



PROGRESS REPORT 2014

A GREENER, GREATER NEW YORK
A STRONGER, MORE RESILIENT NEW YORK



The City of New York
Mayor Bill de Blasio

PROGRESS REPORT 2014

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Foreword by Bill de Blasio, Mayor of New York City

A VISION FOR A SUSTAINABLE AND RESILIENT NEW YORK CITY

New York City is at a pivotal and transformational point in its history. As a city, New York has the critical components to become the most sustainable, resilient city in the world: a committed citizenry, extensive public-sector resources, infrastructure expertise, access to private capital, strong labor unions, and science and technology innovators. New York Harbor is the cleanest it has been in the last century, and our air quality is fourth cleanest nationally. We are preparing for a future with climate change by making infrastructure investments and spurring economic growth in our most at-risk and vulnerable neighborhoods. We have the potential to be a global leader in the fight against climate change and its effects by committing to initiatives that conserve energy, reduce waste, increase affordable housing, and protect all New Yorkers through improvements to our built environment and natural defenses. In doing so, we will build New York City's green economy to create local jobs and stimulate further investment in our city's future. We will encourage all New Yorkers to take part in this movement and participate in strengthening our city for the challenges ahead.

Aging infrastructure, climate change, a fast-changing economy, and the critical need to preserve our environment combine to make urban sustainability and resiliency an urgent priority. Building on recent progress, we will expand and create new pathways to advance environmental and infrastructure initiatives and we will continue to work towards our goals of a sustainable and resilient city for all New Yorkers. We will provide more units of affordable housing for our increasing population. We will further reduce our city's carbon emissions. We will reduce energy consumption in our largest buildings, and we will continue to provide support to communities most affected by Hurricane Sandy as we will rebuild a stronger, more resilient New York.

In order to achieve these ambitious goals, we will need the involvement of every New Yorker, the ingenuity of forward-thinking, innovative agency and City leadership, and the partnership of private and public sector institutions, all of whom bring new perspectives and solutions to the challenges we face.

Together, we can build an equitable New York City that is sustainable and resilient for all residents and set a global example for an urban future.



Bill de Blasio, Mayor

Introduction

The City's PlaNYC Progress Report 2014 provides an update of what progress has been made since the previous year in the areas of sustainability and resiliency. This issue, the sixth progress report since the PlaNYC brand was created in 2007, features for the first time a progress report on the City's resiliency plan, A Stronger, More Resilient New York. This report is compiled and written by the Mayor's Office of Long-Term Planning and Sustainability and the newly-formed Mayor's Office of Recovery and Resiliency. It features information from City agencies that are responsible for the programs that improve the quality of life for all New Yorkers. These initiatives focus on New York City's environment, providing more housing, improving public space, and improving the way the City's infrastructure serves its residents, and increasing the City's resiliency to extreme weather events and climate change.

Following the maxim of what cannot be measured cannot be managed, the City's sustainability and resiliency initiatives are designed so that progress can be reported on an annual basis. The City strives to

make sure that its PlaNYC initiatives reflect the most up-to-date and robust data and information. Accordingly, the City issues an update to PlaNYC every four years, with the next update due out in 2015. This update process allows the city to be responsive to changing conditions and to continually serve the needs of all the City's citizens.

As shown in the following pages, the City has made tremendous progress since 2007 towards building a sustainable city. Over 800,000 trees have been planted, air quality is greatly improved, and carbon emissions have been reduced 19 percent.

Since last June's release of the City's first climate resiliency plan, much early progress has been achieved in strengthening the coastline, upgrading buildings, protecting infrastructure, and making neighborhoods safer and more vibrant.

However, much remains to be done to continue to build a truly sustainable and resilient New York. The City and of all of its agencies are committed to the actions required to accomplish that ambitious but necessary goal.

Progress

Our goals for achieving a greener, greater New York



Housing and Neighborhoods

Create homes for almost a million more New Yorkers while making housing and neighborhoods more affordable and sustainable



Transportation

Expand sustainable transportation choices and ensure the reliability and high quality of our transportation network



Parks and Public Space

Ensure all New Yorkers live within a 10-minute walk of a park



Energy

Reduce energy consumption and make our energy systems cleaner and more reliable



Brownfields

Clean up all contaminated land in New York City



Air Quality

Achieve the cleanest air quality of any big U.S. city



Waterways

Improve the quality of our waterways to increase opportunities for recreation and restore coastal ecosystems



Solid Waste

Divert 75% of our solid waste from landfills



Water Supply

Ensure the high quality and reliability of our water supply system



Climate Change

Reduce greenhouse gas emissions by over 30%

Increase the resiliency of our communities, natural systems, and infrastructure to climate risks



Housing and Neighborhoods

We recognize that strong neighborhoods are among our greatest assets. Each neighborhood has its own distinctive character, history, and culture; maintaining this diversity plays a vital role in the continuing health of the city. New York City must create and maintain sustainable, affordable neighborhoods that benefit all New Yorkers. Sustainability means not only more energy-efficient buildings, but also the walkability of our neighborhoods, the availability of choices for transportation, and access to employment opportunities and retail, including healthy food options.

PROGRESS UPDATE

Beyond code and law enforcement, the Department of Buildings (DOB) continues to do its part to support sustainability programs. For example, the department administers New York State's Solar Property Tax Abatement Program and Green Roof Tax Abatement Program, which helps eligible property owners offset the cost of their photovoltaic and green-roof installations. Plus, we have partnered with NYC Service in NYC °CoolRoofs, which helps building owners coat their roofs with a reflective material – thereby reducing the amount of heat absorbed, which can raise ambient air temperatures and contribute to greenhouse gas emissions.

Revitalizing economic development in all boroughs, highlight: Hunter's Point South

Over the past year, the New York City Economic Development Corporation (NYCEDC) has continued to facilitate the creation of new transit-oriented neighborhoods with affordable housing and community amenities on formerly underutilized sites. At Hunter's Point South in Queens, NYCEDC completed critical basic infrastructure work, including new roadways, sewers, and sidewalks, to pave the way for development on the site. NYCEDC completed work last summer on a 5.5 acre waterfront park that incorporates important resiliency elements to protect the site from flooding and to allow the site to drain quickly during climate-related events. These improvements, which constitute a \$66 million investment, will anchor future phases of the project, which will establish a new mixed-use neighborhood with a public school that opened for the 2013-2014 school year, retail, open space, and approximately 5,000 new units of housing, with a minimum of 60 percent affordable.

Developing sustainable neighborhoods with walkable destinations for retail and local services

In the past year, New York City Economic Development Corporation (NYCEDC) launched Staten Island Storefronts “Race for Space” competition to attract new retail to downtown Staten Island. The competition was designed to incentivize retail tenants to lease currently vacant ground floor retail space. NYCEDC announced nine winners of the competition. Collectively, these businesses, most of which are owned or operated by Staten Island residents, will receive \$425,000 and invest over \$11 million in their businesses. Of the nine businesses, two are currently open, and the others are anticipated to open in summer 2014. Competition prizes will be disbursed as the winners open for business.

Preserving housing through preventative action

The Housing Preservation and Development’s (HPD) Proactive Preservation Initiative exceeded the 2013 annual targets of buildings surveyed. Approximately 40 percent of buildings surveyed warrant enhanced enforcement actions such as roof to cellar inspections or litigation. Of those, about 35 percent have experienced a drop in violations.





Parks and Public Space

New York City's Department of Parks and Recreation (DPR) manages almost 30,000 acres of parks and natural areas, including 27 percent of the City's shoreline. In this role, DPR is instrumental in creating and maintaining health, open space, resiliency, and ecological goals. DPR completed seven PlaNYC milestones and added 109 acres of new parklands to New York City's park system (including 47 acres of land under water) in 2013.

PROGRESS UPDATE

Much of 2013 was spent recovering from Hurricane Sandy. The progress of which can be reviewed in the segment of this report on **A Stronger, More Resilient New York**.

Major park improvements throughout all boroughs

Parks completed phase one of Highland Park, which will enhance a major regional park for use by the public as well as improving its value as habitat and an ecological resource. Parks also began construction within Fort Washington Park, with new active recreation facilities slated to open to the public this spring. Wetland restoration has also been completed at Freshkills Park in Staten Island. The MillionTreesNYC program is 27 percent ahead of schedule, having planted over 830,000 trees and held numerous events to teach New Yorkers how to care for them. GreeNYC participated in the opening of Governor's Island Park, city-wide tree planting events. Year round, Birdie engaged with New Yorkers throughout

the city through attendance of a record-breaking number of community events in parks and public spaces. Our greenway network was expanded throughout the city. We have also supported DEP in reaching the City's storm water retention goals, designing and constructing over 600 bioswales and over 20 greenstreets on City streets, helping restore parkway landscapes such as the Belt Parkway, which suffered from Sandy, and researching how to better utilize parkland for stormwater management.

Creating destination level spaces

NYCEDC works with public and private partners to support New York City's parks and public spaces with programs to enhance recreation and economic activity. Specifically, continuing to create and upgrade flagship parks, such as Hunter's Point South Park in Queens where, in partnership with Parks NYCEDC completed construction of a new five-acre park in August 2013. In 2013, NYCEDC also completed construction of Steeplechase Plaza which features the restored B&B Carousel and a public plaza area, as well as the historic Parachute Jump, opened in May 2013 for the summer season. Representing a 2.2-acre expansion of the entertainment area along the Coney Island boardwalk, the park and carousel were highly utilized during the 2013 season. Despite weathering some damage from Sandy, the construction of the project was able to proceed on schedule. Progress continues to be made on the East River Waterfront Esplanade with the launch of excursion boating from Pier 15 commencing this May.

A portion of the Esplanade between Pier 35 and Pike Slip will be opened to the public by year's end and will include new basketball courts and a revitalized Pier 35. South Street Reconstruction, which spans from Old Slip to Fulton, is expected to begin in May 2014.

NYCEDC continues to support initiatives that increase opportunities for water-based recreation. In 2013, NYCEDC made significant progress activating West Harlem's Piers excursion boat pier and ferry barge. The facility is now part of NYCEDC's innovative DockNYC program which is designed to encourage and accommodate more dockings at several NYCEDC managed piers and docks. Lastly, NYCEDC supports New York City's parks and public spaces by re-imagining the public realm through the creation of a network of green corridors. Over the past year, a portion of the

East River Esplanade between the Battery Maritime Building (BMB) and Old Slip was completed, creating a continuous waterfront esplanade between the BMB and Fulton Street. At the South Bronx Greenway, three of the five phase one projects are complete (Lafayette Avenue, Hunts Point Avenue and Hunts Point Landing) and construction is underway on two final projects (Food Center Drive and Randall's Island Connector). Along the East Midtown Waterfront, construction is anticipated to begin this summer on the Waterside Pier (East 38th Street to East 41st Street) and will be open to the public in 2015. NYCEDC expects to complete its environmental review and receive permit approvals for the Outboard Detour Roadway (ODR) Esplanade (East 53rd Street to East 60th Street) and the UN Esplanade (East 41st Street to East 53rd Street) by the end of 2014.



Hunts Point youth learns how to water a street tree

Credit: DPR



Brownfields

Vacant contaminated land is clustered mainly in low income communities and represents thousands of lost opportunities for affordable housing, new businesses and permanent jobs in New York City. The disproportionate economic hardship and pollution that brownfields cause in disadvantaged neighborhoods is an important source of geographic and social inequality. The Mayor's Office of Environmental Remediation (OER) is working with community based organizations, government and industry to reverse decades of blight on these properties and help revitalize our communities.

PROGRESS UPDATE

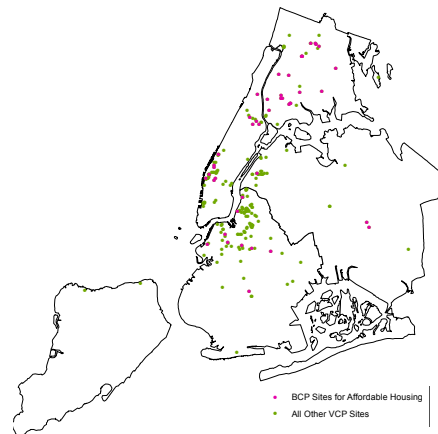
Brownfield Cleanup Program

OER has established over 30 programs and initiatives designed to eliminate land vacancy and pollution in low income communities. OER's NYC Brownfield Cleanup Program (BCP) — the nation's only municipal cleanup program — recently completed its third year of operation and is now cleaning up and redeveloping over 500 tax lots across all five boroughs. These properties had an average vacancy of almost two decades and approximately 70 percent are located in underserved communities. Collectively, these projects will enable 45 new affordable housing projects with approximately 3,900 new units of affordable housing, 6,400 permanent new jobs, 19,500 construction jobs and 16 million square feet

of new building space. With the BCP, OER is taking some of the most blighted properties in low income neighborhoods, cleaning them up, making them safer, and bringing affordable housing, new businesses, and new jobs right where they are needed the most.

Leveraging environmental cleanup to support affordable housing

OER recently created the NYC Affordable Housing Cleanup Fund using \$1.9 million in state and federal grants to support cleanup of affordable housing projects in disadvantaged communities and we are using other programs, like the NYC Clean Soil Bank to lower costs for affordable housing development. Collectively, OER's funding and cost saving measures are preserving existing City funds for affordable housing and enabling those funds to be used to build more new housing units.

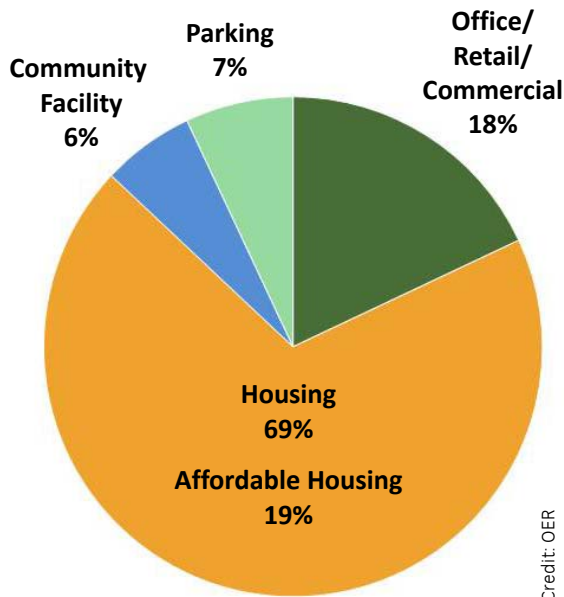


Credit: OER

NYC Voluntary Brownfield Cleanup Sites
The map shows the location of 45 affordable housing sites (in red) as well as total sites (in green). OER's cleanup and redevelopment programs are enabling the development of over 3,900 new affordable housing units.

Community planning for vacant land revitalization

To ensure citizens' ability to participate in vacant land revitalization in their neighborhoods, OER works closely with community based organization's in underserved areas to establish Community Designated Vacant Land Planning Areas. This formal designation allows OER for provide priority access to city resources and services to community based organizations, including community planning grants and technical assistance, in low income areas where land vacancy is highest and is causing the greatest harm. This program helps establish networks of community based organization's working together on grass roots planning for vacant land revitalization and now has a total of 36 areas designated in all five



Redevelopment in the NYC Brownfield Cleanup Program
This chart shows the usage breakdown of sites for redevelopment in the NYC Brownfield Cleanup Program.

Credit: OER

boroughs, including six in neighborhoods heavily damaged by Sandy. To encourage developers to work with community based organization's to build citizen supported projects like affordable housing, OER established Community Directed Brownfield Cleanup Grants and has earmarked over \$400,000 in funding for the first 12 projects. OER is also establishing online resources to help community based organization's develop plans to make their neighborhoods more resilient to climate change and associated severe weather events using \$440,000 in federal funding.

Strengthened cleanup standards

To lessen the impact of pollution in environmental justice communities in industrial waterfront areas during severe storms, OER has strengthened cleanup standards for shoreline industrial properties, and now offers free surveys of the climate change resilience on its development projects to educate the real estate industry on the most protective building design practices. We also established the *NYC Green Property Certification Program* and have now certified over 70 tax lots to encourage government oversight and higher quality cleanup of vacant land.

Workforce development

OER launched *BrownfieldWorks!* to place graduates of local workforce development programs in on-the-job training on cleanup projects. We provide grants to subsidize trainees salary to promote more placements and to maximize the success of these training opportunities, OER professional staff provide personal mentorship for these trainees.



Waterways

New York City has set substantial measures to safeguard 520 miles of New York City shoreline, promote public access to our waterfront, and improve the health of our wetlands through innovative stormwater management and wastewater treatment. The City has seen notable benefits from these far-reaching goals, and the New York Harbor is now the cleanest that it has been in the last century. The City and Department of Environmental Protection (DEP) continue to make cost-effective investments that protect the long-term sustainability of our coastal ecosystems.

PROGRESS UPDATE

Improving water and wastewater management

DEP has completed a number of grey infrastructure projects to protect the water quality and reduce combined sewer overflows, or CSOs, which occur during heavy rain events when stormwater and sanitary flow exceed sewer system capacity. In 2013, DEP finished installing new sanitary and sewer storm infrastructure in the areas surrounding Twin Ponds, Sheldon Avenue, and Richard Avenue. We have continued to mitigate flooding with accelerated sewer construction in particularly flood-prone areas, such as southeast Queens, with two such projects completed in 2013. The City cleaned more than 760 miles of sewers and expanded a pilot with sewer

manholes by installing an additional 64 sensors. These sensors wirelessly transmit data on wastewater elevation and allow us to proactively address potential sewer backups.

The final Manhattan stage of City Water Tunnel No. 3 was completed and activated in October 2013, allowing the tunnel to provide water to the entire borough of Manhattan for the first time. The activation provided crucial infrastructure redundancy and allowed the City to take Water Tunnel No. 1 offline for the first repairs since it began operation in 1917. The completion and activation of Water Tunnel No. 3 ensures that millions of New Yorkers have a reliable supply of water and it is one of the largest infrastructure projects in the City's history.



DPR restored Rockaway beach for summer 2013

Credit: DPR

Cleaner waterways

To reduce pollutants entering our waterways, DEP completed a \$237 million upgrade to the Wards Island Wastewater Treatment Plant that will decrease nitrogen discharges from the plant by nearly 50 percent. DEP is also in the process of upgrading the Avenue V Pumping Station. These projects demonstrate the City's commitment to sustaining public health while maximizing the ability to provide safe and reliable sewer services.

Green infrastructure

In addition to grey infrastructure projects, the City has worked to manage stormwater through green infrastructure initiatives like Bluebelts and bioswales. Through the NYC Green Infrastructure Plan published in 2010, the City aims to manage the first inch of rainfall from 10 percent of impervious surfaces through infiltration and detention techniques. In 2013, DEP expanded the City system of Bluebelt wetlands in southeast Queens and constructed more than 200 right of way bioswales in priority CSO tributary areas. The City also committed \$4.6 million to 11 grantees this past year through the Green Infrastructure Program, which has awarded \$11.5 million for 29 projects to date. On November 4, 2013, the City certified complete and issued the Final Generic Environmental Impact Statement for the Mid-Island Bluebelt. This issuance paves the way for various regulatory agencies to approve permits moving forward. We are proceeding with our first capital project, to be bid in the coming months, and we hope to break ground on the project by December 2014. Our acquisition is proceeding at pace and we continue to reach out to land owners

and other stakeholders to make negotiated sales. DOB and the Department of Finance are also collaborating to facilitate private sector incentives through the Green Roof Tax abatement program, which was renewed by the State in 2013 and includes new amendments that further encourage green roof construction.

Revitalizing key waterfront assets

Over the past year, the City has collaborated with Environmental Protection Agency, community partners, and other stakeholders to evaluate remediation options for two Superfund sites, the Gowanus Canal and Newtown Creek. We have worked with federal, state, and local partners to use novel remote-sensing datasets to identify the best opportunities for wetland restoration and protection. This past year, the City completed a number of projects to enhance and protect our wetlands, including major restoration in Paedergat Basin, a tributary of Jamaica Bay in southern Brooklyn. Our wetlands are integral to the ecological health of the City, and we have identified a number of sites for future aquatic habitat restoration.

Clean and vibrant waterways are key to the health and well-being of all New Yorkers. In 2014, the City will continue to minimize sewer overflows and improve the water quality in our waterways through targeted data analysis, improved grey infrastructure, and creative, cost-effective uses of green infrastructure. Through these major investments in conventional and natural systems that capture stormwater runoff, the City of New York will protect the vital resiliency, health, and cleanliness of our rivers and harbors.



Water Supply

As stewards of a water system that provides one billion gallons of water each day to more than eight and half million residents, we have a critical responsibility to support sustainable, cost-effective programs that maintain our award-winning, high-quality drinking water. We will continue to pursue initiatives that benefit all New Yorkers and maintain the availability and condition of our water supply in the present and future.

PROGRESS UPDATE

Significant progress on key water supply projects

In 2013, the City continued to implement the full extent of Filtration Avoidance Determination (FAD) programs to protect the quality of the city's water supply, such as acquiring undeveloped lands in the Catskill and Delaware watersheds. In August 2013, the New York State Department of Health issued a draft FAD for public comment and the City expects a final document to be issued later this year.

In October 2013, the City announced the completion of the \$1.6 billion Catskill/Delaware Ultraviolet Disinfection Facility in Eastview, NY, which provides an added layer of protection against pathogens and other harmful microorganisms. This facility, the largest of its kind in the world, is designed to treat more than two billion gallons of water each day. In addition, the City began initial start-up testing

and continued construction of the Croton Water Filtration Plant, another testament to the City's commitment to safe, high quality drinking water. In 2013, the Department of Environmental Protection (DEP) also completed a \$17.8 million upgrade to the Cross River Pumping Station to ensure that the city has a reliable source of drinking water in times of drought or scheduled water shortages. The rehabilitation work has more than doubled the station's capacity to pump water from the Croton Watershed to the Delaware Aqueduct.

On – or ahead of – schedule on major dam projects

In 2011, the City began a \$400 million project to reinforce Gilboa Dam with 234 million pounds of concrete, reconstruct the spillway, and install a new release tunnel around the dam from Schoharie Reservoir into Schoharie Creek. Reconstruction of the dam is the largest public works project in Schoharie County, and one of the largest in the entire Catskills region. The City expects to complete this project in 2014, two years ahead of schedule. In 2013, the City also launched the reconstruction contract for the New Croton Dam, which is expected to be complete in July 2016 at a cost of \$13.5 million.

Water supply improvement and demand management

Through the \$1.5 billion Water for the Future program, the City will repair leaking sections of the Delaware Aqueduct to provide reliable and clean drinking water for decades to come. In 2013, DEP began construction of shafts in Newburgh and Wappinger, NY. The City also broke ground on Shaft 4, which will connect the Catskill and Delaware aqueducts by 2016. This connection will allow DEP to repair the tunnel lining in the Catskill Aqueduct and move as much as 365 million gallons between aqueducts in anticipation of Delaware Aqueduct shutdown around 2021. In addition, DEP has launched a number of projects to increase water conservation and efficiency and meet the city's water supply needs in the most efficient manner possible. In 2013, DEP released the Water Demand Management Plan that identifies key strategies to reduce water demand in New York City by approximately 50 million gallons per day. We have launched the Municipal Water Efficiency Program and completed conservation retrofits in 16 schools, 12 fire houses, and over 100 spray showers. The overall program will target city-owned properties for water savings of nine million gallons per day and cost \$60 million by 2019.

Continuing major capital investments into water tunnels in all boroughs

The City has put significant capital investments into modernizing water distribution within the five boroughs. In October 2013, the City activated the Manhattan portion of Stage 2 of City Tunnel No. 3, providing water to all of Manhattan and offering critical infrastructure redundancy while Water Tunnel No. 1 is repaired for the first time since it began operations in 1917. In Brooklyn, DEP began water main construction in Coney Island and completed a \$14.5 million trunk main replacement on Atlantic Avenue. DEP also completed a \$33.5 million water main project on East 59th Street in Manhattan and invested \$30 million to improve distribution mains in Queens.



Catskill Delaware Ultraviolet Disinfection Facility

Credit: DEP



Transportation

New York's transportation network has supported generations of growth, vibrancy, and development. In PlaNYC 2007, we committed to make transportation in New York more sustainable, by reducing emissions and by prioritizing efficient modes of travel. In 2011, we broadened our focus to include equity, by expanding travel choices. Since that time, New York City Department of Transportation (DOT) has implemented programs that are transforming how New Yorkers experience their city, while managing competing demands and making our streets the safest of any big city in America.

PROGRESS UPDATE

Increasing street safety and access

DOT street design projects have transformed the City, dramatically increasing safety for all road users, providing better travel options, and re-imagining streets as great public places. At locations where DOT has made engineering changes to the streets – everything from bike lanes to Select Bus Service (SBS) stations to pedestrian islands – crashes have dropped 34 percent. In partnership with the Metropolitan Transit Authority (MTA), DOT has launched SBS, New York's brand of bus rapid transit, on three more corridors in the Bronx, Brooklyn, and Staten Island, serving. These routes alone have improved

travel times by 20 percent for 95,000 daily riders. New pedestrian plazas have breathed life into neighborhoods, creating focal points for social activity and commerce. WalkNYC, New York's pedestrian wayfinding system brings clarity to visitors and locals alike. Strategic investments in cycling infrastructure have led to a four-fold increase in cycling in New York in the past decade, offering New Yorkers new ways to get around the city, connect to transit and get to work. New York's innovative bike lane network also provided the foundation for the success of CitiBike, North America's largest bike share system, with 6,000 bikes serving up to 40,000 daily trips. All of these systems increase New Yorkers' sustainable transportation choices while reducing congestion.

Reducing congestion on roads, rail and air

Congestion reduction, in turn, makes it easier to move freight into and around New York. The New York City Economic Development Corporation (NYCEDC) supports efforts to reduce congestion on our roads, bridges and at our airports through a variety of projects that improve freight movement and improve our gateways to the nation and the world. To increase capacity for receiving more inbound freight trains at Hunts Point when future demand for rail service increases, NYCEDC achieved two milestones (1) NYCEDC obligated a \$10 million federal TIGER grant to be deployed as part of an overall \$22 million rail infrastructure project; and (2) NYCEDC completed conceptual design of the improvements.

The first major set of improvements – rehabilitating rail spurs at the Hunts Point Produce Market – is slated to begin construction this summer. The second major set of improvements – installing new rail infrastructure – has moved into the next stage of design.

In an effort to establish new rail transfer hubs in Brooklyn and Staten Island, NYCEDC is in discussions with a potential operator to develop a rail transload facility on a vacant parcel of land at the 65th Street Rail Yard in Sunset Park, Brooklyn. Following the development of a conceptual plan for the new facility, an Environmental Assessment will kick off later this year. At JFK International Airport, NYCEDC will work with the Port Authority as the Port Authority reinvests in the infrastructure needed to grow the air cargo industry, a vital and growing employment sector for New Yorkers. DOT and the MTA will need the resources to continually maintain our transit system, bridges and streets so the benefits of these improvements are available to future generations of New Yorkers.

As the city grows, and the numbers of pedestrians, cyclists, drivers, and transit riders increase, DOT is committed to Mayor de Blasio's Vision Zero initiative, which aims to eliminate traffic-related deaths and injuries, by building on our ongoing success at transforming the streets. The programs highlighted in PlaNYC improve sustainability and expand travel choices, and have the added benefit of making streets safer.

Electric vehicles

The City fleet operates over 600 plug in electric vehicles and 153 charging stations, the largest single charging network in New York State. The electric fleet will soon increase with 58 new Nissan Leafs and GM Volts and, in partnership with Zipcar, a test of the company's first all-electric cars in New York City. In an effort to create consumer engagement, GreeNYC developed and produced signage to alert drivers to locations of charging stations as well as bumper stickers to alert drivers to the city's growing fleet of electric vehicles. The City is also testing electric taxis. Converting each taxi to an electric vehicle would take the pollution equivalent of seven cars off the road.

It is also becoming easier for New York residents to drive electric as well. In December the City Council passed a law that requires 20 percent of new off street parking to be built "charger ready". This will create several thousand parking spots over the next ten years that have the electrical capacity to easily install chargers. New York now has over 260 public chargers available, and in the last year added two quick chargers capable of charging a car's battery to 80 percent in 30 minutes or less. The City is also adding nearly 30 chargers to 10 of its public parking garages and parking lots.



Energy

A commitment to sustainable energy policy and programs remains a top priority for New York City. Major milestones have recently been achieved, but there is much work to be accomplished.

PROGRESS UPDATE

Leader in energy policy

With the release of the second Local Law 84 New York City Benchmarking Report in September 2013, and the third report this spring, New York City is the first U.S. city to provide analysis on multiple years' worth of energy and water use data for more than 8,000 private sector properties. The City also publicly disclosed residential energy and water use data for the first time online in September 2013 and will disclose data for all property uses again in the fall of 2014. The City is in partnership with New York University's Center for Urban Science and Progress (CUSP) on projects that will analyze the data with other information to provide a broader picture of energy efficiency opportunities citywide. At the national level, the City contributed anonymized data-sharing efforts through the Building Performance Database, a national data-sharing platform in partnership with the U.S. Department of Energy (DOE). In addition, through the Urban Sustainability Directors Network, the City joined a community of benchmarking municipalities to exchange best practices and lessons.

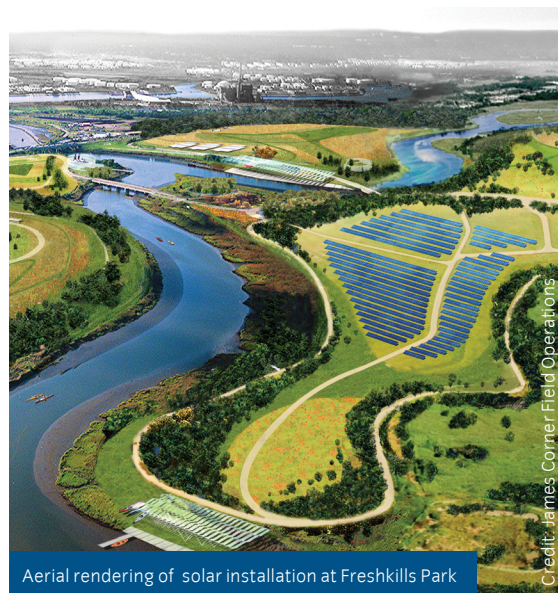


In a parallel effort, Local Law 87 of 2009 requires buildings larger than 50,000 square feet to meet new energy audit and retro-commissioning requirements and report on these once every ten years. For the first time, the City collected Local Law 87 energy efficiency reports from hundreds of building owners at the end of 2013. Detailed information from the reports on building equipment and recommended actions taken to optimize building performance will provide valuable insight into which properties stand to benefit the most from financial and technical assistance. Recognizing that numerous, existing resources are available but difficult to access, the Mayor's Office, in partnership with the New York State Energy Research and Development Authority (NYSERDA) is working to identify and consolidate resources to facilitate energy efficiency upgrades and support an emerging market in retrofits that will save building owners and tenants in costs and improve quality of life.

Green building codes

The City is greening its building codes and continuing to enact sustainable recommendations made by the New York City Green Codes Task Force (GCTF). Since GCTF was convened in 2008, New York City has implemented 48 out of 111 proposals. An expansion of boiler efficiency testing and tuning in February 2014, promoted more efficient performance, lower heating costs, and cleaner air. Nine additional GCTF recommendations were introduced as bills in the 2014 legislation session.

The NYC Department of Buildings' (DOB) core mission is to advance public safety, enforce the laws that govern construction and facilitate compliant development. To support that effort, the NYC Energy Conservation Code (Energy Code or NYCECC) is one of the five codes that comprise the NYC Construction Codes, and enforcement is headed up by DOB. NYCECC enforcement has been strengthened by dedicating a team of plan examiners to review proposed projects for Energy Code compliance. The team conducts intensive reviews of all applications for new buildings and major renovations and collaborates with design professionals to bring projects into compliance. This new protocol is expected to increase NYCECC compliance for thousands of projects annually in New York City, supporting the DOE's nationwide goal to have all projects substantially code compliant by 2017.



Aerial rendering of solar installation at Freshkills Park

Credit: James Corner Field Operations

Expanding Carbon Challenge

The City recently expanded the NYC Carbon Challenge for Multifamily Buildings. Fourteen property management firms have joined the Challenge, pledging to reduce greenhouse gas (GHG) emissions from a selected portfolio of the buildings they manage by 30 percent in ten years and are projected to sign up between 200 and 500 individual buildings. The Mayor's Office collaborated with the universities participating in the NYC Carbon Challenge to develop a GreeNYC behavior change campaign that encouraged students to reduce energy use to help their schools achieve their carbon reduction goals. The campaign included custom animations featuring GreeNYC's mascot Birdie that were screened in cafeterias and common spaces on campus. Prompts were created and placed next to light switches in dorm rooms to remind students to turn off the lights when leaving the room. In 2013, five universities screened the animations on campus, where they were seen by an estimated 30,000 people; the light switch stickers were distributed to seven universities and three hospitals, where they were installed adjacent to 17,500 light switches; universities hosted events with Birdie and students; and five universities used customized GreeNYC-branded email blasts to promote energy efficient behaviors to roughly 95,000 students.

Educating the public on energy efficiency

In addition to GreeNYC's marketing campaigns, the City is adding opportunities to educate the public in energy efficiency with the launch of Green Light New York (GLNY), an energy efficiency education center for building professionals. GLNY, which held classes and events for nearly 2,000 people before its doors officially opened in December 2013, began holding training classes in its new location in early April 2014 as part of Phase 1 of the resource center. A report on the energy savings potential of retrofitting advanced lighting controls in office buildings was conducted and released in January 2013, resulting in two demonstration projects for advanced lighting systems.

Renewable energy

The City selected SunEdison to develop its largest solar photovoltaic (PV) system at the former Freshkills landfill in Staten Island, which will increase the City's renewable energy capacity by 50 percent. This system will be built, owned, and operated by SunEdison, who will also sell the energy generated to a third party. Approximately 47 acres of land will be leased to SunEdison, which was selected through a public bidding process to design, construct, install and operate a solar power facility with the potential to generate up to 10 megawatts of power – five times more than any solar energy system in the city and enough to power approximately 2,000 homes. The solar power system will be an integral part of the Freshkills Park, and will increase the City's current renewable energy capacity by 50 percent.

In partnership with National Grid, one of the City's two natural gas utilities, the City developed a project to reuse gas from the Newtown Creek wastewater processing plant, the City's largest such treatment facility. This innovative project will permit on-site capture and beneficial use of natural gas that would have to be flared into the atmosphere, or otherwise disposed of without deriving any economic value. The gas to be reinjected into the National Grid distribution network will serve natural gas heating customers in Brooklyn, Staten Island and most of Queens, while also reducing GHG.

The City continues to work cooperatively with the New York Power Authority and Consolidated Edison, Inc. (ConEd) to obtain a U.S. Department of Interior lease to support the installation of large-scale wind turbines in federal offshore waters. Such a wind farm, projected to be located only some 20 miles from the Battery, would offer the prospect of a very large-scale renewable power source in close proximity to the City. With an anticipated output of 350 to 700 megawatts, this installation would therefore directly benefit the New York City area, which has long been underserved by renewables due to existing transmission limitations between upstate and downstate New York State. The Department of Interior has issued a statement of competitive interest for offshore wind farm applications, and now has an active agency review process under way. The City will continue to advocate for approval of the New York State lease application, and seek to bring the project to completion.

Utility rate case

The City, Con Edison, and the Public Service Commission recently entered into a multi-year rate case settlement for electricity, steam and natural gas rates. This agreement essentially holds Con Edison delivery costs flat for the next few years, thereby providing a material benefit to consumer and business ratepayers. At the same time, the settlement terms will ensure that the most critical Con Edison facilities such as substations and other infrastructure elements will be hardened and made sufficiently resilient to meet the latest federal flooding projections. The City, ConEd and Public Service staff will continue to meet and confer to address the implications of adverse climate conditions, including severe and protracted heat waves that we may face in future summers when peak demand largely driven by air conditioning use puts the greatest strain on our electric system.



Credit: John Lee

Government leading by example

In order to accelerate achievement of the 30x17 goal, this year New York City government developed and launched a number of new interagency competitive programs to support visionary leadership in energy sustainability and fund cost-effective energy efficiency activity. These programs include Accelerated Conservation and Efficiency Program (ACE), a competitive program providing funding for agencies to implement quick energy efficiency and clean heat retrofits, and Expenses for Conservation and Efficiency Leadership (ExCEL), which funds energy efficiency operations and maintenance measures, tools and equipment to assist facilities personnel, training programs, and outreach and communication efforts for awareness activities. A third program, the Energy Smart Competition, incents energy efficient behavior by rewarding agencies with the largest energy reductions in their utility bills. These new programs and others launching in 2014 are helping the City to drive down energy costs in a competitive cost-effective way while transforming its energy operations.



Air Quality

New York City currently has the cleanest air quality in over 50 years, nationally now ranking 4th cleanest air up from 7th the previous year. Improving New York City's air quality is a top priority and a major health consideration. To better understand levels of harmful air pollutants throughout the City and the local sources that contribute to poor air quality, in partnership with Queens College, the City launched the New York City Community Air Survey (NYCCAS), a first of its kind urban air monitoring program. Using air quality monitors mounted on lamp posts, city researchers collect data on levels of common combustion related pollutants, including fine particulate matter (PM2.5), oxides of nitrogen (NOx), sulfur dioxide (SOx), ozone (O3), and elemental carbon (EC) and evaluate sources that contribute to neighborhood air pollution. These results have allowed the City to identify important local sources of air pollution and develop targeted policies to reduce their emissions. Within a year, a key finding was revealed showing that emissions from burning residual oil (#4 and #6 oil) were large contributors to air pollution in areas of the city with many large buildings. These findings

informed changes to local and state regulations requiring cleaner heating fuels as well as the Clean Heat program to assist building owners in the conversion to cleaner fuels and equipment.

PROGRESS UPDATE

A September 2013 air quality report showed that these programs are working to provide cleaner air for New Yorkers. SOx concentrations (generated from the burning of sulfur containing fuels), fell by 69 percent from Winter 2008-2009 to Winter 2012-2013 while levels of nickel in fine particulate matter (an indicator of residual oil combustion (PM)) declined by 35 percent. Neighborhoods with the greatest reductions in emissions from boiler conversions and fuel sulfur restrictions saw the greatest improvement in air quality. In addition to neighborhood level improvements documented by NYCCAS, State regulatory monitors showed a 23 percent improvement in annual average city-wide PM2.5 concentrations in 2009-2011 relative to 2005-2007, due to actions taken at the federal, state, and local level. We estimate that these improvements contribute to 780 fewer deaths and over 2,000 fewer emergency department visits and hospitalizations for respiratory and cardiovascular causes each year. Due to a larger proportion of susceptible residents, the largest share of these benefits will be realized in low income neighborhoods.

