

**OneNYC 2050**

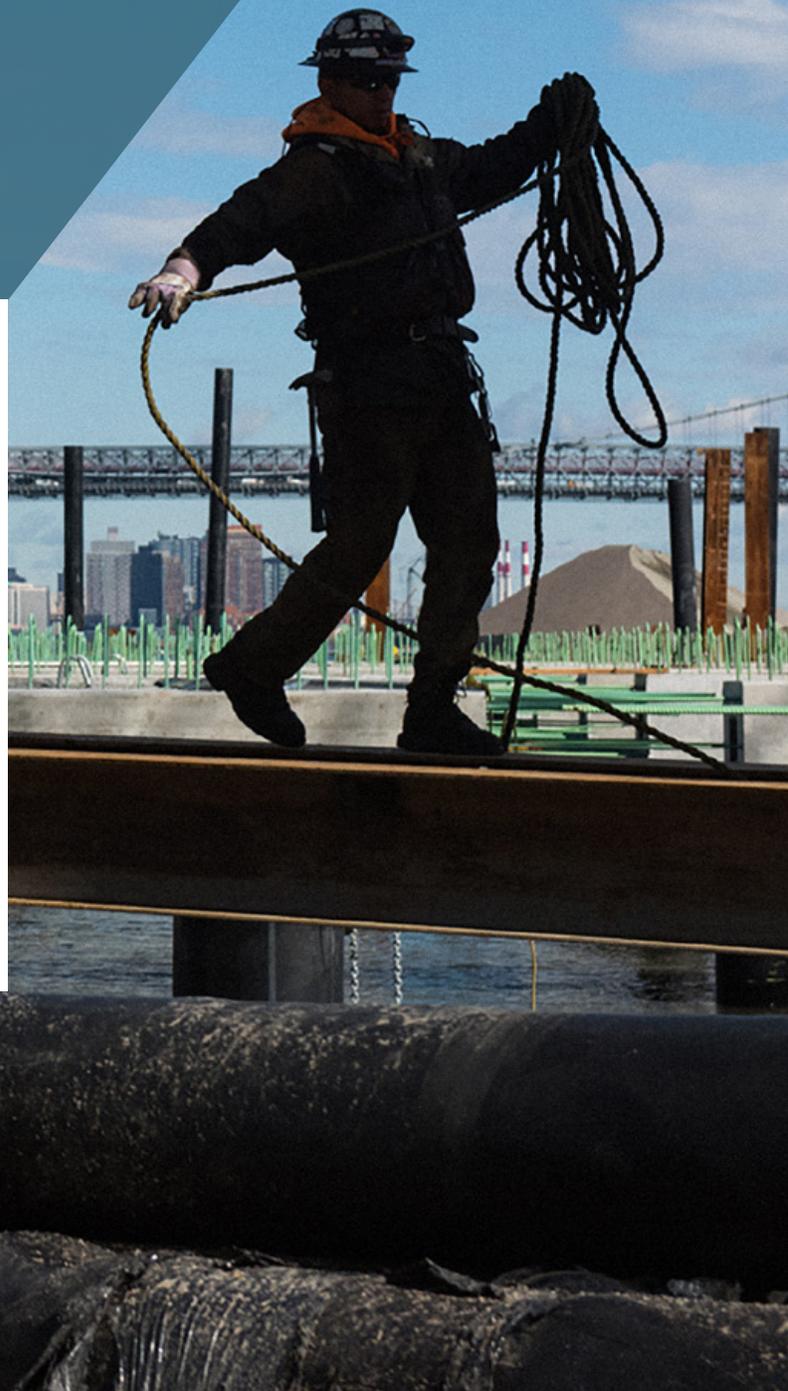
**BUILDING A STRONG AND FAIR CITY**

# MODERN INFRASTRUCTURE

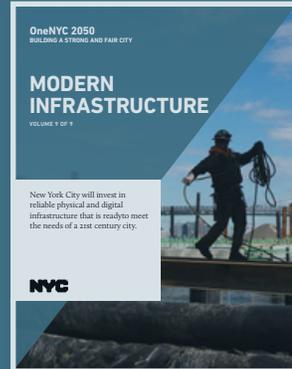
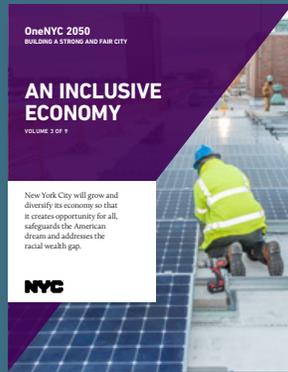
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New York City will invest in reliable physical and digital infrastructure that is ready to meet the needs of a 21<sup>st</sup> century city.

**NYC**



# ONENYC 2050 IS A STRATEGY TO SECURE OUR CITY'S FUTURE AGAINST THE CHALLENGES OF TODAY AND TOMORROW. WITH BOLD ACTIONS TO CONFRONT OUR CLIMATE CRISIS, ACHIEVE EQUITY, AND STRENGTHEN OUR DEMOCRACY, WE ARE BUILDING A STRONG AND FAIR CITY. JOIN US.



Learn more about how we are building a strong and fair city:  
[NYC.GOV/OneNYC](https://nyc.gov/OneNYC)

Join the conversation on social media and tag us at **#OneNYC**

**OneNYC 2050 CONSISTS OF 8 GOALS AND 30 INITIATIVES TO SECURE OUR CITY'S FUTURE.**

<b>A VIBRANT DEMOCRACY</b>	1. Empower all New Yorkers to participate in our democracy
	2. Welcome new New Yorkers from around the world and involve them fully in civic life
	3. Promote justice and equal rights, and build trust between New Yorkers and government
	4. Promote democracy and civic innovation on the global stage
<b>AN INCLUSIVE ECONOMY</b>	5. Grow the economy with good-paying jobs and prepare New Yorkers to fill them
	6. Provide economic security for all through fair wages and expanded benefits
	7. Expand the voice, ownership, and decision-making power of workers and communities
<b>THRIVING NEIGHBORHOODS</b>	8. Strengthen the City's fiscal health to meet current and future needs
	9. Ensure all New Yorkers have access to safe, secure, and affordable housing
	10. Ensure all New Yorkers have access to neighborhood open spaces and cultural resources
	11. Advance shared responsibility for community safety and promote neighborhood policing
<b>HEALTHY LIVES</b>	12. Promote place-based community planning and strategies
	13. Guarantee high-quality, affordable, and accessible health care for all New Yorkers
	14. Advance equity by addressing the health and mental health needs of all communities
	15. Make healthy lifestyles easier in all neighborhoods
<b>EQUITY AND EXCELLENCE IN EDUCATION</b>	16. Design a physical environment that creates the conditions for health and well-being
	17. Make New York City a leading national model for early childhood education
	18. Advance equity in K-12 opportunity and achievement
<b>A LIVABLE CLIMATE</b>	19. Increase integration, diversity, and inclusion in New York City schools
	20. Achieve carbon neutrality and 100 percent clean electricity
	21. Strengthen communities, buildings, infrastructure, and the waterfront to be more resilient
	22. Create economic opportunities for all New Yorkers through climate action
<b>EFFICIENT MOBILITY</b>	23. Fight for climate accountability and justice
	24. Modernize New York City's mass transit networks
	25. Ensure New York City's streets are safe and accessible
<b>MODERN INFRASTRUCTURE</b>	26. Reduce congestion and emissions
	27. Strengthen connections to the region and the world
	28. Make forward-thinking investments in core physical infrastructure and hazard mitigation
	29. Improve digital infrastructure to meet the needs of the 21st century
	30. Implement best practices for asset maintenance and capital project delivery

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# MODERN INFRASTRUCTURE

New York City will invest in reliable physical and digital infrastructure that is ready to meet the needs of a 21<sup>st</sup> century city.

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## IN WAYS BOTH SIMPLE AND COMPLEX, OUR LIVES REVOLVE AROUND INFRASTRUCTURE.

