents knowledge and agency, while still meeting the overall regional goal of creating a spillway. Some of the farmers would have to leave and would be compensated. And it took longer. But the outcome was better for all in the long run. In New York, where it is easy to be cynical about participation, let this example, along with many of the emerging examples of participatory and open government throughout the city, enlighten us as to what is possible when we let the public into the planning process.

Leverage investments to create good jobs for local residents

Given that we will spend so much money in the coming years rebuilding and fortifying Sandy-affected neighborhoods, we should ensure that these investments have positive local economic effects. We should make recovery spending transparent, apply job standards to all reconstruction work and ensure that local residents hold a significant percentage of publicly-funded reconstruction jobs. This will go a long way in helping neighborhoods that were economically underwater long before Sandy came ashore.

Use green infrastructure wherever possible and prevent ecological degradation

It is preferable to avoid new development on barrier islands in almost all cases because they are the most vulnerable to storm surges (from both the ocean and bay sides) and can shift dramatically over time, particularly when the natural dune structures are developed on. However, we already have a strong history and development pattern that would prevent their total return to nature. Therefore, for areas that are outside storm barriers, we should use natural methods of storm protection — dubbed “green infrastructure” in the world of sewer management.

Figures 2 and 3: Photo of natural dunes preserved for protection in Montauk on Long Island (top) and in Rockaway Beach, Queens (bottom).



Photos by the author

Natural dune restoration on the Rockaway Peninsula, Staten Island, Coney Island and elsewhere in the harbor and prevention of further development in front of the second dune line should be main thrusts of this effort. The easy (but by no means cheap) fix is to engage in a beach restoration project with a series of meager primary dunes and jetties. It is more sustainable and likely more cost effective to engage in a major dune restoration. There is some evidence that surge-related damage was dramatically limited in areas in the Rockaways and on the Jersey Shore where natural dune restoration was conducted.³

Wetlands are safety valves during floods. There has been some speculation that the wetlands of Jamaica Bay helped diffuse the surge and protect JFK Airport (Keller 2012), although it certainly did not protect from bayside flooding in the Rockaways. Not only do we need to protect true wetlands, we need to create more throughout the harbor, even co-locating them in unexpected places. There are many places throughout the city where we need to augment hard edges, such as the Manhattan concrete waterfront esplanades, with softer, green auxiliary edges like those in Brooklyn Bridge Park (figure 4). We will certainly need to work out conflicts, such as between waterfowl and aviation interests or between

³ Based on author review of pre- and post-storm aerial photos available at <http://google.org/crisismap/2012-sandy>

shipping channel maintenance and wetland placement. However, such conflicts cannot be resolved with a dogmatic, piece-by-piece wetland protection strategy, which has been New York State DEC's policy in the past.⁴ The Comprehensive Restoration Plan for the New York-New Jersey Harbor Estuary, a joint Army Corps and Port Authority plan outlines a number of these opportunities and provides a well-considered framework for measuring the effectiveness of restoration efforts (USACOE 2009). However, the plan needs to be updated to take into account climate change defense strategies as a priority and criterion for project evaluation.

Figure 4: “Soft edge” at Brooklyn Bridge Park Salt Marsh



Photo by Etienne Frossard

We must also consider the ecological impacts of other pieces of the large-scale storm protection scheme on green infrastructure. Closing storm barriers can reduce the salinity of the Hudson estuary and weaken wetland storm systems. Jetties and seawalls can have unintended (but well-known) consequences on beach erosion. Where green infrastructure can effectively do the same job that hard infrastructure can, we must give preference to the former in order to ensure the overall ecological function of the harbor is maintained.

There are many challenges to implementing such a project, starting with who will do it. Much of NYC's beachfront is managed by the NYC Department of Parks & Recreation, which (while they did a great job in storm cleanup efforts) cannot effectively manage the large-scale installation of such a project. This

⁴ Even worse than taking a piecemeal approach to wetlands preservation, DEC's regulatory approach could actually be degrading the harbor's storm resilience in the long run. Without a comprehensive strategy for what types of mitigation should be put in place in key areas, the result is a diffuse, disconnected set of mitigations that do not perform together effectively as a protective natural system.

effort requires the U.S. Army Corps of Engineers (which already has a deep involvement with the harbor and wetlands management) to implement it working with the state and local authorities such as Parks, the state's Department of Environment Conservation (DEC), the city's Department of Design and Construction (DDC), the city's Department of Environmental Protection (DEP), the Port Authority, and New York City's Economic Development Corporation (EDC) (which has a citywide bulkhead management contract) to manage the system.

Use zoning and building codes to control rebuilding in vulnerable areas

While the federal and state governments will play a major role in any large-scale protection project, the fine-grained attention to what kind of development and rebuilding occurs in vulnerable areas is the almost exclusive role of the city. While some initial work has been accomplished through the Department of City Planning's Zone Green initiative and the general policy principles have been adopted as part of PlaNYC 2.0 and the city's Waterfront Revitalization Plan,⁵ the task of adopting the principle of "building resilience" in flood-prone areas is entirely before us.

Resilience in the context of flood-prone structures means strengthening buildings, making their lower portions floodable, making higher stories adaptable as ground conditions change, removing vulnerable mechanical equipment from lower floors, installing defensive landscaping and making buildings as self-sustaining as possible. One of the major challenges is how to build resilient buildings that still encourage robust urban life and public sphere. It would be simple to require that all structures must be flood-proof and made of reinforced concrete below the 500-year floodplain, but the result would likely be a ground level pedestrian experience entirely of parking structures with no retail or any other signs of urban vitality. Balancing resiliency requirements with urban life may require concepts such as "sacrificial" floors or requiring flood-proof doors and foundations (Shapiro 2012). Large-scale projects in flood-prone areas that go through rezonings or other discretionary approvals should account for climate change related risks in their environmental reviews.⁶

It is a straightforward legislative task to adopt building resilience requirements for all new buildings after working out these issues. The two most difficult remaining challenges are A) how many retroactive requirements to apply to existing structures and B) how many of these requirements to apply to buildings partially damaged in the storm. Each imposes a very significant set of costs to building owners that bring political and practical challenges. Higher costs may defer rebuilding, prevent displaced residents from returning home and defer future development in flood-prone areas. However, the risks of grandfathering in structures are too high to not pursue this to some extent.

In some places, retrofitting may cost too much and the risk may be too great to allow owners to rebuild. We should respect the fury that Mother Nature can raise up from the sea in these places. The recently announced state buyout program will cover about 10 percent of the most at-risk homes in New York State. This promising development deftly addresses the political realities while offering bonuses for the acquisition of whole blocks of land (making the land more useful for green storm protection infrastructure). The program is not likely to cover commercial structures, multi-family buildings, or

⁵ These principles were laid out first in the U.S Green Building Council's Green Buildings Task Force report.

⁶ PlaNYC added greenhouse gas and other climate change impacts to the environmental review process but did not add an analysis of risks caused by climate change.

tenants, and therefore will mostly apply to the highest risk low-density areas. If the program is successful, it may be worth expanding. In higher density neighborhoods, allowing the sale of development rights to less risky sites in the neighborhood may help defray the costs of acquiring the property.

Hurricane Katrina taught us that action on the ground sets much of the agenda in motion long before official action can get into gear, so the sooner this is addressed, the better.

Create resilience in the social environment, not just the built environment

In some ways, New York after Sandy replicated the slowness of placing major relief resources on the ground in the immediate days following Hurricane Katrina. However, because of New York's density and the fact that many portions of the city were relatively unscathed, it has a tremendous grassroots outpouring of generosity and help that stopped tragedy from compounding on it. The grassroots response was commendable and overwhelming, but it was also *ad hoc* and therefore initially fairly disorganized.

Rebuilding must not just be about reconstruction, it must be about creating stronger neighborhoods. Many of the affected neighborhoods (e.g., Red Hook, Coney Island, and the eastern side of the Rockaways) lacked unified civic institutions, making it difficult at first to coordinate efforts among disparate groups. We should strengthen the community organizations that were first on the ground in Hurricane Sandy's hardest-hit neighborhoods, giving them a central role in rebuilding their neighborhoods, and making them even stronger in the next crisis. Andrew White's paper in this volume describes how we can use city-funded community partnerships to extend the reach of social services and advance collective problem solving in neighborhoods that lack civic capital.

Make infrastructure complement the urban environment and be multi-purpose

Should a robust public process and solid risk assessment determine that we build large-scale storm gates, there is no way that New York City can invest \$10 billion and not use parts of such infrastructure them for other purposes. Larry Murphy has best captured this spirit with his design for a 1,700-foot barrier across the Arthur Kill that also features a bike and pedestrian path connecting Staten Island and New Jersey (McShane 2012). Opportunities to integrate wind and tidal power generation, habitat restoration, create new recreational opportunities and tourist attractions abound. This has been successfully done at Riverbank State Park, which was built atop the North River Wastewater Treatment Plant.

Plan for impacts beyond storm surge

The impacts of climate change are not limited to damaging storms. The World Bank compiled a list of a dozen global record-breaking weather events probably stemming from climate change. The list (which does not include hurricanes) includes heat waves, droughts, and record alluvial flooding causing 125,000 deaths worldwide, widespread wildfires, and massive crop damage (Potsdam Institute 2012, 18). The most salient of these for New York is a long-lasting heat wave that would kill many vulnerable New Yorkers. And the simplest adaptive responses, such as installing more air conditioners, increase

greenhouse gas impacts. Climate change may have other unexpected impacts, such as creating a more favorable environment for pandemic diseases (e.g., the SARS outbreaks) or a non-pandemic disease such as West Nile Virus. Therefore, we also need to improve our medical emergency response system, which at a minimum would include enhancing our advance warning networks, stockpiling medicines, and ensuring sufficient herd immunity against potential threats. On a fundamental level, we also need to ensure that all New Yorkers can receive a free, basic level of primary care to protect against non-pandemic (but fatal) diseases, such as West Nile Virus.