Building on these successes, the NYCCAS team has been monitoring additional pollutants and exposures while using data for health effects research. A 2012 NYCCAS report showed large neighborhood differences in levels of common, carcinogenic air toxics including benzene and formaldehyde, mainly due to differences in traffic density at different locations. An early 2014 report of noise levels at NYCCAS monitor locations throughout the city, described ambient noise levels throughout the city. Noise levels often exceeded health protection guidelines set by the U.S. Environmental Protection Agency (EPA) and World Health Organization; locations with high noise levels tend to have higher concentrations of air pollutants. Several new monitors are being added to the NYCCAS network that will allow us to measure daily particulate matter concentrations near street level in real time. These instruments will help us evaluate short-term elevations in

PM2.5 concentrations selected locations, such as those impacted by high traffic, and in emergency response situations.

NYCCAS data is being used in scientific studies to improve our knowledge of air pollution health effects in New York City. Researchers at the Department of Health and Mental Hygiene (DOHMH), along with academic collaborators, are studying the association between air pollution exposure and birth outcomes among mothers across the city. A publication detailing the findings of this study was released in 2013, showing that higher exposures to PM2.5 and NOx among NYC mothers were associated with lower birth weights. DOHMH has also begun using NYCCAS data in an EPA-funded research study to determine if established relationships of air pollution and cardiovascular events vary across neighborhoods with different air quality profiles.



Staff calibrate real-time air quality instruments

Credit: DOHMH



Solid Waste

New York City's Solid Waste Management Plan (SWMP) will reduce annual greenhouse gas (GHG) emissions by 34,000 tons and annual truck travel by 60 million miles and diverting 2,000 tons of waste per day from land-based solid waste transfer stations in Brooklyn and Queens to marine transfer stations. Continuing this program and establishing an aggressive sustainability agenda will position New York City to address one of the biggest challenges facing major cities: managing solid waste.



Collection from new public recycling bins

PROGRESS UPDATE

Cutting DSNY fleet emissions

By installing diesel particulate filters on collection trucks and replacing older, more polluting trucks with cleaner, more advanced models, the City of New York Department of Sanitation (DSNY) has reduced the overall particulate matter emissions of its fleet by 80 percent and cut nitrogen oxide (NOx) emissions by 50 percent since 2005.

Recycling and waste reduction initiatives

The City in partnership with Sims Municipal Recycling (SIMS) opened the state-of-the-art Materials Recovery Facility at the South Brooklyn Marine Terminal, a primary barge-fed facility which will optically sort metal, glass, and plastic received from the City. With the opening of the Sims facility, DSNY expanded the curbside recycling program to include all rigid plastics, the first expansion of the program in more than 20 years. To increase the diversion of organic material in the City's waste stream, DSNY launched a voluntary residential organics recycling program in parts of Staten Island, Brooklyn, and the Bronx. The program is expected to serve 100,000 households by June 2014. DSNY also expanded the school food waste composting pilot to 400 public schools in all five boroughs in 2013. The food waste from some schools is processed by Waste Management and added to the anaerobic digester eggs at Newtown Creek Wastewater Treatment Plant to increase the production of biogas at the facility.

The City added more public space recycling bins in all five boroughs this year, bringing the total number of bins to 2,190. DSNY increased the number of textile and used clothing drop off-sites in buildings and public spaces across all boroughs this year. The City also holds at least one SAFE (solvents, automotive, flammable, electronics) disposal event per year for household hazardous waste and electronics in each borough and will continue to do so in the upcoming year. In 2013, DSNY also launched e-cycleNYC, which provides safe and convenient on-site electronics recycling for residential buildings with 10 or more units. In partnership with DSNY and the Department of Parks and Recreation (DPR), a GreeNYC branded effort to promote MulchFest (the city's Christmas tree recycling) saw a record number of trees diverted from landfill. To decrease the amount of paper waste

generated by residents, GreeNYC continued to offer its "Stop Junk Mail" tool on nyc.gov/greenyc. To date, New Yorkers signing out of unwanted mail has reduced 5 million pounds of paper waste.

Legislative accomplishments

Working with DSNY to drive forward some of the country's most aggressive solid waste legislation, the City Council enacted a law in December 2013 requiring large-scale commercial generators of organic waste to have separate collection of their organic streams to begin in July 2015. Also this past December, the City Council enacted a law in which bans the sale of most expanded polystyrene (or foam) products beginning July 2015, unless the packaging industry demonstrates that these products can be recycled.





Food Waste Challenge

The City launched the Food Waste Challenge, a voluntary program to reduce GHG-producing land-fill waste and increase organic waste diversion in April 2013. The program reduced waste by 2,500 tons – the largest single source of food waste diversion – in just the first six months. Furthermore, more than half of the more than 100 participating restaurants successfully completed the program and collectively reached the program goal of diverting 50 percent of food waste. More than one-quarter of the diverted material was edible food donated to City food banks. In the coming year, the City is considering expanding the program to include businesses from other sectors, including hotels, supermarkets and stadiums, as part of an effort to assist and accelerate compliance with Local Law 146 (2013). This mandate requires businesses generating more than one ton of food waste per week to source separate and divert their organic waste and is expected to drive development of local organic waste processing capacity.



Climate Change

GREENHOUSE GAS MITIGATION

New York City set an ambitious goal to reduce citywide greenhouse gas (GHG) emissions by 30 percent below 2005 levels by 2030 (30 by 30). In just seven years, the City has reduced emissions 19 percent and is now almost two-thirds of the way toward achieving the 30 by 30 goal.

PROGRESS UPDATE

The City has taken unprecedented steps to accelerate citywide emissions reductions by facilitating cleaner generation of electricity and steam, reducing the amount of heavy heating oils used in buildings, increasing energy efficiency in buildings, and leading by example through City government operations.

As the most recent GHG inventory has shown, the city has reduced emissions from municipal buildings and City operations by 19 percent and is on track to meet the goal of a 30 percent reduction in City government emissions by 2017. These efforts have contributed to the cleanest New York City air quality in over fifty years and a fourth place national air quality ranking.

To chart a path to deeper carbon reductions, the City evaluated the feasibility of a deep reduction of New York City's GHG emissions by mid-century, the goal set by the United Nation's Framework on Climate Change to prevent "dangerous anthropogenic interference with the climate system." The report finds that investments in building energy efficiency, a cleaner power sector, new modes of transportation, and new practices in waste management are necessary for deep emissions reductions.

As a response, the City launched new and expanded programs to help property owners and developers invest in energy efficiency and cut energy waste in buildings, which account for over 75 percent of citywide emissions. These efforts include expanding the Carbon Challenge to multifamily buildings to address the fact that residential buildings are the single largest source of GHG emissions in New York City, accounting for 37 percent of emissions. The City also deployed \$50 million in energy efficiency and clean energy financing products through the New York City Energy Efficiency Corporation (NYCEEC) and launched a new Better Buildings Energy Data Accelerator, which will increase access to data on energy use in buildings and provide technical assistance to building owners regarding cost-effective retrofits.

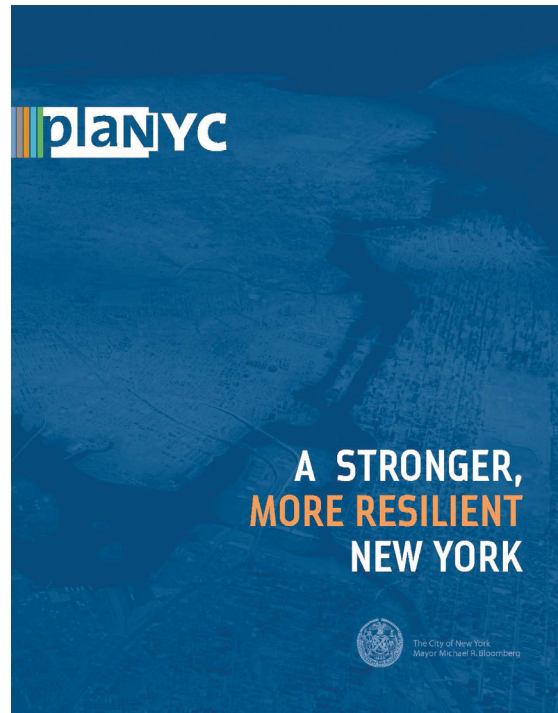
Climate Resiliency

New York City has long led the way on climate change mitigation through sustainable policy, but as the climate changes, the risks that New York City faces will only intensify. As such, New York City is expanding its climate resiliency effort to meet this risk.

A key component of the climate analysis is collaboration with various levels of government and academic peers. An example of this collaboration is the New York City Panel on Climate Change (NPCC), a team of climate scientists and academics who evaluate new and emerging information released and review updated projections from the last year. Based on the work of the NPCC, the City is developing a climate risk assessment tool to determine the current and future climate risks facing the city by hazard, sector, time slice, and geography.

PROGRESS UPDATE

Much of 2013 was spent responding to Hurricane Sandy and working to prepare for a future with climate change, the progress of which can be reviewed in the segment of this report on *A Stronger, More Resilient New York*.





Manhattan sunset

Sustainability Indicators

We track 10 Sustainability Indicators to monitor current conditions and relate them to our long-term goals. These indicators are designed to provide quantifiable metrics for each PlaNYC goal, so that one can tell if we are achieving one part of a goal but not another. The Indicators, part of our ongoing commitment to transparency and accountability, help us assess whether changes to the plan are needed.

CATEGORY	METRIC	2030 TARGET	FIGURE FOR MOST RECENT YEAR	TREND SINCE BASE YEAR
HOUSING AND NEIGHBORHOODS	Create homes for almost a million more New Yorkers while making housing and neighborhoods more affordable and sustainable			
	Increase in new housing units since January, 2007	314,000	125,837 ₂	↗
	% of new units within a 1/2 mile of transit	> 70%	82.7% ₁	NEUTRAL
	Affordable housing units preserved or added (cumulative since 200	165,000	156,351 ₂	↗
PARKS AND PUBLIC SPACE	Ensure all New Yorkers live within a 10-minute walk of a park			
	% of New Yorkers that live within a 1/4 mile of a park	85%	76.5% ₁	↗
	Cumulative number of trees planted through Million Trees initiative	1,000,000	834,015 ₁	↗
ENERGY	Reduce energy consumption and make our energy systems cleaner and more reliable			
	Greenhouse gas emissions per unit of electrical power (lbs CO ₂ e/MWh)	DECREASE	674.911 ₂	↗
AIR QUALITY	Achieve the cleanest air quality of any big U.S. city			
	City ranking in average PM _{2.5} (3 yr rolling avg) compared to other large U.S. cities	#1 (cleanest air)	#4 ₁	NEUTRAL
	Change in average PM _{2.5} (year-on-year % change in 3 yr rolling avg)	DECREASE	-0.5% ₁	↘
CLIMATE CHANGE	Reduce greenhouse gas emissions by over 30%			
	Increase the resiliency of our communities, natural systems, and infrastructure to climate risks			
	Greenhouse gas emissions (MTCO ₂ e)	DECREASE 30% ₃	47,939,030 (19%) ₂	↘
SOLID WASTE	Achieve the cleanest air quality of any big U.S. city			
	Percentage of waste diverted from landfills (includes fill)	75%	52% ₁	↘

- 1 Results are for FY or CY 2013
- 2 Results are for FY or CY 2012
- 3 From 2005 levels

Not on Track
 On Track

Implementation

While PlaNYC addresses long-term challenges, there are many things we need to do today to create a greener, greater New York. Each of the 132 initiatives in PlaNYC has multiple milestones to be achieved by December 31, 2014, which will put us on a pathway to achieve our long-term goals. This combination of long-term vision and short-term action is critical to our success.

Implementing PlaNYC requires the collective involvement of multiple City agencies and the City Council, plus cooperation and resources from state and federal agencies, regional authorities, private businesses, community organizations, and individual New Yorkers. The following pages outline the responsibilities and actions—collectively termed “Milestones”—that we committed to achieve in 2013 and our progress toward meeting our goals.

PROGRESS SINCE APRIL 2013	MILESTONES TO COMPLETE BY DECEMBER 31, 2014	STATUS
CREATE CAPACITY FOR NEW HOUSING		
1 Continue transit-oriented rezonings		
The City approved rezonings for East Fordham Road in the Bronx and Bedford Stuyvesant North and Crown Heights in Brooklyn. These actions all encourage transit-oriented growth and promote affordable housing in conjunction with new development.	Continue to create opportunities for denser development in transit-accessible areas, in large rezonings including Sunnyside/Woodside, Bedford-Stuyvesant North, West Harlem, West Clinton, and East Fordham Road	In progress
	Continue to promote affordable housing in re-zonings that encourage substantial new housing development	In progress
2 Explore additional areas for new development		
The City released the RFP for the Seward Park RFP in Jan 2013 for the development of nine parcels in the Lower East Side. The City selected a team in September 2013 to develop the parcels. The development, to be called Essex Crossing, will include 1,000 housing units, half of which will be permanently affordable. The initiative known as the infill plan has been indefinitely postponed. NYCHA will work with our fellow agencies and residents to take a comprehensive look at our assets to a) ensure we improve our units today and b) identify affordable housing for tomorrow. This year the City Hudson Yard deal adds 139 more "affordable," or below-market-rate, housing units to the \$20 billion mixed-use development rising on the far west side of Manhattan. The Hudson Yards agreement also raises wages for about 1,650 workers, such as janitors and security guards, to \$10.30 an hour for jobs with benefits and to \$11.90 an hour for those without benefits. Since 2010 the DCAS Office Space Efficiency Initiative have reduced Citywide office space by 1,249,808 RSF.	Advance development and open space plans for the Staten Island North Shore	In progress
	Identify additional potential infill opportunities citywide	In progress
	Explore opportunities for the use of underutilized MTA properties to create housing, economic development, open space, or other opportunities to enhance surrounding communities	Completed
	Implement improvements in Hudson Yards to catalyze development	Completed
	Unlock development potential of underutilized Seward Park sites	Completed
	Reduce City government leased or owned space by 1.2M square feet	Completed
3 Enable new and expanded housing models to serve evolving population needs		
The City continues to explore options to increase the number of safe and legal available housing. HPD launched the adAPT NYC Competition (a pilot program to develop a new model of housing to adapt to the City's changing demographics) to be able to review micro units as a new housing model. The winner was selected in 2012 and the building is under construction.	Explore regulatory and legislative changes to allow the creation of safe and legal additional units in existing housing	In progress
	Explore new housing models to promote smart growth and serve smaller households	Completed
FINANCE AND FACILITATE NEW HOUSING		
4 Develop new neighborhoods on underutilized sites		
The first phase of the Hunters Point South project closed in February 2013. The RFP for Parcel C was released in the summer of 2013, and a development team was selected to develop more than 1,000 housing units on that site. The City controls approximately 95% of the property in the Phase I area and remains in active negotiations to acquire additional properties needed to proceed with the project. Infrastructure work will be substantially completed this year (Spring/Summer2013) with remediation work to follow. New construction projects developed and completed through HPD programs have totaled 3035 units.	Begin construction on 900 units of housing in Hunter's Point South, Queens	In progress
	Begin infrastructure construction and remediation for Willets Point Phase I, a mixed-use development including 400 housing units	In progress
	Complete construction on 1,300 units and begin construction on 900 units in Arvene, Queens; Complete construction on 400 units and start construction on 80 units in Gateway Brooklyn	In progress
5 Create new units in existing neighborhoods		
The City has created 4,626 new housing units and started construction on 15,382 units under the New Housing Marketplace Plan. Also under the plan the City has created or started construction on 26,653 units of housing since 2012. HPD's Melrose Commons URA is on schedule. New construction projects developed and completed through HPD programs have totaled 3035 units, NYCHA currently has 832 units under construction and 1,705 units in the pre-development phase. Since 2004, NYCHA has completed 2,528 units of affordable housing.	Develop 20,000 new units by 2014 under the New Housing Marketplace Plan	Completed
	Complete construction of over 3,000 units in Melrose Commons Urban Renewal Area	In progress
	Complete construction on 1,640 units and begin and finish construction on 1,800 affordable units in NYCHA sites	Completed
	Explore modification of parking requirements for affordable housing to lower construction costs and facilitate housing creation	Completed
6 Develop new housing units in existing City properties		
Announced last year PS109 in East Harlem will be converted into Artspace PS109, a \$52 million complex for creative types, will set aside half its units for local residents in coordination with HPD. Proposed construction of affordable housing on underutilized DSNY facility on West 20th St., Manhattan is under review by the City in conjunction with the drafting of a new city-wide housing plan.	Start construction of housing units in the former PS 109 in East Harlem	In progress
	Start construction of affordable housing on underutilized DSNY facility on West 20th Street in Manhattan	In Progress
ENCOURAGE SUSTAINABLE NEIGHBORHOODS		
7 Foster the creation of Greener, Greater Communities		
MillionTreesNYC has continued to provide training for beginning and advanced citizen tree stewards by offering advanced workshops, additional resources, and our third annual tree care networking summit. In 2013, the City hosted over 280 MillionTreesNYC events, surpassing our goal of 150. We engaged over 3,500 volunteers in tree care, surpassing our goal of 2,000 volunteers. Tree stewards cared for over 3,750 trees, surpassing our goal of 2,500 trees.	Launch Greener, Greater Communities pilot	Completed
	Conduct Sustainable East New York study, incorporating community sustainability in addition to land use objectives	Completed

PROGRESS SINCE APRIL 2013	MILESTONES TO COMPLETE BY DECEMBER 31, 2014	STATUS	
HOUSING AND NEIGHBORHOODS	8 Increase the sustainability of City-financed and public housing		
	<p>HPD certified 52 Enterprise Green Communities and 5 LEED for a total of 57 Green certification starts. In the past year, NYCHA developed an \$18 million Energy Performance Contract to leverage savings from lighting upgrades to provide financing for other needed energy conservation measures such as boiler replacements that impacted almost 12,000 units. NYCHA installed a unique geothermal hot water heating system for 225 units facility, installed over 10,000 energy-efficient compact fluorescent lightbulbs, and created resident-to-resident engagement efforts to empower residents to save energy through friendly competitions as part of NYCHA's efforts to install energy, water and money saving efficiency upgrades within our developments to expand the Green House education program. HPD launched this initiative in conjunction with CPC in April 2011 and recently implemented Spanish translations in February 2014. In 2014, HPD conducted five Green Owners Nights annually for small and medium sized building owners on best practices on green energy, water, materials, and community issues. NYCHA has decided to scale back the number of Resident Green Committees from 43 to 21. Based on lessons learned since the creation of the RGC program, and we are moving forward with a more sustainable model for resident engagement which can lead to further growth.</p>	Certify 40 affordable housing projects with Enterprise Green Communities every year	In progress
		Provide financing for over 30,000 units with energy efficiency and sustainability requirements by 2014	In progress
		Promote and expand NYC Green House education initiative to encourage multifamily building owners to retrofit their buildings	In progress
		Conduct six Green Owners Nights annually for small and medium sized building owners on best practices on green energy, water, materials, and community issues	In progress
		Create multi-phase Energy Performance Contracting Program to scale up energy efficiency measures	In progress
		Perform a pilot Green Physical Needs Assessment on a NYCHA property	Completed
		Increase the amount of NYCHA Resident Green Teams from 37 to 43 and better connect them with surrounding communities	Completed
		Explore incorporating more storm water retention efforts into NYCHA sites	Completed
	9 Promote walkable destinations for retail and other services		
<p>NYCEDC launched Staten Island Storefronts: Race for Space, a competition to attract new retail to Downtown Staten Island. The competition was designed to incentivize retail tenants to lease currently-vacant ground floor retail space. In December 2013, NYCEDC announced nine winners of the competition. Collectively, these businesses, most of which are owned or operated by Staten Island residents, will receive \$425,000 (prizes range from \$25,000 - \$75,000) and invest over \$11 million in their businesses. Of the nine businesses, two are currently open, and the others are anticipated to open this summer. Competition prizes will be disbursed as the winners open for business. With the help of NYCIDA's tax abatement and exemption programs, The Madelaine Chocolate Company was able to remain in New York City and build a new 60,000-square-foot building, contiguous to its current facilities in Rockaway Beach. We recently celebrated the opening of the first FRESH supermarket in Queens, a new Food Bazaar Supermarket in Long Island City. This store features over 50,000 square feet of retail-selling area including a produce section with over 5,000 square feet of fresh, appealing produce. In total, these benefits have incentivized the renovation, expansion, or creation of almost 570,000 square feet of supermarket selling area and represent a private investment of over \$80 million in supermarket development for healthy food in an underserved neighborhood.</p>	Promote neighborhood shopping districts	In progress	
	Facilitate the creation of 300 more healthy food retail options in targeted underserved neighborhoods	In progress	
	Identify additional amendments to zoning to facilitate grocery stores in communities with food access needs	In progress	
	Facilitate food retail and production opportunities on City-owned spaces in underserved areas by serving a total of 40 clients in La Marqueta and over 100 clients in E-Space	Completed	
10 Preserve and upgrade existing affordable housing			
<p>The City has preserved 10,756 units of housing and started under the New Housing Marketplace Plan this year and since 2012 has preserved 36,734 units of housing. NYCHA developed an \$18 million Energy Performance Contract to leverage savings from lighting upgrades to provide financing for other needed energy conservation measures such as boiler replacements that impacted almost 12,000 units. Through the Center for New York Neighborhoods, the City has provided legal council to over 18,000 households since 2008. In 2013 NYCHA installed a unique geothermal hot water heating system for a 225 unit- facility, installed over 10,000 energy-efficient compact fluorescent light bulbs, and created resident-to-resident engagement efforts to empower residents to save energy through friendly competitions as part of NYCHA's efforts to install energy, water and money saving efficiency upgrades within our developments.</p>	Preserve 34,000 affordable units by 2014 under the New Housing Marketplace Plan	Completed	
	Increase the sustainability of City-financed and public housing	In progress	
	Provide legal advice and counsel to over 2,000 New Yorkers and assist 1,800 individuals in getting mortgage modifications in order to avoid foreclosure of their homes through CNYCN	Completed	
11 Proactively protect the quality of neighborhoods and housing			
Proactively Preservation Initiative has assessed 1,366 buildings primarily in Brooklyn, Bronx, and Manhattan, that were brought to the City's attention through data analysis, internal referrals, and tips from over 50 community sources.	Proactively conduct field studies in 1,000 buildings at risk for distress or decline	Completed	
TARGET HIGH IMPACT PROJECTS IN NEIGHBORHOODS UNDERSERVED BY PARKS			
1 Create tools to identify parks and public space priority areas			
Began and completed a project to pilot the use of a multi-variable matrix based on scorecard information, demographic data, environmental factors, physical condition and community need and support to identify high priority areas. The project takes into account funding needs for ongoing maintenance and seeks to increase partnership with local community groups for stewardship. The scorecard is operational on the agency intranet	Develop matrix assessment and mapping tools to assist in targeting high priority areas	Completed	
2 Open underutilized spaces as playgrounds or part-time public spaces			
<p>In 2013, DOT held Summer Streets over three weekends in August, attracting over 300,000 people. 23 Weekend Walks in partnership with community organizations throughout the City were held. We will hold over 30 Weekend Walks this summer. Parks have created Play Streets to help combat the childhood obesity epidemic in our cities. Play Streets allows communities to open up their streets to pedestrians for play on a recurrent basis. 16 Playstreets were conducted in 2013. DOH has assisted 29 schools with applying for and obtaining Play Streets permits. The school permit renews every year with no need to reapply. 3 new applications have been received for schools in 2014. Since 2009, DOH as assisted 56 Community Groups with applying for and obtaining Play Streets permits. For Summer 2014 DOH projects a total of 13 permits for community groups in the Playstreets program. 234 sites are currently open to the public, one additional site is under construction, and one is in procurement, we anticipate starting construction this Fall. Approximately 300,000 people took part in Summer Streets</p>	Complete construction and open for community use an additional 60 schoolyards to playgrounds sites bringing the total number open for public use to 234	Completed	
	Conduct Summer Streets for three Saturdays each year	Completed	
	Conduct Weekend Walks at 20 locations annually	Completed	
	Expand the number of schools with access to PlayStreets by 40	In progress	
	Conduct 15 Community PlayStreets each year	In progress	
PARKS AND PUBLIC SPACE			

PROGRESS SINCE APRIL 2013		MILESTONES TO COMPLETE BY DECEMBER 31, 2014	STATUS	
PARKS AND PUBLIC SPACE	3 Facilitate urban agriculture and community gardening			
	<p>Annually, GreenThumb holds 40 workshops throughout NYC and organizes three big events. GreenThumb's 29th annual GrowTogether conference took place on March 29th in the Bronx. Two Urban farms have been created on NYCHA property, one at Frederick Douglas Houses in the spring of 2012 on a tennis court and another was created in the spring of 2013 as the first "large scale" urban farm on NYCHA Property at Red Hook West Houses. Grow Together attracts over 1,000 volunteers each year. Under the direction of the Mayor's office, GreenThumb worked closely with other stake holders in developing a more streamlined registration process to more accurately track community groups and volunteers throughout the five boroughs of NYC. GreenThumb has added a total of 17 new community gardens in 2012 and to date in 2013, is looking to add additional sites this year, and is now holding listening sessions in Staten Island. GreenThumb has increased public access to some of its largest community gardens in Queens and is now conducting various workshops in Brooklyn and the Bronx as a way of expanding support for community gardens.</p>	Launch study to identify potential urban agriculture or community garden sites on City-owned properties unsuitable for other development	In progress	
		Plant 129 new community gardens on NYCHA sites	In progress	
		Create one urban farm on a NYCHA site	In progress	
		Establish five additional farmers markets at community garden sites	In progress	
		Increase number of community volunteers registered with GreenThumb by 25%	In progress	
		Expand support for community gardens into new underserved neighborhoods	In progress	
		Register 25 new school gardens with Grow to Learn NYC per year, and retain at least 75% of registered school gardens year to year	In progress	
		Reduce impediments to agriculture in relevant laws and regulations	Completed	
	4 Continue to expand usable hours at existing sites			
	Complete construction on the 26th multi-purpose fields and 18 new lighting installations.	Complete 26 multi-purpose fields	Completed	
		Complete 19 new lighting installations	In progress	
	CREATE DESTINATION-LEVEL SPACES FOR ALL TYPES OF RECREATION			
	5 Create and upgrade flagship parks			
	<p>The Maiden Lane Pavilion is currently under permitting by Tenant for Tenant Fit-Out. By spring 2014, a portion of the package three portion of the Esplanade (between Pier 35 & Pike Slip) will be opened to the public, including new basketball courts, the remaining of that work, including a revitalized Pier 35, will be complete by the year's end. South Street Reconstruction, which spans from Old Slip to Fulton, will begin construction in May 2014. Construction has been completed on a five-acre park located at Hunter's Point, Queens. EDC bid the first phase of construction and certification of six-acre waterfront esplanade work out in February 2014. Expecting the contractor to mobilize and commence work in June 2014. Steeplechase Plaza, featuring the restored B&B Carousel and a public plaza area, as well as the historic Parachute Jump, opened in May 2013 for the summer season. Representing a 2.2-acre expansion of the entertainment area along the Coney Island boardwalk, the park and carousel were busy during the 2013 season. Despite weathering some damage from Sandy, the construction of the project was able to proceed on schedule. Remediation is 95% complete of Bush Terminal and Phase 1 of park construction is 90% complete. In an effort to activate West Harlem Piers Park's excursion boat pier and ferry barge, the facility is now part of NYCEDC's innovative DockNYC program which is designed to encourage and accommodate more dockings at several NYCEDC managed piers and docks. Highland Park Phase 1 was completed in summer 2013 and design has been completed on Phase 2. In June 2012, we completed renovation of the historic McCarren Pool and Play Center, the first of the eight PlaNYC regional parks projects. We have made construction progress on Ocean Breeze, whose construction is being managed by DDC, and with the building now erected we the project to be completed by Fall 2014. Our work on the High Bridge, New York City's oldest bridge and what will be a vital pedestrian link between the Bronx and Manhattan, is now 30% complete. The City completed acquisition and is starting construction, as well as remediation work, on Section 3 of the High Line. Construction also began on Fort Washington Park and is in progress with fields and waterfront access opening to the public this spring. We broke ground on Soundview Park in June 2012 and construction on the track & field is ongoing. 30 new acres of park on Governors Island, including the two new fields, open to the public for the first time in 2014. Also this year, for the first time ever, Governors Island will be open 7 days a week. The fields will be open during daylight hours every day from May 24-September 28. Construction was completed at Calvert Vaux and Rockaway Parks. In Brooklyn Bridge Park, Pier 5 was opened and a developer has been selected for Empire Stores. Completed construction completed at Transmitter Park. The East River Park Esplanade has also been completed. The Tribeca upland esplanade and Pier 97's marine construction and railing in Hudson River Park were also completed in 2013. Continue phased acquisition, remediation, and development of parks. The first 7 acres of Bushwick Inlet Park have been developed with a heavily used soccer field, an award-winning community and maintenance building, and a passive area next to the shoreline. Parks continues to work on acquisition, remediation, and development of the remainder of the proposed park. Status Bush Terminal remediation is 95% complete and park construction is 90% complete.</p>	Highland Park: Complete renovations including reservoir perimeter lighting, path restoration, and new entry points	Completed	
		McCarren Park: Complete construction of pool and year-round recreation center	Completed	
		Ocean Breeze Park: Complete 2,500-seat field house	In progress	
		Highbridge Park: Restore bridge and access paths within park to improve connectivity between Northern Manhattan and the Bronx	In progress	
		The High Line: Construct Section 2 (20th to 30th streets) and pursue acquisition of Section 3	Completed	
		Dreier-Offerman Park (Calvert Vaux Park): Construct new sports fields, lighting, and pedestrian paths as part of Phase 1 construction	Completed	
		Fort Washington Park: Complete phase I construction	In progress	
		Soundview Park: Complete construction of Metcalf Playground, Rosedale Amphitheater, and Metcalf Track & Field	In progress	
		Rockaway Park: Complete construction of phase I	Completed	
		Brooklyn Bridge Park: Complete Pier 5, reopen Empire Fulton Ferry Park and Squibb Bridge	Completed	
		Transmitter Park: Construct 1.5-acre site, including a playground, benches, and trees	Completed	
East River Park Esplanade: Substantially complete park elements		Completed		
East River Park: Complete reconstruction of seawall and esplanade		Completed		
Governors Island: Commence parkland and infrastructure development		In progress		
Hunter's Point, Queens: Complete construction of a new five-acre park		Completed		
Bushwick Inlet Park: Continue phased acquisition, remediation, and development of parks		In progress		
Bush Terminal: Complete remediation of open space and advance Phase 1 of park	In progress			
6 Convert former landfills into public space and parkland				
<p>Wetland restoration completed in summer 2013. Freshkills North Park (public access project) is in design and nearing design completion. The New Springville Greenway is expected to begin construction in 2014. Pelham landfill is closed to the general public at this time but Park Rangers lead guided tours.</p>	Freshkills Park: Develop the first public access areas overlooking Main Creek and continue capping and closing of east and west mounds	In progress		
	Pelham Landfill: Open to the public	In progress		
	Ferry Point Park: Complete Community Park	Completed		

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7 Increase opportunities for water-based recreation

<p>Hunts Point-Riverside Park project has entered design and work is proceeding well on the Dyckman Street Marina project. In 2012, the Public Access Interagency Working Group developed Best Practices for Promoting Safe Public Access to Human-Powered Boating in New York City and a guidance document was released regarding activating the West Harlem Piers. West Harlem Piers Park's excursion boat pier and ferry barge were active by DockNYC, which is designed to encourage and accommodate more dockings at several NYCEDC managed piers and docks.</p>	<p>Develop multi-agency task force to assess opportunities for expanding the blue network across the city for water-based recreation</p>	<p>Completed</p>
	<p>Complete expansion of launch platform at Hunts Point-Riverside Park</p>	<p>In progress</p>
	<p>Complete repair and replacement of floating docks at Dyckman Street Marina</p>	<p>In progress</p>
	<p>Activate West Harlem Piers Park's excursion boat pier and ferry barge</p>	<p>Completed</p>

RE-IMAGINE THE PUBLIC REALM

8 Activate the streetscape

<p>In 2013, DOT has 65 plazas throughout the city in some phase of planning, design, construction, or complete; 44 of which are currently open to the public. 3 plazas will complete capital construction in 2014; 10 plazas will begin capital construction this year. As of February 2014, DOT has installed 870 City benches throughout the city. DOT has launched street seats at two locations in cooperation with local merchants. DOT opened three new pop-up cafes in 2014.</p>	<p>Complete construction on 13 plazas</p>	<p>Completed</p>
	<p>Install 500 benches throughout the city</p>	<p>Completed</p>
	<p>Approve the urbanSHED Design Competition winning design. Work with City agencies, buildings owners, contractors and professionals on adoption of the new design.</p>	<p>Completed</p>

9 Improve collaboration between City, state, and federal partners

<p>The Urban Field Station, an agency partnership with the US Forest Service, is working with the Natural Areas Conservancy on the first ever citywide ecological and social assessment of our natural areas to understand their health and what they mean to adjacent communities. Recent research with City, federal, and academic partners includes many projects, such as evaluating volunteer tree planting participation; monitoring performance and impacts of stormwater capture effectiveness and evapotranspiration rates at green infrastructure sites; assessing ecological health and community use of natural areas; assessing tree survival and ecosystem dynamics at forest restoration sites; exploring the impacts of salt water inundation on the urban forest; studying attitudes and perceptions of Fresh Kills transformation from landfill to park; and examining long term trends in salt marsh loss in NYC. DPR continues to explore opportunities to work with our city, state and federal partners to align these elements in neighboring park sites.</p>	<p>Conduct five joint research projects via the NYC Urban Field Station</p>	<p>In progress</p>
	<p>Align pathways, hours of operation, and bicycling rules on neighboring park sites</p>	<p>In progress</p>

10 Create a network of green corridors

<p>East River Esplanade: the portion of the Esplanade between the Battery Maritime Building (BMB) and Old Slip was completed in spring of 2013, creating a continuous waterfront esplanade between the BMB and Fulton Street. Three of the five phase I projects for the South Bronx Greenway are complete (Lafayette Avenue, Hunts Point Avenue and Hunts Point Landing) and construction is underway on two final projects (Food Center Drive and Randall's Island Connector). East Midtown Waterfront: Construction is anticipated to begin this summer on the Waterside Pier (East 38th Street to East 41st Street) and will be open to the public in 2015. EDC expects to complete environmental review and receive permit approvals for the Outboard Detour Roadway (ODR) Esplanade (East 53rd Street to East 60th Street) and the UN Esplanade (East 41st Street to East 53rd Street) by the end of 2014. The portion of the East River Esplanade between the Battery Maritime Building (BMB) and Old Slip was completed in spring of 2013, creating a continuous waterfront esplanade between the BMB and Fulton Street. Construction progresses on the Esplanade to the north, as a portion will open this spring between Pike/Allen and Rutgers Slip and Pier 35 will open by spring of 2015. Three of the phase I projects for the South Bronx Greenway are complete (Lafayette Avenue, Hunts Point Avenue and Hunts Point Landing); two will be in construction this year (Food Center Drive and Randall's Island Connector). Construction on the East Midtown Waterfront is anticipated to begin this summer on the Waterside Pier (East 38th Street to East 41st Street) and will be open to the public in 2015. EDC expects to complete environmental review and receive permit approvals for the Outboard Detour Roadway (ODR) Esplanade (East 53rd Street to East 60th Street) and the UN Esplanade (East 41st Street to East 53rd Street) by the end of 2014. DOT has improved on-street sections of the Queens Greenway to Class 1 facilities (separated bicycle paths) Although affected by Hurricane Sandy, 2014 will see the Staten Island South Shore Greenway bring riders past Midland Beach to northern Oakwood.</p>	<p>Continue to build and expand greenway waterfront network including Brooklyn Waterfront Trail, Queens East River Trail, Soundview Greenway, South Bronx Greenway, Staten Island South Shore greenway and Manhattan waterfront greenway</p>	<p>In progress</p>
<p>The 2nd edition of the Street Design Manual was released in October 2013</p>	<p>Release update to Streets Design Manual that contains guidance on landscaping and the use of other sustainable elements</p>	<p>Completed</p>

PROMOTE AND PROTECT NATURE

11 Plant one million trees

<p>Planted 18,671 street trees and 65,660 containerized trees in forest restoration projects in calendar year 2013, bringing the total number of trees planted to over 830,000. MillionTreesNYC is ahead of schedule by 27% and plans to complete the initiative goal by the end of 2015. Projects include increased emphasis on stewardship of street trees and natural areas, publication of a research report in partnership with the US Forest Service, and continuing the Young Street Tree Pruning project to ensure the long-term survival of existing urban forest.</p>	<p>Plant a total of 695,000 trees</p>	<p>Completed</p>
	<p>Explore methods to ensure long-term survival of existing urban forest</p>	<p>In progress</p>

12 Conserve natural areas

<p>The Natural Areas Conservancy continues to work closely with NYC Parks to advance and expand its work in natural areas. The Conservancy has funded efforts to manage forests, restore wetlands, conduct a comprehensive citywide social and ecological assessment, and to grow native plants for beach restoration.</p>	<p>Explore the establishment of a natural area conservancy to preserve the city's remaining wild lands</p>	<p>Completed</p>
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13 Support ecological connectivity

<p>20 stormwater greenstreets are constructed or soon slated for construction. DPR continues to promote biodiversity on green roofs and are working on data collection. Parks is now moving to retrofit Parklands to manage stormwater. The Green Infrastructure Unit's work designing and managing the construction of right-of-way bioswales and stormwater greenstreets contributes toward DEP's goal of managing one inch of stormwater falling on 10% of impervious area in combined sewer areas that are not EPA clean water compliant. The City has transitioned to the full-scale implementation of bioswales and greenstreets in the right-of-way, with the installation of 5,000 bioswales projected by the end of 2015. There are currently over 500 right of way bioswales in design and nearly 100 bioswales constructed throughout the Bronx and Queens. The Belt Parkway Phase 1 tree restitution planting plan has also been moving forward with the over 5,000 new trees on the Belt Parkway between Paerdegat Bridge and Fresh Creek Bridge. Preliminary design for the project is currently underway. The Conservancy has funded efforts to manage forests, restore wetlands, conduct a comprehensive citywide social and ecological assessment, and to grow native plants for beach restoration.</p>	<p>Complete 80 greenstreets per year</p>	<p>In progress</p>
	<p>Conduct a study to determine best practices for promoting biodiversity in green roof design and construction</p>	<p>In progress</p>