Turn on the lights or a faucet, and a complex network of systems kicks in. Use your smartphone to text or email a friend and your message gets delivered via cell towers and underground cables in real time. Your commute to work or school depends on roads, subways, and bike lanes that form the backbone of a dense transportation infrastructure, much of which has evolved over the past century.

Today, infrastructure has taken on a new meaning, and is a key tool to achieving equity citywide. Digital connectivity is not a luxury intended for entertainment, a fundamental right and an essential tool for modern living — whether it's helping your child with homework,

searching online for housing, or running a start-up or small business. But digital infrastructure also complicates our lives, raising questions about personal privacy and cybersecurity. Today's challenges, such as climate change and public health force us to rethink infrastructure needs to meet the challenges of today and the future.

The strategies detailed in OneNYC 2050 will modernize the city's infrastructure. We are working toward universal broadband to close the digital divide, and improving our capital planning processes to accelerate upgrades to core infrastructure such as roads, water, sewers, parks and libraries. And as we face new risks, the City will ensure our risk management and emergency management planning practices are strong enough to protect residents, businesses, and government agencies from these threats.

## INDICATORS

NEW YORK CITY WILL MEASURE PROGRESS BY TRACKING THE FOLLOWING INDICATORS:

INDICATOR	LATEST DATA	TARGET
ELECTRIC VEHICLE SHARE OF NEW MOTOR VEHICLE SALES	1.4% (2017)	20% BY 2025
NEW YORK CITY HOUSEHOLDS WITH A RESIDENTIAL BROADBAND SUBSCRIPTION	71% (2018)	INCREASE
DEPARTMENT OF DESIGN AND CONSTRUCTION PROJECTS COMPLETED EARLY OR ON TIME	88% (2018)	INCREASE

## CONTEXT

### NEW YORK CITY'S CRITICAL INFRASTRUCTURE IS ESSENTIAL

to the smooth functioning of the City and the local and regional economies. Yet the delivery of essential services depends on infrastructure that is currently in need of significant repair, investment, and modern asset management.

Much of the city's infrastructure was built a century ago and has suffered from historic disinvestment, neglect, and poor maintenance. On average, our sewer mains are 85 years old, water mains are 70 years old, and the electric grid dates back to the 1920s. Transportation infrastructure suffers from performance and capacity issues, with a subway system suffering from unreliable service and overcrowding, and significant funding gaps for the Gateway Program — which will replace critical trans-Hudson tunnels damaged by Hurricane Sandy. The Port Authority Bus Terminal in Midtown — a major transportation gateway to the city — was built in 1950, and despite renovations over the years, is over capacity and has physically degraded. To meet the needs of a growing population and economy, and to prepare for a changing climate, we must fortify and upgrade our infrastructure.

Construction activity is at a record level across the city, contributing to rising construction and materials costs. Meanwhile there is insufficient urban infrastructure spending at the federal level. State and local regulations add substantial burdens to capital project delivery, inflating costs and timelines, and legacy technology systems impair the City's ability to analyze, track, and ensure accountability on its projects. Therefore, it is more important than ever to identify and resolve inefficiencies in the City's delivery of capital infrastructure projects.

To keep pace with a growing population and economy, our core infrastructure must be adapted for the 21<sup>st</sup> century, especially in terms of digital infrastructure — to make it easier and more affordable for all residents and small businesses to gain broadband coverage, be digitally literate and aware of cyberthreats and misinformation, and make New York City a global leader in smart cities cybersecurity. The City's 2015 commitment to universal broadband relied on cooperation from the federal government to require higher quality and affordability standards from the private sector. Since 2017, the federal government has undercut our policy gains, undermined local authority over public property, and eliminated net neutrality protections, leaving the City alone in striving to ensure more broadband options are available to all New Yorkers. These challenges, however, will not stand in our way.



The Sustainable Development Goals (SDGs) are the global blueprint adopted by all countries at the United Nations to achieve a better and more sustainable future for all, encompassing strategies to end poverty, improve health and education, reduce inequality, spur economic growth, and tackle climate change. By demonstrating directly how OneNYC 2050 aligns with the SDGs, we strengthen our efforts to build a strong and fair city. Our goal to achieve Modern Infrastructure supports the following SDGs:



Learn more about the SDGs online at:  
<https://sustainabledevelopment.un.org/sdgs>

## PROGRESS

### AS PART OF THE CITY'S MORE THAN \$100 BILLION TEN-YEAR CAPITAL STRATEGY, THE CITY HAS MADE STRATEGIC IMPROVEMENTS TO KEY INFRASTRUCTURE NETWORKS.

For example, in 2015, to address long-standing concerns about flooding in Southeast Queens, the City will invest \$1.9 billion over ten years for a robust, area-wide drainage system, and to replace old water mains — including 45 separate capital projects in St. Albans, Rosedale, Jamaica, Laurelton, and Springfield Gardens. With the opening of the East 91st Street Marine Transfer Station, the City has completed the last of the nine facilities envisioned in the long-term Solid Waste Management Plan. NYC Ferry, launched in 2017, has become a popular and widely used addition to the City's transportation network, with ride prices equal to those of the subway.

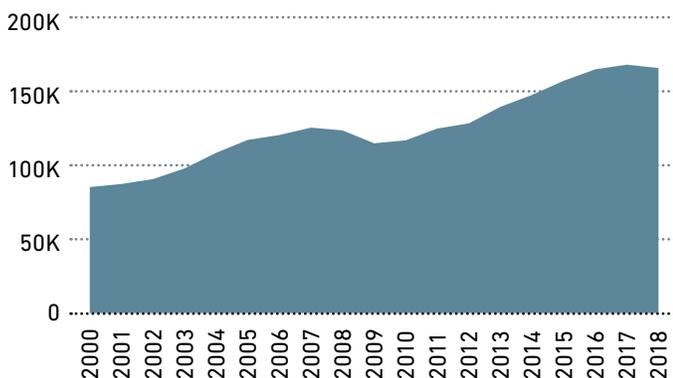
In 2019, the Department of Design and Construction (DDC) released *A Strategic Blueprint for Construction Excellence*, which strives to improve the agency's capital project delivery, and provides a model the rest of the City can follow. In 2016, the creation of the Front End Planning units, which work with client agencies on project scopes, schedules, cost estimates, and risk assessments before the formal commencement of projects has ensured the scope of work and budget meet necessary requirements, thereby reducing project delays and cost overruns.

New York City has also taken action to counter growing vulnerability from cyberattacks, creating the New York City Cyber Command (NYC3) in 2017. NYC3 has developed a coordinated approach to mitigating cyber risk, pioneering world-class approaches to preventing, detecting, responding to, and recovering from cyberthreats.

Construction activity is at a record level across the city, with permits increasing 44 percent since 2014, which contributes to rising construction and materials costs.

Source: DOB

#### CONSTRUCTION PERMITS



## WHAT WE HEARD FROM NEW YORKERS

OF THE MORE THAN 14,000 RESPONDENTS TO OUR CITYWIDE SURVEY, 57 PERCENT SELECTED TRANSPORTATION AND INFRASTRUCTURE AS A CHALLENGE FACING THE CITY. The most frequently cited theme was a need for more investment in citywide infrastructure to support the increasing population, as well as a push for new innovative funding streams to support this goal. Respondents also emphasized the importance of updating the city's digital infrastructure — for example, by increasing connectivity and cybersecurity — to meet modern demands. As one person recommended, “Provide better internet security measures that will prevent scams and hackers on mobile and personal computers.”

*“Provide better internet security measures that will prevent scams and hackers on mobile and personal computers.”*

- Resident of Bedford-Stuyvesant, Brooklyn



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## WHAT WE WILL DO

**MODERNIZING OUR INFRASTRUCTURE REQUIRES A COMMITMENT TO DATA-DRIVEN CAPITAL PLANNING** that anticipates the needs of the future, while improving the capital delivery process to deliver more projects on time and on budget. A modern city requires smart infrastructure that includes high-speed broadband and is able to properly mobilize and respond to any risk, whether it be cyberattacks, financial risks, or infectious disease.