Recognize that climate change hits people of modest means hardest

These impacts will unfortunately hit the city's most vulnerable populations – the frail elderly, medically vulnerable, young children and low-income New Yorkers – the hardest. Sandy made clear how vulnerable these groups are in a storm, but it also underlines who the heat effects of climate change will impact the most as well. Well-off families can always just buy another air conditioner and eat the energy costs (the marginal behavior impacts of a theoretical carbon tax notwithstanding).

While some of the initiatives outlined in this paper can help increase a neighborhood's capacity to deal with a disaster, municipal government will have to remain the final backstop. It is essential to know where the vulnerable are, put systems in place to make one-on-one contact, and provide assistance in a weather emergency. This currently eludes New York and must be made a high priority task. While HHC staff members were deployed to shelters, the city can make much more intense use of its medical system in a major emergency, sending them to ensure that they attend to the medically vulnerable.

So too must we plan accordingly for neighborhoods that have high concentrations of vulnerable New Yorkers, as was evidenced by government's absence on the ground presence in public housing developments in the early days post-Sandy. Eric Klinenberg (2003; 2013) has deftly synthesized the case that social capital is the best defense against climate impacts, the best-known example of which is his study of the Chicago 1995 heat wave. Paying attention to neighborhoods with low social capital, rather than treating them as a problem to be reactively managed, would be a good start.

Minimize future storms by slowing climate change

Reducing our city's greenhouse gas emissions and supporting national and global efforts to reduce emissions are the best way New York can make sure we experience as few Sandy-like storms as possible. Pursuing the environmental strategies that build on New York City's existing strengths of density and transit can help reduce GHG emissions, continue to set a national and international example for action, and achieve many other goals of making New York more livable, affordable and equitable.

2. Less Congestion, Lower Tolls, Better Transit

No region depends more on mass transit than New York City. The density and level of economic activity in the region would not be possible without the transit system. If we do not maintain and expand, we risk falling short of our global peer regions. The costs of traffic congestion continue to mount and are felt at all levels. Despite a consensus across progressives and the real estate and business communities, year after year we fail to fund the system sufficient level to provide better, more affordable service that

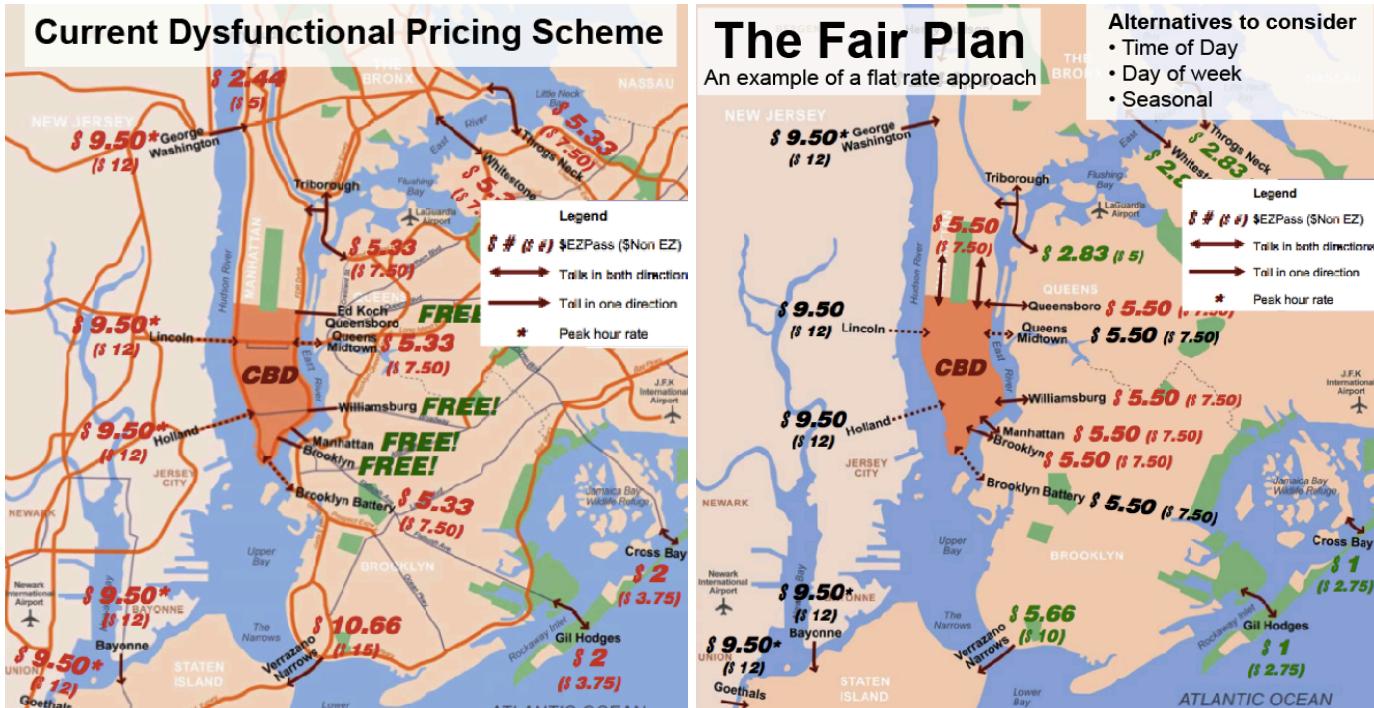
equitably serves the region's workforce. Without additional public support we must either use more authority-specific debt to shore up the system (which ultimately pushes costs to transit riders in the long term) or cut service (which has negative effects).

Save transit funding by rationalizing bridge tolls

Several recent attempts have been made to shore up the MTA's funding – some more successful than others.⁷ The bold vision of “congestion pricing” – tolling vehicle movement in core Manhattan areas – failed to build a deep enough coalition and raised questions about feasibility and the use of revenue. Richard Ravitch put forward a more modest proposal that led to the enactment of a regional payroll tax and other miscellaneous charges, but not tolling Manhattan-bound bridges.⁸

The idea of imposing a charge on Manhattan-bound motorists to fund transit is not likely to disappear – its policy benefits are great and the regional payroll tax is politically vulnerable. The question is what combination of policy ideas and political coalition can thread the needle of city- and state-level political and legal challenges.

Figures 5 and 6: Excerpts of the Move NY plan comparing current and potential pricing schemes to raise as much as \$1.5 billion in net revenue for transit.



Source: Sam Schwartz, Move NY Plan, January 2013.

Former NYC Department of Transportation Commissioner Sam Schwartz has been refining a “Move New York” plan to meet these challenges that would raise \$1.5 billion in annual revenue (Schwartz 2013). While his plan is more detailed and thoughtful than past efforts about balancing neighborhood needs and creating a supportive coalition, any plan must:

⁷ There was also an attempt to impose bridge tolls in the 1970s as part of Clean Air Act compliance that gained city and state approval but was ultimately killed under federal pressure (Chan 2008).

⁸ Including an ill-targeted tax on car rentals that perversely also made hourly car sharing much more expensive.

- ↳ Be simple enough to be easily communicated about between legislators and constituents;
- ↳ Institutionalize sufficient funding for the transportation network to both maintain a state of good repair and sustain specific long-term investments;
- ↳ Reduce congestion within Manhattan, on major crossings and in gateway neighborhoods where there is good transit;
- ↳ Provide new, fast transit routes into Manhattan from transit-poor areas;
- ↳ Reduce congestion on neighborhood streets (e.g., by moving through truck traffic to parkways);
- ↳ Ensure Central Business District (CBD) residents and businesses pay their share; and,
- ↳ Provide financial relief to transit riders system-wide and car commuters not entering the CBD.

Once the framework of a plan is worked out, the campaign must show that it equalizes and reduces the burdens of traffic congestion for the vast majority of people – that is, it does the most good for the most people and provides all with some measurable benefits.

Figure 7: Carless households earn much less than car-owning households in all boroughs and only a minority of CBD workers drive by themselves to get to work.

Central Business District* Workers in NYC by Mode of Commuting and Income by Vehicle Ownership Status

	% CBD-Bound Workers Riding Transit	% CBD-Bound Workers Driving Alone	Median Income** for Households Without Cars	Median Income** for Households Owning 1+ Cars
Bronx	84.0%	11.6%	\$37,000	\$77,300
Brooklyn	88.6%	7.7%	\$43,300	\$87,200
Manhattan	89.2%	3.3%	\$91,200	\$213,100
Queens	81.7%	12.9%	\$48,300	\$87,700
Staten Island	68.6%	23.0%	\$40,000	\$101,200
NYS Suburbs	71.2%	22.9%	\$47,800†	\$129,000†
All NYS Commuters	1,343,191	162,206	-	-

Source: 2000 Census Analysis by Tri-State Transportation Campaign & Pratt Center for Community Development

*Manhattan below 60th Street **Adjusted to 2013 dollars. †NYS Suburbs is weighted average of county median HH income.

It is not a tax increase in disguise; rather it is a charge on travel that can be accommodated on transit. It is not anti-car or anti-outer boroughs, it will provide benefits to outer borough drivers, suburban-residing CBD workers, and transit riders alike. This can be accomplished through emphasizing toll reductions on inter-borough bridges like the Whitestone, Cross Bay, and Verrazano, new alternate transit routes (see Bus Rapid Transit discussion below) and reducing the burden of truck traffic on neighborhoods.

A plan that imposed tolls on the free bridges into Manhattan would inherently be progressive. As figure 7 shows, carless households earn much less than car-owning households in all boroughs. Only about 10 percent of NYS residents who work in the CBD drive alone. Drivers who use the free bridges are only a subset of that group.