PROGRESS SINCE APRIL 2013	MILESTONES TO COMPLETE BY DECEMBER 31, 2014	STATUS
<p>There are currently has over 500 right of way bioswales in design and nearly 100 bioswales constructed throughout the Bronx and Queens. The Belt Parkway Phase 1 tree restitution planting plan has also been moving forward with the over 5,000 new trees on the Belt Parkway between Paerdegat Bridge and Fresh Creek Bridge. Preliminary design for the project is currently underway. The Conservancy has funded efforts to manage forests, restore wetlands, conduct a comprehensive citywide social and ecological assessment, and to grow native plants for beach restoration.</p>	Restore parkway landscapes to improve landscape connectivity	In progress
	Develop a framework to comprehensively address landscape issues on building sites in City codes and regulations	In progress
	Create green standards for City government building site development and renovations	In progress
ENSURE THE LONG-TERM HEALTH OF PARKS AND PUBLIC SPACE		
14 Support and encourage stewardship		
<p>MillionTreesNYC has continued to provide training for beginning and advanced citizen tree stewards by offering advanced workshops, additional resources, and our 3rd annual tree care networking summit. In 2013 the City hosted over 280 MillionTreesNYC events, surpassing our goal of 150. We engaged over 3,500 volunteers in tree care, surpassing our goal of 2,000 volunteers. Tree stewards cared for over 3,750 trees, surpassing our goal of 2,500 trees.</p>	Expand access to free tree care workshops and tool kits to stewardship groups across the five boroughs	In progress
	Institute DPR's network meetings for four parks in every borough	Completed
	Increase training activities and networking forums at catalyst parks	In progress
	Increase attendance at programming to more than 15,000 across all catalyst parks annually	Completed
15 Incorporate sustainability through the design and maintenance of all public space		
<p>The City highlights the sustainable design features of every new parks capital project at community board meetings such as the percent increase in permeable surfaces. 78% of milestones from the Sustainable Parks Plan, which includes the sustainable design and maintenance of public parks, were completed or in progress as of the plan's 2013 Progress Update.</p>	Develop digital library tracking system for cataloging sustainable aspects of capital projects	Completed
	Develop sustainable design checklist to be used with all DPR capital projects that complies with national Sustainable Sites standards	Completed
	Develop indicators to measure existing and new sustainability initiatives at DPR related to water, material resources, energy, fuel, and partnerships	Completed
	Release first version of the Sustainable Parks Plan to promote accomplishments, train and educate DPR staff in best practices, and improve sustainability initiatives across the agency	Completed
DEVELOP PROGRAMS TO ACCELERATE BROWNFIELD CLEANUP AND REDEVELOPMENT		
1 Increase participation in the NYC Brownfield Cleanup Program by partnering with lenders and insurers		
<p>OER established the NYC Environmental Review and Assessment program to provide comfort letters to facilitate land transactions and support more lending on brownfields with emphasis in low-income communities. We worked with the environmental insurance industry to develop Pollution Liability policies tailored to the needs of projects enrolled in the BCP. We have included financial escrow analysis and environmental insurance premiums as reimbursable items under the NYC BIG Program.</p>	Establish programs for financial institutions to increase lending for properties in the NYC BIG	Completed
	Establish programs with the insurance industry to deliver preferred insurance policies for properties in the NYC BIG	Completed
2 Increase the capacity of small businesses and small- and mid-size developers to conduct brownfield cleanup and redevelopment		
<p>Increase the capacity of small businesses and small- and mid-size developers to conduct brownfield cleanup and redevelopment OER established the Pro Bono Environmental Assistance program to achieve social equity goals by assisting CBOs, non-profit community developers, and small businesses in developing cleanup plans in the BCP. We are working with the NYC Brownfield Partnership to increase industry awareness of environmental hardship claims and have encouraged legal specialists to join the Pro Bono Environmental Assistance program to deliver advice on hardship relief.</p>	Establish a brownfield <i>pro bono</i> referral program to provide inexperienced developers with advice on how to conduct investigations and cleanups	Completed
3 Enable the identification, cleanup, and redevelopment of brownfields		
<p>OER strengthened cleanup standards for waterfront industrial properties to achieve social equity goals by minimizing environmental impact in environmental justice communities associated with severe storm events. Established the CBO Peer Assistance program to assist CBOs and community developers with brownfield land transactions, cleanup and site redevelopment. We are engaging community and industry experts in Community Brownfield Planning Areas, community development organizations, and the Brownfields Industry Task Force to improve OER programs and get feedback on improvements to SPEED, our online environmental research engine. We are updating SPEED with current data. OER established the Look Back mode and Stand-Still mode for enrollment in the BCP, and we approved cleanup plans for first projects using each mode. Launched workshops to train the environmental industry to effectively navigate the BCP. We have institutionalized exit interviews with volunteers completing cleanup projects in the BCP and have used the feedback to improve program delivery. The (EPIC- Environmental Project Information Center) online interface for community members and volunteers using the BCP is in development and targeted for launch in fall 2014. We collaborated on the "Streamlining Site Cleanup in NYC" report with EPA to illustrate the use of Triad approaches on BCP projects. OER strengthened cleanup standards for waterfront industrial properties to ensure maximum protection of residents of environmental justice communities from environmental impact during severe storm events.</p>	Establish flexible NYC BCP provisions to allow for land preparation for resale	Completed
	Perform market outreach to improve the SPEED real estate search engine to promote brownfield cleanup and redevelopment	Completed
	Collaborate with community development corporations to advance the cleanup and redevelopment of property across the city	Completed
	Establish a web-based application that automates and streamlines the navigation of City cleanup programs	In progress
	In partnership with the EPA, implement approaches and improve Triad tools to accelerate property investigation and cleanup	Completed
	Encourage cleanup and redevelopment of waterfront sites by proposing amendments to the Zoning Resolution that would allow greater flexibility for non-residential uses and floor area	Redirected
4 Build upon existing state and federal collaborations to improve the City's brownfield programs		
<p>The State delegated authority to OER to operate the NYC Clean Soil Bank to enable free exchange of clean native soil to achieve cost savings and resilience and improve social equity by advancing affordable housing and community garden projects. We have established a program to unlock abandoned properties in disadvantaged neighborhoods through a case-by-case waiver of State environmental liens with NYC OMB and NYS Office of the State Comptroller and are now enabling these sites to proceed to auction. We have extended the Memorandum of Agreement between New York State and the City for operation of the BCP and delegation of State liability protection and petroleum cleanup oversight to OER until 2016. OER is advocating for legislation to enable full statewide liability release for BCP cleanups and a waiver of State hazardous waste disposal taxes and fees for BCP projects. OER has received recognition from EPA that provides comfort on federal environmental liability for volunteers using the BCP and enables BCP cleanups to qualify for EPA grants, and worked with EPA to allow property owners near federal superfund sites to acquire federal liability protection for cleanup and redevelopment.</p>	Develop stronger liability protection at the state level	Completed
	Develop stronger liability protection at the federal level	Completed
	Develop a pilot program for environmental lien forgiveness	Completed

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STRENGTHEN INCENTIVES FOR BROWNFIELD CLEANUP AND REDEVELOPMENT

5 Study the economic value of brownfield redevelopment in New York City		
<p>OER is pursuing unique research that will evaluate the social and environmental justice benefits of brownfield cleanup and redevelopment in the BCP in low income and disadvantaged communities in NYC. We have completed the financial analysis of the first three years of cleanup projects to assess the amount of affordable housing created (3,900 new units), job creation (6,400 permanent new jobs and 19,500 construction jobs), leveraging of private investment (\$6 billion in new investment), and tax revenue generation projected to result from the revitalization of these brownfields (\$1.1 billion in property, sales, and income taxes).</p>	<p>Assess the fiscal and employment benefits of brownfield redevelopment in New York City</p>	<p>Completed</p>
6 Leverage the NYC Brownfield Cleanup Program to establish funding and other incentives for cleanup and redevelopment		
<p>OER established a series of programs to achieve social equity goals including the Affordable Housing Cleanup Fund using EPA grants to support cleanup of affordable housing projects in the BCP. We established Preferred Community Development Grants to prioritize City funding for cleanup of affordable housing, community facilities, and community-supported projects. We established the NYC Green Property Certification program to encourage more developers to work with government on cleanups to ensure that disadvantaged communities with a disproportionate number of brownfields are better protected from environmental pollution. We received \$500,000 from the NYS Regional Economic Development Council to fund cleanup of BCP projects to promote affordable housing and economic development in disadvantaged communities. We launched the Brownfield Certification program in collaboration with NYS DEC to enable small businesses and community development corporations to claim Federal IRS tax deductions for brownfield cleanup costs incurred under the BCP, and we are advocating in Congress for reauthorization of these deductions which expired in 2011. OER's pre-application meetings include discussions of available financial and technical assistance tailored toward redevelopment of individual projects. Additionally, OER launched Financial Assistance Search Tool (FAST) to help CBOs, community developers, and others find available grants in our Brownfield Incentive Grant (BIG) program.</p>	<p>Develop programs that align incentives for neighborhood housing or infrastructure revitalization with brownfield incentives</p>	<p>Completed</p>
	<p>Establish brownfield redevelopment financial counseling program</p>	<p>Completed</p>
	<p>Develop a web-based, brownfield financial assistance search tool</p>	<p>Completed</p>

DEEPEN OUR COMMITMENT TO COMMUNITIES FOR COMMUNITY BROWNFIELD PLANNING, EDUCATION, AND SERVICE

7 Support community-led planning efforts		
<p>OER has designated 36 Community Brownfield Planning Areas, including 16 that we are proposing for new NYS BOA grant funds. These areas will expand the reach of OER community assistance programs, including eligibility for up to \$50k in OER grant funding to CBOs for grass-roots community brownfield planning. OER functions as an ombudsman for CBOs trying to work with City agencies to help them achieve local brownfield goals. We are providing special attention, benefits, and resources to brownfield sites in the East New York Community Brownfield Planning Area. We have extended funding for OER grants to support community brownfield planning through 2014. We have established the CBO Peer Assistance Program and selected a high functioning CBO (SoBro) to perform brownfield financial and real estate peer counseling and assistance for other CBOs with less experience on brownfield redevelopment, and are developing a brownfield management reference manual for CBOs that provides best management practices. OER has advocated for continued State funding of the BOA community planning grant program.</p>	<p>Establish 25 NYC Community Brownfield Planning Districts (CBPDs)</p>	<p>Completed</p>
	<p>Provide focused City assistance and services to designated CBPDs for brownfield and sustainability planning</p>	<p>Completed</p>
	<p>Pilot incorporation of brownfield planning into early stages of redevelopment planning with East New York Sustainable Communities project</p>	<p>Completed</p>
	<p>Identify 8-12 new Brownfield Opportunity Area (BOA) projects in neighborhoods disproportionately impacted by clusters of brownfields</p>	<p>Completed</p>
8 Support local and area-wide community brownfield planning efforts		
<p>OER has established a program to build capacity of CBOs and other community brownfield planners by sharing best management practices for brownfield planning, assisting CBOs in working with city agencies, and helping them navigate the BCP. We have acquired HUD funding to complete our online community planning portal to help CBOs achieve their revitalization goals. Working with NYS Department of State, we are encouraging development of new community brownfield planning areas in regions of NYC heavily impacted by Sandy and are involved, in cross-government collaboration with the State, in the NY Rising program to promote community resiliency planning.</p>	<p>Conduct a study to identify best management practices for community planners undertaking community brownfield planning efforts</p>	<p>Completed</p>
	<p>Establish training and other programs to build the capacity of community-based organizations in brownfield redevelopment, planning, and implementation</p>	<p>Completed</p>
	<p>Develop online community planning portal to provide cutting edge tools to community brownfield planners</p>	<p>In progress</p>
	<p>Support pilot program established by New York State Department of State for area-wide community brownfield planning and cross-government collaboration</p>	<p>Completed</p>
9 Increase the transparency and accessibility of brownfield cleanup plans		
<p>OER has developed a wide variety of programs to promote transparency including provisions for NYC's three library systems to assist patrons with online access to BCP project information and OER educational information. We established an online repository of documents for all projects in the BCP. A public contact list is developed for each BCP project, and we publish three fact sheets for release to these contacts at each stage of cleanup. A Community Protection Statement is developed for each cleanup project in the BCP and is written in six languages to promote wider dissemination of plans for community protection. OER established the BrownfieldWorks! program to place workforce development graduates on cleanup projects in the BCP. We expanded our grant program to fund salaries for BrownfieldWorks! trainees and launched a professional mentorship program by OER staff to assist trainees in getting full time jobs. We produced four educational videos and posted them on OER's website to inform communities of the importance of community engagement on brownfields to address environmental injustice and about OER programs for investigation and cleanup.</p>	<p>Establish an online document repository for BCP project information</p>	<p>Completed</p>
	<p>Establish advanced methods for the communication of brownfield project information to New York City communities</p>	<p>Completed</p>
	<p>Develop web-based educational tools to help all stakeholders understand brownfield cleanup and redevelopment processes</p>	<p>Completed</p>
	<p>Expand the NYC BrownfieldWorks! training program</p>	<p>Completed</p>

EXPAND THE USE OF GREEN REMEDIATION

10 Promote green remediation in the NYC Brownfield Cleanup Program		
<p>OER was delegated the authority by NY State to establish the NYC Clean Soil Bank to promote recycling of clean soil from BCP redevelopments. The Clean Soil Bank promotes social equity and economic development goals including cost-free reuse on affordable housing projects, community gardens, and City capital construction projects. OER established Climate Resiliency and Green Remediation Surveys that are performed free of charge to ensure that cleanup and redevelopment projects in the BCP are prepared for the impacts of climate change and will minimize future community environmental impact during severe storm events. OER established a Sustainability Statement in all cleanup plans and a Sustainability Report in all final cleanup reports to promote green remediation and development. Recycled concrete aggregate is now reused for backfill on many BCP projects. Hundreds of new trees have been planted as part of final development on BCP projects approved in the first three years of operation to support MillionTreesNYC and also serve to provide groundwater polishing. High efficiency stormwater management techniques and green infrastructure education are provided by Climate Resiliency and Green Remediation Surveys performed by OER for projects in the BCP.</p>	<p>Establish the Sustainability Statement in all cleanup plans</p>	<p>Completed</p>
	<p>Accelerate adoption of green remediation practices by establishing a program for green remediation audits of cleanup plans under the BCP</p>	<p>Completed</p>
	<p>Encourage the use of recycled concrete aggregate (RCA) as substitute for conventional backfill material</p>	<p>Completed</p>
	<p>Develop tree-based phytoremediation approach for end-of-cleanup polishing, also promoting the MillionTreesNYC program</p>	<p>Completed</p>
	<p>Establish green remediation stormwater management approaches on remedial sites and expand green infrastructure implementation as part of redevelopment</p>	<p>Completed</p>

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WATERWAYS	11 Promote green space on remediated brownfield properties		
	OER has completed environmental investigations that enable the creation of parks in underserved neighborhoods in Staten Island and Brooklyn. Cleanup was performed by OER using federal funds to enable creation of a park at Mariners Marsh on Staten Island. The NYC Clean Soil Bank was used to provide free soil for creation of park space on Governor's Island. We have established conceptual plans for raised-bed community garden space suitable for use on brownfield sites. We have established the NYC Clean Soil Bank and are working with CBOs to provide clean soil free of charge for community gardens, affordable housing and other social equity uses. We have established OER funded grants to fund investigation and cleanup of properties to enable use for community gardens.	Create three Pocket Parks in collaboration with community planning organizations	Completed
		Create design for state-of-the-art community gardens on remediated brownfields	Completed
	CONTINUE IMPLEMENTING GREY INFRASTRUCTURE UPGRADES		
	1 Upgrade wastewater treatment plants to achieve secondary treatment standards		
	In May 2011, the City certified that the Newtown Creek Wastewater Treatment Plant meets federal Clean Water Act (CWA) standards for secondary treatment two years ahead of schedule. All 14 of the City's wastewater treatment plants now meet CWA secondary treatment standards.	Certify that the Newtown Creek Wastewater Treatment Plant (WWTP) meets secondary treatment standards	Completed
	2 Upgrade treatment plants to reduce nitrogen discharges		
	In 2013, DEP completed a \$237 million upgrade to the Wards Island Wastewater Treatment Plant that will reduce the amount of nitrogen discharged from the plant by nearly 50 percent. DEP is continuing construction at the Tallman Island Wastewater Treatment Plant and expects to complete the upgrade by the end of May 2014. The remaining plant upgrade and stabilization work is projected to be complete in February 2016.	Complete upgrades at the Wards Island WWTP	Completed
		Complete upgrades at the Tallman Island WWTP	In progress
		Complete upgrades at the Bowery Bay WWTP	Completed
	3 Complete cost-effective grey infrastructure projects to reduce CSOs and improve water quality		
	DEP certified completion of the Avenue V Pumping Station in June 2012 in accordance with a consent order but DEP could not operate the pump station at its new wet weather capacity of 80 MGD due to concerns with the structural integrity of an older brick-lined sewer downstream of the new wet weather force main. DEP is currently upgrading the facility and the projected completion date for this work is April 2014. DEP continues to work on the Gowanus Canal Pumping Station and Flushing Tunnel. DEP placed the Flushing Tunnel in partial operation starting December 2013 and is on schedule to complete the station by September 2014. In 2013, DEP continued work on the aeration system for Lower English Kills in Newtown Creek and will complete the project in 2014.	Complete Paerdegat Basin CSO Facility	Completed
		Complete Alley Creek CSO Facility	Completed
		Complete Avenue V Pumping Station	In progress
		Complete upgrades to the Gowanus Canal Pumping Station	In progress
		Complete upgrades to the Gowanus Canal Flushing Tunnel	In progress
		Construct an aeration system for Lower English Kills in Newtown Creek	Completed
	Complete a destratification facility at Shellbank Creek	Completed	
	4 Expand the sewer network		
	In 2013, DEP and DDC has completed design and bid projects in the Twin Ponds Area, Sheldon Avenue Area, and Richard Avenue area. These projects will install new sanitary and sewer storm infrastructure areas and the Twin Ponds projects will have Bluebelt components. In 2013, the City also initiated a program to advance sewer construction where possible to alleviate flooding in targeted areas affected by repeat events. Two accelerated construction projects were completed in late 2013, with studies underway for similar projects in southeast Queens.	Complete more than 60 miles of new or reconstructed sewers from FY08 to FY12	Completed
5 Optimize the existing sewer system			
In 2010, the City implemented more efficient work practices and used in-house staff to expand our sewer cleaning operations. In 2011, the City finished inspecting all 138 miles of interceptor sewers and in 2012, we completed the first two-year cycle of interceptor cleaning. In total, we removed 30 million gallons of material, freeing up storage capacity of 3.06 million gallons. Collectively, this translates into a reduction of combined sewer overflows of 100 million gallons per year. In addition, in 2012 the City inspected the remaining 219 tide gates and repaired or replaced those deemed necessary. Reported sewer backups continue to decline. In 2013, the City cleaned more than 760 miles of sewers and continues to expand several programs to address sewer backups, including programmatic degreasing and improved sewer backup response practices. In addition, we expanded the pilot to evaluate sewer manhole sensors and installed additional devices for a total of 64 throughout the city. These sensors measure the elevation of wastewater in the sewer and wirelessly transmit that information to DEP's computer systems, allowing DEP to dispatch crews promptly and fix the problem before it results in a sewer backup. In November, the city released the second annual State of the Sewers, which includes key performance indicators for sewer maintenance and construction for each borough.	As part of our standard operating procedures, will continue to inspect each tide gate once per month.	Completed	
	Clean 138 miles of interceptor sewers	Completed	
USE GREEN INFRASTRUCTURE TO MANAGE STORMWATER			
6 Expand the Bluebelt program			
In 2013, DEP continued to develop the Springfield Gardens Bluebelt in southeast Queens and accomplished a critical milestone for the Mid-Island Bluebelt by completing the Final Generic Environmental Impact Statement. The first capital project in the Mid-Island Bluebelt is scheduled to start construction in fall 2014 and will involve the restoration of New Creek's west branch. In addition, the City has advanced a second Mid-Island Bluebelt project called Last Chance Pond, estimated at approximately \$55 million.	Expand Bluebelt system into Queens	Completed	
7 Build public green infrastructure projects			
By the end of 2013, the City constructed more than 200 right of way bioswales in priority CSO tributary areas and continued to implement contracts to build thousands more bioswales in combined sewer areas administered by the Departments of Environmental Protection, Parks and Recreation, and Design and Construction, and the Economic Development Corporation.	28 GI sites have been completed, with an additional 5 substantially completed.	In progress	
	Capture the first inch of runoff from 70 additional acres of impervious surface	In progress	
8 Engage and enlist community stakeholders in sustainable stormwater management			
In 2013, DEP committed \$4.6 million to 11 grantees through the Green Infrastructure Grant Program. To date, there are 29 projects receiving a total of \$11.5 million and contributing \$5.6 million in matching funds. In addition DEP continued to host quarterly meetings with the Green Infrastructure Steering Committee and annual meetings with the Green Infrastructure Citizens Group. DEP also created new outreach materials and methods to notify the public about the construction and purpose of green infrastructure in their neighborhoods.	Implement a green infrastructure grant program	Completed	
	Seek input through the Green Infrastructure Citizens Group	In progress	

PROGRESS SINCE APRIL 2013	MILESTONES TO COMPLETE BY DECEMBER 31, 2014	STATUS
9 Modify codes to increase the capture of stormwater		
<p>The stormwater performance standard (or "stormwater rule") took effect in July 2012. By slowing the flow of stormwater to sewers, the stormwater rule allows the city to manage stormwater runoff from new development and redevelopment more effectively and maximize, to the greatest extent possible, the capacity of the city's combined sewer systems. In conjunction with the new stormwater rule, the City published a companion document, Guidelines for the Design and Construction of Stormwater Management Systems, to assist the development community and licensed professionals in the selection, planning, design, and construction of onsite source controls that comply with the new rule. Since the rule took effect, more than 300 sites were required to comply with the stormwater rule. Of those sites, planned source control technologies included 147 blue roofs, 115 tanks, 34 drywells, and 7 perforated pipe systems, among others.</p>	Require greater on-site detention and infiltration for new development and redevelopment	Completed
	Require greater stormwater runoff controls from construction sites	In progress
	Study potential code changes to incorporate blue roofs on existing buildings	In progress
	Develop new design standards for sidewalks	Not started
	Study improved regulation of open industrial uses to reduce runoff	In progress
10 Provide incentives for green infrastructure		
<p>In 2013, the Green Roof Tax Abatement was renewed by the State legislature for an additional five years with several amendments to further incentivize the construction of green roofs. In 2013, DEP's stormwater discharge fee to stand-alone parking lots increased from \$0.05 to \$0.06 per square foot account for water and sewer rate increases. The program billed 455 accounts in 2013. In the summer of 2013, the City conducted additional analysis to capture stand-alone parking lots not originally charged in 2011 or 2012, and will begin billing these additional accounts in 2014. DEP identified 143 additional accounts that will be billed approximately \$50,000 in 2014. In 2014, DOB and DEP are working together to update the City's Green Roof Tax Abatement rule to align with updates made by the state in their extension of the program, which was signed by the Governor in late 2013.</p>	Evaluate the feasibility of using price signals to reduce stormwater runoff	Completed
	Evaluate the efficacy of the green roof tax abatement	Completed
REMOVE INDUSTRIAL POLLUTION FROM WATERWAYS		
11 Actively participate in waterway clean-up efforts		
<p>In 2013, the City continued to provide information to EPA to characterize the degree and sources of contamination, and collaborate with other stakeholders to determine the most cost-effective and scientifically-sound remediation for the Gowanus Canal and Newtown Creek. In 2013, the City began dredging Paerdegat Basin, a tributary of the Jamaica Bay in southern Brooklyn to remove accumulated CSO sediment and reduce odor in the surrounding community.</p>	Participate in the Superfund investigation and feasibility study in the Gowanus Canal	In progress
	Participate in the Superfund investigation in Newtown Creek	In progress
	Submit application to dredge CSO mounds for Gowanus Canal and Fresh Creek	Completed
	Begin CSO dredging in Paerdegat Basin	In progress
	Complete dredging in Hendrix Creek	Completed
PROTECT AND RESTORE WETLANDS, AQUATIC SYSTEMS, AND ECOLOGICAL HABITAT		
12 Enhance wetlands protection		
<p>Throughout 2013, the City worked with state and federal partners to use cutting edge remote-sensing datasets to update our understanding of the city's wetland resources, for example through the creation of a one foot Digital Elevation Model in order to better represent potential wetland areas based on LIDAR data. DEP also continued to work with federal, State and local stakeholder groups to identify wetland restoration opportunities and volunteer efforts to enhance wetland protection.</p>	Transfer at least five City-owned wetlands to DPR	Completed
	Work with state and federal partners to update wetlands maps	In progress
	Modify the Waterfront Revitalization Program to designate additional sites of ecological importance	Completed
	Evaluate the vulnerability of salt marshes through additional monitoring	In progress
	Develop a comprehensive strategy for wetlands	Completed
13 Restore and create wetlands		
<p>The City continued to make progress in 2013 on wetland creation and restoration projects. Major construction in the Paerdegat Basin restoration was completed in December 2013, and the project has moved into the monitoring and maintenance phase. Black Wall and Rulers Bar marsh islands restoration were also completed in 2013, with those projects moving into maintenance and monitoring as well.</p>	Complete Paerdegat Basin restoration	Completed
	Complete Pugsley Creek Park restoration	Completed
	Complete Soundview Park restoration	Completed
	Complete Bronx River restoration	In progress
	Complete Randall's Island shoreline restoration	In progress
	Complete Drier Offerman Park restoration	Completed
	Complete Meadow Lake restoration	In progress
	Complete Freshkills North Park restoration construction by 2013 summer	Completed
	Invest \$15 million in wetlands restoration in Jamaica Bay	In progress
14 Improve wetlands mitigation		
<p>The City, led by the EDC, continued to meet with the Interagency Review Team in 2013 to finalize wetland banking prospectus and credit ratios. The City has made substantial progress and individual ecosystem community ratios have been submitted and are awaiting acceptance from the Interagency Review Team. NYCEDC has completed a prospectus for the Saw Mill Creek pilot site and is now pursuing approval for the Mitigation Bank Instrument, which is expected to be approved in the fall of 2014.</p>	Establish a wetland mitigation banking or in-lieu fee program	In progress
15 Improve habitat for aquatic species		
<p>In 2013, the City worked to leverage grant funds to support aquatic habitat improvement projects. For example, a grant application for oyster restoration at Head of Bay - Jamaica Bay was submitted to the Department of Interior in December 2013; the results of award are expected in April 2014. Using the Comprehensive Restoration Plan (CRP) as a guide, the City is evaluating sites identified for future restoration as part of its long term strategy to build off of lessons learned through pilot projects to advance aquatic restoration efforts.</p>	Expand oyster pilot project and conduct additional research	In progress
	Develop a strategy to advance restoration efforts	In progress
	Complete ribbed mussel bed pilot	Completed
	Complete eel grass pilot	Completed

PROGRESS SINCE APRIL 2013	MILESTONES TO COMPLETE BY DECEMBER 31, 2014	STATUS
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WATER SUPPLY	ENSURE THE QUALITY OF OUR DRINKING WATER		
	1 Continue the Watershed Protection Program		
	In 2013, the City continued to implement the full complement of FAD programs. A draft Revised FAD was issued for public comment by NYSDOH in August 2013. The draft FAD included new requirements for certain land acquisition and the development of flood hazard mitigation programs. The City has proceeded to secure funding and plan for implementation of the new initiatives. A final FAD is expected to be issued in 2014.	Maintain the city's Filtration Avoidance Determination (FAD)	In progress
		Seek to acquire land by contacting the owners of at least 50,000 acres of land every year	Completed
	2 Protect the water supply from hydrofracking for natural gas		
	There have been no significant changes since 2012 in the City's advocacy for strong protections for water supply infrastructure. The City is still waiting for the New York State Department of Health to complete a study of the health impacts of hydrofracking.	Work with the State to secure the prohibition of hydrofracking within the city's watersheds	Completed
	3 Complete the Catskill/Delaware Ultraviolet (UV) Disinfection Facility		
	In October 2013, DEP announced the completion of the Catskill/Delaware Ultraviolet Treatment Facility. The \$1.5 billion Catskill/Delaware UV Facility will provide an added layer of protection against pathogens and other harmful microorganisms for the drinking water consumed by more than nine million residents of New York City and portions of Westchester County.	Complete construction	Completed
	4 Complete the Croton Water Filtration Plant		
	In 2013, the City continued construction of the Croton Water Filtration Plant and began testing the operations of one half of the plant. The City is on schedule to begin full operations no later than 2015.	Complete construction	In progress
	MAINTAIN AND ENHANCE THE INFRASTRUCTURE THAT DELIVERS WATER TO NEW YORK CITY		
	5 Repair the Delaware Aqueduct		
	Through the Water for the Future program, the City will repair leaking sections of the Delaware Aqueduct, ensuring reliable water for decades to come. In 2013, DEP began construction of the shafts in Newburgh and Wappinger, NY. Design and construction of the project continues to be on schedule and on budget. In 2013, the City also completed the \$17.8 million upgrade to the Cross River Pumping Station that has more than doubled its capacity to pump water from the Croton Watershed to the Delaware Aqueduct. DEP is currently planning facilities to restore groundwater services in Queens. DEP plans to rehabilitate approximately 18 stations in Southeast Queens, which will deliver a continuous goal of approximately 33 million gallons of water per day. Construction is scheduled to begin in 2017.	Break ground on the Aqueduct bypass	In progress
		Complete upgrades to the Cross River Pumping Station	Completed
		Complete design for the upgrades to the Croton Falls Pumping Station	Completed
Complete rehabilitation of the New Croton Aqueduct		In progress	
Begin design for the upgrades to the Jamaica groundwater system		In progress	
6 Connect the Delaware and Catskill Aqueducts			
In 2013, DEP broke ground on the Shaft 4 connection of the Delaware and Catskill Aqueducts and expects to complete construction in 2016.	Start construction	In progress	
7 Pressurize the Catskill Aqueduct			
In 2013, DEP analyzed various alternatives during a series of workshops and technical review sessions during the facility planning process. In 2014, DEP will refine project objectives and reach consensus on capacity requirements to support a final facility plan that will be issued in 2014.	Complete Facility Planning and Basis of Design Report	In progress	
8 Maintain and upgrade dams			
Reconstruction of the Gilboa Dam and spillway is 82% complete and on track to finish in fall 2014, two years ahead of schedule. In July 2013, DEP launched the reconstruction contract for New Croton Dam, and substantial completion is anticipated by July 2016 at a cost of \$13.5 million. The New Croton Dam is the last of the planned major dam reconstruction projects in the Croton Watershed.	Begin rehabilitation of the Gilboa Dam	Completed	
	Begin engineering assessments for dams as required by the State	In progress	
MODERNIZE IN-CITY DISTRIBUTION			
9 Complete City Water Tunnel No. 3			
In October 2013, the City announced the activation of the Manhattan portion of Stage 2 of City Tunnel No. 3. In total, this project cost \$5 billion and spanned 40 years in construction.	Activate Stage 2 in Manhattan	Completed	
10 Build a backup tunnel to Staten Island			
In 2012, in partnership with the Port Authority of New York and New Jersey and the New York City Economic Development Corporation, DEP launched tunneling operations for construction of the Staten Island Siphon. During Sandy, the Staten Island shaft site was inundated with water and the tunnel boring machine was damaged, delaying the project for approximately one year. The tunnel boring machine is currently being refurbished and we anticipate completing tunnel operations within the next few years.	Begin construction	In progress	
11 Upgrade water main infrastructure			
DEP initiated construction in Coney Island and continues to make substantial progress on key water supply projects in targeted areas, such as the Rockaways. Some major improvements were also made citywide. Completed projects include a trunk water main replacement in Atlantic Avenue, Brooklyn, valued at 14.5 million and a trunk water main project on E59th Street, Manhattan Community Boards 6 and 8, valued at 33.5 million. This project was a key component in the activation of City Water Tunnel No. 3, connecting Shaft 31B to the distribution network. Finally, DEP invested over \$30 million in three distribution water main projects in Queens, improving water quality and distribution in Community Boards 4, 6, 8, 9 and 13.	Replace 80 miles of water mains	Completed	

PROGRESS SINCE APRIL 2013		MILESTONES TO COMPLETE BY DECEMBER 31, 2014	STATUS
WATER SUPPLY	IMPROVE THE EFFICIENCY OF THE WATER SUPPLY SYSTEM		
	12 Increase operational efficiency with new technology		
	As of March 2014, the City has installed Automated Meter Reading (AMR) devices for over 96 percent of our customers. The AMR installation project is now substantially complete. In February 2012, the City expanded the Leak Notification Program to proactively notify large building owners of potential leaks and enable owners and managers to quickly respond and fix leaks before they become a costly problem. Since starting the program in March 2011, more than 54,000 customers have saved an estimated \$45 million in otherwise wasted water or damaging leaks. Since January 2012, DEP staff have replaced over 12,000 underperforming meters as part of an OpX initiative.	Complete the installation of AMR devices citywide	Completed
		Replace 10,000 large water meters	In progress
		Optimize delivery by integrating forecasting models into operations	Completed
	13 Increase water conservation		
	In 2013, the City completed and released the Water Demand Management Plan, launched the Municipal Water Efficiency Program, and completed conservation retrofits in 16 schools, 12 fire houses, and over 100 sprayshowers. The overall program will target municipal buildings for water savings of nine million gallons per day and cost \$60 million by 2019. The City completed analysis of costs and benefits of widespread replacements of inefficient toilets and developed a strategy to achieve an optimal flow. The City will launch the Toilet Replacement Program to replace approximately 200,000 fixtures in its first Phase. On August 8, 2012, the Local Law 41 of 2012, the Plumbing Code Revisions Bill (Intro 807A) was signed into law. The new law incorporates greywater reuse standards into NYC Plumbing Code by bringing it up to date with the 2009 edition of the International Plumbing Code and making amendments to the Code that reflect the unique character and needs of the City.	Release a design manual for water conservation in buildings	Completed
		Pilot advanced strategies for water conservation in City buildings	In progress
		Launch a process to replace all old, inefficient toilets in City buildings	In progress
		Analyze the costs and benefits of widespread replacements of inefficient toilets and develop a strategy to achieve an optimal flow	Completed
Develop comprehensive greywater reuse standards		In progress	
TRANSPORTATION	IMPROVE AND EXPAND SUSTAINABLE TRANSPORTATION INFRASTRUCTURE AND OPTIONS		
	1 Improve and expand bus service throughout the city		
	The City continues to strive to improve bus operations in all boroughs with transit signal prioritization on eleven routes in five boroughs. In March 2014, BusTime expanded to cover all NYCT/MTA routes in all five boroughs. The Bx41 Webster Avenue SBS launched in June 2013, followed by the B44 Nostrand/Rogers Avenues SBS in November 2013. The M60 125th Street SBS, which also serves La Guardia Airport, will launch in May 2014. Planning for the Woodhaven Boulevard SBS is well underway, with initial bus priority enhancements to be installed in Fall 2014.	Launch Nostrand Ave., Brooklyn SBS Corridor	Completed
		Launch LaGuardia, Queens SBS Corridor	In Progress
		Launch 34th Street, Manhattan SBS Corridor	Completed
		Launch Hylan Blvd., Staten Island SBS Corridor	Completed
		Launch initial Woodhaven Blvd. SBS Corridor	In Progress
		Implement bus operations improvements on all routes, with transit signal prioritization, on eleven routes in five boroughs	In progress
		Install Bus Time on all 31 bus routes in Staten Island and B63 in Brooklyn	Completed
		Improve bus priority of Ed Koch Queensboro Bridge and approaches	Completed
	2 Improve and expand subway and commuter rail service		
	Fulton Center is planned to open in Summer 2014. Construction of the 7 Line extension is nearing completion and revenue service is expected in late 2014. Construction continues on the Second Ave Subway, with revenue service currently expected in December 2016. Major underground blasting has been completed on the East Side Access Project and the project schedule is currently being updated.	Complete construction of 7 Line extension to the Hudson Yards area of far west Midtown	In progress
		Continue construction of first phase of Second Avenue Subway	In progress
		Continue construction of East Side Access, the LIRR's direct service to Grand Central Terminal	In progress
		Complete analysis for North Shore Transportation Improvements, Staten Island	Completed
	3 Expand for-hire vehicle service throughout our neighborhoods		
	TLC issued the first Boro Taxi permit in June 2013 and by November 2013 had issued all 6,000 permits that it was allowed to issue in the program's first year. By March 2014 over 4,300 Boro Taxis, including nearly 250 wheelchair accessible Boro Taxis, were already in service providing call-ahead and street hail service in Brooklyn, Bronx, Queens, Staten Island, and Northern Manhattan neighborhoods that had previously lacked access to safe, convenient and legal street hail service.	Allow livery vehicles to accept street hails outside of Manhattan	Completed
	4 Promote car-sharing		
	The City has completed a light duty fleet reduction of nearly 500 in 2013. The City also installed car sharing technology on 580 light duty vehicles at four agencies. This is the largest fleet share program in the country. In 2013, the City more than doubled biodiesel use through a program of using B20 citywide during the warm weather months. The City now operates 153 EV charging stations and uses over 600 plug in units of some type. The City has 27 more EV sedans on order now for delivery in Spring 2014. Finally, the City has begun implementation of a new citywide fuel tracking system which will be complete by December 2014. This system will allow the city to better manage usage and consumption.	Assess car-sharing potential for City fleet vehicles	Completed
5 Expand and improve ferry service			
East River Ferry total ferry ridership nearing 3 million since 2011 launch which tripled initial estimates. Originally scheduled to terminate in June of 2014, the ferry will continue to provide service along the Manhattan, Brooklyn and Queens waterfront until at least 2019 – a five-year extension in response to enormous demand.	Launch East River service pilot to support the continued redevelopment of the East River waterfronts	Completed	
6 Make bicycling safer and more convenient			
Citibike launched in May 2013 with 330 stations across Manhattan south of 59th Street and parts of Brooklyn. As of March 2014, the system has logged 6.8 million trips covering 12.6 million miles and has nearly 100,000 annual members.	Double bike commuting from 2007 levels	Completed	
	Launch pilot bike-sharing program	Completed	
As of March 2014, DOT has installed bike racks at 11,734 sites across the city, including at 31 on-street bike corrals requested and maintained by local businesses.	Install bike racks near 15 subway stations	Completed	