The City will continue to improve its capital planning practices to direct resources and build out infrastructure, using population projections and the development pipeline, in addition to considering demographic shifts, the impacts from climate change, equity improvements, and community perspectives. In addition, significant funding has demonstrated the City's continued dedication to achieving a state of good repair. Emerging sensor technology, along

with supporting data infrastructure, enables data-driven asset management, allowing the City to be proactive rather than reactive to problems as they arise. To accelerate the pace of infrastructure projects, the City will reform capital planning processes to ensure projects are fully funded and delivered on time and on budget. Meanwhile, the continuous upgrading of legacy technology systems offers the possibility for greater data integration, analysis, and performance management. Furthermore, the State has already begun implementing best practices in capital delivery such as design-build, for its own projects, and the City will continue advocating for expanded authority to do the same.

To put New York City on the path to universal broadband, we will incentivize new providers in more parts of the city, with options for faster service and respect for personal privacy. We will, through digital literacy programs, ensure residents are able to take full advantage of available broadband access, and create the world's most robust cyber ecosystem. The City will continue to pioneer cutting-edge approaches to address cybersecurity threats, and grow the local talent pool to spur innovation and encourage the establishment of new cybersecurity companies across the five boroughs.

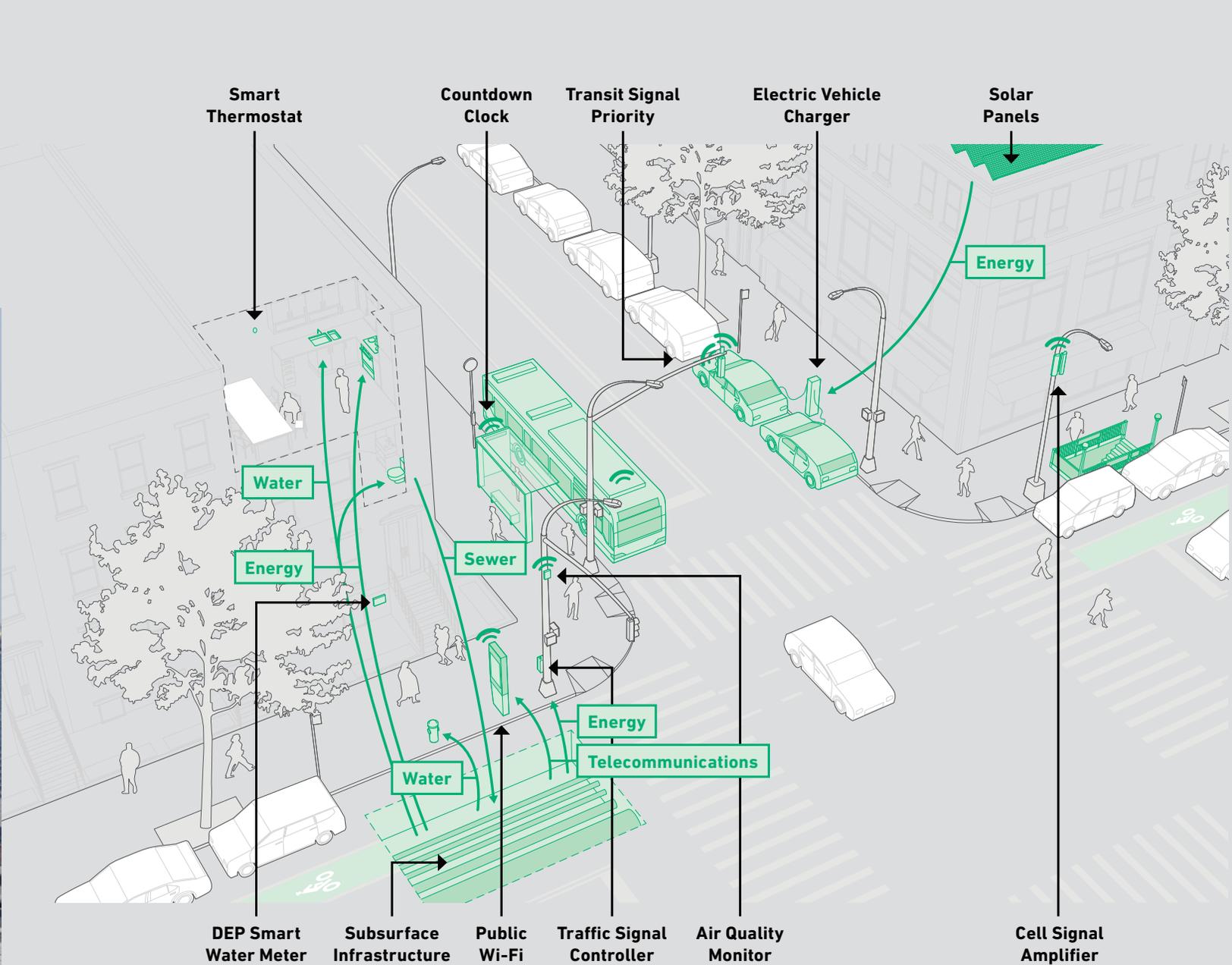
NEWTOWN CREEK WASTEWATER TREATMENT PLANT IS THE LARGEST OF NEW YORK CITY'S 14 WASTEWATER TREATMENT FACILITIES, SERVING MORE THAN 1 MILLION PEOPLE IN PARTS OF BROOKLYN, QUEENS, AND MANHATTAN, AND TREATING APPROXIMATELY 18 PERCENT OF NEW YORK CITY'S WASTEWATER.

Source: Carl Ambrose DEP



# A CONNECTED CITY

Today's digital and physical infrastructure is more intertwined than ever before, helping New Yorkers stay healthy, safe, and connected, 24/7.



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# INITIATIVE 28 OF 30

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## MAKE FORWARD-THINKING INVESTMENTS IN CORE PHYSICAL INFRASTRUCTURE AND HAZARD MITIGATION

### **NEW YORK CITY'S CAPITAL PROGRAM MUST BALANCE FINANCIAL RESPONSIBILITY, HOLISTIC PLANNING, EQUITY, AND COMMUNITY PERSPECTIVES TO GUIDE INVESTMENTS.**

Our growing economy and population require forward-thinking planning that anticipates the needs of each neighborhood. Although the City plans for what it believes each neighborhood might need, residents are often best positioned to inform that determination. These community perspectives are therefore considered in the planning process. As New York City strives to become the fairest big city in the nation, we are committed to evaluating and addressing historical inequities in investment across neighborhoods.

### **PLAN FOR CAPITAL INVESTMENTS HOLISTICALLY AND COLLABORATIVELY**

Capital planning is an integral part of the City's delivery of services to residents, ensuring infrastructure meets the needs of both today and the future. With the population increasing across the five boroughs, City agencies must use up-to-date, localized population projections to better understand where development will occur in order to better plan for infrastructure needs. For example, new housing development will lead to future school-seat demand, which the School Construction Authority (SCA) must take into account in order to build out necessary capacity. This insight informed new funding needs that were included in the Preliminary Ten Year Capital Strategy and SCA's FY20-24 Capital Plan, which will deliver 57,000 new school seats. City agencies must continue to work collaboratively, using triple-bottom-line criteria to maximize economic, environmental, and social benefits of capital investments, facilitate holistic planning, and work together with utilities to plan and deliver modern infrastructure projects that meet the needs of all New Yorkers.

- **EXPAND USE OF TRIPLE-BOTTOM-LINE PLANNING WITH A FOCUS ON INTERAGENCY COLLABORATION**

Since 2015, City agencies have continued to adopt triple-bottom-line principles that aim to maximize the economic, environmental, and social benefits of capital investments. The Department of Transportation (DOT) uses these criteria in a way that provides a model for all City agencies. DOT prioritizes its street reconstruction projects by assessing their anticipated contribution to each of the agency's strategic goals. Projects that improve safety and advance Vision Zero receive greater emphasis, although mobility, livability, environmental sustainability, state of good repair, resiliency, equity, and growth are also considered. DOT applies this standard assessment to hundreds of proposed projects each year, and prioritizes those that score highest.