The plan must activate transit riders to express political support for the plan. This can be accomplished through better organizing of transit riders on a neighborhood level to connect with their elected officials. But the benefits must be tangible, such as an actual reduction in the base MTA fare rather than a promise to push off fare hikes. It must also overcome distrust of the MTA's financial operations stemming from general rider discontent and the history of fare increases beginning in the Governor George Pataki era. The MTA's recent restoration of service paired with the fare hikes plus admirable post-Sandy performance seems to have disarmed political discontent, and continuing this combination of competence and responsiveness to community desires is a good path forward.

The plan must also capture the public imagination. The Schwartz plan partially achieves this through new public infrastructure and services – cross-river pedestrian bridges, rapid buses and new ferry routes. This attracts those who are already tuned into the benefits of the plan, the media (who will focus on these benefits with sexy renderings more than others), and politicians who will be able to tout new infrastructure to the public. Cynical members of the public may doubt that it will reduce car travel times, even if peer cities have achieved these benefits with CBD toll cordons. The best way to build support is to provide tangible financial benefits, such as lower fares (which will reduce net revenue from the plan) and lower tolls on non-CBD bound trips. Conversely, well-off constituencies seen as benefiting from the plan must pay their fair share, such as an arcane abatement of a parking garage tax for Manhattan residents and a surcharge on for-hire vehicle trips within the CBD.

Once the outlines of these policies are in place, proponents must have a smart plan for winning the support of elected officials. No sustainable transportation plan can be shoved down the throat of the public or their representatives. Building support is not just about organizing riders or interest groups like the business community (although those are key steps), it also requires going directly to the people through town halls to discuss the plan, hear feedback, dispel misinformation, and identify proponents who can be further organized to communicate with elected officials. Key support will have to come from outer-borough communities of color, who are a majority of the city's seats in the state legislature, and largely sat out the congestion pricing debate.

Non-governmental advocates will have to execute this plan. The challenge for the next administration, should it wish to support such a plan, is to build close ties with its proponents and work with the state legislature to enact it. The current administration has had difficulty in getting major legislative changes, and an improved relationship between the mayor and the state legislature is key to achieving this plan (and much else). Perhaps the most important step is establishing a good working relationship with the governor, who will be re-elected (or elected) in 2014 (the next administration will certainly make this relationship a high priority regardless of the agenda). The 2015 legislative session following the gubernatorial race offers a window in which this plan can be implemented so that the benefits can be felt

by the time the next administration wraps up its first term. Advocates must begin now to organize for this window, getting the planks right, refining the framing, and building support in key places.⁹

Revolutionize bus travel with a real citywide Bus Rapid Transit network

Generally speaking, the rail system receives much more high-level attention than the extensive bus system in New York. This is not the case in many of our global peer cities, where robust bus networks provide an integral part of their transit systems and move people across metropolitan areas with great speed. Despite the ossified nature of bus planning in New York, the administration of Mayor Michael Bloomberg made great strides in bringing a modified version of Bus Rapid Transit (BRT), called “Select Bus Service,” to seven corridors. The routes feature off-bus fare payment, dedicated lanes and/or signal priority, larger bus stops, and multiple door boarding. The routes have decreased average travel times as much as 23 percent (Miller 2012) and ridership has increased on all SBS routes (and that is only with limited bus lane enforcement and before the dedicated bus stops are built) (Kazis 2011a).

The success of SBS aside, our bus agenda can be much more ambitious, especially if the tolling plan described above locks in revenue for transit. The next administration should call for a real citywide BRT network that builds on the first seven lines and adds more features that speed up the buses to the point where they are competitive with subway and car commuting. It would be most promising to invest in what used to be called the “two-fare zone” – communities that are a subway and bus ride away from Manhattan. The system should have three goals:

- ↳ Putting a BRT line in every community board that has a two-fare zone;
- ↳ Putting two dedicated “trunk lines” from every borough to Manhattan that express buses and other commuter buses can also use; and
- ↳ Creating lines that facilitate travel between outer boroughs.

BRT is an affordable and flexible way to expand the transit network. For the price of the two-mile 7 Train extension (however worthy that project), a full, citywide BRT network could have built out. Pushing this project forward requires us to bridge the divide between the DOT and MTA and change policies within the MTA that prevent progress. The MTA generally resists cross-borough buses. For BRT to work really well in New York, we need to create physically separated lanes in particularly congested areas, which require leadership and persistent community-level planning to address. However, in many two-fare communities, there is enough road capacity that not much street space needs to be rededicated in order to speed up buses dramatically.

This push for revolutionizing bus travel does not have to stop at BRT. Neighborhood-by-neighborhood reviews of bus service and line-by-line performance reviews (in the mode of the “Next Bus Please” review of the B61 conducted in partnership with DOT and MTA) could make a big difference for bus lines that have been unchanged since they were trolley routes. Contactless fare media would have the greatest benefit to bus travelers, as it would dramatically speed up boarding and allow proof-of-payment

⁹ Should such a strategy not be successful, then a modest increase in the variety of taxes that support the transit system, along with actual state funding or a general obligation bond to support the next capital plan, might be a feasible alternative. Currently, riders, businesses, real estate, consumers and some drivers (via existing MTA tolls and fuel taxes) all contribute to the MTA’s revenues (although maybe not in as fair a proportion as might be desirable) and a marginal raising of each of these fees and taxes in relative proportion might be a fair alternative.

boarding on all lines. While the MTA is a state entity and one that is closely associated with the governor, there is a great deal of political room for the city to improve bus service generally, as demonstrated by Select Bus Service.

Figure 8: DOT & MTA Proposal for future BRT routes



Source: NYCDOT & MTA. "Bus Rapid Transit Phase II Study: Future Corridors," June 2010.

Stop ignoring freight

Moving freight more efficiently around the region is one of those topics that seem like the political equivalent of broccoli. There are few chances for recognizable success and many chances of goring someone's ox. Recent efforts seem to confirm this notion – aside from Rep. Jerrold Nadler's long-term campaign to realize the Cross-Harbor Freight Rail Tunnel project; few sustained projects have been proposed to improve freight mobility. Freight trips comprise a significant percentage of all trips in the region, making this an area that we cannot ignore.

A closer look reveals that freight inefficiencies impose a number of costs on New York residents – the high cost of shipping into the city raises consumer prices; those living on or near truck routes face major noise and safety impacts; and inefficient freight movement contributes to air pollution. Making it easy to get the cargo we need (food, cosmetics, clothes, and electronics, etc.) can relieve some of those costs

and produce tangible benefits to residents of mixed-use neighborhoods, business district associations, and retailers.

A freight agenda, centered out of a partnership between New York City DOT (which can dramatically increase its work by increasing the number of staff working on freight issues from four to ten and be given a capital budget) and the Port Authority, would include:

- ↳ **Building the Cross-Harbor Freight Rail Tunnel** would bring major environmental benefits and a substantial economic stimulus to the city. There are neighborhood issues that can largely be worked out by finding ways to benefit all host neighborhoods (traffic mitigation, new direct to highway connectors, etc.).
- ↳ **Exploring “freight franchises”** – bidding out contracts for major point-to-point freight routes for municipal and port-related uses (e.g., JFK to Hunts Point) to minimize inefficiencies.
- ↳ **Investing in a cleaner future for the working waterfront** – water transport is one of the most fuel-efficient ways to move heavy goods, yet the basic port infrastructure and its support facilities are desperately in need of an overhaul. While EDC and the Port Authority have made efforts to reduce the impact of truck pollution and are experimenting with plug-in power for cruise ships, much more can be done to green the port while ensuring its competitiveness and using our harbor as an alternative to crowded roadways.
- ↳ **Taxing bunker fuel**, which is a major polluter on the working waterfront, using the dividends for grants to companies to upgrade to cleaner systems and a working waterfront infrastructure investment fund.¹⁰
- ↳ **Moving trucks off local streets** by opening perimeter highways (e.g., the Belt Parkway, Henry Hudson Parkway, and FDR Drive) to trucks and creating designated truck layover areas with electric hookups. This requires capital upgrades to bridges in several cases, but will be worth it in the end, as it reduces localized pollution and opens up road capacity in local neighborhoods that can be dedicated to the BRT network.¹¹

3. Build Up a Safe Public Realm in All Neighborhoods

Generally speaking, people want nicer and safer streets, more places to sit, more and better parks, less garbage on the sidewalk, less air pollution from idling vehicles, and more trees.

Despite its vital street life, New York City has not provided nearly enough high-quality, safe public spaces. As the automobile grew to dominate use of the streets in the second half of the 20th century, the informal use of streets as public gathering spaces ended.¹² The convenience of the automobile brought many benefits that we should not roll back. But that does not preclude providing new alternatives to car travel, to reclaim space that is marginal for automobile movement but central for pedestrian movement,

¹⁰ This requires State action.

¹¹ Bridges with limited clearances on parkways are viewable at http://www.nyc.gov/html/dot/downloads/pdf/lowbridges_citywide_map.pdf

¹² The dramatic transformation in attitudes about use of the street can be illustrated by Holly Whyte's "The Social Life of Small Urban Spaces" (1980) study of a block of East 101st Street in East Harlem.

or to enliven existing public spaces by making strategic trades of parking spaces for other kinds of valuable public amenities.¹³

Unfortunately, the media dialogue about improving the public realm has been driven by the assertion that bike lanes and a few new high-profile public spaces constitute a “war” on the car. Despite this media-driven reputation, bike lanes, protected pedestrian spaces, and new public plazas are generally popular. Several polls in 2011 and 2012 showed that a sizable majority of NYC residents support bike lanes.¹⁴ This finding is consistent for frequent Democratic primary voters as well.¹⁵ The high-profile pedestrian plaza in Times Square was found to be extremely popular among residents and area employees.¹⁶ Even new plazas in a range of neighborhoods, including Downtown Brooklyn, Corona, and Jackson Heights, were welcomed.