PROGRESS SINCE APRIL 2013	MILESTONES TO COMPLETE BY DECEMBER 31, 2014	STATUS
7 Enhance pedestrian access and safety		
<p>"Sustainable Streets: 2013 and Beyond" charts DOT's progress in making streets safer, improving mobility, and maintaining and enhancing infrastructure since 2007. Bus Stops under the E1 construction will start in Spring 2014 at 6 intersections, with an additional 15 locations to follow by 2015. Planning has begun for subsequent locations. In 2013, DOT launched WalkNYC with wayfinding maps at all 330 Citibike stations and 75 standalone panels in Midtown, Lower Manhattan, Long Island City and Prospect Heights. In addition, WalkNYC iconography was integrated into BusTime countdown signs on the new Nostrand Ave SBS route.</p>	Install countdown pedestrian signals at 1,500 intersections	Completed
	Adopt new guidelines for public parking garages that promote pedestrian safety	In progress
	Continue to implement Safe Routes to Transit projects, including nine "Bus Stops Under the E1s"	In progress
	Implement 32 Safe Routes to School projects	In progress
	Design a standardized, consistent pedestrian wayfinding system	Not started
REDUCE CONGESTION ON OUR ROADS, BRIDGES, AND AT OUR AIRPORTS		
8 Pilot technology and pricing-based mechanisms to reduce traffic congestion		
<p>ParkSmart was successfully introduced in two areas (Jackson Heights and Cobble Hill) in 2013. DOT plans to launch the program in two new neighborhoods in 2014.</p>	Expand ParkSmart program to three new neighborhoods	In progress
	Install 4,500 Muni-Meters	Completed
	Install Intelligent Transportation Systems (ITS) approach to reducing congestion in selected areas	Completed
9 Modify parking regulations to balance the needs of neighborhoods		
<p>In May 2013, Manhattan Core Text Amendment was adopted, enacting improvements to off-street parking regulations to ensure that the right amount of parking spaces is being provided to support Manhattan Core businesses, residents and visitors while also addressing the city's sustainability objectives to encourage public transit and reduce energy use and greenhouse gas emissions.</p>	Explore modifications to Manhattan Core parking regulations	Completed
	Explore revisions to off-street parking requirements in areas close to the Manhattan Core	Completed
10 Reduce truck congestion on city streets		
<p>DOT have installed 8 delivery windows all over the city, with many more to come. DOT has continued to expand paid commercial parking in the Manhattan core and high-demand areas in the outer boroughs. New York Container Terminal, which has undergone approximately \$32 million in renovations, has the capability of handling 425,000 containers annually, and can work three vessels simultaneously along its 2,500 linear feet (760 meters) of berth accessed via a modern truck entry complex.</p>	Implement new peak and off-peak delivery windows in congested areas	In progress
	Implement commercial paid parking at high-demand loading zones citywide	In progress
	Improve landside access to the New York Container Terminal	In progress
11 Improve freight movement		
<p>The Department of City Planning (DCP), the Department of Transportation (DOT), Economic Development Corporation (NYCEDC), Housing Preservation and Development (HPD) and the Mayor's Office of Long Term Planning and Sustainability (OLTPS) released The Sheridan Expressway Study: Reconnecting the Neighborhoods Around the Sheridan Expressway and Improving Access to Hunts Point. Last year, NYCEDC achieved two milestones for improving rail operations at the Hunts Point Produce Market food distribution pathway. (1) We obligated a \$10m federal TIGER grant to be deployed as part of an overall \$22m rail infrastructure project; and (2) we completed conceptual design of the improvements. The first major set of improvements – rehabilitating rail spurs at the Produce Market – is slated to begin construction this summer. The second major set of improvements – installing new rail infrastructure – has moved into the next stage of design. Environmental Assessment for the 65th Street transload project will kickoff shortly. NYCEDC is in the process of establishing new rail transfer hubs in Brooklyn and Staten Island.</p>	Study the Sheridan Corridor in the Bronx	Completed
	Launch a study of New York City's food distribution pathways	In progress
	Accommodate more inbound freight trains at Hunts Point	In progress
	Establish new rail transfer hubs in Brooklyn and Staten Island	In progress
	Increase rail and waterborne freight deliveries to the South Brooklyn Marine Terminal	Completed
12 Improve our gateways to the nation and the world		
<p>While the FAA reauthorization bill includes policy language that is supportive of investing Next Generation Air Traffic Control system upgrades in areas where the capacity is most constrained and demand is the greatest, much of the infrastructure and procedures have been implemented outside the very complex and busy New York region airspace. Funding in Federal FY 2014 was constrained by the sequester and the government shutdown. The Obama administration, in its FY 2015 budget, has proposed less funding than the year before. The greatest benefits from this technology upgrade will come from improvements in the New York region and the City should advocate for continued investments.</p>	Advocate for federal investment in NE Corridor passenger rail and improved aviation traffic control	In progress
	Launch study of JFK air cargo industry	Completed
<p>Last year, EDC in conjunction with City DOT and the Port Authority of New York and New Jersey conducted a study on the specific truck access routes that air cargo related trucks use to access JFK International Airport. The study showed that most trucks entered and exited the City on a handful of major interstate routes, and that the vast majority of these trucks used the Van Wyck Expressway to access JFK, as opposed to using local arterials. Results of the study are being shared with leadership at each of agencies, with a goal of informing a potential access rule change recommendation this spring 2014.</p>	Improve truck access to JFK Airport	In progress
MAINTAIN AND IMPROVE THE PHYSICAL CONDITION OF OUR ROADS AND TRANSIT SYSTEM		
13 Seek funding to maintain and improve our mass transit network		
<p>City will continue to work with the MTA, State, and regional jurisdictions that rely on commuter rail to identify stable funding to renew, improve, and expand transit in the metropolitan area.</p>	Fund MTA Capital Program beyond 2011	In progress
14 Maintain and improve our roads and bridges		
<p>DOT has completed Manhattan Bridge contract 14, which included replacement of 628 bridge suspenders, rewrapped cables and upgraded necklace lighting. On the Brooklyn Bridge, rehabilitation is moving towards completion later in 2014. Progress as of November 2013 includes completion of 78% of total painting. During the worst winter in 20 years, DOT has filled over 140,000 potholes as of March 25, 2014. The City continues to pursue legislation for joint bidding of public works.</p>	Seek opportunities to improve bridge conditions	In progress
	Seek opportunities to improve the state of repair of the city's streets	In progress
	Seek legislation for joint bidding of public works projects	In progress

PROGRESS SINCE APRIL 2013	MILESTONES TO COMPLETE BY DECEMBER 31, 2014	STATUS
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ENERGY	IMPROVE ENERGY PLANNING			
	1 Increase planning and coordination to promote clean, reliable, and affordable energy	The City has been advocating for clean, reliable, and affordable energy through several stakeholder groups, including Con Edison rate case sub-groups, the Energy Policy Task Force, the Sustainability Advisory Board, the New York Smart Grid Consortium, the Distributed Generation Collaborative, and several others.	Work with multiple energy stakeholders to encourage clean energy supply investments, effective incentive programs, shared data collection and management, and coordinated energy forecasting	In progress
	INCREASE OUR ENERGY EFFICIENCY			
	2 Implement the Greener, Greater Buildings Plan	NYC Green Buildings & Energy Efficiency was published in 2012. Approximately 75% of required buildings complied for the second year of benchmarking in August 2013. The second and third benchmark reports were released in September 2013 and will be released in April 2014. Benchmarking data was publicly disclosed online for the second year in a row in September 2013, with data for multifamily building released for the first time. New York City's municipal and private building benchmarking data was anonymized and incorporated into the U.S. Department of Energy (DOE)'s national data-sharing platform called the Building Performance Database in September 2013. The City also partnered with the U.S. DOE's Energy Data Accelerator in September to increase access to data on energy use in buildings as part of the U.S. Climate Action Plan's Better Buildings Accelerator programs. LL87 data was collected from over 1,500 energy efficiency reports in 2013 from both regular and early compliance properties. Approximately 1,600 LL87 submissions were submitted in the first year of enforcement for an estimated compliance rate of 70 percent, which included both submissions due in 2013 and several hundred "early compliance" submissions.	Complete the development of rules and guidelines and fully enforce the Greener, Greater Buildings Plan	In progress
	3 Improve our codes and regulations to increase the sustainability of our buildings	A total of nine Green Codes Task Force (GCTF) proposals were enacted. Efforts are ongoing to construct sustainable sidewalks, apply the most current code to existing buildings, enhance code training for architects and engineers, and reduce excessive paving on sites. Nine GCTF recommendations were re-introduced during the new legislative session in March 2014. Building Resiliency Task Force (BRTF) recommendations to increase building resiliency, increase energy efficiency and mitigate climate change were released in June 2013. Of the 22 pieces of legislation that were introduced in 2013 based on BRTF recommendations, 17 passed. DOB legislated ICC-based ASHRAE construction codes in 2005/2007 and energy code in 2009	Complete the incorporation of the Green Codes Task Force proposals into law	In progress
	4 Improve compliance with the energy code and track green building improvements citywide	Staffing for a dedicated Energy Code Enforcement program at DOB was completed in late 2013. This is part of a 90% compliance by 2017 enforcement scheme. A team of plan examiners was hired in 2013 dedicated to the review of all new building and major alteration applications for compliance with the NYC Energy Conservation Code. The new review process was initiated in January 2014. In addition to the plan examination team, the Department of Buildings is in the process of developing an energy code enforcement program for inspections of permitted work. The first energy code inspections began with random audits in February, 2014, and the program will be ramping up over the coming year. DOB efforts to develop a "green report card" are on hold and private sector is making progress.	Aim to achieve compliance by 2017	In progress
	5 Improve energy efficiency in smaller buildings	A cost-benefit study for implementing an energy efficiency program in small residential buildings was conducted in February 2014. The City is exploring the opportunity to follow model of the challenge for large multifamily buildings in place of an energy efficiency competition.	Develop a strategy to increase the energy efficiency of smaller buildings	In progress
	6 Improve energy efficiency in historic buildings	LPC streamlined its rules in order to reconcile energy efficiency goals with its requirements. Historic preservation societies and advocacy groups played a role in the rule review through the public Citywide Administrative Procedure Act (CAPA) process. A review in 2013 led LPC to conclude that there is no conflict between preservation requirements and current energy codes. Currently, the exemption of National Register buildings (outside the purview of LPC) has not generated any conflicts between energy efficiency and historic preservation goals.	Work with historic preservation societies and energy code councils to reconcile the energy codes with preservation requirements	In progress
	7 Provide energy efficiency financing and information	In 2013 NYCEEC approved four loans under the NYCEEC/Hess-Oil to Gas Conversion Pilot Program (two completed, two under construction). Approved three loans under the Clean Heat Interim Line, one partially funded, two additional under construction. Commenced construction using \$2 million of the \$17.5million HDC PERL line for #6 to NG conversion for Franklin Plaza (other projects in the pipeline) Nearing completion on the Roosevelt Landing(multifamily) cogen and energy efficiency project (NYCEEC commitment \$4.5 million with NYSERDA incentives)on Roosevelt Island. Completed construction and commenced operations on the Millennium Hilton cogen project. Commenced construction on Millenium Hilton cogen project . Executed a \$200 Green Mortgage (M-PIRE) program with FNMA for coops and rental buildings in NYC with a \$5 million credit enhancement facility (marketing underway with DUS lenders). Refinancing negotiations underway with 125 Maiden Lane (commercial coop in downtown Manhattan) to provide for energy efficiency and resiliency measures. Established a small multifamily building energy efficiency and conversion platform with ConEdison (simplified application, approval process) three project in funding stage. NYCEEC has contracted with a marketing and branding firm to create marketing collateral and to build out our website to provide information on our financing products and the innovations that we have created in the energy efficiency finance space. Finally, NYCEEC have also been responsible for creating the technical manuals that govern how energy savings should be measured for consideration and inclusion in the FNMA and HDC energy efficiency mortgage products.	Create a not-for-profit corporation, the New York City Energy Efficiency Corporation (NYCEEC), to provide energy efficiency financing	Completed
	8 Create a 21st century energy efficiency workforce	A survey was conducted in February 2014 to determine the number of local and regional professionals qualified to conduct LL87 work and holding approved building certifications. A related study by NYCEDC found local building companies face strong competition from out of city companies, and green workforce jobs require specialized experience and complex skills in addition to numerous trainings and certifications that are already available. In 2013, Green Light New York (GLNY) reached out to nearly 2,000 people. In early 2014, GLNY will open Phase 1 of the Energy Efficiency Resource Center. Recently adding more staff, GLNY launched a new website, held a symposium and provided training classes in the new location in April 2014. A study on energy savings potential of retrofitting advanced lighting controls in office buildings released in January 2013 led to two demonstration projects ongoing in 2014: collaboration with Lawrence Berkeley National Lab, and two companies in New York City to create metered and measured demonstrations of advanced lighting systems. GLNY is in the process of creating a web library of successful case studies and developing a program to connect deployable clean technological solutions with the building sector. In 2014, the Mayor's Office joined the Board of Direction of the Commercial Workforce Certification Council to develop nationally accepted credentialing standards for professionals in energy efficiency services.	Work with Amalgamated Green to ensure that we have a qualified workforce to implement our sustainability policy	Completed
	Partner to launch Green Light New York, an energy efficiency education center for building professionals	Incorporate Energy Code training into licensing and continuing education requirements for electricians	Completed	
	Adopt national standards for energy efficiency professionals	Develop and implement a sustainable contractors designation program for electricians, plumbers, and general contractors	In progress	
			Completed	

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ENERGY	9 Make New York City a knowledge center for energy efficiency and emerging energy strategies		
	The City has partnered with a number of major academic institutions to develop and expand benchmarking analytics program. The goal is to institutionally incorporate program with our cultural institutions.	Work with an academic partner to create a world-class energy efficiency engineering and building science program	In progress
		Partner with an academic institution to develop a standardized energy database and make this data widely available	In progress
		Partner with our cultural institutions to showcase the best new building strategies	Not started
	10 Provide energy efficiency leadership in City government buildings and operations		
	The City continues to explore opportunities for alternative procurement mechanisms in order to increase our capacity to implement the most beneficial energy efficiency projects. Through the development of funding programs for operations and maintenance projects as well as an interagency energy use competition the City has made progress towards incentivizing improved operations and maintenance. The City is in the process of launching the Innovative Demonstrations for Energy Adaptability (IDEA) program which will give vendors with eligible emerging technologies the opportunity to pilot them in City facilities. From a 2009 partnership between the Mayor's Office and the NRD Center for Market Innovation (CMI), CMI continues to collaborate with the Mayor's Office, as well as the Washington DC Downtown Business Improvement District, Center for American Progress, CERES, ULI Greenprint Foundation, and the U.S. Green Building Council to target and encourage key real estate industry stakeholders to adopt energy aligned lease language into their building leases. CMI, with the Environmental Defense Fund and Cycle-7, developed a training program and curriculum that is being rolled out in New York City and other cities nationwide. Staten Island, NY: P.S. 62 Richmond, Staten Island, the first net zero energy school in New York State, broke ground in 2012 and will be complete and ready for use by Fall 2015.	Pursue a variety of procurement mechanisms for 30 x 17, including Energy Savings Performance Contracting	In progress
		Incentivize City agencies to reduce energy consumption by improving operations and maintenance	In progress
		Create standards and a handbook for high performance, green renovations of typical space types	In progress
		Create a board to review new technologies and pilot them in City buildings	In progress
		Incorporate energy-aligned lease language in City government leases, and promote energy-aligned leases in the private sector	In progress
		New York City government to pilot a net-zero school, a Passive House project, and a deep energy retrofit project	In progress
	11 Expand the NYC Carbon Challenge to new sectors		
	The NYC Carbon Challenges are ongoing. The City launched the Multifamily Challenge with 10 property management firms in December 2013, and three more joining as of April 2014. One university met the 30% emissions reduction goal, joining five other challenge participants who have completed the challenge in less than ten years. The City partnered with NYSERDA to create a handbook of energy efficiency strategies for co-op and condo buildings.	Continue to support the University and Hospital Challenges, and develop "stretch goals"	In progress
		Launch at least two new NYC Carbon Challenges	Completed
	PROVIDE CLEANER, MORE RELIABLE, AND AFFORDABLE ENERGY		
	12 Support cost-effective repowering or replacement of our most inefficient and costly in-city power plants		
	The City continues to work with the New York State electricity market operator to ensure that the latest repowering market rules will encourage the entry of cleaner and more efficient generation sources, and extend appropriate preferences to renewable power in recognition of its value in advancing our public policy goals	Advocate for a wholesale energy market design that does not discourage sensible repowering and new generation projects	In progress
	13 Encourage the development of clean distributed generation		
	The Mayor's Office continues to work with ConEdison, National Grid, New York Power Authority and the Public Service Commission to streamline permitting and interconnection processes. The Public Service Commission is expected to convene a proceeding in early 2014 to address the implementation of DG resources with the City, State and utilities. The City will advocate vigorously for measures to reduce regulatory barriers and permit the wider implementation of distributed generation to bolster resilience and reliability.	Examine the feasibility of developing clean DG at various City-owned sites and assets	Completed
		Work with utilities and project developers to streamline permitting and interconnection processes and to improve coordination of electric and gas distribution planning	In progress
		Advocate for cost-effective ratepayer-funded incentives to catalyze clean DG development	In progress
	14 Foster the market for renewable energy in New York City		
	As a part of the Rooftop Solar Challenge (a US DOE SunShot funded program), CUNY, OLTPS, and EDC have been working to develop a community solar system on a multi-family building, giving tenants access to rooftop solar when they don't normally have any. The group is also developing a "Solarize" style program in which CUNY would work with a neighborhood group to aggregate community purchasing power to achieve economies of scale. OLTPS works directly with NYC Carbon Challenge participants on their GHG accounting for local renewable energy credits (RECs), such as the reduction in emissions that would result from power purchased from renewable energy that will be generated at the former Fresh Kills Landfill. The City is working with ConEdison and other parties to develop a website. 1.8 MW of solar PV is currently under construction at four sites across the city. DCAS and OLTPS are evaluating expansion of the solar PPA model to other City buildings. In November 2013, the City selected SunEdison to develop up to 10 MW of solar PV at Fresh Kills landfill. This system will be built, owned, and operated by SunEdison, who will also sell the energy generated to a third party. The Department of Interior has issued a statement of competitive interest for offshore wind farm applications, and now has an active agency review process under way. In February 2013, FERC issued draft EA for the development of a hydroelectric facility at the Cannonsville Reservoir (16 MW). The City plans to submit final license applications to FERC for two additional hydroelectric projects on upstate reservoirs. DEP is also studying traditional and novel hydroelectric potential throughout the water supply, distribution and wastewater treatment systems, but was unable to find additional potential. A 12 MW cogeneration system that will use waste gas is being designed for use at the North River Wastewater Treatment Plant. DEP also released a feasibility study for cogeneration at Wards Island, and a contractor has been selected. Newtown Creek WWTTP will accept food waste to develop a waste gas to grid project. A contract was finalized in November 2013, and the system will be operational in Fall 2015.	Work with stakeholders to explore ways to pool consumer purchasing power and demand for locally produced renewable energy	In progress
		Work with Energy Service Companies to conduct greenhouse gas accounting for local purchases of Renewable Energy Credits	In progress
		Develop an online solar map and a solar PV performance monitoring network to promote market growth and improve integration with utility planning	Completed
		Work with Con Edison and other parties to explore the development of a one-stop, centralized website for permit application and tracking	In progress
		Install small-scale solar PV and solar thermal projects at City-owned sites	In progress
		Explore public-private partnerships to develop utility-scale solar energy projects at capped municipal landfills	In progress
	Work with state and federal regulators to support cost-effective proposals for both public and private offshore wind projects that will benefit New York City	In progress	
	Explore the feasibility of developing small scale hydroelectric projects at upstate reservoirs and in water and wastewater distribution systems in a cost-effective and environmentally sensitive manner	In progress	
	Undertake waste-gas-to-grid and cogeneration projects at City-owned buildings and infrastructure sites	In progress	
	Reuse as an energy resource 60% of anaerobic digester gas produced in our wastewater system by 2017	In progress	
MODERNIZE OUR TRANSMISSION AND DISTRIBUTION SYSTEM			
15 Encourage conversion from highly polluting fuels by increasing natural gas transmission and distribution capacity and improving reliability.			
The New Jersey/New York pipeline, designed to handle 1200 pounds per square inch (psi) of pressure, while its actual operational pressure is expected to be between 700-800 psi of pressure in Staten Island, and 350 psi in Manhattan - was installed November 2013. Subject to approval by the Federal Regulatory Commission, the Williams pipeline is also expected to enter service before the 2014-2015 peak winter gas demand season and accelerate natural gas distribution. Natural gas development and distribution regulations and safety standards are being reviewed at the federal, State and City level.	Work with pipeline developers, regulators, and community stakeholders to facilitate the permitting and development of appropriately sited natural gas transmission lines	In progress	
	Work with utilities, regulators, and stakeholders to accelerate natural gas distribution upgrades in the areas where they can have the most impact in reducing residual fuel usage and improving air quality	In progress	
	Advocate for improved regulations and safety standards for natural gas production and transmission nationwide	In progress	

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ENERGY	1.6 Ensure the reliability of New York City power delivery		
	<p>The NYS Department of Environmental Conservation has proposed denial of a water discharge permit for the Indian Point power plant. Proceedings are now ongoing at DEC, and the City has intervened in the case and submitted expert testimony to ensure that electric reliability and environmental concerns are fully considered in the DEC hearing process. The City is now working with Con Edison to ensure that necessary transmission system upgrades in the Pennsylvania-New Jersey-Maryland (PJM) grid territory are completed and financed in a manner that is equitable to New York ratepayers. With City support, the Champlain-Hudson Power Express transmission line was granted a certificate of approval by the PSC in April, 2013. If built as projected, it would deliver up to 1000 MW of clean hydropower from Quebec, Canada to Astoria, Queens by 2017. The City on track to increase the number of City buildings enrolled in programs to shed load in during peak demand events and expand its demand response program. We expect to shed 15-25 MW during this summer's peak load events, and expand the program to at least 50 MW over the next three years.</p>	Advocate for safety, reliability and affordability in the operation of the Indian Point Energy Center	In progress
		Explore more robust interconnection with neighboring power systems such as the Pennsylvania-New Jersey-Maryland (PJM) grid	In progress
		Continue to evaluate the costs, benefits, and feasibility of other transmission line proposals that could deliver cleaner energy to New York City	In progress
		Increase ability of City buildings to shed load during peak demand periods and emergency events to 50 MW	In progress
AIR QUALITY	1.7 Develop a smarter and cleaner electric utility grid for New York City		
	<p>The Department of Citywide Administrative Services will implement a Demand Response program for municipal facilities in 2014, with the goal of expanding the program to 50 MW by 2018 by including NYCHA developments, City University of New York campuses, and wastewater treatment plants. DCAS is launching Phase one of the IDEA program this summer. One pilot is focused on building controls and will be utilizing the city wireless communications network. In proceedings at the PSC, the City will advocate for improved alignment of incentive programs to encourage greater participation by the city's large energy consumers in demand management programs. The City will support Con Edison's initiatives to pilot alternative approaches, including utility-dispatchable DG and targeted energy efficiency measures to meet peak demand growth, in selected networks in lieu of traditional distribution capacity investments.</p>	Lay the foundation for a smarter grid by deploying an Energy Enterprise Metering System (EEMS) in thousands of City-owned buildings	In progress
		Explore opportunities to leverage city wireless communication assets to assist utilities in conducting automated meter reading for power and gas customers	In progress
		Partner with utilities, the private sector, and academic institutions to demonstrate the viability of "virtual generation" to allow buildings to sell energy curtailment services on wholesale electricity markets	In progress
		Support Con Edison's efforts to capitalize on lessons learned in smart-grid demonstration projects and to scale up cost-effective technologies that will help reduce consumption or improve grid reliability	In progress
		Work with regulators, utilities, building owners, and energy companies to encourage deeper participation by commercial and industrial consumers in market-based programs to reduce peak demand	In progress
	UNDERSTAND THE SCOPE OF THE CHALLENGE		
	1 Monitor and model neighborhood-level air quality		
	<p>The Department of Health and Mental Hygiene (DOHMH) has continued to monitor criteria pollutants at 60 street level sites around the city. DOHMH expanded methods for monitoring by acquiring 7 real-time PM2.5 air quality monitors. These will be networked throughout the city to provide real-time, hourly PM2.5 concentrations useful for neighborhood surveillance and emergency response. DOHMH published a report evaluating changes in the city's air quality and air pollution related health events, documenting large improvements in Ni and SO2 concentrations associated with City and State fuel regulations and reductions in PM2.5-attributable disease in the city. DOHMH also released a report evaluating noise levels in NYC and shared patterns of noise and air pollution. As part of a federally funded project, DOHMH participated in a publication that used NYCCAS data to evaluate the risk of air pollution on birth outcomes among NYC mothers.</p>	Maintain a street-level air monitoring network to track neighborhood air quality differences over time	In progress
		Expand the methods and pollutants measured to look more closely at specific types of emission sources and exposure settings	In progress
REDUCE TRANSPORTATION EMISSIONS			
2 Reduce, replace, retrofit, and refuel vehicles			
<p>The City announced the purchase of 60 new pure battery electric vehicles for its own fleet in 2013 and has on order 27 more in spring 2014 as part of the Clean Fleet Transition Plan. In total, the City now operates over 600 plug in units of some type and has plug in EVs on long term contracts for the first time. These vehicles emit more than 75% less CO2 than conventional vehicles and lack tailpipe pollutants like NOx, which contributes to asthma, and Benzene, and Carcinogen. DOT installed 695 school buses retrofitted with Diesel Particulate Filter installations. The original goal was 435 but the grant well exceeded expectations by funding an additional 260 buses. "Congestion Mitigation and Air Quality" grant money was utilized. The funds are used for programmatic areas that achieve compliance with Clean Air Act standards.</p>	Reduce the City's fleet by at least 5%	Completed	
	Implement the Clean Fleet Transition Plan	In progress	
	Install more than 60 electric vehicle charging units at City-owned facilities and garages	Completed	
	Expand the use of biodiesel in the City's fleet	Completed	
	Complete upgrades of 400 vehicles through existing Congestion Mitigation and Air Quality (CMAQ) and other funding sources	Completed	
	Install Diesel Particulate Filters (DPFs) on 685 buses	Completed	
3 Facilitate the adoption of electric vehicles			
<p>The City is implementing newly passed legislation that requires 20% of new parking spots to be built electric vehicle ready. It is installing 30 chargers for the public in 10 of its garages and parking lots. It is also testing electric taxis and issued a roadmap for 1/3 taxi electrification. The City created free signs for garages to advertise their charging and have hosted several outreach events with the Green Parking Council. The City also publicly supports electric vehicles on Plug-in Day and at the annual annual Fleet Show</p>	Work with Con Edison and auto manufacturers to streamline the installation process for home EV chargers	Completed	
	Work with parking garage owners, co-op boards, consumers, and Con Edison to ensure that each group understands the technical and consumer needs associated with EV chargers	In progress	
	Work with private and non-profit parties to inform New Yorkers about benefits and use of EVs	In progress	
4 Reduce emissions from taxis, black cars, and for-hire vehicles			
<p>Bill on incentivizing fuel-efficient vehicles was introduced to 112th Congress. The Nissan-TLC electric taxi pilot launched in spring 2013 and TLC continues to collect data and driver feedback about the opportunities and challenges of using electric vehicles in real-world NYC taxi service.</p>	Work with Congress to pass legislation to explicitly allow state and local governments to incentivize fuel-efficient vehicles	In progress	
	Launch an electric vehicle taxi pilot program	Completed	
5 Reduce illegal idling			
<p>The City continues to enforce anti-idling laws and seek opportunities to educate New Yorkers about the law and the public health impacts of idling through GreenNYC program.</p>	Improve compliance of existing anti-idling laws through targeted enforcement and education	In progress	
6 Retrofit ferries and promote the use of cleaner fuels			
<p>DOT has completed upgrades and retrofits on Staten Island Ferries and 20 private ferry boats.</p>	Complete engine upgrades on four Staten Island ferries	Completed	
	Retrofit 20 private ferry boats with Diesel Oxidation Catalysts (DOCs) and repower nine additional vessels to improve fuel efficiency	Completed	
	Work with the State to repeal the exemption on Petroleum Business Tax for bunker fuel	Not started	

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7 Work with the Port Authority to implement the Clean Air Strategy for the Port of New York and New Jersey		
<p>Port Authority as member of the Strategy Group that developed the Clean Air Strategy (CAS) will, in 2014, participate in process to update the CAS, which will include coordination on implementing CAS actions. Service Equipment Substation installation nearly complete. Will conduct operational test summer 2014. NYCEDC to look for additional opportunities at other facilities to connect ships to the city's grid and examine, during 2014, potential for shore power installation at Manhattan Cruise Terminal. Port Authority awarded contract for installation of shore power at Brooklyn Cruise Terminal in March 2013. Contractor started work in April 2013. Estimated completion date is March 2015, with commissioning of first vessel in January 2015. Cunard Line vessel has completed transformation to receive shore power. Princess Cruise Line vessel has not yet completed shore power transformation. To date work is moving forward on installation of the outdoor Service Equipment Substation, running electrical conduit from that substation to the indoor Shore Power Equipment Substation, and installation of mini piles to enhance structural integrity of Cruise Terminal deck to support indoor Service Equipment Substation.</p>	Work with the Port Authority and other partners to implement the actions outlined in the Clean Air Strategy for the Port of New York and New Jersey	In progress
	Install shore-power capability at the Brooklyn Cruise Terminal	In progress
	Look for additional opportunities at other facilities to connect ships to the city's grid	In progress
REDUCE EMISSIONS FROM BUILDINGS		
8 Promote the use of cleaner-burning heating fuels		
<p>In 2011, the City launched the NYC CleanHeat Program, which provides technical, educational, and financial assistance to property owners to convert to cleaner fuels at a faster pace than required by regulation. The program goal is a 50% reduction of fine particulate matter emissions (PM 2.5) from the use of heavy heating. The program is currently at 90% of the goal from the top 10,000 emitting buildings.</p>	Launch a program to encourage and support the early phase-out of Numbers 4 and 6 heating oil	Completed
	Release Requests for Proposals to enter into energy performance contracts for City schools	Completed
	Complete boiler conversions at 15 schools	Completed
UPDATE CODES AND STANDARDS		
9 Update our codes and regulations to improve indoor air quality		
<p>Local Law 72 mandates minimum filtration requirements for mechanical ventilation systems in buildings. Local Law 2 established limits on volatile organic compounds in carpet and carpet cushion in the city. Title 15 of the NYC Rules removes obstacles to asbestos removal.</p>	Propose regulations to reduce exposure to toxins released by building materials	Completed
10 Update our air quality code		
<p>The City completed a draft update of the Air Code and engaged stakeholders to discuss the potential changes to the Code, which will be completed by the end of 2014.</p>	Update the NYC Air Code	In progress
REDUCE WASTE BY NOT GENERATING IT		
1 Promote waste prevention opportunities		
<p>Water fountains designed to accommodate reusable bottles are currently being tested for deployment. GreenNYC created, hosted and promoted customized digital tool to help NYers reduce paper waste by opting-out of unwanted mail. GreenNYC partnered with GrowNYC to promote the use of reusable bags at all greenmarkets through signage, pledges and distribution of reusable bags.</p>	Install redesigned drinking fountains in public spaces and parks to encourage adoption of reusable water bottles	In progress
	Implement public education campaigns to reduce litter, encourage switching to reusable bags and reusable water bottles for tap water, and to encourage New Yorkers to reduce paper consumption	In progress
2 Increase the reuse of materials		
<p>In 2013, the Stop N' Swap program increased yearly events to 30 annually with the goal of 59 by 2015. The program's goal is to have an event per community board.</p>	Implement public education campaign and leverage online platforms to encourage and increase reuse of materials	Completed
	Encourage businesses, institutions, and individuals to reuse materials	Completed
INCREASE THE RECOVERY OF RESOURCES FROM THE WASTE STREAM		
3 Incentivize recycling		
<p>The City is exploring implemented national incentives to encourage reduction in waste generation for application in the city. DSNY will publishing a commercial waste characterization study in 2014. DSNY passed legislation which provides the ability to impound a vehicle for theft of recyclables.</p>	Encourage businesses to recycle, and use recyclable and recycled materials through corporate challenges, partnerships, or recognition programs	In progress
	Improve access to residential waste generation and diversion rate data	Completed
	Implement new residential recycling penalties	Completed
4 Improve the convenience and ease of recycling		
<p>Increased the number of public space baskets throughout the city to 2,190. DSNY is the process of largest deployment in NYC history of newly designed public space recycling containers in 2014. DSNY began collaborations with REBNY regarding regulations for recycling in new residential buildings. Finally, DSNY is continuing to provide extensive outreach about recycling.</p>	Increase recycling in public spaces and parks	Completed
	Require new residential buildings to provide space for recycling	Completed
	Expand recycling education programs	In progress
5 Revise City codes and regulations to reduce construction and demolition waste		
<p>As part of the New York City Building Code update passed on December 30, 2013, a provision was added through Local Law 141 of 2013 that increases the proportion of alternative cementitious material to Portland cement in concrete exposed to deicing chemicals from 25% to 35% for a single alternative material. For multiple alternative materials, the total amount must not exceed 50%.</p>	Require use of recycled content in building materials	Completed
	Require recycling of building materials	In progress

AIR QUALITY

SOLID WASTE

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SOLID WASTE	6 Create additional opportunities to recover organic material		
	<p>In 2013, DSNY launched a the curbside organics feasibility study. DSNY also launched a high rise building and school organics program. Re-fashionNYC is available in every borough except Staten Island. Citing budget cuts, DSNY's leaf and yard waste composting collection program is suspended until further notice. However, residents in the Organics Collection catchment areas are able to set out their leaves with other organic material year round. Re-fashionNYC is hoping to expand into Staten Island in 2014. The NYC Stuff Exchange website and app (www.nyc.gov/stuffexchange) which allows residents in all boroughs to find the location closest to them where they can donate materials (including textiles) is live. NYC commercial food waste challenge is ongoing. Business Integrity Commission (BIC) records show around 30 licensed "yellow: grease haulers, who pay restaurants to collect the grease to refineries. Recognizing the value of biosolids, the New York City Department of Environmental Protection (DEP) implemented a program to beneficially use most of the biosolids to fertilize crops and improve soil conditions for plant growth.</p>	Expand opportunities for communities to compost food waste	In progress
		Expand leaf and yard waste composting	In progress
		Complete the curbside organics feasibility study	In progress
		Implement a public-private textiles recycling program in every borough	In progress
		Encourage use of new technologies to increase recovery of commercial food waste	In progress
		Pursue on-site food recovery facility at the Hunts Point Food Distribution Center	In progress
		Encourage in-city opportunities to recovery yellow grease and convert it to biofuel	In progress
		Pursue opportunities to recover energy from biosolids	In progress
	7 Identify additional markets for recycled materials		
	<p>Expanded recycling collection to include rigid plastics processed at the New South Brooklyn Marine Terminal. NYCEDC continues to work towards making dredging economical for New York's maritime businesses while also finding viable placement sites for its beneficial reuse</p>	Explore expansion of designated plastics	Completed
		Promote beneficial use of dredge and road renovation spoils	In progress
	8 Pilot conversion technologies		
	<p>Recommendation on viability of new conversion technology pending.</p>	Solicit proposals to develop conversion technology facilities to dispose of waste	Completed
	IMPROVE THE EFFICIENCY OF THE WASTE MANAGEMENT SYSTEM		
	9 Reduce the impact of the waste system on communities		
	<p>Construction of both the North Shore MTS in Queens and the Hamilton Avenue MTS in Brooklyn is nearing completion and both facilities are expected to become operational in 2015 for export of commercial waste. The Sims facility opened at the South Brooklyn Marine Terminal in 2013.</p>	Achieve significant progress toward completion of the Hamilton (Brooklyn) and North Shore (Queens) Marine Transfer Stations	Completed
		Open the Sims recycling facility	Completed
		Promote export of commercial waste by barge and rail	In progress
	10 Improve commercial solid waste management data		
	<p>DSNY will be publishing a commercial waste characterization study in the spring 2014 with carter information.</p>	Complete the Comprehensive Commercial Waste System Study and implement recommendations	Completed
		Improve access to commercial carter information and disposal practices	In progress
	11 Remove toxic materials from the general waste stream		
	<p>DSNY provides annual collection in all 5 boroughs. DSNY launched "e-cycleNYC," a new multiple-dwelling residential electronics recycling program in partnership with Electronic Recyclers International (ERI) for buildings larger than 10 units in compliance with NYS e-waste program. NYC continues to support NYS "Extended Producer Responsibility (EPR) program which is a mandatory type of product stewardship that includes, at a minimum, the requirement that the producer's responsibility for their product extends to post-consumer management of that product and its packaging.</p>	Expand Household Hazardous Waste collection program	Completed
		Enhance the public's access to information about and participation in the NYS e-waste program	In progress
		Promote product stewardship programs for high toxicity products	In progress
REDUCE THE CITY GOVERNMENT'S SOLID WASTE FOOTPRINT			
12 Revise City government procurement practices			
<p>Continue to research procurement best practices to reduce solid waste. NYC Food Waste Challenge encourages commercial business to create innovative policies for recovering and reusing product.</p>	Develop best practices that address solid waste reduction for procurement and incorporate into Environmentally Preferable Purchasing	In progress	
	Incentivize city vendors to recover and reuse products	Not started	
13 Improve the City government's diversion rate			
<p>In compliance with Local Law 77 of 2013, the City offers curbside collection of organic waste – including food scraps, food-soiled paper, and yard waste – to select NYC schools, residences, and institutions. This service is a pilot program to divert organic material from disposal for beneficial use. During the 2013-14 school year, DSNY serviced 300 public schools in Brooklyn, Manhattan, and Staten Island in partnership with the Department of Education, and three independent private schools. DSNY conducted a study of the schools participating in the organics program with a 37% diversion rate, while the rest of the schools were at a 15% diversion rate. DLTPS has collaborated with the DO school to package and produce a sustainable to go cup for NYC in coordination with Newman's own. DSNY has begun to work with DCAS, DHS, and the DOE to test the organics collection pilot in selected agency office buildings. DSNY has also worked with the Mayor's office to implement organics collection at City Hall, Gracie Mansion, and the mayoral offices at 100 Gold Street.</p>	Improve quality of and access to City government solid waste generation data	Completed	
	Develop pilot at targeted City buildings to measure diversion rate	Completed	
	Ensure all DOE schools have sustainability plans (including recycling) and designate a sustainability coordinator	Completed	
	Sponsor packaging contest with design schools and corporate sponsors for products with high city agency consumption	Completed	