Recently, DOT and the Department of Environmental Protection (DEP) collaborated to prioritize projects that fulfill the strategic plans of both agencies. With facilitation from DDC's Infrastructure Front End Planning Unit, DOT's prioritization schema considered input from DEP, which was able to indicate which proposed DOT projects overlapped with water and sewer assets that should be replaced. By adding scope to DOT projects before they are funded, the City can advance its comprehensive, strategic goals and improve capital project delivery through more accurate project scoping.

The City, through DOT is also developing a standardized triple-bottom-line or benefit-cost framework to help prioritize the most cost-effective projects. This framework will weigh each project's costs against estimates of the social, environmental, and economic benefits it would provide. DOT's routine use of benefit-cost analysis is already driving a more rigorous evaluation of projects against City and agency goals.



THE PEPACTON RESERVOIR SUPPLIES 25 PERCENT OF NEW YORK CITY'S UNFILTERED DRINKING WATER, AND ALSO OFFERS WORLD-CLASS FISHING AND RECREATIONAL BOATING FOR NEIGHBORS AND VISITORS TO THE WATERSHED.

Source: DEP

- **IMPROVE COOPERATION WITH UTILITIES FOR LONG-TERM PLANNING**

New York City's infrastructure depends on the multiple public and private utilities that provide essential services to the city. As the City maintains, replaces, and upgrades its water, sewer, and roadway networks, it must coordinate with the nearby electric, steam, gas, and telecommunications networks. In recent years, there has been a concerted effort — through monthly scheduling and planning meetings, as well as project-based meetings — to improve coordination between the public

and private utilities, including the sharing of digital maps of current and planned facilities and capital projects to help align design and construction timelines and reduce disruptions to communities. Joint construction of capital projects, known as “joint bidding,” is being used by City agencies and private utilities in order to streamline cooperation. This is mutually beneficial and should be deepened to help the City and utilities conduct long-term planning, reduce multiple street cuts, and streamline capital project delivery by coordinating underground work where appropriate.

# MAJOR PLANNED CITY CAPITAL INVESTMENTS

The Fiscal Year 2020 Ten-Year Capital Strategy dedicates \$10.4 billion to the City's infrastructure across the five boroughs.

Source: DCP

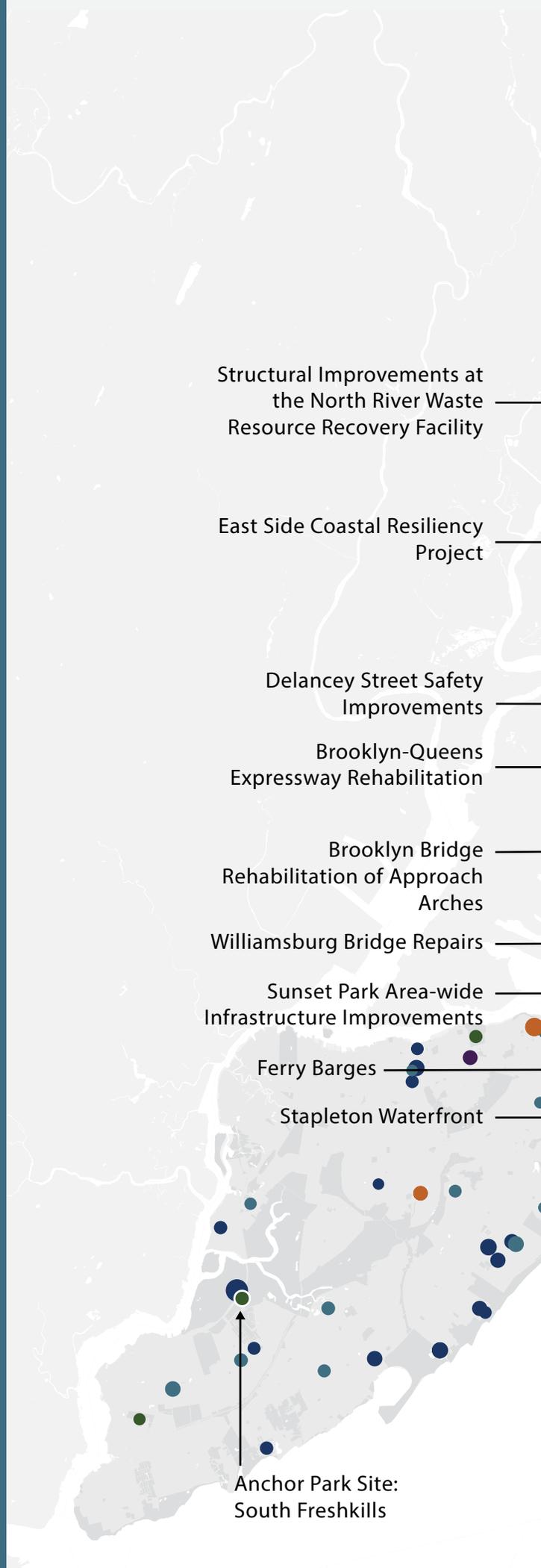
## PROJECT TYPE

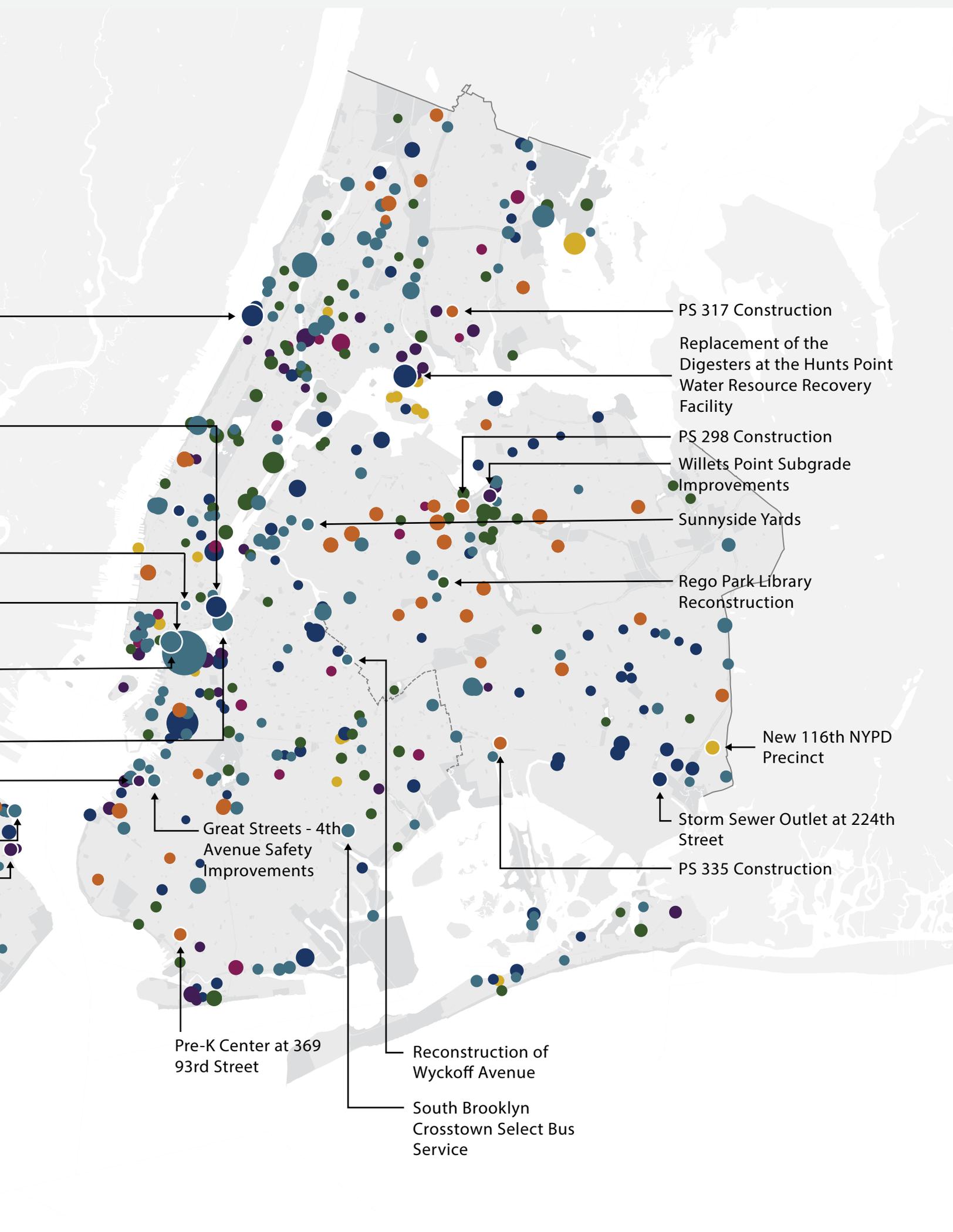
- STREETS, BRIDGES, AND HIGHWAYS
- WATER, SEWER, AND SANITATION
- SCHOOLS
- PARKS, LIBRARIES, AND CULTURAL FACILITIES
- HOUSING AND ECONOMIC DEVELOPMENT
- POLICE, FIRE, AND CORRECTIONS
- SOCIAL SERVICES