Elected officials receive many requests (even in the lowest-income districts) for making streets safer, repairing sidewalks, planting and maintaining trees, taking care of garbage, and addressing air quality issues like idling trucks. While local complaints about adding plazas, pedestrian islands, bike lanes, trash cans, trees, benches, bus stops, etc. garner media attention, and the occasional decision is reversed in the face of Not-in-My-Backyard (NIMBY) opposition, by and large, improvements to the public realm are generally welcomed. People vote with their feet.

New additions to the public realm have made the streets safer. Dozens of studies on remade streets have shown that pedestrians, bikers and motorists are safer on the same streets after the changes.¹⁷ The new traffic engineering approach the DOT is using is making the city safer, and public opinion seems to back the results (media feeding frenzies notwithstanding).

The evidence underlines that there is a desire for a more robust, safer public realm — shared space that is safe, lively, enjoyable, and well kept – often referred to in shorthand as “livable streets.” Even in a city renowned for its public space, most neighborhoods lack enough “robust public spaces” to come close to accommodating the demand for them.

¹³ A companion paper on the Toward a 21st Century City for All website (www.21cforall.org) examines the current condition of public space and allocation of street space, and proposes an agenda for the next administration. The recommendations therein (making the street planning process proactive and community based, setting ambitious goals for reducing injuries in traffic crashes, and reconsidering our approach to parking) are essential to the success of the next administration’s sustainability agenda.

¹⁴ *New York Times*, August 10-15, 2012 poll of 1,026 New York City residents: 66 percent think bicycle lanes are “good idea.” Marist College Institute for Public Opinion July 20-27, 2011 poll of 808 NYC adults: 66 percent “support bike lanes,” 55 percent believe bike lanes “make traffic better” or “make no difference”, 23 percent believe city should “decrease number of bike lanes.” Quinnipiac University Polling Institute conducted four polls in March, May, August & October 2011, which showed between 54 percent (March 2011) and 59 percent (July 2011) believe bike lanes are a “good thing” (Kazis 2011b).

¹⁵ Only 20 percent of “double primes” (voting in two of four of the last primaries) and 17 percent of “triple primes” said the city should “decrease the number of bike lanes” while 56 percent of double primes and 60 percent of triple primes said they “support bike lanes in New York City.” (Penn Schoen 2011)

¹⁶ A Quinnipiac poll found 58 percent of New Yorkers thought it was a good idea to close Broadway to cars and give more space to pedestrians. A DOT study found an 11 percent increase in pedestrian flow in Time Square and 42 percent of NYC residents surveyed in Times Square report shopping in the area more often. The Times Square Alliance found that 68 percent of the major commercial tenants and 63 percent of employees working in Times Square surveyed would like to see the plaza made permanent. 81 percent of NYC residents surveyed had a positive opinion of the plaza (Vanterpool 2011).

¹⁷ The July 2011 Marist College poll cited above found that New Yorkers find taxi drivers (78 percent) and car drivers (53 percent) to be “not respectful when sharing the roads” than bicyclists (46 percent), pedestrians (39 percent), and bus drivers (28 percent) (Kazis 2011a).

Answering the maintenance challenge: New York City Green Corps

Capital investment (which has been generously channeled into new waterfront parks in recent years) is not the biggest challenge to expanding the public realm in all neighborhoods. The biggest challenge is the maintenance cost of new spaces. Before any capital project receives the green light, the implementing agency must show how the improvement will be maintained: plants must be weeded and watered; trash must be cleared; and snow shoveled. However mundane these responsibilities might seem, the lack of a responsible party blocks many projects, as agencies fend off maintenance responsibilities for all but the most high-priority new projects.

Better-off neighborhoods have addressed this issue through Business Improvement Districts or benefits agreements with developers (e.g., the Times Square plazas and the Williamsburg waterfront esplanade, respectively) or by creating “maintenance agreements” that put the onus of cleaning and repair on private entities (e.g., the High Line). While these can be appropriate tools, they raise questions in their most aggressive form and may not always be possible in every circumstance, especially in lower-income neighborhoods that lack well-resourced organizations or for less high-profile projects. We must find creative ways to resource these public improvements without sacrificing the advances and public sector savings that public-private partnerships have brought.

Figure 9: The Jackson Heights Public Plaza (nicknamed “Diversity Plaza”) has become a gathering ground for the range of New Yorkers that live, work and shop in the neighborhood. Sanitation in the plaza was a sticking point early in the plaza until Council Member Daniel Dromm worked with local business leaders to create a stewardship group (Miller 2012b).



Photo: Clarence Eckerson, Jr.

For an administration that wants to invest in less-well-off neighborhoods, executing livable streets projects in a range of communities would have a big payoff (retail sales are up in areas surrounding the new public plazas) and they are generally well-received once they overcome the novelty of the space

and initial operational kinks (Fried 2012; Miller 2012b). But finding a funding stream for maintenance remains a major challenge.

A new program could take on the maintenance tasks of public spaces – the New York City Green Corps. The Green Corps would maintain new public plazas, green streets plantings, storm water-absorbing green infrastructure, and non-standard urban features such as pedestrian walkways and “step streets.” The Green Corps could also take on supplementary tasks in parks, graffiti removal, community beautification projects, operating community composting programs (described below), and working with neighborhood and business associations.¹⁸ New plazas in Queens required officials to cultivate civic capacity for maintenance – Green Corps workers could be placed in tandem with a Small Business Services grant to catalyze new merchants associations that can help plan, care for and program new public spaces and existing commercial corridors.

The positions in the Green Corps would largely be designed to be “transitional jobs” – paid, temporary (six months to one year) positions designed to build the skills of those seeking to re-enter the workforce. An existing civil service line called the “Job Training Program” was developed as a paid alternative to the Work Experience Program in the late 1990s. Most Corps jobs would be these lines, but workers could advance to a leadership position or post-employment placements.¹⁹ Placement would be paired with the local workforce linkage policies advocated in Laura Wolf-Power’s chapter in this volume.

Such an initiative would require some minimum appropriation of city tax-levy funds, but full funding could include repurposed water board revenue (for maintenance of green infrastructure), Federal workforce investment board & TANF funds, AmeriCorps VISTA funds, and matching funding (on a sliding scale) from partner BIDs and community organizations. Despite the cost of setting up such an initiative, it would satisfy a number of interests simultaneously. A great starting point for this is the Neighborhood Plaza Partnership, a new program that provides subsidized maintenance services, insurance and other overhead, capacity building and technical assistance for local plaza sponsors.

4. Green Buildings on Every Block

Seventy-five percent of all local GHG emissions either come from buildings or are emitted via power generation for those buildings (City of New York 2011). While New York City’s massive stock of multi-unit buildings takes less energy per unit to cool and heat than detached single-family buildings, its older building stock uses outdated technologies. There are enormous opportunities for retrofitting our buildings to use less energy. This is the place for New York to reap its biggest reductions in greenhouse gases.

The major challenge is that the inexpensive opportunities for retrofits are diffuse – buildings are largely privately owned and managed across a vast range of competencies. Further, new laws that mandate efficiency have tended to be modest in scope and exempt existing buildings from stricter standards. The

¹⁸ The New York City Community Cleanup, a project run by the Center for Court Innovation using federal Recovery Act funding from 2009 to 2011, provides a model for these how these tasks can work as part of a community partnership. See Herrschaft (2012) for details.

¹⁹ The Job Training Program is used in several agencies, including Parks (where it is called the “Parks Opportunity Program”), HRA, City of New York Department of Sanitation, and the Office of Environmental Remediation (where it is called the “Green Jobs Training Program”).

two advancements in recent years have been the adoption of some of the recommendations of the 2010 NYC Green Codes Task Force report, and the implementation of energy benchmarking for large buildings, neither of which compels significant retrofits to existing buildings.²⁰ A simple first step in advancing energy efficiency for the next mayor is to enact the original proposal for the “Greater, Greener Buildings” retro-commissioning law, which would have required all large commercial and residential buildings to implement energy efficiency measures that paid for themselves in less than seven years.

There is a fair reason to be cautious in decreeing new mandates for existing buildings. Most obviously, owners of existing buildings are a known political force. The incremental costs of environmental measures are higher in existing buildings than new buildings. The simplest and most cost-effective retrofits involve components that do not have a clear regulatory tripwire for implementing retrofits, such as window/door sealing and building envelope tightening, and would be difficult to enforce (hence the importance of benchmarking).

Several interconnected efforts can apply the carrot and stick in sufficient (and politically acceptable) amounts to achieve retrofits in a large scale across a range of building types.

Grassroots promotion of simple retrofit packages

The Pratt Center for Community Development, in its “Retrofit NYC Block-by-Block” program, pioneered an approach to grassroots canvassing of neighborhoods to identify opportunities to save energy and engage in retrofits.²¹ The program is run in partnership with six community groups in a range of diverse communities that work to make energy savings integral to the local culture of building stewardship. It confronts several challenges to greening buildings in New York – multifamily buildings that are idiosyncratically managed, a renter-dominated housing market, and a diverse population. The program has signed up 740 households for retrofit programs, created dozens of jobs, and incentivized several hundred thousand dollars of retrofits in only two years (Lennon 2013).

Pratt’s program confronted the complexity of the typical retrofit process that begins with an initial contact, follows up with an audit, and then forces an owner to make judgments among a long menu of possible options. The process needs to be simplified in order to take neighborhood-based retrofits to scale. While NYC has a diverse housing stock, on a single block, the housing tends to be of only a handful of types and ages. Therefore, it is possible to develop a simplified process that goes



Figure 10: Pratt’s Block by Block program signs up residents for retrofit packages using grassroots outreach through block-level promotion, civic events and even houses of worship.

²⁰ As of January 2013, of the 111 recommendations by the City Council and City Council, 35 were classified as “enacted,” four are in the works, and 42 are pending.