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CLIMATE CHANGE	REDUCE AND TRACK GREENHOUSE GAS EMISSIONS		
	1 Release an annual inventory of greenhouse gas emissions		
	<p>In December 2013, the City released its seventh annual Inventory of New York City Greenhouse Gas Emissions, which reported 19% reduction since 2005. This brings the City nearly two-thirds of the way toward achieving the 30 percent reduction in citywide emissions by 2030.</p>	Expand GHG inventory to include neighborhood level analysis and reporting	Completed
	2 Assess opportunities to further reduce greenhouse gas emissions by 80% by 2050		
	<p>In December 2013, the City released "New York City's Pathways to Deep Carbon Reductions," which evaluates the feasibility of a deep reduction of New York City's GHG emissions by mid-century, the goal set by the United Nation's Framework on Climate Change to prevent "dangerous anthropogenic interference with the climate system." The City evaluated four high-impact sectors for deep emissions reductions - buildings, power supply, transportation, and solid waste - to identify the lowest cost pathways and a portfolio of near term strategies to accelerate carbon reductions while enhancing economic growth in New York City. To achieve this goal, concerted efforts are needed from the City, the State, residents, developers, utilities, and many other stakeholders.</p>	Complete study to determine strategies to reduce citywide GHG emissions by 80% below 2005 levels by 2050	Completed
	ASSESS VULNERABILITIES AND RISKS FROM CLIMATE CHANGE		
	3 Regularly assess climate change projections		
	<p>In September 2012, the City formally codified the NPCC. The law requires that the NPCC meet twice a year, advise the City on the latest scientific developments, and update climate projections at least every three years. Following Sandy, the City reconvened the NPCC to update its projections to inform planning for rebuilding and resiliency post-Sandy. Drawing on the latest climate models, the NPCC released updated projections for the 2020s and 2050s in June 2013 concurrent with "A Stronger, More Resilient New York," in a report entitled "Climate Risk Information 2013." A final publication, which includes projections for the 2080s and 2100, will be released later this year.</p>	Institutionalize New York City Panel on Climate Change (NPCC) and establish process to regularly update its climate projections	Completed
	4 Partner with the Federal Emergency Management Agency (FEMA) to update Flood Insurance Rate Maps		
	<p>FEMA released Preliminary FIRMs in December 2013 for public review. The 90-day appeals period is anticipated to begin in the fall of 2014, with adoption of the final effective FIRMs likely in 2016.</p>	Release draft updated Digital Flood Insurance Rate Maps (DFIRMS) for public comment	Completed
5 Develop tools to measure the city's current and future climate exposure			
<p>In setting out to define plans for strengthening New York City's resiliency to climate change, it was critical to anchor the development of those strategies in the best possible understanding of the magnitude of risks facing New York. Building on its initial work to develop a climate risk assessment tool, the City engaged Swiss Re, a reinsurance company, to apply its natural catastrophe models to help quantify the potential impacts of wind and storm surge on the city in a world of rising sea levels and potentially more intense storms. This analysis was one factor helping to inform the City's resiliency initiatives. In addition to this work, the NPCC developed and released "future flood maps" to help guide the City's rebuilding and resiliency efforts. These forward-looking maps were created by combining FEMA's latest flood maps with the NPCC's "high end" sea level rise projections.</p>	Develop a climate risk assessment tool	Completed	
	Develop an updated digital elevation model using LIDAR data to promote more accurate sea level rise modeling	Completed	
	Launch effort to develop publicly available projected flood maps that incorporate sea level rise projections for planning purposes	Completed	
INCREASE THE RESILIENCY OF THE CITY'S BUILT AND NATURAL ENVIRONMENT			
6 Update regulations to increase the resiliency of buildings			
<p>In December 2013, the City adopted FEMA's Preliminary FIRMs as the minimum standard for new and substantially damaged buildings in New York. While not yet officially adopted for insurance purposes, these maps represent the best available information on flood risk and will result in significantly better flood protection standards. The City also passed a Flood Resiliency Text Amendment in its Zoning Code to remove penalties and align zoning requirements with the new and improved standards. The City passed legislation in 2013 calling upon OLTPS, in consultation with DOB, to conduct a study into the effects of wind on existing buildings and on buildings that are under construction, as well as forecasts of potential changes in the frequency, intensity, and path of future storm events and the benefits of installing and maintaining weather stations across the city to better understand localized wind patterns. The study will be launched in 2014.</p>	Conduct study of the urban design implications of enhanced flood protection for buildings	Completed	
	Pursue amendments to freeboard requirements to require freeboard for wider range of buildings to account for climate change projections	Completed	
	Incorporate consideration of climate change within the policies of the City's Waterfront Revitalization Program (WRP)	Completed	
	Launch study of effects of rising water tables, inland flooding, wind, and extreme heat events on buildings	In progress	
7 Work with the insurance industry to develop strategies to encourage the use of flood protections in buildings			
<p>In June 2013, the City released "A Stronger, More Resilient New York," a comprehensive plan for rebuilding post-Sandy and increasing the city's resiliency. The Plan includes recommendations for increasing resiliency of the built environment, updating FEMA's approach for pricing urban building types that is more reflective of the risks, and engaging with the insurance industry to inform them about the City's resiliency measures.</p>	Explore measures to promote flood protection in areas that may be subject to flooding based on climate change forecasts	In progress	
8 Protect New York City's critical infrastructure			
<p>In June 2013, the City released "A Stronger, More Resilient New York," which includes critical infrastructure recommendations developed with members of the Climate Change Adaptation Task Force. The City is now implementing these initiatives and updating critical infrastructure design standards for wastewater infrastructure and hospitals to account for climate change.</p>	Complete Climate Change Adaptation Task Force assessment and report and begin to implement its recommendations	Completed	
	Maintain the Climate Change Adaptation Task Force with an expanded focus on public health and safety services	In progress	
	Assess the opportunities for the incorporation of climate change projections into design specifications and standards for critical infrastructure	In progress	
9 Identify and evaluate citywide coastal protective measures			
<p>In June 2013, the City released "A Stronger, More Resilient New York," which lays out a comprehensive coastal protection plan that aims to increase coastal edge elevations, minimize upland wave zones, and protect against storm surge. These recommendations were developed in part through a cost-benefit analysis to determine how effective they were at reducing risks. Concurrently, the City also released a report on "Urban Waterfront Adaptive Strategies," which provides an inventory of best practices for enhancing coastal climate resiliency and was used to inform development of the City's coastal initiatives.</p>	Develop an inventory of best practices for enhancing climate resiliency in coastal areas	Completed	
	Coordinate with academic institutions, scientists, engineers, and designers to develop pilot projects to test potential strategies and evaluate their costs and benefits	Completed	
PROTECT PUBLIC HEALTH FROM THE EFFECTS OF CLIMATE CHANGE			
10 Mitigate the urban heat island effect			
<p>Focusing on the most impacted neighborhoods, OLTPS is partnering with DOHMH to conduct research to further understand and mitigate the drivers of the urban heat island effect. Targeted, community-specific mitigation initiatives are also in the design phase.</p>	Coat an additional two million square feet of cool roofs	Completed	
	Pursue a cool roof requirement for existing buildings	Completed	

PROGRESS SINCE APRIL 2013		MILESTONES TO COMPLETE BY DECEMBER 31, 2014	STATUS
CLIMATE CHANGE	PROTECT PUBLIC HEALTH FROM THE EFFECTS OF CLIMATE CHANGE		
	Meanwhile, in 2013, NYC Cool Roofs coated over 500,000 square feet of rooftop in the Bronx with a white, reflective coating that absorbs less heat than traditional, dark rooftops. In addition, the program coated a significant number of buildings in other areas impacted by urban heat like Harlem and Long Island City. The DOB-lead NYC °CoolRoofs program encourages building owners to cool their rooftops with a white reflective coating resulting in reduced energy consumption, cooling costs, and carbon emissions. Utilizing the power of nearly 1,500 volunteers each year, the NYC °CoolRoofs program surpassed its goal for the fourth year and coated 2 million square feet across 205 buildings in the 2013 season. Of the 2 million square feet reported, 1,301,294 square feet across 116 buildings was done voluntarily by private residents, building owners, and contractors through the °Cool It Yourself Program. Since the launch of the program in 2010, approx. 5.7M square feet of rooftops have been coated across 626 buildings citywide. Additionally, DOHMH and NYC Cool Roofs have preliminary designs for community-specific UHI mitigation efforts in the most impacted neighborhoods. The 2013 season surpassed almost every record held since the inception of the program- the most important one being the total square feet. This year the program identified and coated over 2 million square feet. The City proclaimed September 25, 2013 as "NYC CoolRoofs Day" in celebration of cooling the 500th building in NYC. We coated the largest building in NYC CoolRoofs history in, a 125K square feet Pier located on the West Side.	Work with neighborhoods most impacted by the urban heat island effect to develop and implement community-specific strategies	In progress
	11 Enhance our understanding of the impacts of climate change on public health		
	DOHMH completed an analysis of the health impacts resulting from major climate hazards that could worsen with climate change. The coastal storm assessment was published in a peer-reviewed journal and DOHMH is contributing to a chapter on health impacts for NPCC2's report to be released in the second quarter of 2014.	Complete study on the impact of climate change on public health	In progress
	INCREASE CITY'S PREPAREDNESS FOR EXTREME CLIMATE EVENTS		
	12 Integrate climate change projections into emergency management and preparedness		
	The City developed and publicly released the 2014 Natural Hazard Mitigation Plan, which includes climate change. The Plan was adopted in April 2014.	Integrate climate change projections into the City's emergency management and preparedness plans and procedures	Completed
	Launch a process to include climate change as a hazard assessed under the Natural Hazard Mitigation Plan	Completed	
CREATE RESILIENT COMMUNITIES THROUGH PUBLIC INFORMATION AND OUTREACH			
13 Work with communities to increase their climate resiliency			
In 2012, the City conducted extensive outreach to communities impacted by Sandy and among the priorities that emerged was a need for education around climate resiliency and more access to information on risks, like hazardous materials. The City will release an Open Industrial Uses Study in 2014. The City is developing an aggressive education and outreach plan around FEMA flood map changes and associated risks and insurance ramifications to make sure local communities are armed with a better understanding of climate change risk and what their options are to address it affordably.	Ensure that outreach efforts target appropriate communities and provide up-to-date climate risk information	In progress	
	Improve the access to publicly available data on the locations of hazardous material storage in flood zones throughout the city	In progress	

Sustainable Stormwater Management Plan (SSMP)

Sustainable Stormwater Management Plan (SSMP) is an interagency effort coordinated by the Office of Long-Term Planning and Sustainability. The SSMP provides updates on long-term milestones related to sustainable stormwater. For example, the plan monitors and reports on interagency progress on improving sidewalk standards, road reconstruction standards, and exploring maintenance options.

PROGRESS SINCE APRIL 2013		MILESTONES TO COMPLETE BY DECEMBER 31, 2014	STATUS
SUSTAINABLE STORM WATER MANAGEMENT (SSMP)	1 Flushing Bay and Gowanus BMP Grant Programs (NYC Department of Environmental Protection)		
	The green roof on New York Hospital and LIE bioretention basins stormwater capture projects have completed construction and started the three-year monitoring phase through 2017. The Meadow Lake Sponge Park project will complete construction in late spring of 2014, and the Gowanus 6th Street Green Corridor project will begin construction in summer of 2014. The Unisphere project was delayed because the soil did not meet the minimum criteria for infiltration established by DEP's Office of Green Infrastructure. Additional testing has been completed, and design of the project has resumed. DEP awarded \$2.6 million in July 2010 to implement five innovative green infrastructure projects that manage and capture stormwater runoff. Grant recipients included the applications most likely to succeed and be replicated on a large scale. The awards went to Manhattan College for the installation of a modular green roof project on New York Hospital; Columbia University; a Greenstreets stormwater capture system in Rego Park; Regional Plan Association for Sponge Park™ bioretention basins under the Long Island Expressway near the Van Wyck Expressway; Gowanus Canal Conservancy for the 6th Street Green Corridor Project that will build seven curbside swales; and Unisphere, Inc. for wetlands and rain gardens to treat stormwater entering Meadow Lake. Contracts for each of the grantees were developed and signed in spring 2011. Topographic surveys and soil boring investigations have been completed and designs for many of these efforts are nearly complete and several, including the modular green roof, the Sponge Park™, 6th Street Green Corridor, and Meadow lake wetlands project are expected to begin construction in late fall 2012. DOT participated in design review and provided guidance for including green infrastructure in the street right-of-way. The Greenstreets stormwater capture system design is underway and is expected to begin construction in spring 2013.	Milestone completed.	Completed

PROGRESS SINCE APRIL 2013		MILESTONES TO COMPLETE BY DECEMBER 31, 2014	STATUS
SUSTAINABLE STORM WATER MANAGEMENT PLAN (SSMP)	2 DPR Tree Pit Pilot Study (NYC Department of Parks and Recreation)		
	Monitoring work has transitioned from the Gaia Institute to Drexel University, and combined with the efforts of the Enhanced Greenstreets Pilot Project. Drexel continues to collect data from this site.	Monitoring work has transitioned from the Gaia Institute to Drexel University, and combined with the efforts of the Enhanced Greenstreets Pilot Project. Drexel continues to collect data from this site.	Completed
	3 Enhanced Greenstreets Pilot Project (NYC Department of Parks and Recreation)		
	Drexel has completed a 2-year performance analysis. The final report has been submitted to DPR and the jointly authored publication has been submitted. DPR continues to collaborate with Drexel University to quantify the benefits of green infrastructure, including stormwater retention, infiltration and sewer flow (particularly in the case of extreme weather events), evapotranspiration, and pollutant removal.	Publish findings, inform designs with data, to be completed by 2014.	Completed
	4 Bronx Block Saturation Pilot Study (NYC Department of Environmental Protection)		
	DPR has provided alternative design solutions to DEP. DPR continues to work with DEP to develop design strategies.	Monitoring and reporting will start 2013 and continue through 2016	In progress
	5 Albert Road Area Reconstruction Pilot Project (NYC Department of Design and Construction and NYC Department of Transportation)		
	Design for this \$50 million project was completed in February 2014 and the construction contract procurement is underway.	Monitoring and reporting to be completed in 2017	In progress
	6 East Houston Street Reconstruction Pilot Project (NYC Department of Design and Construction and NYC Department of Transportation)		
	The Green Street at Avenue D is anticipated to be completed by July 2014 excluding the sidewalk and tree in front of the bldg under construction by others. Green Street at Avenue A is anticipated to start spring 2014 and be complete by spring 2015.	Monitoring and reporting to be completed by summer 2014	In progress
	7 Astor Place/Cooper Square Reconstruction Pilot Project (NYC Department of Design and Construction and NYC Department of Transportation)		
	Construction project NTP date was August 5, 2013. The bioswale work is schedule to begin around June 2014. The project completion date as per latest revised schedule is summer 2015.	Monitoring and reporting to be completed within two years	In progress
8 Atlantic Avenue Reconstruction Pilot Project (NYC Department of Design and Construction and NYC Department of Transportation)			
Completed in 2013	Milestone completed.	Completed	
9 Belt Parkway Bridges Roaside Swale (NYC Department of Environmental Protection)			
After Sandy, the City installed initial corrective measures and is evaluating whether further corrective action is necessary.	Milestone completed.	Completed	
10 Sidewalk standards (Mayor's Office of Long Term Planning and Sustainability, Department of Transportation, Department of Environmental Protection and Department of Parks and Recreation)			
Local Law 80 of 2013 was enacted on October 2, 2013, requiring DEP to conduct a study on possible use of permeable materials for sidewalks and roadways. This legislation was based on recommendations from both the Green Codes Task Force and the Building Resiliency Task Force.	Explore options for funding	In progress	
11 Road reconstructions (Mayor's Office of Long Term Planning and Sustainability, Department of Transportation, Department of Environmental Protection and Department of Parks and Recreation)			
The City agencies responsible for policies or projects in the city's right of way have met on a regular basis to discuss opportunities to incorporate sustainable stormwater management source controls into road design and reconstruction projects. Agencies have met as part of the Street Design Manual Task Force, a group that exists specifically to address street design issues. OLTPS has also convened agencies specifically to examine funding and maintenance challenges. DOT has advanced several green infrastructure features in capital projects currently in design, including plazas and street reconstruction projects. DOT continues to develop innovative ways to include green infrastructure. DOT is advancing with a task order and two permeable pavement specific capital projects. To date, four stormwater recommendations and three water efficiency recommendations have been either signed into law or implemented as agency rules. With the release of the NYC Green Infrastructure Plan and the creation of the Green Infrastructure Task Force, City agencies will continue to meet to discuss how road reconstruction projects could be designed to incorporate source controls. DOT, DPR, DEP, and PDC-approved bioswale standards on DEP's website here: www.nyc.gov/html/dep/pdf/green_infrastructure/bioswales-standard-designs.pdf	Explore options for funding	Completed	
12 Analysis on stormwater capture in separate sewer areas (NYC Department of Environmental Protection)			
The City still has not completed a full analysis of stormwater capture opportunities in separate sewer areas. Once regulators release the City's Municipal Separate Storm Sewer System permit in 2014, the City will commence the analysis. In the meantime, DEP has been coordinating a citywide working group to finalize an inventory of city-owned facilities and standard operating procedures for pollution prevention for municipal operations, among other requirements set forth in the permit.	Milestone completed.	Completed	

**PlaNYC:
A Stronger,
More Resilient
New York**

Overview

As the climate changes, raising the prospect of strong storms coming more frequently, the risks that New York City faces will only intensify. While Hurricane Sandy was an historic event, with a “storm tide” of over 14 feet above Mean Lower Low Water at the Battery, it was not a worst-case scenario for all of New York City. Sandy itself could have had different impacts on the City had it come at a different time of day or earlier in the year, and the city is vulnerable to other “extreme” events, such as heavy downpours, heat waves, droughts, and high winds. Chronic conditions, such as rising sea levels, higher average temperatures, and increased annual precipitation, will make the effects of extreme events worse. New York must adapt to the full spectrum of future challenges posed by climate change—whatever they may be.

As described in *A Stronger, More Resilient New York*, the cost of inaction is great. The City worked with Swiss Re to help understand the potential impacts of wind and storm surge on the city. The Swiss Re models produced a “loss frequency curve” for each of three climate scenarios: today, the 2020s, and the 2050s, calibrated with the knowledge that Sandy caused \$19 billion in damages and lost economic activity. The models only sought to estimate losses that could be readily measured in dollars—namely, physical damage to assets, such as buildings and tunnels, and reductions in income and loss of use

due to physical damage. Using this approach, total losses (damage and lost economic activity) caused by a Sandy-like event are estimated in the 2050s to cost an estimated \$90 billion, even if it is assumed that no additional development happens in the floodplain.

To ensure the City’s plan for buying down this future risk was informed by the best science, the City re-convened the NYC Panel on Climate Change (NPCC), a body of climate and social scientists from leading scientific institutions charged with developing local climate projections. The NPCC’s updated findings became the basis foundation upon which the City’s resiliency plan is built.

Through its 257 initiatives, the plan recommends strategies for strengthening the coastline, upgrading buildings, protecting infrastructure, and making neighborhoods safer and more vibrant, and addresses not just current risk but also future risk from climate change. It does so with a comprehensive and integrated approach that is ambitious but achievable, acknowledges limited resources and maximizes every dollar for protection.

As stated in *One City, Rebuilding Together*, dated April 2014, Mayor de Blasio has made a major commitment to the work of climate resiliency and will work to see it implemented in a way that works for all New Yorkers.

Climate Analysis

CHALLENGES AND STRATEGY FOR ADAPTION

The climate risks faced by the City are real and have the potential to threaten our residents and our communities. The City's climate projections show that the City will see increases in average temperature, precipitation, and sea level rise over the next decades. These trends mean that the City will see more frequent strong storms. A Stronger, More Resilient New York provides a comprehensive risk-reduction strategy for the City.

ACHIEVEMENT IN THE PAST YEAR

New York City relies on the Federal Emergency Management Agency (FEMA) to produce Flood Insurance Rate Maps (FIRMs) which identify areas that are at risk of flooding. The maps show how much land lies within the "100-year floodplain" (the area that has a 1 percent or greater chance of flooding in any given year) and the "500-year floodplain" (the area that has a 0.2 percent or greater chance of flooding any year). Areas are assigned different zones depending on the level of flood risk. FIRMs are used by the National Flood Insurance Program (NFIP) and trigger certain flood insurance purchase requirements, and are referenced in the New York City Building Code, which contains minimum standards for flood protection. Even before Sandy, the City and FEMA knew New York City's flood maps

(dating from 1983) did not adequately reflect the City's risks. In 2007, the City called on FEMA to provide updated maps. The process of updating these maps, conducted through FEMA's Coastal Flood Study, was underway at the time Sandy made landfall.

In 2013, the City adopted FEMA's Preliminary FIRMs into the building code. FEMA's Preliminary FIRMs are the best information currently available on flood risk in New York City and they provide information to homeowners and businesses as they make decisions about how to build more resiliently. The new maps are extremely important as we continue to work to support resilient communities, and to avoid or reduce the loss of life and property, and the financial impacts of flooding. Rebuilding to the standards reflected in the Preliminary FIRMs will minimize future flood damage and will lead to lower insurance premiums in the long-term. The Preliminary FIRMs are expected to be made official after an appeals period for insurance rating purposes sometime in 2016.

Further Refined Estimates from the New York City Panel on Climate Change

Since June 2013, the New York City Panel on Climate Change (NPCC) has continued its work to update and expand its climate change projections for New York City.

These updates include:

- Climate projections through 2100, with the addition of humidity for all time periods;
- Quantitative and qualitative information about future climate hazards, focusing on temperature, precipitation, and sea level, and;
- Additional developments in future coastal modeling and mapping, climate-related health vulnerabilities, and indicators and monitoring.

The projections will be used by public, private, and non-profit stakeholders to increase resiliency.

LOOKING AHEAD

The NPCC's projections will be released in a report later in 2014. Further, the City is going to reconvene the Climate Change Adaptation Task Force, a group of City, State and Federal agencies as well as other stakeholders such as private energy and telecommunications companies, charged with creating asset inventories and adaptation strategies for those assets. Combined, these groups will prepare New York City for and mitigate the expected impact of climate change on communities, vulnerable populations, public health, natural systems, critical infrastructure, buildings, and the economy.



Lower Manhattan coastline

Credit: John Lee

Coastal Protection

CHALLENGES AND STRATEGY FOR ADAPTION

New York City has 520 miles of coastline that run through a diverse and active set of coastal environments that have been developed over centuries. *A Stronger, More Resilient New York* provided the first comprehensive coastal protection plan comprised of integrated strategies and projects rather than separately developed infrastructure projects.

ACHIEVEMENT IN THE PAST YEAR

A Stronger, More Resilient New York outlined a \$3.7 billion first phase of 37 coastal protection initiatives designed to protect vulnerable neighborhoods and infrastructure from storm surge and sea level rise. These initiatives are based on four key strategies: (i) increase coastal edge elevations; (ii) minimize upland wave zones; (iii) protect against storm surge; and (iii) improve coastal design and governance.

Emergency beach nourishment and bulkhead repair projects, undertaken by the City's Department of Parks and Recreation (DPR), have been completed and additional coastal protection measures have been initiated. In Staten Island, DPR installed over 26,000 linear feet of interim reinforced dunes from South Beach to Conference House Park. The USACE completed its Plumb Beach protections adjacent to the Belt Parkway and to place 1.2 million cubic yards of emergency sand in the Rockaways and Coney Island. DPR and USACE are also coordinating on

the placement of another 2.9 million cubic yards on Rockaway beaches that will be completed in 2014. Longer-term, the City has worked with USACE to reinvigorate existing projects in the Rockaways and Jamaica Bay, in Coney Island and Sea Gate, and along the East and South Shores of Staten Island. Further, the City is working jointly with the USACE on its comprehensive study, which is evaluating vulnerable coastal communities in the region and could lead to further Congressional authorizations and funding to expand coastal protections throughout the City.

The City is also launching feasibility studies for other coastal protection initiatives identified in the resiliency plan that will minimize impacts of inundation on vulnerable residents through the construction of various flood protection structures in and adjacent to Newtown Creek, the Gowanus Canal, Coney Island Creek, and other areas. The City will also evaluate locations and invest citywide in shoreline improvement projects, and will launch several efforts to improve the management of the City's shoreline infrastructure.

In addition to moving forward its own projects, New York City took formal steps to establish a leadership role in advancing coastal protection initiatives. This involved a high level of coordination with federal and state funding and regulatory agencies including USACE, HUD, FEMA and New York State DEC. Leadership has also been established on the City level through the Coastal Protection Working Group, which brings senior level agency designees together to coordinate protection initiatives. In addition, the City has worked closely with the several federal

HUD-sponsored Rebuild by Design teams and the State's New York Rising Community Reconstruction Program to ensure federal and state funded projects through these programs are aligned with and advance the City's coastal protection priorities.

LOOKING AHEAD

The City is launching feasibility studies for other coastal protection initiatives identified in the resiliency plan that will minimize impacts of inundation on vulnerable residents through the construction of various flood protection structures in and adjacent to Newtown Creek, the Gowanus Canal, Coney Island Creek, and other areas. The City will also evaluate locations and invest citywide in shoreline improvement projects, and will launch several efforts to improve the management of the City's shoreline infrastructure.

The Office of Recovery and Resiliency (ORR) will continue to work in close partnership with USACE to complete existing studies of the Rockaway Peninsula, Jamaica Bay, the East and South Shores of Staten Island, and Sea Gate in Brooklyn that will lead to the implementation of federally funded coastal protection projects in these vulnerable communities. ORR in coordination with New York City Economic Development Corporation will release feasibility and design RFPs for citywide coastal protection initiatives identified in the resiliency plan. These projects seek to minimize impacts of inundation on vulnerable residents and property through the construction of levees, floodwalls, and storm surge barriers across the five boroughs.



Emergency dune construction in Staten Island

Buildings

CHALLENGES AND STRATEGY FOR ADAPTION

Building-level improvements are a critical component within the multi-layered strategy outlined in *A Stronger, More Resilient New York*. New York City has over 68,000 buildings in the current 100-year floodplain that vary greatly in use and construction. Addressing the risk in vulnerable coastal areas means not only setting better standards for new construction to protect from flooding, wind, and prolonged power outage, but offering ways to retrofit the city's existing buildings and protect the residents and businesses that inhabit them.

A Stronger, More Resilient New York addresses these challenges through targeted strategies including building code legislation changes, adjustments to zoning regulations, incentive programs, and best practices guides. Ultimately, safe buildings and viable commercial districts will be a boon to the entire city's population, create jobs, and improve the lives of all New Yorkers.

ACHIEVEMENTS IN THE PAST YEAR

In the fall of 2013, twenty-one pieces of building code legislation were introduced to the City Council. Sixteen have passed with two of the remaining pieces expected to be re-introduced during the second Quarter of 2014. Those passed include: Local Law 83, which is designed to prevent the backflow of sewage during a flood; Local Law 96, regarding the adoption of best available flood maps; Local Law 99, which removes regulatory hurdles around the elevation of certain

building systems in flood-prone areas including telecommunications cabling and fuel storage tanks; and Local Law 111 which expands the use of natural gas for standby power systems. Additionally, The City Council has amended the Building Code through 2013's Local Law 101 to clarify current wind-resistance specifications for facade elements and passed Local Law 81, which will require a study to be complete by 2015 that focuses on 5 key analyses related to wind risk.

Flood Resilience Text Amendment Temporary Adoption

In October 2013, the City Council adopted the Flood Resilience Text Amendment introduced by the Department of City Planning (DCP) to facilitate development and retrofitting based on the latest flood risk maps from FEMA and incorporate mitigations to promote street-level vitality and quality of the public realm. These changes were made on an emergency basis and will sunset within one year of adoption of new final FEMA Flood Insurance Rate Maps, expected in 2016.

LOOKING AHEAD

A requirement that all buildings in the 100-year floodplain at and above 7 stories and 300,000 square feet complete resiliency investments is among the bills to be re-introduced. This bill has been crafted with input from key stakeholders including industry groups and advocacy organizations, reflecting the recognized need for these types of investments throughout vulnerable areas of the City. Overall, it is important because resiliency investments made at high density build-

Economic Recovery

ings efficiently protect substantial amounts of residents and businesses from displacement due to storm events.

DCP will propose zoning text amendments to make the Flood Resiliency Text Amendment changes permanent. These changes may also incorporate additional features based on the experience of implementing flood-resilient construction and retrofits to date.

DCP has already hired staff and begun preliminary work on the Resilient Neighborhoods Initiative to help individual communities in flood zones in all five boroughs reexamine questions of land use, zoning, and development with a new understanding of coastal flood risks. DCP will be working across agencies and with communities to identify changes to zoning and land use and other actions that support the vitality of neighborhoods at risk of coastal flooding and that help residents and businesses withstand and recover quickly from future storms and other climate events.

In addition to upgrading land use zoning in particularly vulnerable neighborhoods and passing the large building mandate, among other key legislation, retrofit incentive programs need to remain a continued focus in order to effectively implement climate change adaptation. Through the development of proper incentive programs, both building owners and tenants alike will be equipped to make necessary retrofit decisions and better maintain the city's infrastructure. Strategic investments in areas hardest hit by Sandy will help these local economies continue to make progress and recover from the storm

CHALLENGES AND STRATEGY FOR ADAPTION

Small- and medium-sized businesses are the backbone of New York City, providing employment and economic activity as well as necessary community services. When Sandy hit, nearly 95% of all the enterprises impacted were small- and medium-sized businesses, often employing fewer than 50 people, with particular concentrations in the retail and service sectors.

Protecting inventory and equipment, investing in efforts to maintain heat and power during storm events, and providing data backup investments are just a few of the things that are needed to provide for business resiliency. Furthermore, these investments and planning must occur at a local level, which is why *A Stronger, More Resilient New York's* initiatives are designed to target local and vulnerable communities.

ACHIEVEMENTS IN THE PAST YEAR

Sandy devastated the business community by causing extensive damage to businesses' inventory, equipment, interior spaces, and in many cases, their building structure. The City has already distributed \$23.4 million in direct loan and grant assistance to more than 650 businesses and over \$2.8 million in tax exemptions. To date, \$2.5 million has been awarded through the City's Business Loan and Grant program. The Business Resiliency Investment Program is a \$110 million program structured to address these impacts by helping businesses make resiliency investments to their equipment and buildings. These investments might include

building-based measures such as elevation of critical systems, and dry- and wet-flood-proofing of spaces below the design flood elevation. The investment might also be targeted to techniques for business operations such as elevated inventory, disaster preparedness planning, and data system backup. These improvements should bolster the commercial viability of business districts within vulnerable areas, many of which employ low-income workers. The program is currently in the final design phase and a Program Management Office is currently being targeted through a competitive RFP process.

Neighborhood-Level Opportunities

Although revitalizing the business sector is extremely important to storm recovery, the city has developed several incentive programs that focus on neighborhood resiliency, facilitating a robust approach to mitigating climate change risk. Through its Avenue NYC grant program, the City's Department of Small Business Services supports local merchants in commercial corridors in Sandy-affected areas such as Beach 116th Street. By providing financial and technical assistance, including merchant organizing activities, this program improves, markets, and maintains these primary commercial corridors. The Food Retail Expansion to Support Health, or FRESH, program provides zoning and financial incentives to promote the establishment and retention of neighborhood grocery stores in underserved communities throughout the five boroughs. Sandy damaged FRESH projects have been restored and subsequently opened, and 7 new FRESH projects

have been approved. Additionally, the Neighborhood Game Changers competition launched in 2013 and aims to identify catalytic economic development investment opportunities in communities severely impacted by Sandy.

LOOKING AHEAD

Ongoing focus will be directed to continually reassess programs to ensure effective support for small businesses, including for the rollout of the Business Resiliency Investment Program. This program is critical to providing tailored solutions for targeted businesses, buildings, and areas of the City that need to be made economically resilient going forward. The information gathered during the process will be instrumental in further assessing and addressing the resiliency needs of the business communities throughout the City.



Construction in Coney Island's Entertainment District

Credit: NYCEDC

CHALLENGES AND STRATEGIES FOR REFORM

When catastrophes strike, insurance can provide people and businesses with financial protection to mitigate their devastating impact on communities. When Sandy hit, unfortunately, thousands of homes and businesses inundated by the storm did not have adequate flood coverage. For some property owners, they didn't know they needed a separate policy for flood insurance from their homeowners insurance; for others, they chose not to insure against flood risk; for another subset, they did not know they were at risk in the first place.

In addition to insufficient flood insurance coverage, Sandy highlighted the detrimental impact of reforms to FEMA's National Flood Insurance Program (NFIP), enacted by the Biggert-Waters Flood Insurance Reform Act of 2012 (BW-12). Specifically, BW-12 repealed many premium subsidies, making flood insurance potentially unaffordable for many New Yorkers in the floodplain. Through *A Stronger, More Resilient New York*, the City thus proposed a series of reforms to the NFIP to encourage flood mitigation; creating lower-cost flood insurance products for those who are vulnerable, and advocating for needs-based premium assistance.

ACHIEVEMENTS IN THE PAST YEAR

The City commissioned and released RAND's Flood Insurance in New York City Following Sandy, which provided a good understanding of flood insurance take-up in the City's floodplain at the time Sandy hit as well as an indication of the potential impacts of BW-12.

The City also worked with FEMA to include premium credits for mitigation other than elevation. On October 1, 2013, FEMA announced a credit for the elevation of critical systems above base flood elevation levels. The City will continue to work with FEMA to provide additional premium credits for resiliency measures.

Passage of the Homeowner Flood Insurance Affordability Act

On March 4, 2014, the House passed the Homeowner Flood Insurance Affordability Act (H.R. 3370) by a 306-91 vote. On March 13, 2014 the Senate passed the same bill by a 72-22 vote, which was signed into law by President Barack Obama on March 21, 2014. As the City has advocated for, reviewing draft legislation and providing technical input, the legislation reverses aspects of the Biggert-Waters Flood Insurance Reform Act of 2012 (BW-12). Among other things, the bill stipulates retroactive refunds to property owners who have seen large flood insur-

ance rate increases due to the sale or purchase of a home, caps average annual premium increases at 15 to 18 percent, and allows subsidies for insurance rates that are based on current flood maps.

The City worked with lawmakers to ensure the Homeowner Flood Insurance Affordability Act aligns directly with broader key City resiliency initiatives, including provisions that emphasize: an affordability framework, promoting optional high-deductible policies that could reduce premiums, designating a flood insurance advocate at the federal level, and developing alternate methods of mitigation other than building elevation – a method that is not feasible for many urban building types. The passage of this bill will – over time – save New Yorkers millions of dollars in high premiums, improve risk communication, and increase options for homeowners to mitigate their homes against damage.

LOOKING AHEAD

In addition to advocating for the recent legislation, the City aims to gain a greater understanding of the impact of increased insurance premiums on New Yorkers through a series of studies. The City will continue to communicate risk in a comprehensive way to residents and businesses in the existing and expanding floodplain as indicated on FEMA's updated Preliminary Flood Insurance Rate Maps.

The three studies will focus on the following:

- 1-4 family homes: affordability challenge and mitigation solutions
- Multifamily buildings: existing market and impact of rate increases
- Consumer education: campaign design and execution

The outcome of these studies will inform emerging Federal policy on these topics, support city planning in flood prone areas, and help ensure New Yorkers understand their risks and flood insurance purchase requirements.

Work with FEMA to develop flood protection standards for existing urban buildings and offer premium credits for alternative resiliency measures

The recently-enacted federal Homeowner Flood Insurance Affordability Act, for which the City had actively supported and provided technical support, reduces the burden of sharp flood insurance increases on vulnerable New Yorkers. The Office will continue to actively analyze the consequences of new flood risks and flood maps on mandatory insurance premiums and develop policies and solutions for FEMA implementation that ensure fairness and affordability of new Federal standards.

CHALLENGES AND STRATEGY FOR ADAPTION

Significant steps have been taken in the last year to reduce the risk of severe disruptions to electric, gas, and steam service in the face of extreme weather events – as called for by *A Stronger, More Resilient New York*. The immediate challenge for utility companies and regulators has been to harden existing infrastructure to better withstand the impacts of climate hazards like storm tides and high winds. Equally important is the concern over intense and protracted heat waves, which tend to occur with greater frequency than major storms.

ACHIEVEMENTS IN THE PAST YEAR

In February of 2014, New York State’s Public Service Commission (PSC) approved an historic multi-year rate case settlement for electricity, steam and natural gas rates. This agreement essentially holds Con Edison delivery costs flat for the next few years, thereby providing a material benefit to consumer and business ratepayers. At the same time, the settlement terms will ensure that the most critical Con Edison facilities such as substations and other infrastructure elements will be hardened and made sufficiently resilient to meet the latest federal flooding projections even if the City should encounter a severe storm event as we did in late 2012. The City, Con Edison and Public Service staff will continue to meet and confer to address the implications of adverse climate conditions, including severe and

protracted heat waves that we may face in future summers when peak demand largely driven by air conditioning use puts the greatest strain on our electric system.

Beyond this, the City completed a study to assess the relative value and cost of selectively undergrounding parts of the overhead system. Many of the approaches outlined in the report are in place for implementation by Con Edison in the next three years.

LOOKING AHEAD

While the plans to harden systems in the short- and medium-term are in place, many longer-term challenges remain. Several efforts are underway to study how resiliency of the grid can be improved by greater deployment of distributed generation (DG) and smart grid technologies. The City is lending its support to planning efforts led by NYSERDA, the NYSDHS, and the Smart Grid Consortium to develop a micro-grid pilot to support mission critical electric loads and to protect vulnerable populations during power outages. In the PSC’s proceedings this year, the City will advocate for regulatory changes to encourage cost-effective and environmentally-beneficial DG adoption. The path forward on these efforts will depend on close collaboration with the utility companies in developing these new concepts while ensuring the continuation of safe, reliable, and affordable services to all customers.

Liquid Fuels

CHALLENGES AND STRATEGY FOR ADAPTION

Liquid fuels are a vital component of transportation into, out of, and within New York City. An estimated average of 3.4 million gallons of gasoline and diesel fuel is used in passenger and commercial vehicles daily. The City government operates nearly 27,000 vehicles and fleet units, including Police, Fire, Sanitation, and other critical response units, which are estimated to consume 83,000 gallons daily. The three major airports serving New York City fuel aircrafts at a rate of 6 million gallons daily. Beyond transportation, tens of thousands of buildings in New York City use liquid fuels for space and water heating and in some cases power and steam generation units may also burn liquid fuels during emergencies or disruptions.

The liquid fuels supply chain is a complex and varied machine spanning the globe. Every gallon of gasoline, diesel, jet fuel, or heating fuel used in New York City originates from thousands of miles away, changing chemical composition, transport vessel, and ownership many times over, and crosses several states before finally entering a fuel tank within the five boroughs. Sandy drove this vulnerability home as disruptions caused long gas station lines that significantly impaired the city's recovery – not only slowing down economic activity but inhibiting first responders and emergency repair workers from getting to the areas hit hardest.

Storm surge and sea level rise directly pose a risk to the fuel terminals and refineries located along the waterfront at relatively low elevations, but also indirectly through waterfront electrical infrastructure powering the entire supply chain from pipelines to gas stations.

ACHIEVEMENTS IN THE PAST YEAR

Many regulations exist across the City, State, and Federal governments regarding the transporting and consumption of fuel in New York City but the regulations can cause serious disruptions during times of emergency. Therefore, the City has instituted a list of regulatory waiver requests for local, State, and Federal agencies to allow fuel to flow into and around New York City during supply shocks, such as the one experienced after Sandy.

Strengthen Fuel Supplies for First Responders and Critical Fleets

After Sandy, the City worked with the State and Federal Governments and the private sector to provide consistent fuel supplies to first responder vehicles, generators, and utilities and other private vehicles critical to relief and restoration. DCAS has instituted several initiatives to ensure that the City is able to continue fueling these vehicles during supply shortages, including expanding the City's fleet of fueling trucks, securing contracts for emergency generators to support fueling

Healthcare

sites, instituting a fuel emergency operations plan, and establishing agreements with retail fuel sites to support essential vehicle fueling during emergencies. In the fall of 2013, New York State announced the creation of a small pilot gasoline fuel reserve for New York State. This reserve may provide supplies to maintain response and recovery operations.

LOOKING AHEAD

Incorporating resiliency considerations into the complex suite of regulations will remain a major challenge, but continued cooperation at all levels of government in the entire region should remain a key priority. Additionally, DCAS will expand its ongoing efforts to maintain the City's fueling capabilities during fuel supply shortages through equipment procurement and contracts.

A Stronger, More Resilient New York called for a coordinated plan to increase the resiliency of the fuel supply chain and several State and federal agencies have expressed interest in cooperating. The City will work to convene the US Department of Energy, States of New Jersey and New York, private industry participants and other stakeholders to establish a framework for increasing the resiliency of the liquid fuels industry.