## PROJECT SIZE:

- \$10 – 25M
- \$25 – 50M
- \$50 – 100M
- \$100 – 500M
- MORE THAN \$500M

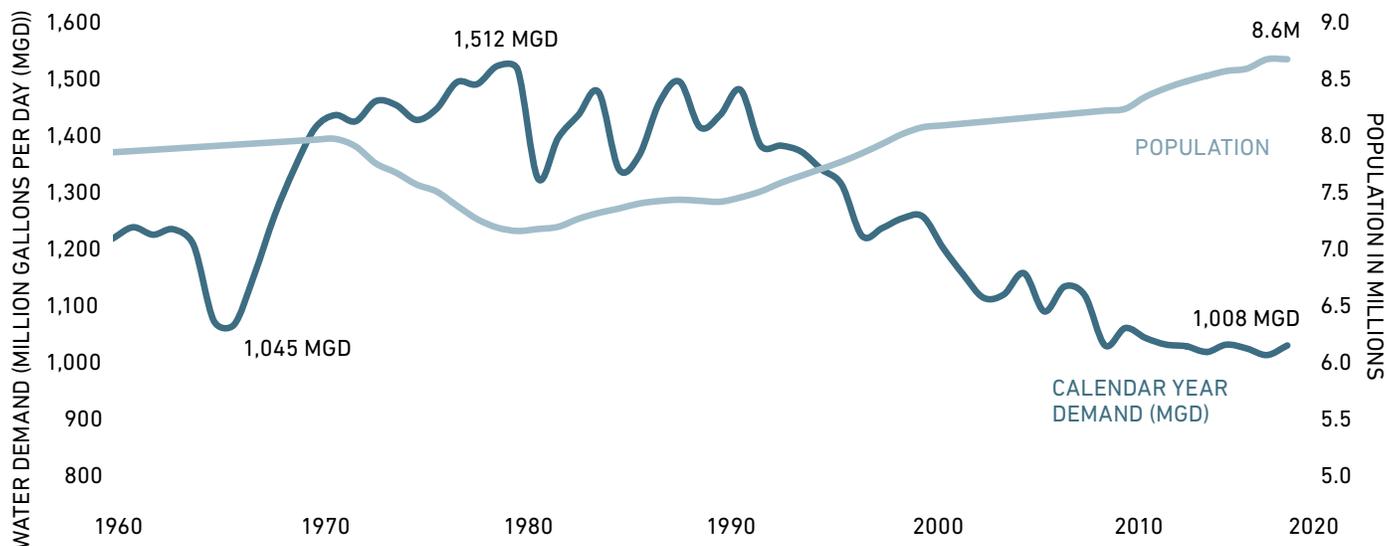
Select projects are labeled on map.





Despite a growing population, New Yorkers have reduced daily water consumption by roughly 500 million gallons, or one third, since 1979.

Source: Mayor's Office of Sustainability



## UPGRADE CITY INFRASTRUCTURE TO DELIVER HIGH-QUALITY SERVICES TO NEW YORKERS

The City will continue to invest in the core infrastructure necessary for delivering essential urban services, such as collecting refuse, providing clean water, treating wastewater, and maintaining the streets.

New York City’s water supply provides approximately one billion gallons of high-quality drinking water each day from a system of 19 reservoirs and three controlled lakes that stretches more than 125 miles from the city. The City plans to upgrade the Ashokan and Hillview reservoirs, both of which have been in continuous service since 1915. The City will comprehensively upgrade the dam, dikes, chambers, and other facilities at Ashokan, where rainwater and melting snow are collected from a 255-square mile watershed, and then brought to New York City via the 92-mile Catskill Aqueduct. The Hillview Reservoir provides balancing, storage, and chemical treatment for most of New York City’s water supply; and improvements will be made to upgrade aging infrastructure and equipment.

Today, organic waste is responsible for about one-third of the refuse handled by the City. As the population continues to grow and our understanding of the climate risks of landfill methane grow, it is more important than ever to divert this material from landfills and instead utilize it as a valuable energy source or for nutrient-rich soil enhancement. To help achieve the City’s Zero Waste goals, we will expand our ability to process organics both inside and outside the city, while pursuing expansion of the country’s largest organics management program by working

with the City Council to establish mandatory organics recycling citywide. This will be phased in starting with low- and medium-density areas that already have access to organics collection and expand over time to include the whole city – so that all New Yorkers can participate. In addition, we will increase the diversion of organics from commercial establishments. For more, see *A Livable Climate*.

At Hunts Point Wastewater Resource Recovery Facility, four new digesters are being constructed to replace the existing ones. The new facilities will be able to handle future flow rates, provide adequate redundancy to allow for preventative maintenance, and be sized to accommodate organic food waste from the nearby produce and fish markets. The City is also piloting biogas extraction from the wastewater treatment process at the Newtown Creek facility, and is making structural repairs to the North River facility, including rehabilitating or replacing assets that have served well beyond their useful life.

Since 2014, DOT has repaved over 25 percent of the 19,000 lane miles citywide— an unprecedented pace. To continue to effectively manage and prioritize repaving work, DOT is developing a predictive model of pavement conditions. By predicting the rate at which pavement will deteriorate, the City will be able to more effectively allocate resources to preventative maintenance, thereby saving money and ensuring higher quality roads. In the coming years, the City will undertake dozens of major capital projects to upgrade and improve busy thoroughfares and bridges to a state of good repair. These include the Brooklyn-Queens Expressway, the East River bridges, Grand Street Bridge, as well as other bridges.

## SPUR IMPROVEMENTS TO UTILITY DISTRIBUTION AND TRANSMISSION NETWORKS

The City has worked closely with key energy utility and regional stakeholders to invest in the resiliency of the city's energy infrastructure. Con Edison has completed a \$1 billion storm hardening program and is conducting a climate change vulnerability study that will be completed in 2019. This study will evaluate all of the key weather and climate inputs Con Edison uses to review its design standards, including daily and hourly temperatures, wind, precipitation, and other variables.

The City is an active participant in New York State's Reforming the Energy Vision proceedings, which aim to ensure the energy system becomes more efficient through, for example,

deeper penetration of renewable energy resources (e.g., wind, hydro, and solar) and wider deployment of distributed energy resources, including roof-top solar, batteries, and other on-site power supplies — while at the same time improving reliability and resiliency. In 2019, local utilities will advocate for rate increases across their gas and electric businesses. Through active participation, the City will ensure energy remains affordable as we continue meeting our carbon reduction and resiliency goals.