²¹ More information is available at <http://prattcenter.net>.

ahead and conducts a package of retrofits known to work based on a building's vintage, and by attaining cost efficiencies through combining groups of similar neighboring buildings into a single job. By eliminating audits, and presenting a simplified menu of measures known to be effective, the number of retrofits will dramatically increase.

End the City's subsidization of suburban energy conservation

It is not enough to have programs to bring information and guidance about retrofits and renewable energy to building owners and renters. The city must identify a significant amount of funding to help with those in economically-constraining circumstances as well as to invest in renewable energy generation. There is a ready pot of money in the form of the "Systems Benefits Charge" levied on every electric bill that goes to the NYS Energy Research & Development Authority (NYSERDA), but is spent on city programs in a much lower amount. One study by Borough President Scott Stringer found that \$342 million of this charge for renewable energy projects collected since 2004 came from New York City, but only \$8 million was reinvested in New York City projects (Yang 2011). In short, city energy users are funding suburban and rural programs. This funding could be repurposed for direct outreach and service programs in the city via the NYC Energy Efficiency corporation, recently set up to manage a stimulus-funded loan program for large building (read: professionally-managed) retrofits.

Get energy prices right to move the market

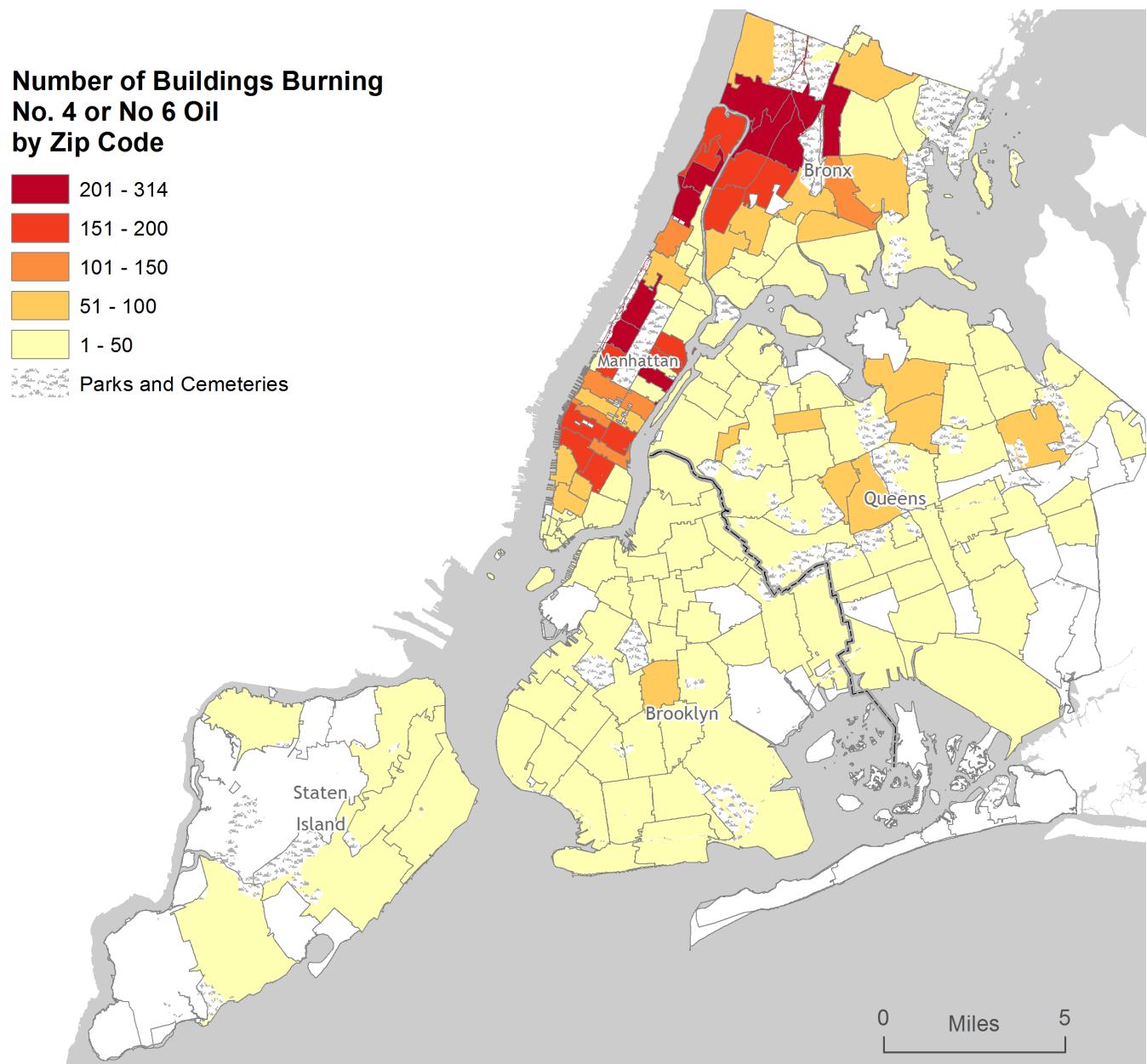
We not only need to make saving energy cheaper or simpler, we need to make more polluting forms of energy more expensive. Ideally, this is done through a national carbon price-setting scheme. However, on the local and state level, there are a number of policies that make the dirtiest forms of energy cheaper than alternatives.

The City Council passed a bill to phase out the use of the dirtiest "#6" heating oil (which is extremely high in sulfur, particulate matter, and heavy metals, and burned by many of the city's largest buildings) over the next three years.²² The law transitions buildings to a slightly less polluting version, #4 oil, which itself is scheduled to be phased out by 2030 in favor of cleaner natural gas and #2 oil. Combined with a 2 percent biodiesel mandate, large boilers in the city will get somewhat cleaner over the next two decades.

Despite this legislative achievement, #4 and #6 oils remain 30 to 90 cents per gallon cheaper than their cleaner alternatives (EPRINC 2011). Reversing this market condition would dramatically speed up conversions to cleaner fuels. However, phasing in a significant tax on these fuels would have significant negative impact on tenants and owners. Therefore the revenue from this tax should be dedicated to providing grants to convert boilers for buildings with low- and limited-income tenants and owners.²³ Deeper grants could be provided to buildings that adopt alternative energy systems or advanced efficiency measures. While this takes state action to implement, mayoral leadership would go a long way in clearing a path for this proposal.

²² #6 heating oil is a sludgy by-product of the refining process, whereas #2 oil is equivalent to diesel fuel. #4 is a mixture of the two products. Converting from #6 to #4 requires minimal boiler upgrades, whereas upgrading to a "flex-fuel" boiler that can handle natural gas or #2 oil is a more costly endeavor (Environmental Defense Fund 2009).

²³ Grants are preferable for means-tested programs such as that proposed here, because there may not be enough income tax liability to offset, implementing credits through the property tax system is unwieldy and opaque, and qualifications are more easily verifiable than through self-certification.

Figure 11: Number of buildings burning #4 or #6 oil by zip code.

Source: Author analysis of “NYC Clean Heat” data

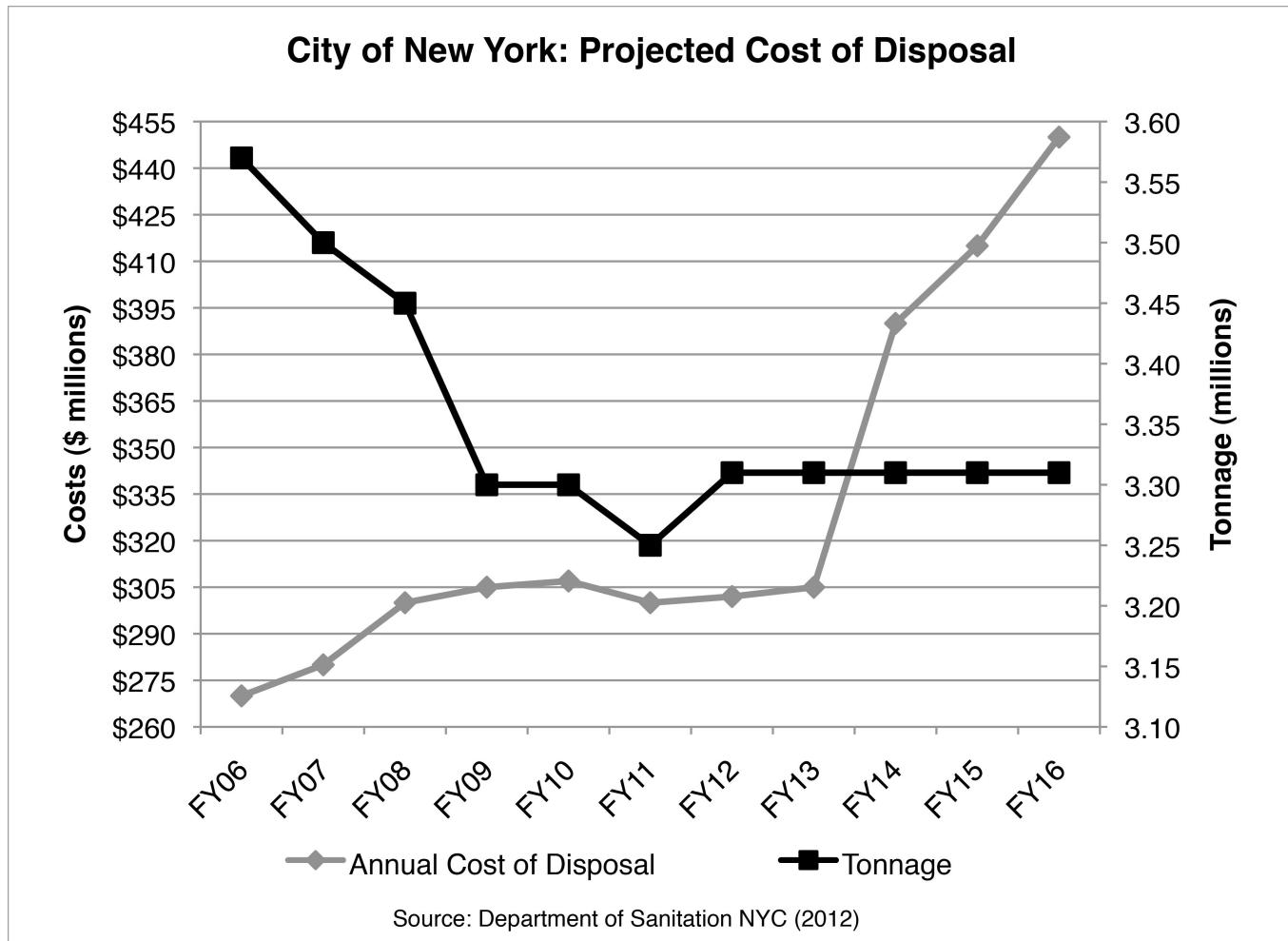
5. From Garbage to Good Jobs: Smarter Waste Management

The City of New York currently pays just shy of \$100 per ton to dispose of municipal solid waste in an out of state landfill (or incinerator), a number that will increase in the coming years (figure 12). That number, and its attendant political implications, will reshape the conventional approach and politics to how New York City deals with its waste.