The Mayor's Office and the Columbia Center on Global Energy Policy will convene several State and federal agencies, along with industry players to establish a roadmap to increasing the resiliency of liquid fuels infrastructure.

CHALLENGES AND STRATEGY FOR ADAPTION

New York City has a vast, complex healthcare system that has evolved to meet the needs of the city's diverse population. Sandy provided a stark reminder to the vulnerabilities of this system as thousands of patients were evacuated. *A Stronger, More Resilient New York* laid out goals for healthcare facilities, which include hospitals, nursing homes, and adult care facilities, which were two-fold: to minimize the impacts of climate change and to enable quick recovery after extreme weather events.

ACHIEVEMENTS IN THE PAST YEAR

Passed Building Code Legislation

Several key pieces of building code legislation related to healthcare facilities passed during 2013. Flood-resistant construction requirements for new and substantially renovated healthcare facilities were approved that refined where dry-flood-proofing techniques could be implemented. Other legislation required that new and existing healthcare facilities must install external electrical "quick-connect" hookups by 2033 that are capable of powering emergency generators. Furthermore, select building systems including electrical services, fire protection, compressed gas or hazardous material tanks, and vent piping must be located above design flood elevation in new and substantially renovated buildings.

Best Practices Guides / Information Sharing

In addition to building code adjustments, a series of strategies to reduce barriers to care during and after emergencies were implemented. For example an emergency preparedness website was launched so that pharmacies could think through critical resiliency issues such as installing pre-connections for external generators, identifying a central emergency point of contact, and other permitting and emergency operations planning. A best practices guide was also developed so that community-based healthcare providers understood their options regarding telecommunications resiliency, so New Yorkers can continue to speak to their doctor for guidance on needed medical care during and after a storm event. And lastly the city Department of Health and Mental Hygiene's Primary Care Information Project will provide technical assistance with the adoption of electronic health records which can be used to prevent permanent loss of data and quickly restore services after a disaster.

LOOKING AHEAD

Mandate for Critical Facilities and Incentive Programs

One important remaining piece of legislation to be reintroduced during 2014 includes a potential requirement that all hospitals in the 500-year floodplain and all nursing homes and healthcare facilities in the 100-year floodplain complete resiliency investments. This challenging piece of legislation has been crafted with input from key stakeholders including industry groups and advocacy organizations, increasing its chances of passage. Overall it is important because resiliency investments made at existing healthcare facilities are the most effective ways to achieve the two-fold healthcare goals as previously outlined.

Additionally, funding sources for incentive programs need to be explored to help ease the burden of the financial impacts of this legislation. Areas hardest hit by Sandy have substantial concentrations of healthcare facilities and will benefit from these investments as service disruptions are minimized during and after storm events and vulnerable populations are protected.

Community Preparedness

CHALLENGES AND STRATEGY FOR ADAPTION

Community based and grassroots organizations are instrumental in providing on-the-ground communication and support both in the event of a disaster and in preparedness and resiliency efforts. As demonstrated in the aftermath of Sandy, volunteers across the city and across the nation provided support in the form of donations, supply distribution, and informational canvassing.

ACHIEVEMENTS IN THE PAST YEAR

NYC Service worked with the Mayor's Fund, NYCHA, and DPR to coordinate volunteer efforts offering immediate relief and ongoing recovery efforts. NYCHA and DPR identified needs and coordinated service sites while the Mayor's Fund coordinated the purchasing of supplies and resources. In total, NYC Service engaged 17,824 volunteers across 531 service projects. Volunteers cleared 23,485 bags of debris and leaves, painted 15,293 square feet of wall, and planted 1,400 trees in at least 30 affected parks.

Additionally, the Mayor's Fund launched multiple partnerships to provide aid to hurricane-affected communities such as free meals, counseling, legal services, academic support, and mold removal. A \$265,000 grant to CityHarvest and \$1.5 million to Food Bank for New York City helped to provide approximately 4 million meals to 450,000 people over two months. A partnership with the NY Food Truck Association resulted in the deployment of 32 different food trucks to strategic locations, serving 278,000 meals in the months following the storm.

The Mayor's Fund worked with the Department of Education and the Fund for Public Schools to expand counseling programs, academic support and afterschool services for over 20,000 students in 39 public schools. Working with the Mayor's Office of Housing Recovery Operations and the Department of Health and Mental Hygiene, the Mayor's Fund coordinated a \$15 million effort to provide mold treatment for over 1,900 homes. Neighborhood Revitalization NYC (an affiliate of Local Initiatives Support Corporation) facilitated 63 community mold remediation trainings reaching 1,467 participants and distributing 3,230 free mold kits. The Mayor's Fund also partnered with Neighborhood Revitalization NYC to implement a home repairs program for single-family homeowners impacted by Sandy who are not eligible for the City's Build it Back program. The program is slated to serve up to 600 income-eligible homes with a range of structural and non-structural repairs, and has the potential to scale up and help additional New Yorkers in need.

LOOKING AHEAD

City agencies across the board continue to help New Yorkers prepare for future disasters. The Office of Emergency Management (OEM) continues to provide assistance to the City's Community Emergency Response Teams (CERT). The City continues to look for opportunities to develop local community capacity and will work with local organizations to improve emergency planning and the flow of information following a disaster.

Telecommunications

CHALLENGES AND STRATEGY FOR ADAPTION

A robust telecommunications network is the backbone to New York City, supporting every aspect of work and life. Communication is especially critical during disasters or citywide catastrophes and yet that is often when they are the most vulnerable. Sandy knocked out telecommunications services for weeks, and even months. These disruptions were caused by many factors, including flooding and power loss.

A Stronger, More Resilient New York sought to address these risks on several levels, identifying ways that the New York City government could establish resiliency and redundancy in the telecommunication system.

ACHIEVEMENTS IN THE PAST YEAR

As outlined in *A Stronger, More Resilient New York*, DoITT has begun establishing the Telecommunications Planning and Resiliency Office (TPRO), which will address telecommunication policy and enforcement issues in the event of future storms and disruptions like Sandy. The office will study the telecommunications business, including infrastructure, in order to develop both short-term and long-term measures to enhance telecommunications resiliency and recovery from a future Sandy-like event.

Franchise Agreements

While the City has limited general regulatory authority in the field of telecommunications, DoITT is reviewing all of the City's existing franchise agreements and procurement contracts to identify opportunities for enhancing telecommunications resiliency. This is being explored in several key ways:

- **Business Corrections:** DoITT asked for and is following-up on plans for business correction with 3 of city's cable franchisees.
- **Harden Facilities:** DoITT is exploring opportunities to harden critical facilities
- **Harden Cell Sites:** Sandy exposed the vulnerability of cell sites to extreme weather events and the consequences that follow from large scale outages of cell service, so DoITT is exploring a pilot program with a telecommunications provider and a generator manufacturer for the use of methanol-powered fuel cells as back-up power for 35 rooftop cell towers in lower Manhattan during the 2014 hurricane season.

Transportation

- **Conduit Infrastructure Redundancy and Resiliency:** DoITT identified important and underused rights in City contracts.
- **Detailed mapping of telecommunications assets:** DoITT has begun exploring ways to get up-to-date accurate maps of conduit and fiber laid in city streets and will review the assets of other utilities to identify “shadow conduits” that could increase redundancy throughout Brooklyn, Queens, and Staten Island.

LOOKING AHEAD

Longer term, the office will develop proposals to be considered in the City’s negotiation strategy for franchise renewals. Many of DoITT’s franchise agreements will expire in 2020, and negotiation planning will begin in 2017. During the course of the office’s operation, it will identify opportunities for enhancing telecommunications resiliency through negotiation of the 2020 franchise renewals.

CHALLENGES AND STRATEGY FOR ADAPTION

New York City’s transportation system is complex. It moves millions of people to and from home and work and serves as the nexus for a larger regional transportation system that serves tens of millions more. This system includes both City- and non-City-owned assets, and serves automotive, rail, water, and air modes of transportation within the City’s limits. Many of these systems are at risk of flooding, with increased risk seen at below-grade assets such as tunnels. Due to the relatively lower coastal edges of much of Lower Manhattan and the concentration of transportation assets in this area, this location is considered particularly at risk of system interruption due to flooding.

ACHIEVEMENTS IN THE PAST YEAR

In order to maintain service for all New Yorkers, the City’s Department of Transportation (DOT) has focused on protecting assets and on the redundancy of transportation networks to allow for system restoration in the event of a severe climate event. One example of this is on the City’s streets, where DOT has begun elevating traffic signal controllers in select at-risk locations. They have also resurfaced many lane-miles of streets that were damaged during Sandy. This year, DOT, in partnership with the MTA, launched Select Bus Service on Webster Avenue in the Bronx and Nostrand Avenue in Brooklyn. DOT has begun planning for Select Bus Service along Woodhaven Boulevard, Cross Bay Boulevard, and in the Rockaways in Queens.

Parks

The City has also taken steps to prepare the transportation system to quickly restore service after an interruption. DOT and OEM have developed a transportation playbook to be used in an emergency. The playbook includes strategies for temporary transit services, and a plan to implement HOV restrictions and other traffic management strategies. The City does not have direct control over many of the other transportation assets that are at risk of climate events but continues to work with the MTA, Port Authority, and other regional partners to protect these assets from future severe climate events.

LOOKING AHEAD

New York Harbor is home to the largest and best used network of urban commuter ferries in North America. This network includes DOT's Staten Island Ferry and five private operators. Strategies to protect these assets include physical improvements to floating infrastructure, pilings, piers, and gangways. Working with the New York City Economic Development Corporation (NYCEDC), DOT will also work to expand the capacity of the ferry systems through new deployable landings and barges. DOT has also applied for FTA Resiliency funds to purchase three new cycloidal-propulsion boats. These ferries will improve the safety and maneuverability of the Staten Island ferry vessel stock, allowing for faster deployment and flexible routing after storms.

The City will also actively engage with regional transportation providers, such as the MTA and the PANYNJ, to ensure coordinated resiliency investments that serve New Yorkers.

CHALLENGES AND STRATEGY FOR ADAPTION

Approximately 27 percent of New York City's shoreline consists of parks, making the Department of Parks and Recreation (DPR) and other park operators like the National Park Service (NPS) a key part of the city's community and environmental resiliency. New York City's park system is comprised of a broad range of natural and developed spaces, providing invaluable recreation opportunities and natural habitat throughout the five boroughs. The City's park system covers nearly 29,000 acres, or 14 percent of the city and serves a critical ecological role in the city, containing over 9,000 acres of natural areas, forests, grasslands and wetlands. On city streets, over 2,500 greenstreets provide stormwater absorption benefits. Additionally, DPR oversees approximately two million trees in parks and over 590,000 street trees, all of which provide shade and help mitigate the urban heat island effect.

In a continually changing environment, the city's park system not only continues to provide open spaces for recreation and public gathering for a growing number of people, it also serves to protect and buffer communities and habitats from the impacts of severe weather events and climate change.

ACHIEVEMENTS IN THE PAST YEAR

During Sandy, up to 3 million cubic yards of sand, or more, were displaced from city beaches. Despite this, DPR restored all city beaches for the summer of 2013 and continues to complete beach-front protections to enhance community safety.

Along the beach in Queens, dune improvements and plantings are underway as part of the Rockaway Boardwalk Phase II recovery project to rebuild the boardwalk. DPR constructed four concrete boardwalk islands to provide access to beach hub buildings in Rockaway Beach. DPR also re-installed baffle walls, berms, and new storm-resilient modular buildings to protect parks facilities and local communities. In 2014, DPR will release the Rockaway Parks Conceptual Plan, a blueprint for a comprehensive park system on the Rockaway peninsula from Beach 2nd to 149th Streets, beach to bay, and the southern

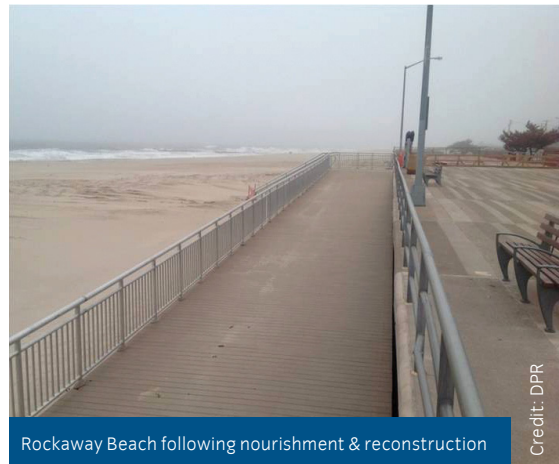
tip of Broad Channel. The Conceptual Plan was developed through intensive community participation and feedback, and involved a series of open public workshops.

Berm installation at Oakwood Beach in Staten Island is in progress and is anticipated to be completed by the summer of 2014. DPR is also organizing volunteer beach grass plantings at Crescent Beach and Conference House Park to reinforce the recently installed dunes.

In Brooklyn, DPR reconstructed facilities like Steeplechase Pier for public use after it was heavily damaged during the storm. DPR has also been actively pursuing protection and resiliency in all vulnerable shoreline areas. For example, in the Bronx, DPR repaired the Orchard Beach Promenade and installed riprap to reduce erosion from wave impacts and stabilize the shoreline.



Rockaway Beach in Queens post-Sandy



Rockaway Beach following nourishment & reconstruction

Increasing Resiliency through Natural Restoration and Green Infrastructure

DPR is leading a wide range of projects to restore natural areas throughout the five boroughs, including debris removal and cleanup of Prall's Island in the Arthur Kill, coastal forest restoration in Conference House Park, Cedar Grove Beach, Jamaica Bay Park, and Rockaway Community Park, as well as invasive species reduction and hydrological function improvement along the Bronx River watershed. DPR is also partnering with the Economic Development Corporation (EDC) to advance the Saw Mill Creek Mitigation Bank Pilot, which aims to restore degraded wetlands and uplands in northwestern Staten Island, generate mitigation credits, and potentially generate funding for future wetland restoration.

On the city's streets, DPR projects will increase green infrastructure and the existing network of greenstreets will benefit all New Yorkers by mitigating climate change impacts through reduced stormwater and flood impacts in both regular and extreme weather events. DPR is planning to expand the City's greenstreets through the

construction and monitoring of new greenstreet projects in the Bronx River Sewershed and the Jamaica Bay area. DPR has also worked both independently and in collaboration with Drexel University to quantify the benefits of green infrastructure, including stormwater retention, infiltration and sewer flow, evapotranspiration, and pollutant removal.

LOOKING AHEAD

DPR will continue the investment in coastal protection and protecting park assets. DPR anticipates leading conceptual planning processes for Coney Island and Staten Island in the coming year. On a technical front, DPR will be advocating for the comprehensive waterfront mapping and inspections of the City's shoreline infrastructure in order to understand and plan for changing waterfront conditions. The City will continue to work cooperatively with NPS in Jamaica Bay, the Rockaways, and on Staten Island to ensure coordinated resiliency investments that benefit all New Yorkers, and will continue to advance the mission of the Science and Resiliency Institute at Jamaica Bay.



Rockaway Beach Playground in Queens post-Sandy



Rockaway Beach Playground in Queens following recovery efforts

Environmental Protection and Remediation

CHALLENGES AND STRATEGY FOR ADAPTION

The Office of Environmental Remediation (OER) oversees a number of programs that address vacant contaminated land throughout the city. These sites, known as brownfields, are concentrated in low income communities and many also lie in the floodplain and are susceptible to storm surge and flooding. Through a series of new OER initiatives, these sites now represent important opportunities to link the city's goals to achieve social equality by revitalizing vacant land in disadvantaged neighborhoods and achieving resilient and sustainable development to ensure the long term safety of these communities.

ACHIEVEMENTS IN THE PAST YEAR

The five initiatives in *A Stronger, More Resilient New York* established to increase the resiliency of brownfields to climate change are, in large measure, complete. Collectively, these programs decrease the pollution impact of severe storms on communities in the floodplain, Significant Maritime Industrial Areas (SMIAs), and environmental justice neighborhoods that are already greatly overburdened by pollution. These accomplishments include the following: new regulations to reduce the level of contaminants that can be left on waterfront brownfield sites; new funding to accelerate cleanup in flood-prone areas; facilitating transfer of clean soil at no cost to achieve social equity goals, including lowering costs for affordable housing projects; resiliency goals, such as raising grades and armoring shorelines; and technical assistance to community developers to reduce the vulnerability of new buildings to severe storms and other effects of climate change.

New Regulations

In March 2014, OER established new regulations to strengthen standards for cleanup of industrial properties on the waterfront. To accelerate the cleanup of flood prone areas, OER expanded the Brownfield Incentive Grant (BIG) program to establish a new Flood Zone Cleanup Grant. Furthermore, OER acquired funding from the New York State Regional Economic Development Council and city sources to provide up to \$10,000 in grants for cleanups in the NYC Voluntary Brownfield Cleanup Program (BCP) in the 100-year floodplain.

NYC Clean Soil Bank

The NYC Clean Soil Bank enables no-cost exchange of clean native soil from remediated brownfield sites to City construction projects and other properties to promote climate change resiliency by raising the elevation of flood prone property and building protective berms along shorelines, and achieve social equity goals by reducing development costs for new affordable housing projects. In the first six months of operation, the NYC Clean Soil Bank has enabled transfer of more than 60,000 tons of clean native soil and has saved the City and brownfield developers more than \$2 million in soil disposal and purchase costs.



In 2014, OER began performing Climate Change Resiliency Surveys at no cost for developers of brownfield sites in the BCP. These surveys are designed to educate developers on building design practices – and associated incentives - that lower vulnerability of new buildings to severe storms and reduce the release of pollutants to the surrounding community.

After completing approximately 20 surveys, OER will publish a report on findings and best management practices for dissemination to the broader development community.

LOOKING AHEAD

Continued investment in community planning

OER has established 14 new Vacant Land Community Planning Areas in all five boroughs to promote grass roots planning studies - led by community based organizations (CBO's) – focused on revitalization of vacant land in low income neighborhoods, including four impacted by flooding from Sandy (Red Hook in Brooklyn; Edgemere on the Rockaways in Queens; Stapleton and West Shore on Staten Island). To help CBO's in the planning process, OER will expand SPEED, its online environmental research engine, and develop an online community planning portal that will facilitate communication between communities, OER, City agencies, and vacant land developers.

Water and Wastewater

CHALLENGES AND STRATEGY FOR ADAPTION

New York City's water and wastewater systems were designed to handle changes in the weather. For instance, the expansive water supply system allows Department of Environmental Protection (DEP) operators to rely more heavily on one part of the system when one or several reservoirs are affected by a storm, and ensure the safe delivery of over 1 billion gallons of water per day. At New York City's 14 wastewater treatment plants, capacity is adequate to treat two times the amount of flow treated on a dry day—on average, about 1.3 billion gallons per day.

The City, through foresight in the design of these systems and continuing enhancements to infrastructure and operations, has maintained its commitment to public health and the environment even in extreme conditions. In a changing climate, however, the City must consider new extremes. By protecting wastewater treatment facilities from storm surge, improving and expanding drainage infrastructure, and promoting redundancy and flexibility to ensure constant supply of high-quality water, DEP will enhance its already highly resilient system.

ACHIEVEMENTS IN THE PAST YEAR

Protect Wastewater Facilities from Storm Surge

DEP adopted a wastewater facility design standard to ensure that all new projects are built to elevate or flood-proof equipment to prevent damage from storm surge. In October 2013, the NYC Wastewater Resiliency Plan was released, documenting a full portfolio of flood protection strategies to retrofit all at-risk wastewater facilities to this standard.

At an estimated cost of \$315 million, these strategies could protect critical equipment from repeated flooding and minimize impacts to beaches, ecosystems, and communities served by these facilities. Already, DEP has implemented several of these flood protection measures, including at the Newtown Creek wastewater treatment plant and Gowanus pumping station, with many additional facilities scheduled to be upgraded by 2020.

Enhance Drainage in Low-Lying Neighborhoods

DEP continues to expand and enhance sewer systems to quickly convey stormwater out of neighborhoods, while seeking opportunities to preserve and enhance natural systems that facilitate drainage. The Mid-Island Bluebelt, for example, will reduce chronic flooding on the East Shore of Staten Island while improving engineered wetland systems—known as Best Management Practices or BMPs—to retain stormwater. The City also recently announced \$100 million for roadway and drainage projects in Sandy-affected areas in Staten Island.

In Staten Island and throughout the city, Bluebelt systems and new sewers are being built. In Coney Island, the first of five sewer projects is in construction to serve the growing community. Six high-level storm sewer projects have advanced in areas of Brooklyn near the Fresh Creek tributary to Jamaica Bay. Bluebelt construction is underway in Springfield Gardens, Queens, and in December 2013, the US Department of Agriculture awarded the City \$7.5 million for the first BMP in the Mid-Island Bluebelt, anticipated to begin construction in 2014.

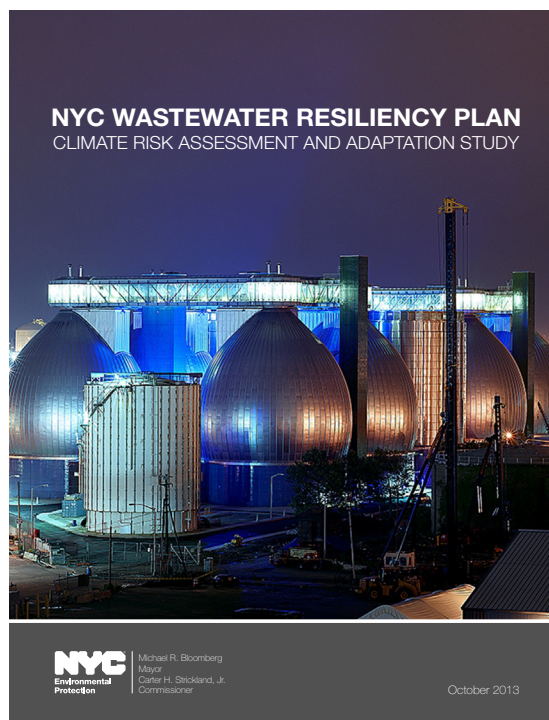
Improve Neighborhoods and Waterways

Protecting and enhancing water and wastewater infrastructure for the future will ensure that every time a New Yorker turns on a tap, flushes a toilet, or gets into the water on a kayak or at the beach, the system is doing its job. Some of the work that the City is doing to improve the resiliency of these systems will be behind-the-scenes, through flood protection at wastewater treatment plants, expanding sewers under streets, or new connections between reservoirs in the watershed. Other improvements will have added benefits, such as the wildlife attracted by new Bluebelts, or shade provided by new trees that help absorb stormwater. Collectively, these projects will support the growth and prosperity of New York City for decades to come.

LOOKING AHEAD

In 2014, DEP will advance protection of wastewater treatment facilities by designing new projects to comply with the agency's revised standards for storm surge and sea level rise. The City will improve drainage systems citywide and break ground on the first capital project in the Mid-Island Bluebelt in Staten Island and continue the largest ever expansion of the Staten Island Bluebelt in the South Shore's Woodrow area.

The \$48 million infrastructure upgrade will add more than three miles of storm sewers, install hundreds of catch basins, replace existing water mains, and include the largest ever expansion of the Bluebelt system. Finally, the City will continue to protect the lands around its drinking water reservoirs with a revised filtration waiver that includes new requirements for land acquisition and flood hazard mitigation programs.



Other Critical Networks: Food Supply

CHALLENGES AND STRATEGY FOR REFORM

The City's food system serves both local and regional consumers. More than 5 million tons of food shipments pass through New York City annually, feeding tens of millions of regional consumers. The food system is critically dependent on the operation of other City systems, including transportation and power. The efficient movement of goods between wholesalers, distributors, retailers, and consumers is essential to the operation of the food system. This movement system is dependent both on access to and the quality of the City's streets and roads and also the availability of liquid fuels needed to run the thousands of trucks moving food throughout the system. All system hubs depend on electrical power for a range of tasks, from food preparation and refrigeration to business operations, such as lighting and sales. Groups that depend on the transportation and utility systems include residential consumers, restaurants, food pantries, and City institutions such as prisons, schools, and hospitals.

ACHIEVEMENTS IN THE PAST YEAR

To ensure that the food system continues to serve the needs of all New Yorkers, the City has taken steps to make the system structure more resilient.

The City continues to encourage full-line grocers to expand into underserved neighborhoods. Increasing the number of food options available to consumers builds system capacity and strengthens the whole food system, while simultaneously increasing the availability of healthy food options to all communities.

Further, the City has worked to ensure its institutional food procurement strategies feature many layers of redundancy across agencies to ensure product delivery continues in the event of a system interruption. City agencies that utilize food procurements now have effective backstops in place to protect against product shortages.

LOOKING AHEAD

Studying the food system from a regional level

The City is preparing to release an RFP for a comprehensive analysis of the regional food system. In order to best plan for disasters, the City needs to have a more complete understanding of where the risks lie. For example, understanding the food freight patterns around the region will help identify key risks within the transportation network. Further, understanding what percentages of food and food-related items pass through specific distributors will allow the City to focus its resiliency planning efforts on the appropriate critical facilities. The City will also continue work on preparedness guidelines that will be issued to retailers so that they may be better prepared in advance of an emergency.

Other Critical Networks: Solid Waste

CHALLENGES AND STRATEGY FOR ADAPTION

DSNY is responsible for collecting and disposing of municipal refuse and recyclables. To support this enormous task, DSNY has facilities located throughout New York City, including on or near the water.

ACHIEVEMENTS IN THE PAST YEAR

Since last year, progress has been made on the construction of the Marine Transfer Stations (MTS). Two facilities are nearing completion and a third is underway. Resiliency modifications at these locations include the installation of flood barrier panels; the elevation of electrical and mechanical equipment; the installation of emergency pumping and lighting systems and natural-gas-powered emergency generators; the protection of marine equipment on the pier deck; protection of gantry cranes; and the sealing of all underground conduits. These achievements will improve DSNY's capacity to process and transport refuse to its destination, thereby minimizing the amount of refuse on the streets of New York City.

DSNY has also developed contingency plans with long term vendors in an effort to minimize potential disruptions. These include bringing additional railcars and containers into the City for storage, and lining up other transfer trailers as an alternative to rail. DSNY, with FEMA's assistance, has visited all 60 of its facilities and determined whether or not they sustained any Sandy-related damage.

This knowledge of the location and type of damage, combined with the conclusions of the City's resiliency plan, will inform future work.

LOOKING AHEAD

During the next year, the DSNY will implement the mitigation measures in the MTSs and perform a risk assessment of its other facilities. The expectation is that these measures will enable the DSNY to continue to reliably serve the public during emergencies.

Brooklyn-Queens Waterfront

CHALLENGES AND ADAPTION STRATEGY

The Brooklyn-Queens Waterfront, which stretches from Sunset Park to Long Island City, and inland along the Gowanus Canal and Newtown Creek, is a compilation of nine distinct and diverse neighborhoods that are home to nearly 100,000 residents. Over the past few years, the waterfront has grown increasingly vulnerable to severe weather, as evidenced by flooding caused by Sandy's storm surge in 2012.

A Stronger, More Resilient New York includes a comprehensive plan for the community along the Brooklyn-Queens Waterfront with:

- 11 initiatives developed specifically for the Brooklyn-Queens Waterfront;
- 76 initiatives overall (including citywide initiatives) that directly impact the Brooklyn-Queens Waterfront

ACHIEVEMENTS IN THE PAST YEAR

Ferry service and Select Bus Service (SBS) were expanded throughout the previously detached neighborhoods of the Brooklyn-Queens Waterfront. In addition, enhancements to Mill Street and the BQE underpass were completed to improve the connection between Red Hook and the rest of Brooklyn.

LOOKING AHEAD

The City is moving forward on surge barrier feasibility studies for Newtown Creek and the Gowanus Canal. The studies will examine how surge barriers might connect with levees or floodwalls on adjacent shores to provide comprehensive protection for the entire area, including properties located on adjacent land. These studies presume that continued shipping traffic will exit and enter both waterways and will inform the City's project relationships with federal agencies involved in the funding and implementation of flood control projects. Potential secondary economic and quality of life benefits and challenges will be evaluated. In Red Hook, the City will continue to work with New York Rising and its proposals for the Red Hook community, including the design of an Integrated Flood Protection system for the area.

East and South Shores of Staten Island

CHALLENGES AND STRATEGY FOR ADAPTION

The East and South Shores of Staten Island are comprised of several neighborhoods, stretching from Tottenville in the south to South Beach on the northern edge. The low-density residential communities house an assortment of local businesses corridors, dispersed among parks, marinas, and ample beach-front property. The neighborhoods located on the East and South Shores of Staten Island are especially exposed to the dangers of extreme weather events, including destructive waves and storm surge, like that of 2012's Sandy.

A Stronger, More Resilient New York includes a comprehensive plan for the community along the East and South Shores of Staten Island with:

- 12 initiatives developed specifically for the East and South Shores of Staten Island;
- 78 initiatives overall (including citywide initiatives) that directly impact the East and South Shores of Staten Island

ACHIEVEMENTS IN THE PAST YEAR

The Staten Island Bluebelt is one of the most comprehensive and effective natural stormwater management systems in the northeastern United States. As of the end of 2013, the final environmental impact study and the land acquisition process were both underway for the first capital project for the Mid-Island Bluebelt in Midland Beach.

The completion of the Bluebelt will enhance protection from future floods in addition to nourishing the island's natural ecology. Also in 2013, the City released a Request for Expressions of Interest for new concessions and services designed for City-controlled beaches and property in East Shore with future development dependent on the responses.

LOOKING AHEAD

The City will continue to support the expansion of the Staten Island Bluebelt and oversee several capital projects to enhance resiliency and connectivity along Hylan Boulevard, a main transportation corridor. DCP will also conduct a local study of the East Shore neighborhoods to identify ways to reduce risk from natural hazards, foster economic and social resiliency, and coordinate land use planning with investments in City infrastructure.

South Queens

CHALLENGES AND STRATEGY FOR ADAPTION

South Queens boasts the only unobstructed coastline in New York City, stretching 11 miles along the Rockaway Peninsula. Once barrier islands and marshland at the lowest elevation in the city, the area is now home to a diverse building stock, primarily residential communities, and small, local business corridors. South Queens is home to 130,000 residents inhabiting bungalows, multi-family buildings, and public housing in fifteen diverse neighborhoods between Breezy Point and Far Rockaway, and stretching north to Howard Beach on the mainland.

The low-lying, waterfront neighborhoods of South Queens are growing increasingly vulnerable to severe weather, like the significant flood and storm surge impacts of Sandy.

A Stronger, More Resilient New York includes a comprehensive plan for the community of South Queens with:

- 13 initiatives developed specifically for South Queens;
- 82 initiatives overall (including citywide initiatives) that directly impact South Queens

ACHIEVEMENTS IN THE PAST YEAR

The City launched several initiatives in 2013 to enhance the physical and economic resiliency of Southern Queens. New Yorkers and community residents enjoyed restored and nourished beaches on the peninsula in addition to added ferry service. Small Business Services opened a Workforce1 Career Center satellite in Far Rockaway in August and the winners of a resilient design competition were announced in October to offer solutions to integrating resiliency into the Arverne East development. Lastly, the City, CUNY, and NPS launched the Science and Resilience Institute at Jamaica Bay to study innovative coastal protection techniques.

LOOKING AHEAD

The City will continue to work with the USACE on its Rockaway Reformulation Study to evaluate coastal risk reduction measures, such as the Rockaway Inlet surge barrier and expanded marsh islands to make safer the neighborhoods surrounding Jamaica Bay. Additionally, the City will continue to partner with the Science and Resilience Institute at Jamaica Bay to further innovate approaches to coastal protection and resiliency that support local action and advance global efforts in nature-based protection. DCP will also conduct local studies in Rockaway Park/Rockaway Beach, Howard Beach, Hamilton Beach and Broad Channel to identify ways to reduce risk from natural hazards, foster economic and social resiliency, and coordinate land use planning with investments in City infrastructure.

Southern Brooklyn

CHALLENGES AND STRATEGY FOR ADAPTION

The southern part of Brooklyn most impacted by Sandy is home to approximately 200,000 people, living in seven major neighborhoods. The area is largely residential, with some key neighborhood commercial corridors, destination attractions, and large institutional presences. Southern Brooklyn also houses critical infrastructure for transportation and wastewater treatment. The dense waterfront neighborhoods of Southern Brooklyn are growing increasingly vulnerable to severe weather, like flooding and storm surge impacts.

A Stronger, More Resilient New York includes a comprehensive plan for the community of Southern Brooklyn with:

- 17 initiatives developed specifically for Southern Brooklyn;
- 83 initiatives overall (including citywide initiatives) that directly impact Southern Brooklyn

ACHIEVEMENTS IN THE PAST YEAR

The City is working with FEMA and other City agencies to support area recovery through the rebuilding and expansion of Southern Brooklyn's entertainment district. Repairs to Steeplechase pier were completed in 2013 with additional phases of rebuilding to include a new roller coaster and an expansion for the Aquarium. Additionally, HHC began the first phases of opening a temporary clinic to address current community needs left unmet by the absence of the former Ida G. Israel facility destroyed in Sandy. Lastly, beaches in Southern Brooklyn recieved 600,000 cubic yards of emergency sand nourishment and will undergo ongoing restoration.

LOOKING AHEAD

Among the key initiatives, the City is moving forward on an implementation plan for Coney Island Creek wetlands restoration and a tidal barrier that together could be transformative for the entire community. Additionally, DCP will conduct local studies in portions of Southern Brooklyn, including Canarsie, Gerritsen Beach, Brighton Beach and Sheepshead Bay that will identify ways to reduce risk from natural hazards, foster economic and social resiliency, and coordinate land use planning with investments in City infrastructure.

Southern Manhattan

CHALLENGES AND STRATEGY FOR ADAPTION

Southern Manhattan, the coastal edge of Manhattan south of 42nd Street including all of Lower Manhattan, is home to nearly 200,000 residents and 300,000 employees and hosts tens of millions of tourists that pass through the fourth largest business district in the United States each year. The area reflects the high density of Manhattan with nearly all residential units located in multi-story buildings. Southern Manhattan also contains critical infrastructure and facilities (such as substations, transportation facilities, and hospitals) and plays the role of “hub” in multiple important regional networks (such as subways and vehicular tunnels). The area’s coastal proximity and high density make it especially vulnerable to severe weather.

A Stronger, More Resilient New York includes a comprehensive plan for the community of Southern Manhattan with:

- 9 initiatives developed specifically for Southern Manhattan;
- 72 initiatives overall (including citywide initiatives) that directly impact Southern Manhattan

ACHIEVEMENTS IN THE PAST YEAR

NYCEDC has several ongoing investments on City-owned properties in Southern Manhattan and is using the Job Creation and Retention Program to attract and retain businesses in Sandy-impacted areas of Lower Manhattan by awarding new and renewing tenants. Additionally, NYCEDC launched the second round of the Take the HELM program to hire and expand in Lower Manhattan and launched temporary programming for Water Street’s privately owned public spaces (POPS). A study is currently underway to assess the feasibility of a multi-purpose levee to protect vulnerable neighborhoods along the East River in Lower Manhattan.

LOOKING AHEAD

The City will continue assessing the feasibility of a multi-purpose levee that would provide coastal protection for a highly vulnerable area along Lower Manhattan’s eastern edge. Additionally, DCP will conduct local studies in the East Village, Lower East Side, Two Bridges, and West Chelsea neighborhoods that will identify ways to reduce risk from natural hazards, foster economic and social resiliency, and coordinate land use planning with investments in City infrastructure.

Milestones and Metrics

Selected 2013 Milestones

The City completed forty-five (45) of its fifty-nine (59) 2013 Milestones as laid out in *A Stronger, More Resilient New York*, and partially completed another twelve (12) milestones. Many of the partially completed milestones represent projects for which the City has already taken significant steps, including

the development of Requests for Proposals (RFPs), which will be released in 2014. In other instances, partially completed milestones contained more than one component. Two (2) milestones that are considered “Not Started” require new funding.