We must also increase the capacity of the currently maxed-out transmission lines that deliver power to New York City to access renewable power resources in New York State—including solar, hydropower, and on- and offshore wind —nearly all of which are located in other parts of the state or beyond. We will work with New York State, the New York Power Authority, and the New York Independent System Operator to build more transmission capacity into the city to accommodate renewable electricity sources.

To transition to a clean energy future, the city must be able to access electricity generated from carbon free sources upstate and offshore. To do so, investments in transmission are necessary to connect the city to these clean electricity resources.

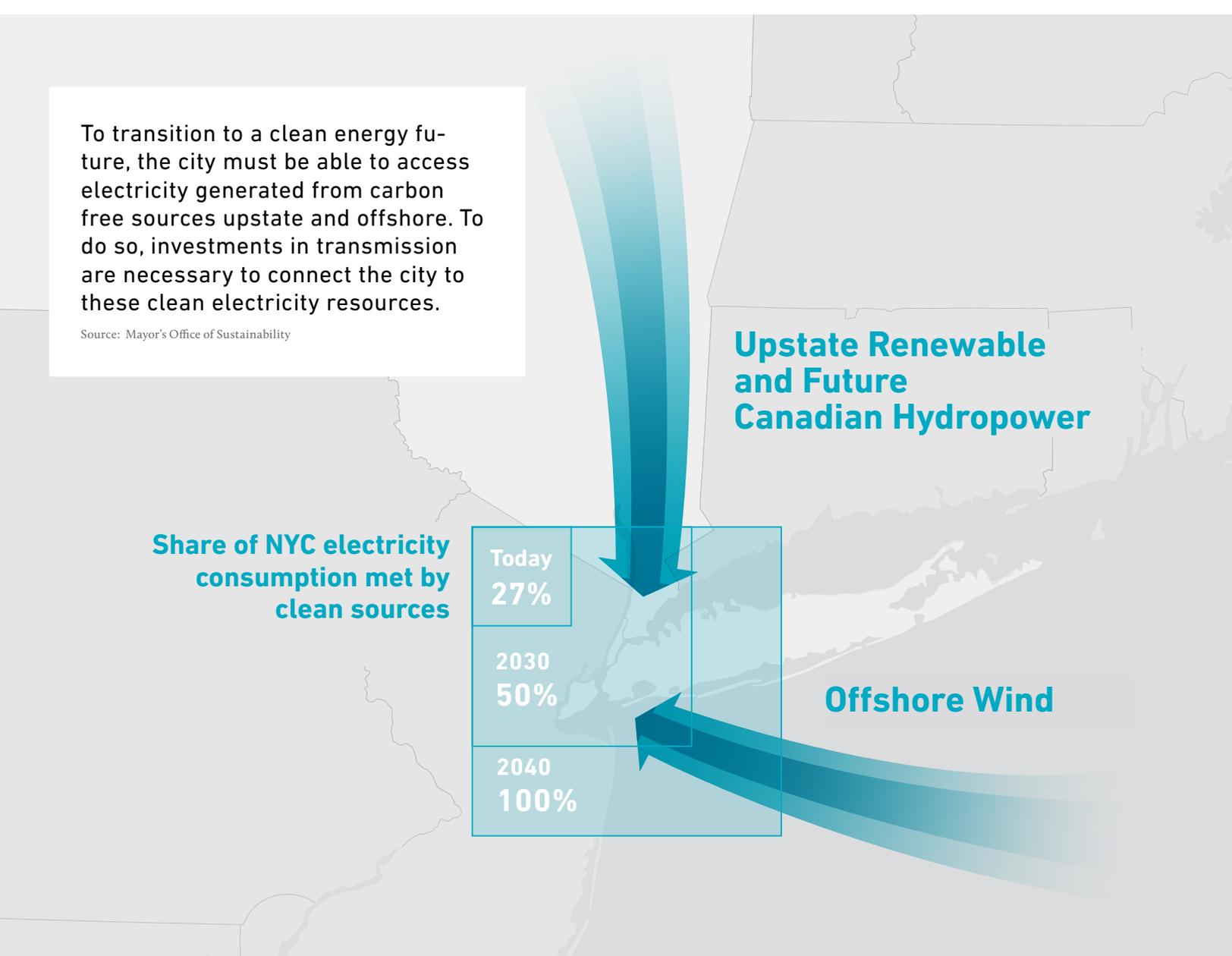
Source: Mayor's Office of Sustainability

### Share of NYC electricity consumption met by clean sources

Today	27%
2030	50%
2040	100%

Upstate Renewable and Future Canadian Hydropower

Offshore Wind



## INVEST IN INNOVATIVE AND RESILIENT TRANSPORTATION NETWORKS

Emerging technologies are providing opportunities to invest in infrastructure and incentivize cleaner transportation options such as electric vehicles (EVs). At the same time, several transportation projects are underway or being planned to modernize core infrastructure that is essential to the smooth functioning of the transportation network — and thereby the economy.

A key barrier to the adoption of EVs in New York City is the lack of charging infrastructure, particularly for those who cannot readily install an electric vehicle charger at home. To reach the City's goal of having 20 percent of all light duty vehicle sales in New York City be EVs by 2025, the public and private sector will need to collaborate and develop new business models, incentives, and requirements to spur the creation of as many as 5,000 charging outlets across the five boroughs. To expand the availability of chargers citywide, DOT and the Mayor's Office of Sustainability (MOS), working with Con Edison and other private partners, will create 50 fast-charging stations across the city and pilot-test 120 Level 2 chargers, adding to the existing 921 publicly accessible EV chargers. The City will also collaborate with the City Council to pass legislation to strengthen EV charging requirements for new parking spots in new and substantially renovated residential buildings.

The 1.5 mile section of the Brooklyn Queens Expressway in Downtown Brooklyn is a part of a key interstate highway that underpins the regional economy. If significant repairs are not made by 2026, vehicle weight limits and truck diversions may be

necessary, and likely lead to a spillover of cars and trucks onto the surrounding streets and neighborhoods. The City is convening an expert panel to evaluate strategies for dealing with the roadway. The panel will work with the local community and elected officials to evaluate concepts for the reconstruction project.

In 1950, the Port Authority first opened a bus terminal near the mouth of the Lincoln Tunnel in order to consolidate and manage the proliferation of commuter and intercity buses entering Midtown. Seventy years and two major renovations later, the terminal is overcapacity, physically degraded, and functionally obsolete. A rebuilt terminal is necessary to accommodate the growing number of bus passengers, with lack of available space inside the current facility forcing many buses to resort to street loading. The new facility should be planned to manage air quality and facilitate seamless connections to local bus, subway, and bike options, as well as provide an attractive gateway to the city.

The Gateway Program is rightly considered the highest-priority transit project in the nation, and its full funding and implementation are critical to the future of New York City and the region. The Gateway Program's first phase would begin with the Portal Bridge replacement, the construction of a new Hudson River tunnel, and the rehabilitation of the existing 110 year-old North River tunnels, which incurred serious damage from Hurricane Sandy. The North River tunnels are the lynchpin of the entire Northeast transit system, a shutdown of which would affect the commutes of nearly half a million people and cost the region billions of dollars. Additional investments will be needed at Penn Station to allow more trains to service the station through the completed tunnels, to continue the work of bringing the station up to contemporary standards by making it easier to navigate, improving safety, and making it more appealing for passengers.

NEW YORK CITY'S MUNICIPAL VEHICLE FLEET IS AHEAD OF SCHEDULE TO MEET ITS ELECTRIC VEHICLE TARGET BY 2025. HERE, A CHARGING STATION SITS IN FRONT OF CITY HALL.