We are falling behind our peer cities in managing waste more sustainably. San Francisco has a single contracted curbside hauler that picks up composted waste. Portland has successfully diverted so much of its compostables and recyclables that it has been able to reduce regular trash pickup to once every two weeks. A variety of cities have decided to simplify their collection strategy by switching to a “zero-

sort" collection method that has a single bin for recyclables, increasing the amount of materials recycled and reducing sort-based confusion.

Figure 12: The cost for landfill disposal is projected to skyrocket in coming years, providing a ready amount of money for waste reduction programs



Source: Department of Sanitation NYC (2012)

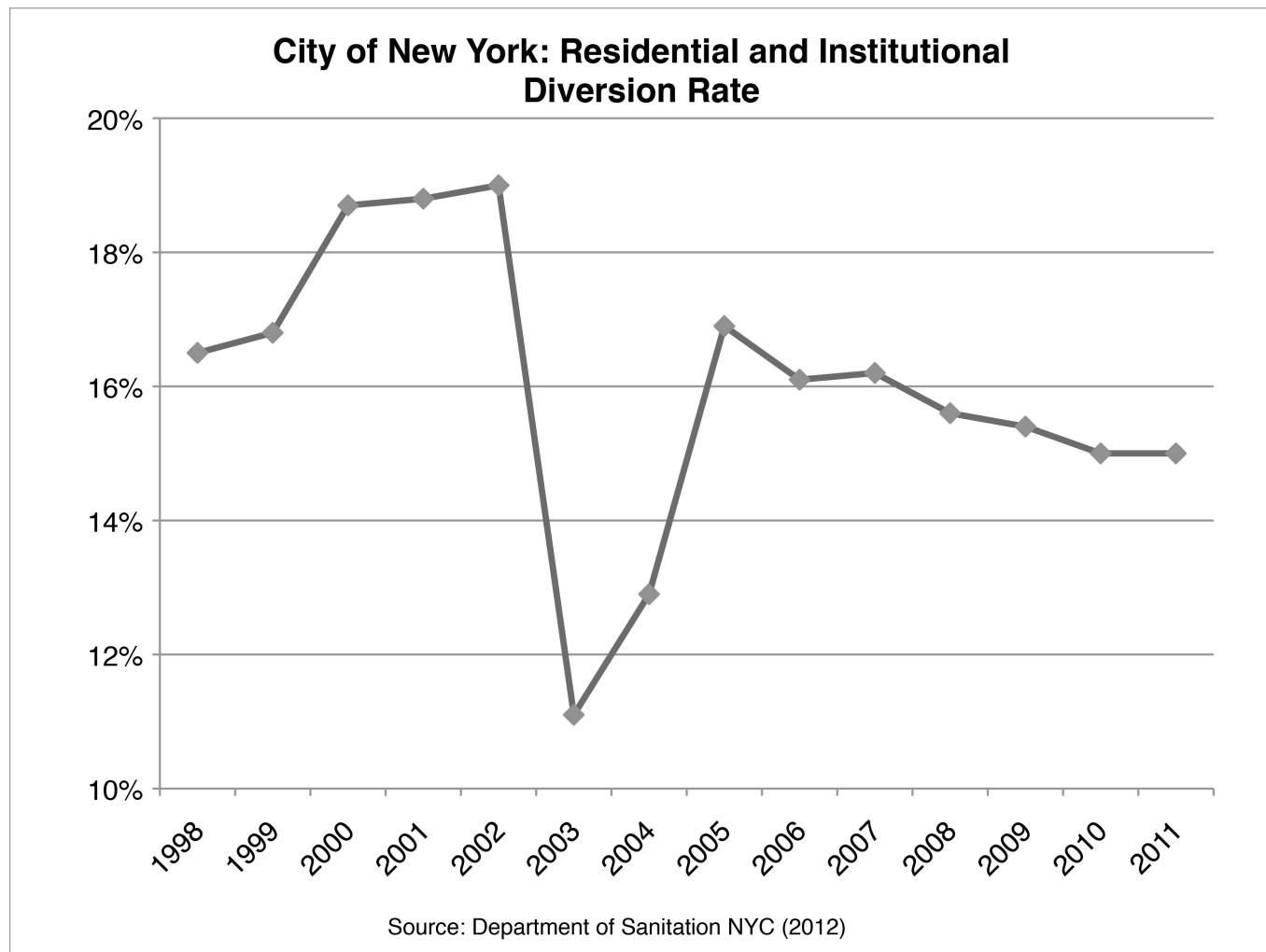
As a result of lack of innovation in this area, the city's residential recycling diversion rate is quite low. Only 15 percent of total residential waste is recycled (down from 19 percent in 2002), the lowest number since Mayor Bloomberg suspended glass and plastic recycling in 2003–2004 (figure 13).

New York City has a unique regulatory structure for its waste handling. The Department of Sanitation (DSNY) collects from residential and institutional facilities; commercial carting companies collect from commercial and industrial companies and are separately overseen by the Business Integrity Commission (BIC), which sets price ceilings. Because of this division, there has been almost no innovation in the commercial sector, where the public policy imperative has been to foster competition and support an across-the-board price ceiling at the expense of operational efficiency, neighborhood impacts and environmental goals. As a result, little is known about the commercial recycling rate.

Make recycling a top priority

City Hall can make handling our waste smarter by uniting the disconnected efforts between BIC and DSNY. This could be achieved by appointing a “Recycling & Waste Reduction Czar” that oversees and coordinates related divisions within the agencies from the Office of Long Term Planning and Sustainability or reporting directly to the deputy mayor for the Office of Operations. The position would raise the profile of recycling and waste reduction within the agencies, coordinate the actions of agency point people, like DSNY’s Deputy Commissioner for Sustainability, while giving greater range over commercial waste and agency procurement guidelines than currently is the focus.

Figure 13: Residential waste diversion plummeted following a temporary suspension of glass and plastic recycling and has not recovered to its pre-cut rate.



Source: Department of Sanitation NYC (2012)

The person charged with this position could (in addition to the initiatives outlined below):

- ↳ Re-examine the structure of the current residential recycling program, including examining zero-sort strategies;
- ↳ Dramatically step up recycling education efforts, including working more intensely with public schools and community partner organizations;

- ↳ Strategically target expansion of the recycling program to textiles and other opportunities within the residential and commercial waste stream; and
- ↳ Identify waste reduction opportunities by changing city policies around plastic bags, polystyrene, construction and demolition debris and other materials (through user charges, consumer deposits, manufacturer responsibility or outright bans) that are costly to transport to landfills and have known negative environmental and/or health effects.

These efforts are relatively low-cost, but any additional costs incurred (mostly on the collection side) would be easily covered if the Office of Management and Budget allows DSNY to create a budgetary framework where savings from landfill diversion are reinvested in recycling, composting, and other waste diversion efforts.

Revitalize commercial waste reduction efforts

We can drastically reduce a number of the impacts of commercial collection while increasing efficiency and sustainability without increasing cost. Currently, at least half a dozen companies visit a typical commercial block every night, causing noise and pollution from patchy, ineffective, and overlapping routes. We could rationalize this structure without sacrificing cost or integrity by using competitively-bid franchises that reduce trips and internalize savings from recycling and composting for all parties (including workers). This could begin as a pilot bidding out one or two zones, such as a Midtown Community District and a collection of outer borough commercial corridors, to franchises that maintain the overall price ceiling, but have significant incentives for businesses to pre-sort recyclables.²⁴ This could also include separate franchises for specific waste streams (compostable waste from restaurants, medical waste for hospitals, etc.).

The franchise model would incentivize companies to pre-sort materials, which would generate a greater number of more valuable recyclables.²⁵ This internalizes savings for both customers and companies. Since the private waste hauling industry is known for having low-road employment practices, applying labor standards could also help recapture some value for workers, as well as add labor allies to the list of proponents. If decreasing competitiveness in the hauling market remains concern as the program moves forward, the pilot zones can sit side-by-side with the existing price-ceiling per ton model so that commercial businesses have a choice of system in which to participate.

Divert reusable waste

It is not just enough to increase recycling. The raw material in our commercial and residential waste streams also contains valuable products. Because of the high cost of landfill disposal, any successful diversion programs pay for themselves, if the city allows savings to be reinvested.