Chapter	Initiative	Overall Progress
CLIMATE ANALYSIS	Launch of interactive web platform for communicating flood-related risk information*	Completed
	Release of NPCC climate projections for 2100, including humidity projections	Completed
	Release of a set of metrics developed with the NPCC to measure actual climate change against predicted climate change	Partially Completed ¹
COASTAL PROTECTION	Launch of USACE Harborwide coastal protection study with active City collaboration	Completed
	Release of global competition to design integrated flood-protection systems*	Partially Completed**
	Completion by USACE of emergency beach nourishment in the Rockaways, Coney Island, Brighton Beach and Plumb Island with active City collaboration	Completed
	Completion by DPR of emergency beach nourishment at South Beach, New Dorp Beach, and Oakwood Beach in Staten Island	Completed
BUILDINGS	Approval of Construction Code amendments and zoning text amendments to provide for resiliency improvements for new and existing buildings	Completed
	Launch of incentive program for properties in the 100-year floodplain facing increased cost to adopt Core Flood Resiliency Measures	Partially Completed ²
	Launch of Resiliency Technologies Competition, and Resilient Housing Design Competition*	Partially Completed ³
	Launch of sales tax abatement program for flood resiliency in industrial buildings	Completed
	Initiation of studies related to wind risk and potential resiliency retrofit requirements*	Partially Completed ⁴
INSURANCE	Launch of mitigation credits study with FEMA	Partially Completed**
	Launch of consumer education campaign on flood insurance*	Partially Completed**
UTILITIES	Filing of comments in the Con Edison rate case, including proposals for a new approach to resiliency investment on the part of the PSC	Completed
	Development of a generator plan with OEM, including coordination with the Federal government and with the State	Completed
LIQUID FUELS	Launch of discussions with the Federal government on liquid fuels infrastructure hardening	Completed
	Introduction of a legislative package for liquid fuels emergency relief	Completed
HEALTHCARE	Amendments to Construction Code for new and existing facilities	Completed
	Launch of resiliency incentive program for nursing homes and adult care facilities*	Not Completed ¹
TELECOMMUNICATIONS	Establishment of the DoITT Planning and Resiliency Office*	Completed
	Launch of WiredNYC and NYC Broadband Map programs to provide better information about building broadband access and resiliency	Completed
TRANSPORTATION	Raising of selected traffic signal controllers above flood elevations in vulnerable areas	Completed
	Acquisition of power inverters to allow signals to operate on NYPD vehicle power during outages	Completed
	First planning exercise for temporary measures to respond to extreme weather-related transit outage scenarios	Partially Completed ⁵
	Initiation of detailed planning for Select Bus Service bus rapid transit route on Woodhaven Boulevard	Completed
PARKS	Establishment of Jamaica Bay Science and Resilience Center	Completed
	Expansion of DPR native plant seed collection	Completed
FOOD SUPPLY	Launch of comprehensive food distribution study to identify supply chain vulnerabilities*	Partially Completed**
SOLID WASTE	Completion of detailed facility risk assessment	Partially Completed ⁶
WATER AND WASTEWATER	Adoption of infrastructure guidelines for new wastewater facilities that include storm surge and sea level rise	Completed
	Completion of detailed facility risk assessment and adaptation study, and release of final report	Completed
	Start of construction of the Catskill and Delaware interconnection, completion of Ultraviolet Disinfection Facility, and revision of EPA filtration waiver	Partially Completed ⁷

Selected 2013 Milestones (continued)

Chapter	Initiative	Overall Progress
BROOKLYN-QUEENS WATERFRONT	Launch of pilot summer weekend ferry service expansion from Manhattan to Red Hook	Completed
	Completion of enhancements to Mill Street and the BQE underpass to improve the connection between Red Hook and the rest of Brooklyn	Completed
	Announcement of Brooklyn Bridge Park designation for John Street site, including elevated building and coastal edges	Completed
EAST AND SOUTH SHORES OF STATEN ISLAND	Issuance of RFEI for new concessions and services at City-controlled beachfront	Completed
	Launch of detailed land use studies to encourage retrofits of existing buildings and construction of new resilient buildings in severely impacted East Shore communities*	Completed
	Launch of the first capital project for the Mid-Island Bluebelt in Midland Beach	Partially Completed ⁸
	Launch of Great Kills Harbor comprehensive revitalization study to increase resiliency and draw additional investments*	Not Completed ¹
SOUTH QUEENS	Implementation of roadway and sewer capital projects along Hylan Boulevard, especially in vulnerable South Shore areas	Completed
	Launch of Beach 116th Street commercial revitalization study to develop detailed redevelopment plan*	Completed
	Launch of Far Rockaway commercial revitalization study to develop detailed redevelopment plan*	Completed
	Launch of detailed land use studies to encourage retrofits of existing buildings and construction of new resilient buildings in Hamilton Beach and Broad Channel ¹	Completed
SOUTHERN BROOKLYN	Start of pilot summer extension of weekday ferry and expansion of weekend ferry from Manhattan to the Rockaways	Completed
	Start of construction on a new iconic roller coaster in Coney Island's amusement area	Completed
	Launch of detailed land use studies to encourage retrofits of existing buildings and construction of new resilient buildings in Gerritsen Beach*	Completed
	Completion of emergency repairs to bulkhead/floodwall along the Belt Parkway	Completed
SOUTHERN MANHATTAN	Continuation of construction of the first phase of area drainage improvements in Coney Island	Completed
	Launch of incentive program targeting new and renewing tenants in the 100-year floodplain*	Completed
	Launch of Take the HELM competition for Sandy-impacted areas*	Completed
	Start of streetscape and safety improvements on Water Street	Completed
FUNDING	Launch of initiative to encourage comprehensive upgrades of ground floors and adjacent Privately Owned Public Spaces along Water Street	Completed
	Inclusion of resiliency funding in City capital budget	Completed
ALL COMMUNITIES	Launch of Neighborhood Game Changer contest	Completed
	Launch of Business Recovery and Resiliency programs	Completed
IMPLEMENTATION	Passage of local law outlining resiliency requirements for OLTPS	Completed
	Appointment of Citywide Director of Resiliency at OLTPS	Completed
	Issuance of executive order requiring agencies to appoint a resiliency point person and to build new facilities to most recent available 100-year floodplain plus	Completed
	Appropriate freeboard, or equivalent standard	Completed

* Subject to Available Funding

** An RFP for this project has been prepared and will be released in 2014.

¹ The City continues to pursue funding to complete this project.

1. These metrics have been developed, but the release will be part of an NPCC update to be released in 2014.
2. An RFP has been released to procure a Program Management Office that will administer the program.
3. These are two separate initiatives at two different agencies. The Resiliency Technologies Competition (Rise: NYC) has launched; the Resilient Housing Design Competition may be reconsidered due to similar efforts already underway.
4. The City passed legislation to require the wind study be completed by 2015.
5. An emergency playbook has been developed that outlines response procedures. Exercises will be conducted in 2014.
6. Extensive facility analysis has been conducted on DSNY facilities and this information will be used to complete a facility risk assessment in 2014.
7. Construction of the interconnection has begun, the Ultraviolet Disinfection facility is complete, but the City is still waiting for the EPA to issue the filtration waiver.
8. DEP issued its final Environmental Impact Statement for the Mid-Island Bluebelt in November 2013. DEP has received \$7.5 million in Federal funding to complete portions of this project.

Metrics (Preliminary)

Through the Mayor’s Office of Recovery and Resiliency (ORR), the City is working to identify and adopt a set of metrics that will most accurately assess the progress of resiliency work being conducted throughout the City.

These metrics, once adopted, will be monitored and reported in the City’s Mayor’s Management Report, with the next issue to be published later in 2014.

CATEGORY	METRIC
COASTAL PROTECTION	Federal dollars secured for coastal protection projects Number of buildings with reduced coastal risk due to coastal protection projects Number of cubic yards of beach sand nourishment
BUILDINGS	Number of buildings implementing Core Flood Resiliency Measures Number of square feet of residential and non-residential buildings implementing Core Flood resiliency measures
INSURANCE	Percent of residences in 100-year floodplain purchasing flood insurance Average premium paid for National Flood Insurance Program (NFIP) policies
UTILITIES	Percent of electric generation capacity in the 500-year floodplain able to remain online after a 500-year flood Maximum percent of peak load that could be lost due to failure of any one substation Percent of assets at or above their loading limits during peak demand periods Number of miles of cast iron and bare steel gas mains in the 500-year floodplain Percent of steam generation capacity in the 500-year floodplain able to remain online after a 500-year flood
LIQUID FUELS	Percent of gas stations with quick-connects for generators Percent of regional fuel terminal capacity in the 100-year floodplain hardened against a 100-year flood Percent of regional refining capacity in the 100-year floodplain hardened against a 100-year flood
HEALTHCARE	Percent of hospital beds in 500-year floodplain meeting resiliency standards Percent of beds in nursing homes and adult care facilities in 100-year floodplain meeting resiliency requirements
TELECOMMUNICATIONS	Number of critical telecommunications facilities implementing Core Flood Resiliency Measures
TRANSPORTATION	Number of lane-miles reconstructed or resurfaced Percent of New York City transportation assets adapted for climate change resiliency
PARKS	Percent of DPR facilities in Sandy inundation zone upgraded for greater resiliency Number of trees inspected and pruned
WATER AND WASTEWATER	Number of wastewater facilities or assets protected or raised above the 100-year floodplain Number of right-of-way bioswales constructed Number of sewer miles built in areas with no or partial sewers Number of Bluebelt Best Management Practices (BMPs) Percent of water quality samples complying with Surface Water Treatment Rule standard for turbidity
SOLID WASTE	Number of DSNY facilities protected or raised above the 100-year floodplain
FOOD SUPPLY	Number of grocery stores with generators or quick connects for generators Percent of DCAS food procurement backstopped with more resilient distributors

Implementation

In the ten months since the release of the City's first comprehensive, ten-year climate resiliency plan, much progress has been achieved. Emergency beach nourishment and bulkhead repair projects have been completed, including 1.2 million cubic yards of emergency sand in the Rockaways and Coney Island. In Staten Island, the Department of Parks and Recreation installed over 26,000 linear feet of interim reinforced dunes from South Beach to Conference House Park. The City adopted seventeen of twenty-two proposed legislative changes, including sixteen building code upgrades and one codifying resiliency as a fundamental City process. An agreement between New York State's Public Service Commission (PSC), the City, and Consolidated Edison Company of New York (Con Edison) was approved, essentially holding Con Edison delivery rates flat for the next few years and ensuring that the most critical Con Edison facilities will be hardened and made sufficiently resilient. On March 4, 2014, the U.S. House of Representatives passed the Homeowner Flood Insurance Affordability Act. The City worked with federal lawmakers to ensure this Act aligns directly with key City resiliency initiatives.

In total, of the 257 initiatives that comprise the City's plan, 29 have been completed and 202 are in progress. On April 17, Mayor de Blasio made a major commitment to and expansion of this ambitious plan in order to prepare the city for future risks. A new Mayor's Office of Recovery and Resiliency will strengthen the City's ability to continue to deliver on these initiatives.

The City will continue its efforts to implement this ten-year plan with a wide range of partners, stakeholders, and community organizations, and will work to ensure that these recovery and resiliency efforts influence all City actions and benefit all New Yorkers.

Initiative	Status	Description
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Strengthen the quality of available climate analysis

CLIMATE ANALYSIS	1	Work with FEMA to improve the flood-mapping process	In Progress	The City provided expert analysis in FEMA's most recent release of Preliminary FIRMs. The City continues to work with FEMA to improve the flood mapping process and is waiting for FEMA to announce the first meeting of the Technical Mapping Advisory Council, on which the City serves.
	2	Work with FEMA to improve the communication of current flood risks	In Progress	The City has continually advised FEMA on local flood risk messaging and online tools, and is contracting with FEMA to develop a City website to better communicate current risks.
	3	Call on the State and Federal governments to coordinate with the City on local climate change projections	In Progress	NOAA and the USACE have agreed to incorporate the NPCC work into their climate models for use on future projects.
	4	Continue to refine local climate change projections to inform decision-making	In Progress	The City released expanded NPCC projections, including humidity and projections to 2100.
	5	Explore improved approaches for mapping future flood risks, incorporating sea level rise	In Progress	The City, with the Stevens Institute, has completed its study of Sea Level Rise mapping, which is being incorporated into the NPCC's newest report. NPCC has also developed future flood maps to show the predicted floodplains in 2050.
	6	Launch a pilot program to identify and test strategies for protecting vulnerable neighborhoods from extreme heat health impacts	In Progress	DOHMH is working with OLTPS to design the pilot program focused on three vulnerable neighborhoods. Currently, the research and design components are in place with additional funding needed for implementation.

Increase coastal edge elevations

COASTAL PROTECTION	1	Continue to work with the USACE to complete emergency beach nourishment in Coney Island	Completed	Over 600,000 cubic yards of sand have been placed on Coney Island.
	2	Continue to work with the USACE to complete emergency beach nourishment on the Rockaway Peninsula	In Progress	Over 600,000 cubic yards of sand have been placed on the Rockaway Peninsula. Another 2.9 million cubic yards are scheduled to be placed in Spring 2014.
	3	Complete short-term beach nourishment, dune construction, and shoreline protection on Staten Island	In Progress	Over 26,000 new feet of shoreline protection and reinforced dunes have been installed between South Beach and Conference House Park. Dunes in Midland Beach will be completed in May 2014.
	4	Install armor stone shoreline protection (revetments) in Coney Island	In Progress	An RFP for site selection and design will be released in the first half of 2014, as part of a study of a Coney Island Creek flood barrier.
	5	Install armor stone shoreline protection (revetments) on Staten Island	In Progress	An RFP for site selection and design will be released in the first half of 2014.
	6	Raise bulkheads in low-lying neighborhoods across the city to minimize inland tidal flooding	In Progress	An RFP for site selection and design will be released in the first half of 2014.
	7	Complete emergency bulkhead repairs adjacent to the Belt Parkway in Southern Brooklyn	Completed	Emergency repairs were completed in 2013.
	8	Complete bulkhead repairs and roadway drainage improvements adjacent to Beach Channel Drive on the Rockaway Peninsula	In Progress	Ongoing bulkhead rehabilitation is 65% complete. Additional construction is anticipated to begin in 2014 subject to securing waterfront permits.
	9	Continue to work with the USACE to complete emergency floodgate repairs at Oakwood Beach, Staten Island	Completed	Emergency floodgate repairs were completed.
	10	Complete tide gate repair study at Flushing Meadows Corona Park, Queens	Not Started	The City has applied for funding to begin this necessary study as part of an HMGP application to the State.

Minimize upland wave zones

COASTAL PROTECTION	11	Continue to work with the USACE to complete existing studies of the Rockaway Peninsula and implement coastal protection projects	In Progress	The City continues to work with the USACE on its Rockaway Reformulation Study, and looks forward to further progress by the USACE to advance protections on the beach as well as in Jamaica Bay.
	12	Call on and work with the USACE to study and install primary and secondary dune systems in vulnerable Rockaway Peninsula neighborhoods (such as Breezy Point)	In Progress	The City has applied for funding to complete their project as part of an HMGP application to the State. The State has released this project application to FEMA for final approval, and the City will work to implement this project once approved.
	13	Call on and work with the USACE to study and install offshore breakwaters adjacent to and south of Great Kills Harbor	In Progress	In partnership with the City, NYSDEC has procured a consultant to evaluate offshore breakwaters in Great Kills. The study will begin in 2014.
	14	Call on and work with the USACE to study and install wetlands for wave attenuation in Howard Beach and to study further flood protection improvements within Jamaica Bay	In Progress	The State has announced \$50 million in HMGP funding for wave attenuating wetlands and shoreline improvements in Howard Beach at Spring Creek. The City looks forward to assisting with this project's implementation.
	15	Call on and work with the USACE to study and install living shorelines for wave attenuation in Tottenville	In Progress	The City has developed a plan to implement a living shoreline installation for wave attenuation in Tottenville and other locations in the South shore of Staten Island through HUD's Rebuild by Design program and is awaiting funding allocation.
	16	Continue to work with the USACE to complete its Plumb Beach breakwater and beach nourishment project in Southern Brooklyn	Completed	This project was completed by the USACE in 2013.
	17	Complete living shorelines and floating breakwaters for wave attenuation in Brant Point, Queens	In Progress	The City has completed design and secured permits for this project.
	18	Continue to work with the USACE to complete its Sea Gate project in Southern Brooklyn	In Progress	The City expects the US Army Corps of Engineers to release a Solicitation for Bids in June, with an Award of Contract by the end of Summer 2014.

Initiative	Status	Description
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Protect against storm surge

COASTAL PROTECTION	19	Install an integrated flood protection system in Hunts Point	In Progress	The City has developed a plan to implement an integrated flood protection system for Hunts Point through HUD's Rebuild by Design program and is awaiting funding allocation.
	20	Install an integrated flood protection system in East Harlem	Not Started	The City continues to seek funding for this project and will launch its global design competition in 2014 to identify innovative concepts for each of its locations, including East Harlem.
	21	Install an integrated flood protection system in Lower Manhattan, including the Lower East Side	In Progress	The City has developed a plan to implement an integrated flood protection system for lower Manhattan, including the Lower East Side, through HUD's Rebuild by Design program and is awaiting funding allocation.
	22	Install an integrated flood protection system at Hospital Row	In Progress	HHC has completed initial flood protection measures at Bellevue Hospital, and the City continues to work with the Federal government to coordinate mitigation measures for all three hospitals along this stretch of the East River.
	23	Install an integrated flood protection system in Red Hook	In Progress	The City and State are jointly developing and funding a plan to implement an integrated flood protection system in Red Hook.
	24	Continue to work with the USACE to complete existing studies on Staten Island and implement coastal protection projects	In Progress	The USACE is now expected to deliver a draft feasibility study for Phase 1 in September 2014 and for Phase 2 in 2015. The City has committed \$50M in local matching funds for this project.
	25	Continue to work with Con Edison to protect the Farragut substation	In Progress	Through a settlement with ConEd, the State, and the City, ConEd will invest in storm hardening at Farragut shoreline as part of ConEd's storm hardening program.
	26	Call on and work with the USACE to study and install local storm surge barriers at Newtown Creek	In Progress	The City is preparing to release an RFP in 2014 to conduct a feasibility study on this conceptual project.

Improve coastal design and governance

COASTAL PROTECTION	27	Continue to work with the USACE to complete its comprehensive flood protection study of New York Harbor	In Progress	The City is working with the USACE to complete its North Atlantic Coast Comprehensive Study, which is scheduled for release in January 2015.
	28	Implement the WAVES Action Agenda	In Progress	The City took many important steps as part of the Waves Action Agenda to improve City's waterfront and increase resiliency, including revisions to the Waterfront Revitalization Program and releasing the Urban Waterfront Adaptation Strategies report.
	29	Implement citywide waterfront inspections to better manage the City's waterfront and coastal assets	In Progress	The City is preparing to release an RFP for updating the City's guidelines inspection manual and an RFP for Phase III mapping of the City's waterfront.
	30	Study design guidelines for waterfront and coastal assets to better mitigate the effects of flooding	In Progress	DPR is developing guidelines for its facilities in the floodplain and is updating its High-Performance Landscape Guidelines to include resiliency measures. Release of the guidelines is anticipated in 2015.
	31	Evaluate soft infrastructure as flood protection and study innovative coastal protection techniques	In Progress	The City is working closely with State and Federal agencies to advance natural and nature-based features as part of its coastal protection initiatives. The City with NPS and CUNY also launched the Science and Resilience Institute at Jamaica Bay to research innovative resiliency measures.
	32	Evaluate the city's vulnerability to drainage pipe flooding and identify appropriate solutions to minimize those risks	In Progress	This work will occur as a regular part of all of the City's coastal protection projects.
	33	Evaluate strategies to fund wetland restoration and explore the feasibility of wetland mitigation banking structures	In Progress	The City, led by the EDC, continued to meet with the Interagency Review Team in 2013 to finalize wetland banking prospectus and credit ratios. The City has made substantial progress and individual ecosystem community ratios have been submitted and are awaiting acceptance from the Interagency Review Team. NYCEDC has completed a prospectus for the Saw Mill Creek pilot site and is now pursuing approval for the Mitigation Bank Instrument, which is expected to be approved in the fall of 2014.
	34	Work with agency partners to improve the in-water permitting process	In Progress	NYCEDC is working on agreements with USACE, NYSDEC, and NYSDDS for the creation in 2014 of a "Waterfront One Stop" web portal to improve the waterfront permitting process.
	35	Enhance waterfront construction oversight by strengthening the City's waterfront permit and dockmaster units	In Progress	To assist applicants with the permitting processes, SBS's Waterfront Permits Unit (WPU) created an online information page. Pursuant to the NYC Building Code, WPU coordinated with DOB to review Special Inspections required for marine and maritime structures. WPU has also initiated dialogues with DOB, FDNY, DSNY, DEP, and DEC for improved communications on the permitting processes for waterfront constructions. Additionally, SBS's Dockmaster Unit (DMU) inspected and documented areas of the waterfront impacted by Hurricane Sandy and directed owners of waterfront property to proper channels for assistance.
	36	Identify a lead entity for overseeing the collaboration on the USACE comprehensive study and for overseeing the implementation of coastal flood protection projects	Completed	The Office of Recovery and Resiliency (ORR) has been designated as the lead entity for the City's coastal protection initiatives.
37	Call on and work with the USACE and FEMA to collaborate more closely on flood protection project standards	In Progress	ORR has convened FEMA and USACE to investigate that design of design and construction of USACE projects are coordinated with FEMA's Levee Accreditation standards.	

Strengthen new and substantially rebuilt structures to meet the highest resiliency standards moving forward

BUILDINGS	1	Improve regulations for flood resiliency of new and substantially improved buildings in the 100-year floodplain	In Progress	The City has adopted changes to the zoning code as well as targeted building code changes. On October 9, 2013 the City Council adopted the Flood Resilience Zoning Text Amendment, that among other things clarified building and mechanical equipment elevation and measurement, freeboard, alternative uses of ground floor space, and parking issues - these zoning text changes are now in effect. Also in 2013, the Mayor signed several local laws including Local Law 83, which is designed to prevent the backflow of sewage; Local Law 96, regarding the adoption of best available flood maps; and Local Law 99, which allows the elevation of certain building systems in flood-prone areas including telecommunications cabling and fuel storage tanks.
	2	Rebuild and repair housing units destroyed and substantially damaged by Sandy	In Progress	The Mayor's Office of Housing Recovery Operations (HRO) has recently issued the first financial assistance awards to eligible homeowners, and construction and repair work has begun.

Initiative	Status	Description
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Strengthen new and substantially rebuilt structures to meet the highest resiliency standards moving forward

BUILDINGS	3	Study and implement zoning changes to encourage retrofits of existing buildings and construction of new resilient buildings in the 100-year floodplain	In Progress	The City, through the Department of City Planning (DCP), has begun a series of neighborhood-specific land use studies to address key planning issues in severely affected and vulnerable communities. These land use studies are designed to be complementary to the citywide zoning changes outlined in the Flood Resiliency Zoning Text Amendment.
	4	Launch a competition to encourage development of new, cost-effective housing types to replace vulnerable stock	In Progress	HPD has developed priorities for new cost-effective housing to replace vulnerable stock.
	5	Work with New York State to identify eligible communities for the New York Smart Home Buyout Program	In Progress	The City continues to coordinate with New York State on its buyout program in Oakwood Beach, Ocean Breeze, and Graham Beach.
	6	Amend the Building Code and complete studies to improve wind resiliency for new and substantially improved buildings	In Progress	The City Council has amended the Building Code through 2013's Local Law 101 to clarify current wind-resistance specifications for façade elements. The City passed 2013's Local Law 81 which will require a study to be complete by 2015 that focuses on 5 key analyses related to wind risk.

Retrofit as many buildings as possible so that they will be significantly more resilient than they are today

BUILDINGS	7	Encourage existing buildings in the 100-year floodplain to adopt flood resiliency measures through an incentive program and targeted requirements	In Progress	The Business Resiliency Investment Program has launched a Request for Proposals process to target a Project Management Office (PMO) that will administer \$110 million in funding for tenant and building owner resiliency efforts.
	8	Establish Community Design Centers to assist property owners in developing design solutions for reconstruction and retrofitting, and connect them to available City programs	In Progress	The Community Design Center initiative described in the SIRR report has been piloted (and renamed) as the Sandy Design HelpDesk. Enterprise Community Partners, the Pratt Center, and Architecture for Humanity worked together with other community-based partners and support from various City agencies to offer personalized technical guidance to property owners who are seeking to make their property more resilient. Two instances of the Helpdesk have been held: the first in November 2013 in Far Rockaway and the second in February 2014 in Red Hook. With the support and additional partnership of the Local Initiatives Support Corporation (LISC), eight Sandy Neighborhood Design HelpDesks are being planned with LISC community partners in other Sandy-affected neighborhoods in the upcoming months. In each instance of the HelpDesk, staff from the Department of Buildings and the Department of City Planning held training sessions for volunteer architects on building code and zoning pertinent to flood resilient construction.
	9	Retrofit public housing units damaged by Sandy and increase future resiliency	In Progress	NYCHA is committed to a multi-stage strategy to retrofit over 60 Sandy-impacted developments encompassing approximately 250 buildings.
	10	Launch sales tax abatement program for flood resiliency in industrial buildings	Completed	A sales tax abatement for flood resiliency in industrial buildings was approved by the IDA board in 2013, prioritizing 1-2 story buildings with at least 4 feet between their actual ground elevation and the applicable base flood elevation.
	11	Launch a competition to increase flood resiliency in building systems	In Progress	RISE: NYC, a \$30 million competition designed to identify and deploy new and innovative technologies to improve the resilience of building systems, energy infrastructure and telecommunications networks. The competition opened in January 2014 and applications are currently under review by the City. Competition winners will be selected in 2014.
	12	Clarify regulations relating to the retrofit of landmarked structures in the 100-year floodplain	In Progress	The Landmarks Preservation Commission (LPC) has issued a Frequently Asked Questions guide about making changes to a landmarked building, particularly in regard to adding or relocating mechanical equipment for buildings in flood hazard areas. Additional flood resiliency guidance will be developed by LPC over time on a case-by-case basis as the outcomes of individual cases are determined.
	13	Amend the Building Code to improve wind resiliency for existing buildings and complete studies of potential retrofits	In Progress	In 2014 the City will introduce legislation targeting the expansion of the existing DOB Façade Inspection Safety Program for high-rise buildings to include rooftop structures and equipment.
	14	Amend the Construction Codes and develop best practices to protect against utility service interruptions	In Progress	In 2013, the Mayor signed several pieces of key legislation increasing protection against utility service interruptions.

Support community and economic recovery in impacted area

ECONOMIC RECOVERY	1	Launch Business Recovery and Resiliency Programs	In Progress	The Business Recovery Loan and Grant Program was launched immediately after Sandy and will be supplemented by the Business Resiliency Investment Program during 2014. The Business Resiliency Investment Program will provide incentives to businesses to make physical investments, elevating or flood-protecting mechanical equipment; structural reinforcement of low-rise, light-frame buildings; developing disaster preparedness plans; and protecting inventory and data systems.
	2	Launch Neighborhood Game Changer Competition	In Progress	The Neighborhood Game Changers competition was launched in 2013 and a selection committee and advisory panel comprised of local community and citywide representatives have completed their initial review of the responses.
	3	Launch Neighborhood Retail Recovery Program	In Progress	In February, 2014, the New York State Public Service Commission approved the NYC Superstorm Sandy Business Incentive Rate program to assist small businesses and non-profit organizations recovering from Superstorm Sandy. This program provides qualifying customers with an electric rate discount that may yield cost savings of up to \$50,000 over a three-year period.
	4	Support local merchants in improving and promoting local commercial corridors	In Progress	The City, through the Department of Small Business Services, is currently providing ongoing support to local merchants in Sandy-affected areas through capacity building, retail façade and streetscape improvements, and marketing/business attraction activities.
	5	Continue to support the FRESH program to increase the number of full-line grocers in underserved neighborhoods	In Progress	The City continues to advance the FRESH program, and since Sandy, seven FRESH projects have been approved. Furthermore, select FRESH stores that were approved prior to Sandy but subsequently delayed due to storm damage have now opened.
	6	Reassess commercial properties citywide to reflect post-Sandy market values	In Progress	For Fiscal Year 2014, DOF recognized Sandy's impact by making downward adjustments to the market values of more than 88,000 properties. These adjustments led to tax reductions for more than 50,000 properties affected by the storm. For the Fiscal Year 2015 assessment roll, DOF inspected 5,400 properties that had received physical reductions on the Fiscal Year 2014 roll in order to evaluate the current status of the properties. The City will continue to explore property tax reductions for those rebuilding after Sandy.

Initiative	Status	Description
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Target affordability solutions to low-income policy holders

	1	Support Federal efforts to address affordability issues related to reform of the NFIP	In Progress	The City advocated and provided technical and drafting assistance for the recently passed Homeowners Flood Insurance Affordability Act of 2013 alleviating some of the sharp increases in flood insurance. In addition, the City is preparing to launch an RFP to study the impact of rising flood insurance premiums on New Yorkers.
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Define resiliency standards for existing buildings

INSURANCE	2	Develop FEMA-endorsed flood protection standards and certifications for existing urban buildings	In Progress	The City advocated and provided technical and drafting assistance for the recently passed Homeowners Flood Insurance Affordability Act of 2013 which included provisions regarding establishing urban standards. In addition, the City is working to define building typologies and mitigation strategies that reduce flood losses. In addition, the City is preparing to launch an RFP to study the effectiveness of various mitigation strategies and building types to reduce flood losses in dense, urban settings.
	3	Call on FEMA to recognize mixed-use buildings as a distinct building category	In Progress	FEMA has recently updated its insurance policy form to allow applicants to indicate the percentage that is used for commercial uses. The City is continuing to advocate for a distinct building category.

Incorporate resiliency standards in insurance underwriting

INSURANCE	4	Call on FEMA to develop mitigation credits for resiliency measures	In Progress	The City advocated and provided technical and drafting assistance for the recently passed Homeowners Flood Insurance Affordability Act of 2013 which included provisions regarding developing mitigation approaches other than elevation for urban buildings. In addition, as previously mentioned, the City is preparing to launch an RFP to study the effectiveness of various mitigation strategies and building types to reduce flood losses in a dense, urban setting akin to what is found in New York City.
	5	Study approaches for New York City to join FEMA's Community Rating System program	In Progress	The City has begun to do a baseline assessment of its floodplain management to evaluate any potential hurdles in joining the CRS.

Expand pricing options for policyholders

	6	Call on FEMA to allow residential policyholders to select higher deductibles	In Progress	The City advocated and provided technical and drafting assistance for the recently passed Homeowners Flood Insurance Affordability Act of 2013 which includes a provision for the development of higher deductible policies.
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Improve awareness and education about insurance

INSURANCE	7	Support the goals of the NYS 2100 Commission to protect New York State, consumers, and businesses	In Progress	The City is coordinating with DFS where applicable to support the goals of the NYS 2100 Commission.
	8	Call on New York State to improve policyholder awareness at the point of sale or renewal	In Progress	The City advocated and provided technical and drafting assistance for the recently passed Homeowners Flood Insurance Affordability Act of 2013 which included provisions regarding establishing an insurance advocate to support public outreach. In addition, the City has met with insurance associations to develop ways of improving point of sale communication.
	9	Launch a consumer education campaign on flood insurance	In Progress	The City is coordinating with CNYCN to develop a web program, and will launch a full education campaign when the maps are ready. An RFP has been prepared but not yet released.
	10	Launch an engagement campaign targeting insurers	In Progress	The City, in cooperation with DFS, has hosted a forum to engage private insurance companies to discuss flood products and mitigation strategies.

Redesign the regulatory framework to support resiliency

UTILITIES	1	Work with utilities and regulators to develop a cost-effective system upgrade plan to address climate risks	In Progress	ConEd's Storm Hardening program was approved by the PSC. The City collaborated with ConEd on developing a risk analysis model to guide resiliency planning. The PSC is currently facilitating further discussions on resiliency issues.
	2	Work with utilities and regulators to reflect climate risks in system design and equipment standards	In Progress	ConEd's Storm Hardening program was approved by the PSC. The City crafted an agreement to use a design standard of BFE plus three feet on ConEd's flood protection projects. ConEd will commence a climate change adaptation study in 2014 to evaluate other types of design standards.
	3	Work with utilities and regulators to establish performance metrics for climate risk response	In Progress	The PSC introduced a statewide scorecard to measure utilities' performance in preparation for and restoration from major outage events.

Harden existing infrastructure to withstand climate events

UTILITIES	4	Work with power suppliers and regulators to harden key power generators against flooding	In Progress	Discussions are ongoing at the NYISO to develop a potential compensation mechanism for power suppliers.
	5	Work with utilities and the PSC to harden key electric transmission and distribution infrastructure against flooding	In Progress	ConEd's Storm Hardening program was approved by the PSC. Projects will be implemented in the next three years.
	6	Work with utilities and the PSC to harden vulnerable overhead lines against winds	In Progress	ConEd's Storm Hardening program was approved by the PSC. Projects will be implemented in the next three years. In addition, the City completed and released a study assessing the relative value and cost of selectively undergrounding power lines.

Initiative	Status	Description
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Harden existing infrastructure to withstand climate events

UTILITIES	7	Work with utilities, regulators, and gas pipeline operators to harden the natural gas system against flooding	In Progress	ConEd's Storm Hardening program was approved by the PSC, and included provisions to accelerate replacement of leak prone pipe and harden tunnel head houses. Other systems will be addressed in future rate cases.
	8	Work with steam plant operators and the PSC to harden steam plants against flooding	In Progress	ConEd's Storm Hardening program has been approved by the PSC. Projects at steam generating stations will be implemented in the next three years.

Reconfigure utility networks to be redundant and resilient

UTILITIES	9	Work with industry partners, New York State, and regulators to strengthen New York City's power supply	In Progress	The City is participating in monitored proceedings that are ongoing at FERC, PSC, and DEC.
	10	Require more in-city plants to be able to restart quickly in the event of blackout	In Progress	The City is working with the NYISO to ensure adequate blackstart capability to meet future contingencies.
	11	Work with Con Edison and the PSC to develop a long-term resiliency plan for the electric distribution system	In Progress	The PSC is currently facilitating further discussions on resiliency issues.
	12	Work with utilities and regulators to minimize electric outages in areas not directly affected by climate impacts	In Progress	ConEd's Storm Hardening program was approved by the PSC. Projects will be implemented in the next three years, including network reconfiguration in the Bowling Green and Fulton network areas.
	13	Work with utilities and regulators to implement smart grid technology to assess system conditions in real time	In Progress	The PSC, with the City as a participant, is currently facilitating further discussions on resiliency issues.
	14	Work with utilities and regulators to speed up service restoration for critical customers via system configuration	In Progress	ConEd's Storm Hardening program was approved by the PSC. Projects to install customer isolation switches to protect high tension network supply feeders will be implemented in the next three years.
	15	Work with utilities and regulators to speed up service restoration via pre-connections for mobile substations	In Progress	The PSC introduced a statewide Scorecard to measure utilities' performance in preparation for and restoration from major outage events.
	16	Work with pipeline operators to expand and diversify natural gas supply	In Progress	The City is working to ensure safe natural gas infrastructure supplying the five boroughs.
	17	Work with utilities and regulators to strengthen the in-city gas transmission and distribution system	In Progress	Projects to upgrade and harden several Williams pipeline delivery points and metering and regulator stations in Brooklyn, Manhattan, and Staten Island are underway.
	18	Launch energy infrastructure resiliency competition	In Progress	RISE: NYC, a \$30 million competition designed to identify and deploy new and innovative technologies to improve the resiliency of building systems, energy infrastructure and telecommunications networks, opened in January 2014 and applications are currently under review by the City. Competition winners will be selected in 2014.

Reduce energy demand

UTILITIES	19	Work with utilities and regulators to expand citywide demand response programs	In Progress	PSC proceedings on demand management issues are underway. The City is on track to launch an expanded demand response program in Summer 2014.
	20	Work with government and private sector partners to expand the energy efficiency of buildings	In Progress	The City officially announced the launch of GreenLightNY in December 2013 establishing a centralized location for education and demonstrations of state-of-the-art technologies in energy efficient building systems. At the end of 2013, the City received the first group of energy audit reports required of buildings larger than 50,000 sf in area, providing vital information on building systems and the energy efficiency retrofit opportunities. The City, in partnership with NYSERDA, NYCEEC, and the utilities partners are currently developing a market integrator program to facilitate private sector investments in energy efficiency retrofits for buildings.

Diversify customer options in case of utility outage

UTILITIES	21	Work with public and private partners to scale up distributed generation (DG) and micro-grids	In Progress	The City is currently working with NYSERDA, NYSDHS, and Smart Grid Consortium to study micro-grid feasibility, with NY Rising on micro-grid opportunities in NY Rising communities, and is exploring options to implement distributed generation at NYCHA facilities.
	22	Incorporate resiliency into the design of City electric vehicle initiatives and pilot storage technologies	In Progress	NYCEDC recently commissioned a battery storage system at the Brooklyn Army Terminal, and the City, through the Department of Buildings and in collaboration with Con Edison, is spearheading new rules making it easier and more economical for private properties to install large scale batteries for backup and demand management. The City continues to monitor the development of electric vehicle-to-grid / vehicle-to-building standards, which are still only in limited pilots nationally.
	23	Improve backup generation for critical customers	In Progress	The City expanded its mobile back-up generator fleet was instituted by City agencies.

Seek to harden the liquid fuels supply infrastructure

LIQUID FUELS	1	Call on the Federal government to convene a regional working group to develop a fuel infrastructure hardening strategy	In Progress	ORR is working with the Columbia University Center on Global Energy Policy to convene relevant stakeholders, including federal and State agencies, the National Petroleum Council, private industry, and others to develop a liquid fuels infrastructure resiliency plan.
	2	Develop a reporting framework for fuel infrastructure operators to support post-emergency restoration	In Progress	NYCEDC has initiated outreach to infrastructure operators to map a detailed supply chain. NYCEDC will continue to develop pilot framework, while OLTPS will call on the US Department of Energy to implement a status reporting framework to be used during supply disruptions.

Initiative	Status	Description
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Seek to harden the liquid fuels supply infrastructure

LIQUID FUELS	3	Work with Buckeye and New York State to safely build pipeline booster stations in New York City to increase supply and withstand extreme weather events	In Progress	Buckeye is working with the City and NYSERDA to evaluate feasibility and impacts of a proposed booster station to increase pipeline supply into New York City.
	4	Work with New York State to provide incentives for the hardening of gas stations to withstand extreme weather events	In Progress	In 2013, New York State adopted into law a requirement that all gas stations within a half-mile of a major highway or evacuation route to build generator transfer switches and be able to source generators during a power outage. NYSERDA is concurrently offering incentives for generator transfer switches, and NYCEDC included resiliency of liquid fuels infrastructure in the NYC: RISE competition.
	5	Ensure that a subset of gas stations and terminals have access to backup generators in case of widespread power outages	In Progress	OEM and DCAS will maintain a fleet of general purpose generators that could serve gas stations and terminals.

Enhance the ability of the supply chain to respond to disruptions

LIQUID FUELS	6	Explore the creation of a transportation fuel reserve to temporarily supply the private market during disruptions	In Progress	In the Fall of 2013, New York State announced the creation of a small pilot gasoline fuel reserve for New York State. This reserve can provide much needed supply to maintain response and recovery operations. The reserve will cost \$10 million and will be held by Northville Industries on Long Island.
	7	Call on New York State to modify price gouging laws and allow flexibility of gas station supply contracts to increase fuel availability during disruptions	In Progress	This initiative can be carried out through legislation, or directly through executive action by the Governor and New York Attorney General, and will be included in the regulatory waiver playbook.
	8	Develop a package of City, State, and Federal regulatory actions to address liquid fuel shortages during emergencies	Completed	A list of regulatory waivers has been prepared by DCAS for implementation during an emergency. These waivers continue to undergo review to ensure they are available when needed.

Improve the City's ability to fuel first responders and private critical fleets

	9	Harden municipal fueling stations and enhance mobile fueling capability to support both City government and critical fleets	In Progress	DCAS has begun the procurement process for both direct purchase of and emergency contracts for fuel trucks and generators. DCAS has also started to roll-out an automated fuel tracking in City-owned fueling stations.
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Ensure critical providers' operability through redundancy and the prevention of physical damage

HEALTHCARE	1	Improve design and construction of new hospitals	Completed	The City Council has passed several local laws to improve the design and construction of new hospitals.
	2	Require the retrofitting of existing hospitals in the 500-year floodplain	In Progress	The legislation mandating core flood resiliency measures for large buildings (those of at least 7 stories and 300,000 square feet), and critical facilities (including hospitals, nursing homes, and adult care facilities) will be reintroduced to the City Council during 2014.
	3	Support the Health and Hospital's Corporation effort to protect public hospital emergency departments (EDs) from flooding	In Progress	The Health and Hospitals Corporation (HHC) has contracted with architectural and engineering firms that are engaged in planning work to develop permanent mitigation solutions (funded by FEMA) to protect the emergency departments at Bellevue and Coney Island Hospitals. The City continues to support this work.
	4	Improve the design and construction of new nursing homes and adult care facilities	Completed	The legislation covering the design and construction of new nursing homes and adult care facilities is incorporated into the local laws for new hospitals outlined in Healthcare Initiative 1. Facilities will now be required to have in-place an electrical pre-connection for an external stand-by generator.
	5	Require the retrofitting of existing nursing homes in the 100-year floodplain	In Progress	The legislation mandating core flood resiliency measures for large buildings (those of at least 7 stories and 300,000 square feet), and critical facilities (including hospitals, nursing homes, and adult care facilities) will be reintroduced to the City Council during 2014.
	6	Require the retrofitting of existing adult care facilities in the 100-year floodplain	In Progress	The legislation mandating core flood resiliency measures for large buildings (those of at least 7 stories and 300,000 square feet), and critical facilities (including hospitals, nursing homes, and adult care facilities) will be reintroduced to the City Council during 2014.
	7	Support nursing homes and adult care facilities with mitigation grants and loans	In Progress	ORR is currently working with the State of New York Department of Health and NYC DOHMH to develop selection criteria. Once filed, the City intends to secure funding to integrate healthcare resiliency into the soon-to-be launched incentive programs.
	8	Increase the air conditioning capacity of nursing homes and adult care facilities	In Progress	The sales tax abatement authorized immediately after Sandy was not fully used by the Industrial Development Authority (IDA); however legal rules and requirements at the State level currently prevent IDA from assisting healthcare facilities. The City continues to pursue funding opportunities and explore legislative options that would allow this project to move forward.