## STRENGTHEN THE CITY'S ENTERPRISE RISK MANAGEMENT, CRISIS MANAGEMENT, AND RECOVERY CAPABILITIES

Over its long history, New York City has faced numerous crises that have had significant impact on residents and infrastructure, including the 9/11 terrorist attacks, the 2003 Northeast blackout, Hurricane Sandy in 2012, and the Great Recession. Today, we face new and imminent threats, including infectious diseases, cyberattacks, and other catastrophic events that risk the safety, security, and health of New Yorkers. We don't have the option of waiting.

To better prepare the City for these and other threats, the City will launch a task force focused on enterprise risk management, crisis preparedness, and recovery preparedness. The Enterprise Risk Management Task Force will examine the City's own capabilities and practices along these three dimensions- both centrally, as well as across, City agencies.

The City will build and help to enforce robust, systematic risk and crisis management practices across the City, including risk identification and risk mitigation. The City has and will continue to engage City agencies and outside partners to plan for recovery preparedness. We will enhance our recovery planning and practices, driving the development and maintenance of tools and data, such as long-term case management for those impacted by disasters. Such tools will be used post-emergency to deliver help to residents and ensure continuity of operations.

## INVEST IN PUBLIC HEALTH INFRASTRUCTURE TO BE ABLE TO RESPOND TO INFECTIOUS DISEASES

Rapidly detecting and responding to a new or reemerging infectious disease, or the intentional release of an unknown biological agent, requires a strong public health infrastructure and collective action across government, health care, and community stakeholders. New York City has one of the strongest public health departments with experienced epidemiologists, laboratory scientists, and emergency managers working in one of the most robust health care systems in the country. Nevertheless, residents are still susceptible to suffering from a pandemic caused by an as-yet unknown pathogen, which could emerge from anywhere in the world and be just one flight away from our own city streets.

In a public health emergency, the City will partner with various city, state, and federal agencies, health care facilities, and community leaders and organizations to protect and meet the needs of all New Yorkers. The New York City Department of Health and Mental Hygiene (DOHMH) will conduct robust surveillance and epidemiological investigations, along with laboratory testing to rapidly and effectively detect, characterize, and monitor the impacts of emerging diseases, and provide up-to-date public health messages to residents. In addition, DOHMH will support the health care system to meet all physical and mental health needs during an emergency, and provide widespread access to countermeasures, should they exist, such as antivirals, vaccines, and other supportive treatments.



WORKERS IN THE DELAWARE AQUEDUCT BYPASS TUNNEL, WHICH WILL HELP ENSURE THE SAFETY, RELIABILITY, AND RESILIENCY OF THE CITY'S WATER SUPPLY.

Source: DEP

# INITIATIVE 29 OF 30

## IMPROVE DIGITAL INFRASTRUCTURE TO MEET THE NEEDS OF THE 21ST CENTURY

### **BROADBAND INTERNET ACCESS IS FOUNDATIONAL TO ECONOMIC INCLUSION AND MOBILITY, YET THE UNREASONABLY HIGH COST OF SERVICE AND UNEVEN ACCESS TO CONNECTIVITY EXCLUDE MILLIONS OF NEW YORKERS.**

Disparities in digital literacy prevent many from fully benefiting from connectivity, while malicious behavior and disinformation campaigns online have continued to rise. Meanwhile, a surge in cyberattacks has demonstrated the need for government investment to shore up public systems, safeguard critical institutions, and protect residents. To that end, the City is continuing to pursue its commitment to making universal broadband across the five boroughs, promoting digital literacy programs, and fostering the most robust cyber ecosystem in the world. The City will also invest in its own data infrastructure, and promote data integration and agency collaboration to deliver city services more efficiently.

### **ACHIEVE UNIVERSAL BROADBAND ACROSS THE FIVE BOROUGHS**

Universal broadband access is critical to all aspects of our lives. Yet, since the 2016 presidential election, the federal government has enacted regressive policies that eliminated incentives for universal service, defunded subsidies for greater affordability, and removed protections for privacy and nondiscrimination. Faced with these challenges, the City will put in place the most ambitious program of its kind in the country to accelerate broadband access and build on the progress we have made since 2015. We will incentivize new providers to bring broadband to more parts of the city that are currently underserved, with options for faster service, and respect for personal privacy. We will enable greater transparency of broadband conditions, including the availability of free services. The City will continue to use all available authority to ensure companies meet their obligations to provide high-quality, affordable service, and will press for greater authority and better policies at the local, state, and federal levels, thereby increasing industry competition, improving service at more affordable rates, and protecting user privacy.

### **ISSUE THE NYC CONNECTED INTERNET MASTER PLAN THAT DETAILS THE PATH TO EQUITABLE BROADBAND INFRASTRUCTURE**

Achieving universal broadband requires detailed knowledge and data about current conditions and needs, as well as a roadmap for addressing disparities in this essential infrastructure. To get to this point, the City published Truth in Broadband: Access and Connectivity in New York City in April 2018, a seminal report offering the clearest picture of the digital divide for any city in the country, through an extensive analysis of publicly available data. The Mayor's Office of the Chief Technology Officer (MOCTO) gathered input from more than 50 internet service providers, industry experts, digital literacy organizations, privacy advocates, and workers' rights representatives to develop its standards, and systematically surveyed the physical conditions of infrastructure across the city. In 2019, the City will issue the first Internet Master Plan in the nation, detailing the current state of New York City's broadband infrastructure and establishing clear metrics for what it will need to achieve universal, equitable service. The plan will address fixed connections, mobile service, free public Wi-Fi, and public computer centers. It will establish measurable benchmarks for improving broadband infrastructure for fixed and mobile connections, assess strategies specific to the conditions of every neighborhood in the city, and provide the tools needed to prioritize and measure the impact of new public and private investment and other actions. Finally, the plan will describe how the City and its partners can engage communities in shaping their own paths to universal connectivity.

### **MOBILIZE PUBLIC AND PRIVATE INVESTMENT AND ADVANCE POLICIES FOR A BETTER INTERNET**

To accelerate broadband access, the City will transform its approach to deploying broadband infrastructure by becoming a more active partner with the private sector. In 2019, we will release a new type of request for proposals (RFP) to partner with infrastructure and service providers to meet neighborhood connectivity needs. The RFP will leverage a new, centralized approach to making City rooftops and other facilities available for broadband deployment. The City will add value to its assets through targeted investment, consistent with the Internet Master Plan, as public or other innovative financing becomes available, and will use its authority to expand underground conduit and fiber optic infrastructure.

The City will seek to have all broadband providers meet or exceed the standards established in the master plan so all private investment contributes to the City's goals. This includes legislation already introduced in the City Council (on behalf of the Mayor) to strengthen consumer protections and establish strong privacy requirements for cable broadband service. Wherever possible, we will incorporate provisions mandating net neutrality, privacy, and resiliency into contracts and agreements. We will also advocate strengthening local authority by opposing the Federal Communications Commission's attempts to direct public property for commercial gain, and by pushing for new state legislation that would make the franchise framework fairer for all companies in New York City. Finally, we will continue to lead a global effort through the Cities Coalition for Digital Rights, which New York City founded in 2018 with Barcelona and Amsterdam, with the goal of growing the coalition to more than 100 cities around the world.