The clearest place to start is organic materials, which comprise 39 percent of the waste stream, and about half of which is food scraps (DSNY 2005). The city has recently made strides in dramatically expanding voluntary drop off of compostables at neighborhood greenmarkets, a project funded initially by

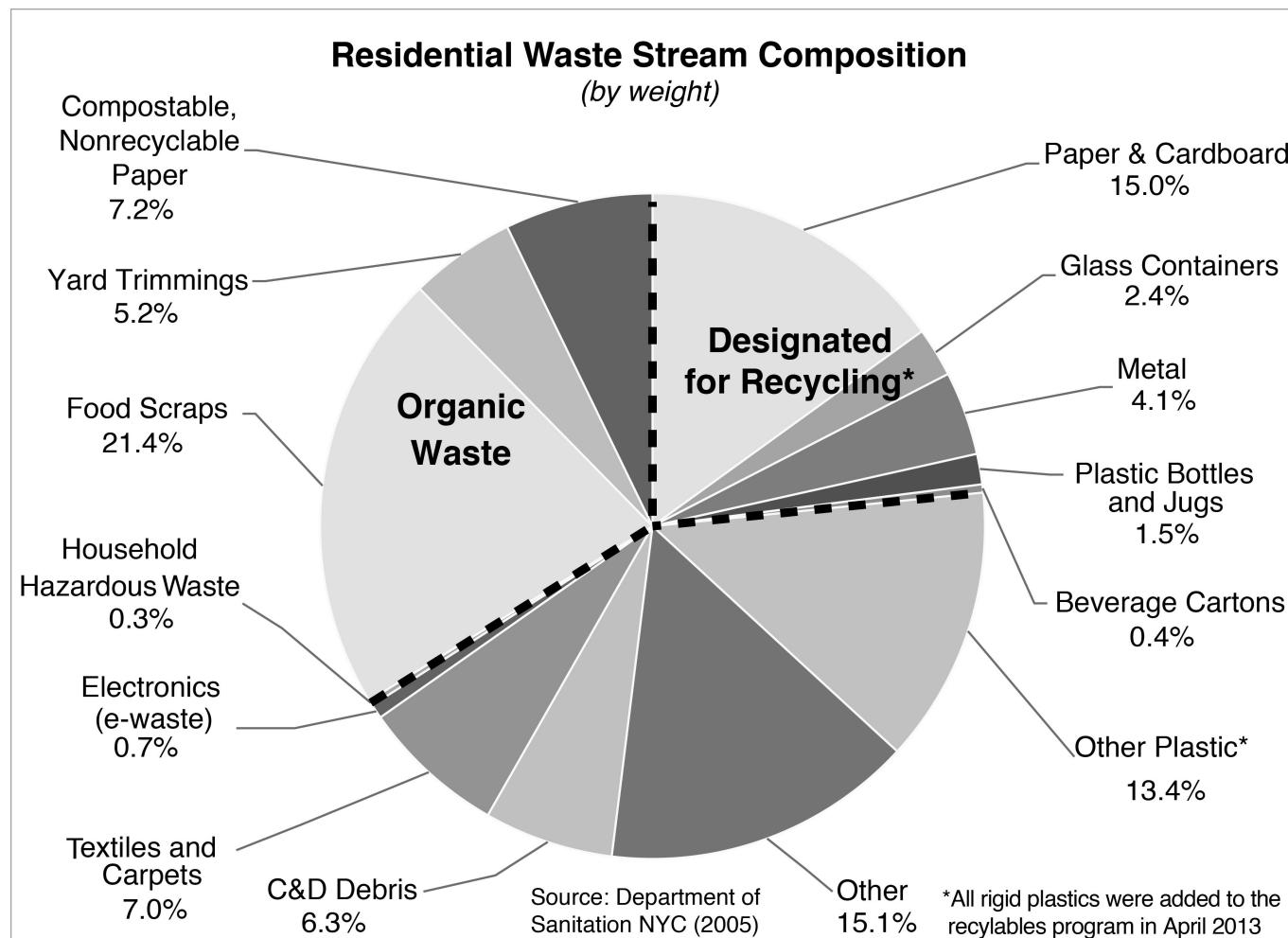
²⁴ New York's Business Integrity Commission is already authorized to have two pilot franchise zones, called "Special Trade Waste Areas" (NYC Ad. Code §16-523).

²⁵ Office paper is a valuable recyclable good, making large office buildings desirable for private carters to haul from, but the paper is often contaminated with food waste and liquid.

the City Council and operated by GrowNYC in conjunction with community-based compost sites around the city. This promising program can be further expanded to seed the behavior of collecting compostables among city residents before pursuing a more ambitious agenda in the coming years. The city can also expand this voluntary program to work with big institutions, such as hospitals, schools, colleges, corporate feeders, and large residential buildings to pilot organics separation and collection.

However, there is a major capacity issue in how much can be composted in the region. There are few facilities within the city and the closest major facility is in Wilmington, Delaware, which adds dramatically to the expense of composting. If more local compost facilities existed, the cost of compost collection would be dramatically lower than the current practice of landfill disposal, especially as tipping fees skyrocket over the next few years (finished compost is a fairly valuable product).

Figure 14: Residential Waste Stream Composition (by weight)



Several large municipal sites have permits to compost organic waste – Fresh Kills in Staten Island and Spring Creek in Brooklyn – that could be expanded and revitalized, but there is local opposition. We could address this by adopting local-hiring programs in composting facilities and opening several more on the principal of borough self-sufficiency (integral to the 2006 Solid Waste Management Plan described below). The city could also seed a number of medium-sized community-based composting programs, in the model of the Gowanus Canal Conservancy's partnership with DSNY to construct a

composting facility capable of taking 300 tons per year. Finally, the city could issue a long-term RFP to the private sector with the goal of seeding several composting facilities within or close to the city. Any siting effort should have a jobs component – some combination of local hiring, job standards, and placement of transitional job programs in facilities (as in the NYC Green Corps proposed above). Once the capacity issues are addressed, DSNY should pilot residential compost collection, refine the program and then take it citywide.

Beyond compostable organic waste, we can “close material loops” – find end users of waste materials. The city could conduct a raw material source study to find places where major types of waste generated here can be locally upcycled into high value-added products. IceStone in the Brooklyn Navy Yard turns recycled glass into high-end countertops and Pratt Industries on Staten Island turns waste paper into packaging material. Other possibilities include providing plastic feedstock to bag manufacturers, cotton rags into paper products, wood to furniture manufacturers, and diverting construction and demolition materials to reuse centers like Build It Green. While the chances for success in closing material loops locally are highest in industries where the end product is quite valuable, there are still chances to find beneficial reuses for lower-value-added purposes outside the city as well. This study should inform the city’s economic development strategies, particularly around the use of publicly owned industrial facilities such as the Brooklyn Army Terminal.

6. Healthier, Sustainable Food

New York City has been a cultural driver of national food trends for a long time, and has continued this role in spreading the “locavore” movement. Rooftop farms sprout atop Brooklyn factories, young local entrepreneurs introduce new kinds of artisanal pickles and peanut butter, the popularity of Latino food vendors at a Red Hook soccer field sprouted several formal businesses, and Community-Supported Agriculture collectives (CSAs) provide a share of a regional farm’s harvest to local families in many neighborhoods.

Despite this growing emphasis on local “foodsheds” and artisanal production, the benefits have yet to trickle down to most middle and low-income New Yorkers. Over 30 percent of NYC households live in food deserts – areas defined as having a “high need” for supermarkets.²⁶ As seen in figure 15, these food deserts correlate strongly with high-poverty areas – households in areas with a high need for supermarkets are three times as likely to receive SNAP

Figure 15: Lack of aggregate demand in poor neighborhoods is the main driver in creating food deserts. Current SNAP benefits ("Food Stamps") are not enough to attract supermarkets.

Supermarket Need Index and % of Households Receiving Supplemental Nutrition Assistance

(2006–2010 Estimate)

Supermarket Need	Households	% Receiving SNAP
High	953,988	27%
Moderate	807,275	13%
Low or None	1,285,986	10%

Source: Supermarket need index provided by NYC Department of City Planning, analysis of 2006–2010 ACS data by author.

²⁶ Author analysis of 2006-2010 American Community Survey tract-level data and NYC Department of City Planning Supermarket Need Index (see <http://www.nyc.gov/html/dcp/html/supermarket/index.shtml> for more information about the index).

("food stamps") as those in areas with sufficient supermarkets. This indicates that poverty is strongly associated with food deserts and that there is insufficient aggregate demand to attract grocery stores in neighborhoods with concentrated poverty.

The Bloomberg Administration's FRESH initiative has helped ease the costs of new supermarket construction by loosening zoning restrictions and offering advantageous financing in zones with a "high" and "moderate" supermarket need. However, efforts to attract supermarkets in food deserts must go beyond tinkering on the edges. Pennsylvania's "Fresh Food Financing Initiative" has created 88 new fresh-food outlets since 2004 (Food Trust 2004; ILSR 2010). New York's supply side efforts to address food deserts should copy this model and ensure that job quality standards are applied to all recipients.

This could be paired with an experimental effort to increase demand in food deserts. Currently, a single-parent family with a young child receives around \$40 a week on SNAP. An upgrade to the next USDA funding level would provide an additional \$20 a week at an annual cost of only \$1,000 (USDA 2012). Increasing SNAP to this next level for families with children under 18 in one or two food deserts for a couple years, combined with enhanced supermarket attraction efforts, might create a more functional food market and provide the healthy food to families in need of better food options.

The New York City public school system purchases huge amounts of food. While some steps have been taken to make the school food system healthier, much more can be done. The Brooklyn Food Coalition has issued a "Roadmap for Healthier, Sustainable School Food" that calls for a range of common sense steps in all schools, including:

- ↳ Increasing the local sourcing of fresh school food to 10 percent of food within some local foodshed;
- ↳ Improving access to salad bars, regularly offering fresh fruits and vegetables and dramatically reducing reliance on processed foods;
- ↳ Eliminating Styrofoam from cafeterias; and,
- ↳ Integrating food and nutrition education into school curricula.