Reduce barriers to care during and after emergencies

	9	Harden primary care and mental health clinics	Not Started	The City continues to pursue funding for this initiative.
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Initiative	Status	Description
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Reduce barriers to care during and after emergencies

HEALTHCARE	10	Improve pharmacies' power resiliency	In Progress	An emergency preparedness website for pharmacies is currently live and the NYCDOHMH is currently drafting additional information about steps that pharmacies can take to determine their generator needs.
	11	Encourage telecommunications resiliency	In Progress	DOHMH is currently working on the development of the Emergency Preparedness City Health Information (CHI) publication, which will be an evidence-based clinical bulletin for healthcare providers throughout New York City, and is on schedule to be produced during the summer of 2014.
	12	Encourage electronic health record-keeping	In Progress	The Electronic Health Records best practices guide is complete and posted online in the NYCDOHMH Resource Library.

Improve the ability of communities to prepare for and respond to disasters

COMMUNITY PREPAREDNESS	1	Launch pilot program to identify and address gaps in community capacity	Not Started	The City will continue to pursue funding to complete the pilot assessment in 2014.
	2	Continue and Expand OEM's Community Emergency Response Teams	In Progress	CERT expanded training to six, from five, training classes for the Spring 2014 training cycle. The summer will expand from a traditional one class, to two or three classes, including one new class in the Rockaways.
	3	Expand the Worker Connect information technology tool to serve as an Emergency Services Portal	Not Started	The City will continue to pursue funding for this initiative.
	4	Explore the creation of a new online Emergency Notification Contact System	Not Started	The City will continue to pursue funding for this initiative.

Increase accountability to promote resiliency

TELECOMMUNICATIONS	1	Establish an office within DoITT to focus on telecommunications regulation and resiliency planning	Completed	This office has been established at DoITT.
	2	Establish new resiliency requirements for providers using scheduled renewals of the City's franchise agreements	In Progress	Formal planning for 2020 franchise renewals will begin in 2017 and the City will evaluate options to promote resiliency in advance.

Enable rapid recovery after extreme weather events

TELECOMMUNICATIONS	3	Request business continuity plans from current City franchisees as permitted under existing franchise agreements	Completed	Business continuity plans have been requested and obtained. Planning for annual follow up meetings with franchisees is underway.
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Harden facilities to reduce weather-related impacts

TELECOMMUNICATIONS	4	Develop flood protection standards for placement of telecommunications equipment in buildings	In Progress	Local Law 99 (2013) was signed into law last year, which allows the extension of telecommunications cabling in buildings beyond 50ft. This ensures that telecommunications equipment can be located in buildings at a sufficient height.
	5	Use the DoITT franchise agreements to ensure hardening of all critical facilities	In Progress	Franchisees' business continuity plans include a number of measures to harden critical facilities; implementation of plans is being monitored.
	6	Work with cell providers to encourage hardening of cell sites	In Progress	DoITT will begin conversations in 2014 with cell providers to identify criteria for and encourage hardening of cell sites.

Create redundancy to reduce risk of outages

TELECOMMUNICATIONS	7	Study options to increase conduit infrastructure redundancy and resiliency	In Progress	A review of state, federal and local law applicable to conduit has been completed. The review of conduit contracts and contractor operations and rules is currently underway. The indexing of above-ground cabling eligible to be moved to underground conduit has been completed.
	8	Continue implementation of ConnectNYC	In Progress	The second round of applications for ConnectNYC was launched in July, with a December deadline. They recruited three new ISP's, bringing the total to five.
	9	Add telecommunications provider quality and resiliency to the WiredNYC and NYC Broadband Map ratings	In Progress	WiredNYC was officially launched on September 30, which included the release of broadband infrastructure maps in NYC.

Initiative	Status	Description
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Protect assets to maintain system operations

TRANSPORTATION	1	Reconstruct and resurface key streets damaged by Sandy	In Progress	The City is beginning work on the resurfacing of 30 lane miles. This work will begin in Spring 2014.
	2	Integrate climate resiliency features into future capital projects	In Progress	DOT is developing concepts and evaluating feasibility for resiliency measures to be incorporated into future planned DOT capital projects.
	3	Elevate traffic signals and provide backup electrical power	In Progress	DOT elevated selected traffic signals and is applying for funding to implement other protective measures for signals and streetlights in flood zones.
	4	Protect NYCDOT tunnels in Lower Manhattan from flooding	In Progress	MTA Bridges & Tunnels is purchasing water-filled tunnel barriers on DOT's behalf. DOT is seeking FEMA/FHWA funds to cover the cost. To protect electrical/mechanical systems in the tunnels, DOT is incorporating protective measures as it repairs storm damage.
	5	Install watertight barriers to protect movable bridge machinery	In Progress	On the Metropolitan Avenue Bridge, the transformer will be raised to above flood levels. Potential measures for other movable bridges are being evaluated.
	6	Protect Staten Island Ferry and private ferry terminals from climate change-related threats	In Progress	DOT has made an initial review of feasible measures to protect vulnerable terminal infrastructure. A watertight barrier system has been ordered and will be evaluated for wider use. In addition, temporary barriers have been designed for use in the short term. DOT is seeking HMGP funds for these and other flood protection needs at the Staten Island Ferry terminals.
	7	Integrate resiliency into planning and project development	In Progress	DOT is incorporating resiliency as a factor in project planning. Once Sandy rebuilding projects are fully underway, DOT will formalize resiliency into the planning process.
	8	Call on non-City agencies to implement strategies to address climate change threats	In Progress	The City has met with the MTA and Port Authority of New York & New Jersey in an effort to ensure greater coordination of resiliency investments.

Prepare the transportation system to restore service after extreme climate events

TRANSPORTATION	9	Plan for temporary transit services in the event of subway system suspensions	In Progress	DOT has worked with OEM to draft a Transportation Playbook covering HOV restrictions, temporary transit services, bike/pedestrian facilities and other traffic management issues in an emergency situation.
	10	Identify critical transportation network elements and improve transportation responses to major events through regular resiliency planning exercises	In Progress	DOT is working with other agencies to set up tabletop exercises to review the Transportation Playbook.
	11	Develop standard plans for implementing High-Occupancy Vehicle (HOV) requirements	In Progress	DOT has worked with OEM to draft a Transportation Playbook covering HOV restrictions, temporary transit services, bike/pedestrian facilities and other traffic management issues in an emergency situation.
	12	Plan for and install new pedestrian and bicycle facilities to improve connectivity to key transportation hubs	In Progress	DOT has worked with OEM to draft a Transportation Playbook covering HOV restrictions, temporary transit services, bike/pedestrian facilities and other traffic management issues in an emergency situation.
	13	Construct new ferry landings to support private ferry services	In Progress	A preliminary citywide ferry study was released in late 2013, with the final report expected in spring 2014.
	14	Deploy the Staten Island Ferry's Austen Class vessels on the East River Ferry and during transportation disruptions	In Progress	DOT has identified the basic criteria for potentially using SIF assets on other routes. Full operational plans will be condition-specific and will be developed when a specific post-disaster need is identified in cooperation with OEM.
	15	Improve at all levels communications about the restoration of transportation services	In Progress	DOT has drafted an agency communications plan for use in an emergency.

Implement new and expanded services to increase system flexibility and redundancy

TRANSPORTATION	16	Expand the city's Select Bus Service network	In Progress	Bx41 SBS (Webster Avenue) was launched on June 30, 2013. B44 SBS (Nostrand Avenue) was launched on November 17, 2013. Planning for Woodhaven Blvd SBS is underway.
	17	Expand the network of bus priority strategies on arterial highways	In Progress	DOT is coordinating with NYSDOT's Managed Use Lane initiative to develop bus-priority links between Woodhaven Blvd and the Long Island Expressway.
	18	Expand ferry services in locations citywide	In Progress	A preliminary citywide ferry study was released in late 2013, with the final report expected in spring 2014.

Adapt parks and expand green infrastructure to shield adjacent communities from the impacts of extreme weather events

PARKS	1	Restore city beaches	Completed	All City beaches were opened to the public in time for the 2013 and included new comfort stations to replace those damaged by Sandy.
	2	Harden or otherwise modify shoreline parks and adjacent roadways to protect adjacent community (See Coastal Protection Initiative 30)	In Progress	DPR is developing a plan to study its shoreline conditions.
	3	Reinforce or redesign bulkheads in coastal parks (See Coastal Protection Initiative 6; see Coastal Protection Initiative 29)	Not Started	DPR continues to pursue funding for comprehensive waterfront inspections plan, in coordination with NYCEDC.
	4	Expand the City's green streets plan, including for Jamaica Bay	In Progress	DPR continues to coordinate with DEP on its green infrastructure programs, and has applied to U.S. DOI for grant funding opportunities to further expand its program in Brighton Beach and Canarsie.

Initiative	Status	Description
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Retrofit or harden park facilities to withstand the impacts of climate change

PARKS	5	Fortify marinas and piers	Not Started	DPR continues to pursue FEMA funding opportunities to fortify the 79th Street Boat Basin, World's Fair Marina, Sheepshead Bay Piers, Lemon Creek and Bayside Marina. The overall assessment of marinas and piers will be informed by comprehensive waterfront inspections and updated high-performance landscape guidelines.
	6	Relocate or increase the resiliency of playgrounds and athletic fields	In Progress	Playgrounds and athletic fields in at-risk neighborhoods are undergoing design updates for increased resiliency; these include Tiffany Street Pier, Brigham Park, Lindover Baseball Field, Red Hook Baseball Field, Fort Washington, MacNeil Seawall, Rockaway Roller Hockey Rink, Sandpiper Playground, New Dorp Soccer Field, Manresa Field, Kaiser Park, and the Ocean Breeze Riding Area.
	7	Protect mechanical systems at major park facilities and buildings	In Progress	DPR has submitted a \$12 million application for the Hazard Mitigation Grant Program funds for renovations at the Asser, Levy, Tony Dapolito, and Red Hook Recreation Centers.
	8	Move or protect critical operations centers	In Progress	DPR continues to pursue \$16 million Hazard Mitigation Grant Program funds for renovations at the Olmsted Center.

Protect wetlands, other natural areas, and the urban forest

PARKS	9	Work with the Federal government to transform Jamaica Bay	In Progress	DPR is actively working with the City and federal government to continue to advance planning for Jamaica Bay - Rockaway Parks and make strides in transforming this 10,000 acres of City and Federal parkland into an urban national park destination for New Yorkers and visitors alike. Outside institutions working to improve and transform Jamaica Bay include the Science and Resilience Institute at Jamaica Bay-Rockaway Parks Conservancy, and the Jamaica Bay-Rockaway Parks Restoration Corps. The City is working with NPS on a General Management Plan, which will outline the next steps for Jamaica Bay.
	10	Increase the health and resiliency of natural areas, including Tibbetts Brook	In Progress	Several projects are underway, including the Alley Creek Watershed Plan, Bronx River Fish Passage, Shoelace Park, Bronx River Watershed Project, Prall's Island, Queens Coastal Forest Restoration, and Staten Island Restoration. Additionally, the Natural Areas Conservancy is conducting research assessments to quantify the environmental services of City parks. The City continues to pursue funding for projects at Spring Creek, Sunset Cove, and Tibbetts Brook.
	11	Improve the health and resiliency of the city's urban forest	Completed	DPR hired and trained 10 additional foresters, and conducted trainings on tree pruning. DPR is actively expanding work to hire and train additional foresters, and increase pruning operations.
	12	Increase growth of local plant material for restoration work	In Progress	DPR has completed an RFP for beach grass production at Floyd Bennett Field and will plant beach grass along new sand in the Rockaways and or the existing dunes in Staten Island.

Develop tools for comprehensive climate adaptation planning and design

PARKS	13	Establish a center for resiliency and restoration efforts in the Jamaica Bay-Rockaway Parks	Completed	The Science and Resilience Institute at Jamaica Bay launched in 2013 with a scientific consortium led by CUNY.
	14	Quantify the benefits of the city's ecosystems and green infrastructure	In Progress	DPR worked both independently and in collaboration with Drexel University to quantify the benefits of green infrastructure, including storm water retention, infiltration and sewer flow, evapotranspiration, and pollutant removal. DPR will continue to build on this research in 2014. Additionally, the Natural Areas Conservancy is sponsoring InVest, a project out of Stanford University and the Stockholm Resilience Center, to quantify the environmental services provided by the City's parks and natural areas.
	15	Create climate adaptation plans for all parks in the 100-year floodplain	In Progress	DPR has mapped parks in the 100-year floodplain and plans on implementing improvements based on updated High-Performance Landscape Guidelines, which are currently being revised to include resiliency guidelines.
	16	Map the city's overhead utilities and street trees	In Progress	DPR mapped street trees and met with ConEd but has not yet received the necessary utility data to complete the necessary analysis.

Protect sites with hazardous substances and encourage brownfield redevelopment

ENVIRONMENTAL PROTECTION AND REMEDIATION	1	Identify cost-effective measures to safeguard exposed substances in the 100-year floodplain	In Progress	The City will released its Open Industrial Uses Study in 2014.
	2	Develop a catalogue of best practices for storing enclosed hazardous substances in the 100-year floodplain	Not Started	DCP worked with 13 City and State agencies, an external advisory committee, and engineering consultants to develop recommendations that would reduce pollution to air and water from open industrial facilities, improve environmental quality in nearby residential communities, increase resiliency to coastal flooding, and improve the business environment. The proposal introduces cost-effective site design standards in zoning and amendments to the Building Code Appendix G to strengthen flood-resilient standards for open industrial facilities. These new site design standards represent national best practices in pollution prevention control and would mitigate emissions to the air and water. DCP plans to release the study in 2014, while continuing to work with agency and stakeholder partners on a permanent Zoning Text Amendment. The City will begin to identify best practices for enclosed storage in 2014.
	3	Accelerate brownfield cleanup in the 100-year floodplain to prevent release of pollutants	Completed	To accelerate cleanup of flood-prone areas, OER expanded the NYC Brownfield Incentive Grant (BIG) program to establish a new Climate Change Resilience Bonus Cleanup Grant with funding from the New York State Regional Economic Development Council and city sources to provide up to \$10,000 in bonus grants for cleanups in the NYC Voluntary Brownfield Cleanup Program (BCP) in the 100-year floodplain.
	4	Explore strengthened cleanup standards on industrial waterfront brownfields	Completed	OER established new regulations to strengthen standards for cleanup of waterfront industrial properties. The impact of future storms on communities in coastal industrial areas will be lessened by reducing the level of contaminants that can be left on waterfront brownfield sites, especially environmental justice neighborhoods that are already greatly overburdened by pollution.

Initiative	Status	Description
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Protect sites with hazardous substances and encourage brownfield redevelopment

ENVIRONMENTAL PROTECTION AND REMEDIATION	5	Launch brownfield climate change resiliency audits and improve storm preparedness	Completed	OER is now performing resiliency surveys at no charge for developers of brownfield sites in the BCP. These surveys educate developers on the most protective building design practices to lower vulnerability to severe storms and other effects of climate change and on incentives to achieve these goals. After completing approximately 20 surveys, OER will publish a report on findings and best management practices to educate the broader development community.
	6	Launch full operations of the NYC Clean Soil Bank	Completed	OER was delegated authority to make solid waste beneficial use determinations by New York State and established the NYC Clean Soil Bank in 2013 to enable no-cost exchange of clean native soil from remediated brownfield sites to City construction projects, including those designed to elevate grades and promote climate change resiliency and new affordable housing projects. In its first six months of operation, the Clean Soil Bank enabled transfer of more than 67,000 tons of clean native soil and saved the City and brownfield developers more than \$2.5 million in soil disposal and purchase costs.
	7	Perform update of SPEED, the City's online environmental research engine	In Progress	To expand our support for grass roots planning for climate resiliency by networks of community-based organizations, OER has established 16 new Community Brownfield Planning Areas in communities in all five boroughs, including six new planning areas in neighborhoods heavily impacted by flooding from Sandy (Red Hook and Coney Island in Brooklyn, Edgemere in the Rockaways in Queens, Stapleton and West Shore on Staten Island, and East Harlem in Manhattan).

Protect wastewater treatment facilities from storm surge

WATER AND WASTEWATER	1	Adopt a wastewater facility design standard for storm surge and sea level rise	In Progress	Internal guidelines for wastewater facility design for storm surge and sea level rise have been created and adopted.
	2	Harden pumping stations	In Progress	The City continues to pursue funding projects to harden pumping stations.
	3	Harden wastewater treatment plants	In Progress	The City continues to pursue funding to harden wastewater treatment plants.
	4	Explore alternatives for the Rockaway Wastewater Treatment Plant	In Progress	The feasibility study is underway to explore alternatives for the Rockaway Wastewater Treatment Plant.
	5	Develop cogeneration facilities at North River Wastewater Treatment Plant	In Progress	Funding has been secured for the cogeneration facilities at North River Wastewater Treatment Plant. Work is expected to begin in 2019.
	6	Explore opportunities to expand cogeneration and other energy measures	In Progress	Improvements are being made to the cogeneration system at Owls Head Wastewater Treatment Plant, and cogeneration opportunities are being explored at Ward's Island and Coney Island Wastewater Treatment Plants.
	7	Encourage regional resiliency planning	In Progress	DEP is presenting results of its wastewater risk and adaptation analysis at numerous regional and national conferences to encourage regional resiliency planning.

Improve and expand drainage infrastructure

WATER AND WASTEWATER	8	Reduce combined sewer overflows with Green Infrastructure	In Progress	Through the NYC Green Infrastructure Plan published in 2010, the City aims to manage the first inch of rainfall from 10% of impervious surfaces through infiltration and detention techniques. In 2013, DEP constructed more than 200 right of way bioswales in priority CSO tributary areas. DEP also committed \$4.6 million to 11 grantees this past year through the Green Infrastructure Program, which has awarded \$11.5 million for 29 projects to date. We have offered private sector incentives through the Green Roof Tax abatement, which was renewed by the State in 2013 and includes new amendments that further encourage green roof construction.
	9	Reduce combined sewer overflows with high-level storm sewers citywide	In Progress	Four high-level storm sewer capital projects are expected to be begin in 2014.
	10	Continue to implement and accelerate investments in Bluebelts across the city	In Progress	The first Staten Island Bluebelt is scheduled to start construction in 2014, and the land acquisition process for other locations is proceeding. The Last Chance Pond BMP is proceeding to the design phase and is currently scheduled for construction in 2016.
	11	Build out stormwater sewers in areas of Queens with limited drainage systems	In Progress	Three storm sewer build-out projects in Queens are currently proceeding on schedule to begin in 2014.
	12	Periodically review rainfall trends and implications for stormwater infrastructure	Completed	The latest assessment of precipitation data was completed and featured in the NYC Wastewater Resiliency Plan.

Promote redundancy and flexibility to ensure constant supply of high-quality water

WATER AND WASTEWATER	13	Repair the leak in the Delaware Aqueduct	In Progress	The first half of the bypass tunnel project focusing on construction of access shafts commenced on schedule in March 2013. The second half of the project, which includes the construction of the 2.5 mile long bypass tunnel, recently reached the 60% design milestone. The project is currently on schedule to commence work in 2015.
	14	Improve interconnection between the Catskill and Delaware aqueducts and maximize capacity to deliver water from the Catskill/Delaware system	In Progress	In 2013, DEP broke ground on the Shaft 4 connection of the Delaware and Catskill Aqueducts and expects to complete construction in 2016.
	15	Continue the Watershed Protection Program to maintain drinking water quality	Completed	In 2013, the City continued to implement the full complement of Filtration Avoidance Determination (FAD) programs. A draft Revised FAD was issued for public comment by NYSDOH in August 2013. The draft FAD included new requirements for certain land acquisition and flood hazard mitigation programs to be developed. The City has proceeded to secure funding and plan for implementation of the new initiatives. A final FAD is expected to be issued in 2014.

Initiative	Status	Description
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Identify and harden critical food distribution assets

FOOD SUPPLY	1	In Progress	The City is preparing to release an RFP in 2014 to build a risk assessment model for the food distribution system.
	2	In Progress	The City has completed a study of back-up power options at the Hunts Point Food Distribution Center, which was conducted in cooperation with the Hunts Point market tenants. This study will be used to inform decision making at the Hunts Point Food Distribution Center.

Improve the resiliency of consumer access

FOOD SUPPLY	3	In Progress	The City, in cooperation with NYS, has drafted preparedness guidelines that are currently under review and will be released in 2014.
	4	In Progress	The City continues to explore legislative options for mandating electric generators for food retailers.
	5	In Progress	The City continues to advance the FRESH program; since Sandy, seven FRESH projects have been approved, including five tax incentive projects and two zoning incentive projects.
	6	In Progress	City contracts for DOC and ACS are item- and agency-specific in their selections and specifications. A catalog contract for food products provides significant latitude for product selection and would be used in the event that a back-up source would be required for the other agencies.
	7	Completed	The City has taken the necessary measures to ensure quick application of waivers in the event of an emergency.

Protect solid waste facilities and disposal networks

SOLID WASTE	1	In Progress	DSNY is conducting a risk assessment across all facilities in the floodplain. This information will be used to inform hardening strategies in 2014.
	2	In Progress	To ensure minimal to no disruption of solid waste exported out of NYC during an event, DSNY is working with its third-party contractors to ensure that they are implementing resiliency measures.

Coastal Protection

BROOKLYN-QUEENS	1	In Progress	The City continues to work with the Port Authority on its pilot coastal protection measures using dredged materials in Southwest Brooklyn.
	2	In Progress	The City is preparing to release an RFP in 2014 to conduct a feasibility study on this conceptual project.
	3	Not Started	BBP has replaced all plants and trees damaged by floodwaters with more salt tolerant species to decrease landscape vulnerability in future flood events. Park phases built after Sandy incorporated more salt tolerant species and tree root balls were elevated. In addition, BBP has worked with other coastal parks to develop best management protocols for preparations and responses for landscape remediation in the case of future storm events. Further, electrical panels for park lighting and irrigation were elevated.
	4	Not Started	The City continues to pursue funding to begin this work and will work with local groups to identify high-priority needs.
	5	Not Started	The City will continue to work with the USACE on its comprehensive study to advance projects in vulnerable locations citywide, including the Williamsburg, Greenpoint, and Long Island City coastlines. As new waterfront development occurs, the City looks to leverage opportunities created by new construction to advance flood protection.

Buildings

6	In Progress	The City continues to implement resiliency measures at key locations around the Brooklyn-Queens Waterfront. Strategies include elevation of electrical equipment and the installation of structural flood-prevention devices. Project locations include the Brooklyn Navy Yard, Brooklyn Army Terminal, and Bush Terminal.
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Critical Infrastructure

7	Completed	DOT has completed work at this location to allow a better flow of pedestrian traffic and public transit at this location.
8	Not Started	The City has asked the MTA to explore this conceptual project.

Initiative	Status	Description
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Critical Infrastructure

9	Implement expanded free summer weekend ferry service from Manhattan to Red Hook in 2013	Completed	NYCEDC and Fairway partnered to provide this service in the summer of 2013.
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Community and Economic Recovery

10	Create and implement a revitalization strategy for targeted retail and community spaces within Red Hook Houses	Not Started	The City will complete this assessment in 2014.
11	Implement planned and ongoing investments by the City and private partners	In Progress	Among the significant progress made on parks and open space projects, the City has helped to open Squibb Park and Bridge, as well as the Piers 3 and 4 uplands and greenway at Brooklyn Bridge Park, opened Bushwick Inlet Park and advanced the public design process for the proposed Box Street Park and Newtown Barge Park. Development at the Brooklyn Navy Yard has continued at a rapid pace, including a massive new sound stage and medical labs. A 5.5-acre waterfront park and several new roadways at Hunter's Point South opened to the public in August 2013.

Coastal Protection

1	Call on and work with the USACE to study the construction of a floodgate at Mill Creek	Not Started	The City continues to work with the USACE on its comprehensive study to advance projects in vulnerable areas citywide, including at Mill Creek.
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Buildings

2	Assist Staten Island University Hospital (SIUH) in applying for hazard mitigation funding	In Progress	The City provided technical assistance to SIUH in submitting an HMGP grant application. The City and SIUH are awaiting the State's determination for further action, and the City will continue to work with SIUH to secure funding.
3	Implement and expedite roadway and sewer capital projects along Hylan Boulevard, especially in vulnerable South Shore areas	In Progress	Street and sewer reconstruction has begun along Roma and Hett Streets on the East Shore of Staten Island. In 2013, the City committed another \$100 million towards roadway and sewer projects in Sandy-affected areas of Staten Island.

Critical Infrastructure

EAST AND SOUTH SHORES STATEN ISLAND	4	Call on and work with the MTA to create an implementation plan for the relocation of Richmond Valley SIR station to Page Avenue	Not Started	The City has asked the MTA to explore this conceptual project.
	5	Study potential new ferry routes serving Staten Island and issue a Request for Expressions of Interest (RFEI) to gauge market interest	In Progress	A preliminary citywide ferry study was released in late 2013, with the final report expected in spring 2014. NYCEDC also released an RFP for ferry service at St. George on Staten Island.
	6	Secure available Federal funding to implement the Community Wildfire Protection Plan for fire-prone areas on the East Shore	Not Started	DPR has applied for funding for this project.
	7	Launch the first capital project for the Mid-Island Bluebelt in Midland Beach	In Progress	In 2013, DEP accomplished a critical milestone for the Mid-Island Bluebelt by completing the Final Generic Environmental Impact Statement. The first capital project in the Mid-Island Bluebelt is scheduled to start construction in fall 2014 and will involve the restoration of New Creek's west branch. In addition, the City has advanced a second Mid-Island Bluebelt project called Last Chance Pond, estimated at approximately \$35 million.
	8	Explore expansion of the City's mitigation banking pilot as a funding mechanism to facilitate the construction of the Mid-Island and South Shore Bluebelts	Not Started	NYCEDC has completed a Prospectus for the Saw Mill Creek site and is now pursuing approval for the Mitigation Bank Instrument, which is expected to be approved in the fall of 2014. These approvals, once completed, could be adapted for use on the Mid-Island and South Shore Bluebelts.

Community and Economic Recovery

EAST AND SOUTH SHORES STATEN ISLAND	9	Issue a Request for Expressions of Interest (RFEI) for new concessions and services at City-controlled beaches in the East Shore	In Progress	The City, through DPR and NYCEDC, issued an RFEI for concessions on City-controlled beachfront and is currently evaluating responses.
	10	Create a comprehensive revitalization plan for Great Kills Harbor to increase resiliency and to draw additional investment	In Progress	The City has submitted an application to U.S. DOI to conduct this study.
	11	Create a strategic plan for public recreational land, including the beachfront recreation areas and open space	Not Started	DPR will lead a conceptual planning process for Staten Island in 2014.
	12	Implement planned and ongoing investments by the City and private partners	In Progress	The City has made major progress on planned and ongoing investments in adjacent neighborhoods that will help with the preservation and revitalization of communities along the East and South Shores, including the start of construction on new waterfront open space at New Stapleton Waterfront (Homeport) Redevelopment, the receipt of public approvals on the St. George Waterfront Redevelopment and Charleston Municipal Site mixed-use development, the announcement of the former Coast Guard Site Development and the announcement of a private development partner for the Brielle Avenue Municipal Site.

Initiative	Status	Description
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Coastal Protection

SOUTH QUEENS	1	Call for USACE to develop an implementation plan to mitigate inundation risks through Rockaway Inlet, exploring a surge barrier and alternative measures	In Progress	The City continues to work with the USACE through the Rockaway Reformulation study to evaluate a Rockaway Inlet storm surge barrier that would reduce risk, as part of a comprehensive strategy, in all vulnerable neighborhoods surrounding Jamaica Bay.
	2	Develop an implementation plan to address frequent tidal inundation in Broad Channel and Hamilton Beach, incorporating international best practices	Not Started	The City will evaluate alternatives in 2014.
	3	Complete short-term dune improvements on the Rockaway Peninsula	In Progress	DPR and USACE have completed short term dune improvements in 2013.

Buildings

	4	Complete design competition to enhance resiliency of planned Arverne East Project	Completed	The winners of the Arverne East resiliency enhancement design competition were announced on October 23, 2013, and the City is working with the developer and winning team to pursue implementation.
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Critical Infrastructure

SOUTH QUEENS	5	Build a new multi-specialty ambulatory surgical center on the Rockaway Peninsula	In Progress	In February 2013, Selected Harmony Group was awarded a contract to create a Medical Center offering Orthopedics, Ophthalmology, Urology, OBGYN, and Pain Management services. The Center will have a Central Surgery Center to be shared by the different doctors, in addition to offices for each of the doctors. Construction is expected to commence by middle 2014 and be completed by late 2015.
	6	Expand ferry service to the Rockaway Peninsula	In Progress	An updated preliminary citywide ferry study was released in late 2013, final report expected spring 2014. NYCEDC released an RFP for weekday commuter ferry service between the Rockaways, Brooklyn, and Manhattan in February, 2014. Ferry service to the Rockaway Peninsula is currently operating, and the City will continue to explore opportunities for expanded ferry service citywide.

Community and Economic Recovery

SOUTH QUEENS	7	Get New Yorkers "Back to the Beach" for summer 2013	Completed	All City beaches were opened to the public in time for the 2013 beach season and included new comfort stations to replace those damaged by Sandy.
	8	Explore opportunities for long-term activation of the beachfront	In Progress	The Rockaway Parks Conceptual Plan will be released in 2014. Design and construction are advancing for the boardwalk.
	9	Develop a revitalization strategy for the Beach 108th Street corridor	Not Started	The City continues to pursue funding for this project.
	10	Develop a comprehensive commercial revitalization plan for Beach 116th Street	In Progress	The City has developed a plan to implement a comprehensive commercial revitalization program through HUD's Rebuild by Design and New York State's New York Rising programs and is awaiting funding allocation.
	11	Develop a commercial revitalization strategy for Far Rockaway, potentially involving repositioning of City- and MTA-controlled sites	In Progress	With the City, the Urban Land Institute in New York will convene a Technical Assistance Panel ("TAP") in 2014 to identify potential retail development opportunities along the Mott Avenue and Beach 20th St. retail corridors near the terminuses of the A train and the Long Island Rail Road in Far Rockaway, Queens. The purpose of the TAP study is to identify underutilized public and privately owned sites that could catalyze development of a vibrant, walkable retail district for Far Rockaway residents.
	12	Launch a satellite Workforce1 Career Center in Far Rockaway	Completed	A Workforce1 Career Center satellite launched in Far Rockaway in August 2013.
	13	Implement planned and ongoing investments by the City and private partners	In Progress	Over the last six months, the Jamaica Bay/Rockaway Restoration Corps removed over 125,000 cubic yards of sand, collected over 10,120 bags of debris, maintained over 5,700 young street trees, planted 7,485 plants, removed 64 dead trees and shrubs. Due to the success of the program, a second round of the corps has been funded for this year. The \$23 million, Arverne YMCA at 207 Beach 73rd Street opened in February 2014.

Coastal Protection

SOUTHERN BROOKLYN	1	Call on and work with the USACE to study additional Sea Gate oceanfront protections	In Progress	The City is working with the USACE to explore options for these projects through USACE North Atlantic Coast Comprehensive Study.
	2	Continue to work with the USACE to study strengthening the Coney Island/Brighton Beach nourishment	In Progress	The USACE placed 600,000 cubic yards of sand in Coney Island and Brighton Beach. The City will continue to pursue additional protections in cooperation with the USACE.
	3	Call on and work with the USACE to study Manhattan Beach oceanfront protections	Not Started	The City continues to work with the USACE on its comprehensive study to advance protections in vulnerable areas citywide, including in Manhattan Beach.
	4	Call on and work with the USACE to study mitigating inundation risks through Rockaway Inlet, exploring a surge barrier and alternative measures	In Progress	The City continues to work with the USACE through the Rockaway Reformulation study to evaluate a Rockaway Inlet storm surge barrier that would reduce risk, as part of a comprehensive strategy, in all vulnerable neighborhoods surrounding Jamaica Bay.
	5	Develop an implementation plan and preliminary designs for new Coney Island Creek wetlands and tidal barrier	In Progress	The City is preparing to release an RFP in 2014 to conduct a feasibility study on this conceptual project.

Initiative	Status	Description
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Buildings

6	Study additional resiliency initiatives for ground-floor housing within NYCHA buildings	In Progress	Rebuild by Design has submitted a proposal for NYCHA ground floor residents in certain lower Manhattan communities that provides for a new public housing structure to be built on the affected campus's land. Ground floor residential units would be retrofitted to accommodate flood waters, and be used for community programming that will enhance local quality of life. This analysis will be used to inform similar study at NYCHA campuses around the City, including in Southern Brooklyn.
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Critical Infrastructure

SOUTHERN BROOKLYN	7	Support CUNY launch of study and pilot of new technologies for high-rise buildings	Not Started	The City will support CUNY in its efforts.
	8	Study options to ensure resiliency of private cogeneration facilities in the area	Not Started	This initiative will commence in 2014.
	9	Construct new Coney Island Hospital outpatient clinic to replace the destroyed Ida G. Israel facility	In Progress	HHC is building a temporary clinic on a HPD site near the former Ida G. Israel facility. HHC is still searching for a suitable permanent site.
	10	Call for the USACE to develop an implementation plan for the reinforcement of existing Belt Parkway edge protections	In Progress	The City continues to work with the USACE on its comprehensive study to advance protections in vulnerable areas citywide, including along the Belt Parkway.
	11	Restore recreational infrastructure along Southern Brooklyn Beaches	In Progress	DPR is currently restoring benches, comfort stations and administrative buildings along the beach.
	12	Complete planned drainage improvements in Coney Island to mitigate flooding	In Progress	The first phase of planned Coney Island drainage improvements is under construction and Phase 2 will begin in 2014.
	13	Provide technical assistance to support Sea Gate in repairing Sandy-damaged infrastructure	In Progress	The City is in conversations with Sea Gate leadership on opportunities to assist its infrastructure repairs and is working actively with the USACE to complete coastal protections in Sea Gate.

Community and Economic Recovery

14	Work with Brooklyn Chamber of Commerce to assist in organizing Sheepshead Bay businesses	Not Started	SBS will provide technical and possibly financial assistance to the Brooklyn Chamber of Commerce through any application submitted through existing programs, namely Avenue NYC, for Sheepshead Bay.
15	Support area recovery through the rebuilding and expansion of the entertainment district	In Progress	In March 2014, the City and Central Amusement International broke ground on a new roller coaster which will open later this summer, leading a further expansion of the entertainment district.

Community and Economic Recovery

SOUTHERN BROOKLYN	16	Study opportunities along Coney Island Creek to generate economic activity and facilitate resiliency investments	In Progress	The City is preparing to release an RFP in 2014 to conduct a feasibility study on a tidal barrier project that will include economic development opportunities.
	17	Implement planned and ongoing investments by the City and private partners	In Progress	Progress includes the recent opening of additional turf fields, coastal habitat, and parking facilities at Calvert Vaux Park. The first phase of the West 8th Street Access Project is nearing completion, addressing a derelict pedestrian bridge and providing for improved traffic calming and pedestrian safety improvements. The new Coney Island YMCA and the Coney Commons residential development both opened as planned in Fall 2013, introducing a significant new amenity and new affordable housing units. The City continues to work with private partners to advance the revitalization of the Coney Island's entertainment district, with a recent groundbreaking on a new state-of-the-art roller coaster and other exciting projects as Coney Island's season begins April 13th.

Initiative	Status	Description
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Coastal Protection

SOUTHERN MANHATTAN	1	Create an implementation plan and design for an integrated flood protection system for remaining Southern Manhattan areas	In Progress	The City has developed a plan to implement an integrated flood protection system for Lower Manhattan through HUD's Rebuild by Design program and is awaiting allocation of funding. The City's feasibility study for a multi-purpose levee along Lower Manhattan's eastern edge will be released in 2014.
	2	Conduct a study for a multi-purpose levee along Lower Manhattan's eastern edge to address coastal flooding and create economic development opportunities	In Progress	The City is conducting a feasibility study of a multi-purpose levee along Lower Manhattan's eastern edge with results expected in 2014.

Critical Infrastructure

	3	Construct physical enhancements to Water Street	In Progress	DOT made several safety improvements to Water Street, including the creation of an expanded pedestrian plaza, and an increase in time allowed for pedestrian street crossing.
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Community and Economic Recovery

SOUTHERN MANHATTAN	4	Implement temporary programming of Water Street privately owned public spaces (POPS)	Completed	DCP approved a zoning text amendment that will allow new events and amenities to occur within existing POPS.
	5	Launch a program to enable permanent improvements to Water Street privately owned public spaces (POPS)	Completed	A joint DCP-EDC study concluded in November, 2013. DCP continues to engage with building owners and other groups to develop a proposal for public space improvements, retail strategy, and programming related to potential building improvements.
	6	Implement planned and ongoing investments in the South Street Seaport	In Progress	The resiliency-related work at the City-owned properties in the South Street Seaport district's "Museum Block" and Schemerhorn Row is ongoing. Generally, such work focuses on the buildings' electrical and boiler infrastructure. In the summer of 2013, the City helped facilitate the "See/Change" event series in the South Street Seaport district. Led by The Howard Hughes Corporation as the tenant of various City-owned properties in the district, the series included a wide variety of programs and events to increase the number of visitors to the area. "See/Change" is expected to return to the district summer 2014. In the fall of 2013, The Howard Hughes Corporation broke ground on its planned redevelopment of the Pier 17 shopping and entertainment destination. This redevelopment project is expected to be completed in 2016.
	7	Use the Job Creation & Retention Program to attract and retain businesses in Sandy-impacted areas of Lower Manhattan	In Progress	The Job Creation & Retention Program was extended through 2015.
	8	Expand Take the HELM program (Hire and Expand in Lower Manhattan)	In Progress	The Take the HELM program was created in 2012 to reward innovative technology and creative companies for moving to Lower Manhattan south of Chambers Street. Since 2012, two successful iterations of the competition have been completed and 9 companies have been awarded cash prizes of \$250,000 for moving to or relocating in Lower Manhattan.
	9	Implement planned and ongoing investments by the City and private partners	In Progress	Through the past year, the City continued its commitment to making Southern Manhattan stronger and more resilient. New improvements at the section of the East River Waterfront Esplanade between the Battery Maritime Building and Wall Street were completed in May 2013. Additional improvements are expected to be delivered by the end of this year between Pike/Allen Street and Pier 35. In addition, work on Asser Levy Park began in Fall 2013 and is expected to be completed this year. Also, in January 2014, the City completed a successful master planning and outreach process for a waterfront amenity at Pier 42, in the Lower East Side; the design of this amenity is expected to make further progress this year.

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