Taking these steps would dramatically improve the health and sustainability of school lunches and would set a national example. Some of these steps require additional funding, but many can come through inter-district cooperation to bring procurement costs down, as the recently-formed Urban School Food Alliance aims to do (Watanabe 2013).

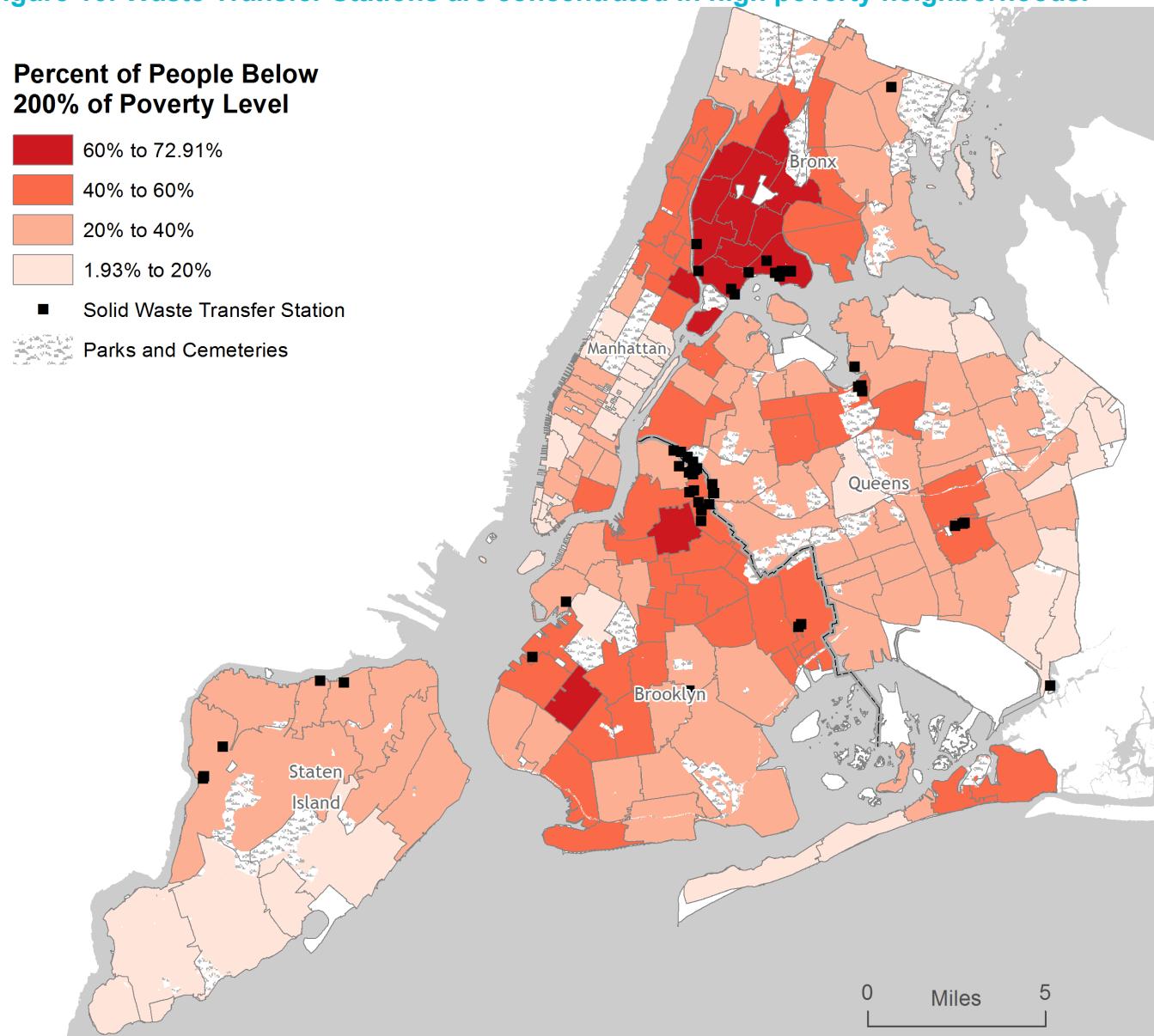
7. Lift the Environmental Burden from Low-Income Communities

Reform fair share to limit "least fair" sitings

The city's promise of the 1989 Charter's main Fair Share provisions, which were intended to spread the burdens and benefits of city facilities (libraries, waste transfer stations, and homeless shelters) fairly among neighborhoods, have yet to be fulfilled. A forthcoming analysis of siting of city facilities shows that over the past decade, high-poverty neighborhoods with pre-existing concentrations of locally undesirable facilities were the most likely to receive new facilities, even after accounting for local service need (Lander 2013).

The Fair Share system is badly broken. Agencies do not take their fair share requirements seriously. Few ever see the fair share statements city agencies are supposed to produce. Neither decision-makers nor the public get the data they need to objectively evaluate fair share claims. There is no consequence for unfair sitings. As a result, locally unwanted facilities, especially polluting facilities, continue to be concentrated in low-income communities of color.

Figure 16: Waste Transfer Stations are concentrated in high poverty neighborhoods.



Source: After Byron 2004

The regulations that implement “Fair Share” are primarily disclosure mechanisms. There are no mechanisms that restrict or even identify unfair sitings. Rather than tie agencies’ hands with a binding limit on sitings or set up a cumbersome point system, limiting the “least fair” sitings is a reasonable approach. This would force agencies to prove that sitings of facilities in neighborhoods with significant concentrations (for example, in the 25 percent of community districts that have the highest concentration of that category of facility) are in fact not furthering an unfair concentration. More substantive public review for these cases would need to be built into the system, by triggering heightened review by the

Comptroller or City Planning Commission. By limiting the ability to freely site facilities in the most concentrated neighborhoods, Fair Share can become a more meaningful concept.

Continue proactive efforts to reduce environmental injustice

The Solid Waste Management Plan, adopted in 2006, would lift the burden of the city's residential waste stream off of low-income neighborhoods that are host to most of the city's waste transfer stations (figure 16). The plan (passed by the New York City Council under a state-approved legal framework) would make each borough responsible for the export of its own waste. The city is investing hundreds of millions of dollars of capital funds into marine transfer stations (truck to barge) that will divert waste away from the current privately-owned land-based transfer stations (collection truck to interstate truck). This is a substantial legacy of the Bloomberg administration, but the plan was almost defunded in 2011 and it faces strong local resistance from wealthy host neighborhoods, especially the Upper East Side. It is critical that the facilities be completed and brought online in the next few years to further environmental justice.

This is not just a story of inequitable distribution of burdens. It is also about bringing locally-desirable facilities to underinvested communities. How do we bring more and better parks to communities that currently do not have them? PlaNYC laid the groundwork by offering metrics for playground availability and planting street trees in neighborhoods with little green space. The next administration can focus on extending this work by finding ways to create greener parks in low-income communities and bringing this approach to other desired municipal facilities.

Reconcile flood protection's relationship to disadvantaged neighborhoods

As Sandy showed so dramatically, climate change will impact neighborhoods unevenly, often in ways that exacerbate underlying inequality. So too might climate adaptation measures treat neighborhoods inequitably. Flood protection projects will inevitably leave some neighborhoods to the fate of the tides, especially when the value of land drives the need to protect that land. Many environmental justice communities are in floodplains, drawing the short straws on storm surge vulnerability and land value. Because many of these decisions about flood protection will be made at the state and federal level, it is important that the city be a protector of vulnerable neighborhoods.

The environmental justice movement has been raising concerns for several years (drawing on lessons from post-Katrina New Orleans) about the storage of toxic industrial products in floodplains near EJ communities (Bautista 2012). Zoning should be changed to address these concerns while balancing the need to retain jobs in low-lying manufacturing areas.

8. Towards a Sustainable 21st Century City for All

The agenda laid out here faces many challenges – interagency rivalries, city-state cooperation, myopic budgetary analyses, and parochial political concerns. The greatest challenge, though, is overcoming the shortness of vision that too often puts environmental efforts in a box that constrains their breadth, divorces them from other aspects of sustainability, and forces them into a troublesome blue versus green debate.

By linking environmental goals to a broader vision of sustainability – one that targets resources at the most vulnerable individuals and places and generates resources by penalizing harmful behavior – the local sustainability agenda becomes much more robust. It is not enough to prevent and adapt to climate change or minimize our ecological footprint. Because of its high levels of inequality, New York City must also embrace the economic and social aspects of sustainability. And because that inequality is spatially concentrated, we must lift the environmental burden on low-income communities and actively increase civic capacity.

Our response to climate change must be far-sighted, inclusive and equitable, and must not incentivize risky development patterns. We should connect sustainability efforts more tangibly to economic, community and workforce development through neighborhood partnerships that put the unemployed back to work improving public spaces and reducing our environmental footprint.

We should not ignore irrational incentives to pollute – be it the historical accident of which bridges the city built versus those built by the state built, and therefore where it is free to drive into Manhattan; the fact that the most polluting heating oils are much cheaper than widely used alternatives; or the fact that it is easier, but not cheaper to landfill the voluminous waste our society generates rather than recycle, reuse, or compost it. By raising these standards, we can raise revenue to assist those who are fiscally challenged in the form of grants to install energy saving technologies in homes, to invest in a new, sustainable transportation network, and to harness the economic value of the massive waste stream of the city's businesses and homes.

This agenda is not just about a cleaner, healthier city. It is rooted in the best of what New York offers – a robust public realm and mass transit system, dense living patterns, and the capacity for civic innovation — and using it to address the most persistent challenges flowing from the city's inequality. Hopefully in doing so, we can hasten a day where the city is fairer for all New Yorkers and ensure that more of us are here to see that day.

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