• **ENSURE NEW YORKERS ARE BETTER INFORMED ABOUT BROADBAND SERVICES**

The City will update and expand its groundbreaking *Truth in Broadband: Access and Connectivity in New York City* report, adding comprehensive assessments of current broadband conditions, digital inclusion efforts through public computer centers, and the quality, security, and coverage of free public Wi-Fi. The goal is for New Yorkers to be able to generate reports based on their location, compare service across neighborhoods, find broadband providers in a given area, and locate free Wi-Fi and other resources. New Yorkers will be able to use this as a platform to connect and roam across Wi-Fi services, order broadband service for their home, and run a connection speed test

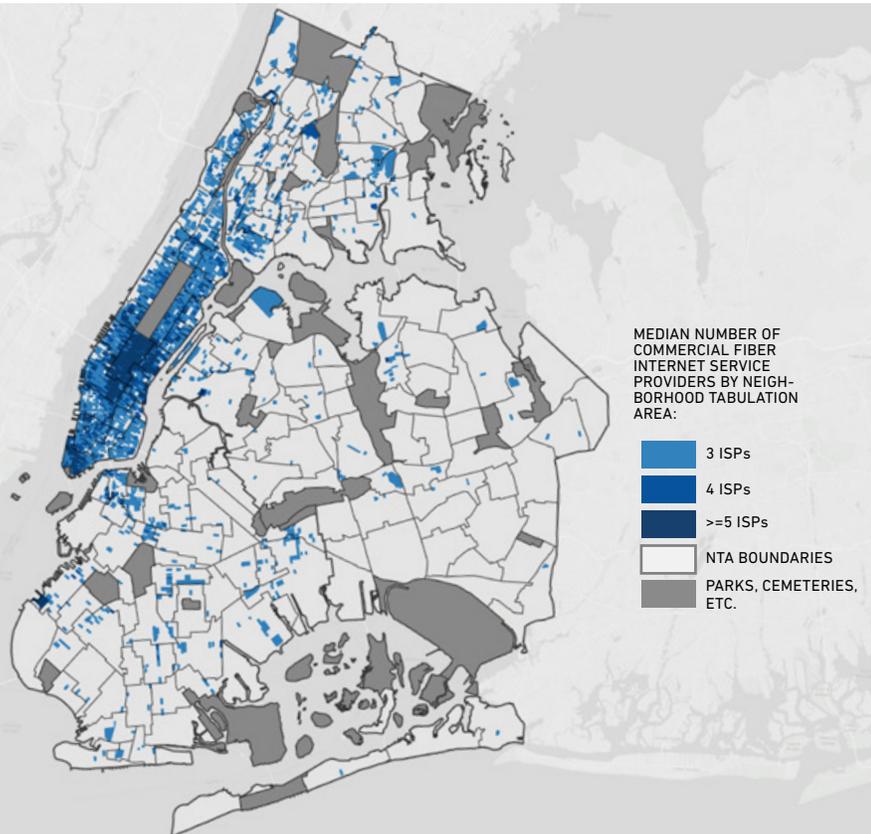
• **RESEARCH AND DEVELOP NEW BROADBAND TECHNIQUES THAT SPREAD TECHNOLOGICAL ADVANCEMENTS EQUITABLY**

New York City will shape the internet of the future to meet the needs of New Yorkers, while continuing to engage the private sector and other experts to better understand and design the right approach to universal connectivity under different conditions. The City's Queensbridge Connected demonstration project, for example, was recognized as a national model for digital inclusion, yielding valuable lessons on the coordinated delivery of internet service and education programs to achieve universal adoption of 90 percent. The NYCx Governors Island Connectivity Challenge leveraged in-field testing of emerging technologies, that resulted in new wireless service for island visitors and tenants in what was one of the least connected parts of the city.

We will continue to engage the private sector and other experts to better understand and design the right approach to universal connectivity. In 2018, a group of local universities supported by the City, and with the backing of community and industry partners, secured a \$22.5 million grant from the National Science Foundation and the Platforms for Advanced Wireless Research industry consortium to fund the launch of the first urban-scale wireless testbed by the end of 2020. Located in West Harlem, the partners have secured additional grants to work with public school teachers and community residents in order to add educational value to the long-term benefits of the research. This zone will attract established companies and start-ups looking to design applications for next-generation networks — and will allow the City to shape the direction of those efforts.

Lower Manhattan has robust fiber optic infrastructure—the basic building block of internet connectivity—but options are limited in much of the rest of the city. This makes it harder for new internet service providers or other businesses to expand in those areas.

Source: Communications Commission, MOCTO





DIGITAL SKILLS TRAINING IS CRUCIAL TO FULL PARTICIPATION IN MODERN SOCIETY. THE CITY FEATURES MORE THAN 500 FREE PUBLIC COMPUTER CENTERS WHERE VISITORS CAN ACCESS THE INTERNET, USE NEW DEVICES AND TOOLS, AND RECEIVE DIGITAL SKILLS TRAINING. PICTURED ABOVE IS THE SHELBY WHITE AND LEON LEVY INFORMATION COMMONS AT THE CENTRAL BRANCH OF THE BROOKLYN PUBLIC LIBRARY.

Source: Gregg Richards.

## ENSURE ALL NEW YORKERS BENEFIT FROM CONNECTIVITY BY EXPANDING DIGITAL EDUCATION PROGRAMS

Because an inclusive digital world can help combat the inequities of the physical world, the City provides more free internet service, device access, and broadband education programs than any other city in the country. For example, the City's public computer centers currently include more than 11,000 free computer workstations at more than 500 locations across the city. These centers collectively provide more than 21,000 hours of open lab time and more than 2,500 hours of digital literacy training per week on a wide range of subjects, in addition to a diverse array of digital tools

and resources. Over the past four years, LinkNYC has deployed nearly 1,800 new high-speed public Wi-Fi access points, featuring connected and secure tablets, free nationwide calling, and free device charging with over 6 million LinkNYC WiFi subscribers. During that same period, the City has loaned or given away more than 15,000 free connected devices through partnerships with Brooklyn, New York, and Queens Public Libraries; the New York City Housing Authority; and others. The City provided free home internet service to the more than 6,000 residents of the Queensbridge Houses, with opportunities to take classes and borrow devices on-site. We will expand and build on these partnerships to ensure all New Yorkers benefit from connectivity.

- **EXPAND FREE AND SECURE INTERNET SERVICES, TRAINING PROGRAMS, AND ACCESS TO CONNECTED DEVICES**

The City will continue to pursue partnerships with internet providers, sponsors, and other stakeholders to bring free or low-cost service options to more New Yorkers. We will build on the progress we've made providing professional development for 1,000 frontline staff at 216 public computer centers across the city. In 2019, we will publish the City's first comprehensive inventory of its public computer center resources. We will promote efforts to support seniors' equitable adoption of broadband service and ensure they have access to supportive community spaces to explore technology and learn digital skills. The City will further develop strategies for connecting residents with mobility disabilities, people who are homeless or in transitional housing, and other groups that require highly personalized solutions, with the goal of completely eliminating digital disparities.

- **EXPAND DIGITAL TRAINING PROGRAMS AND RESOURCES FOCUSING ON PRIVACY AND ONLINE SAFETY**

The City will build on the progress we have made in delivering online privacy and security training at public computer centers. We will also use this network of computer centers and trained frontline staff to deliver digital security tools and information to New Yorkers promote digital products that have strong privacy protections, and increase civic engagement.

Additionally, New York City Cyber Command (NYC3), on behalf of the City, will spearhead a study that will focus on the most effective ways to educate consumers about the data that is collected from them, the value that data holds, and the policies and programs necessary to keep that data secure. This builds on the success of NYC3's free, groundbreaking NYC Secure App, which set the national standard for how cities can help residents protect their smartphones from nefarious Wi-Fi networks and applications. While productive, these consumer education efforts will only be fully realized when the digital economy moves away from excessive collection and monetization of personal information. The City created the Chief Privacy Officer position in 2018 and will continue to work with the City Council to strengthen consumer protections for cable broadband service.

## **BUILD THE MOST INNOVATIVE CYBERSECURITY ECOSYSTEM, ALONG WITH THE MOST CYBER-RESILIENT CITY, IN THE WORLD**

Every facet of life in the city — from the delivery of water and electricity to transportation, health care, and emergency response — has become deeply reliant on technology. Yet the proliferation of smartphones, sensors, and internet-connected devices within our homes, workplaces, and public spaces has also created more opportunities for cyberattackers to steal data or disrupt critical systems. The City’s NYC3 will develop a centralized, holistic approach to mitigating cyber risk. Over the past two years, NYC3 has pioneered world-class approaches to preventing, detecting, responding to, and recovering from cyberthreats. To expand our capacity to respond to growing threats, we will build the most robust cybersecurity ecosystem in the world, cultivating a homegrown talent pipeline representative of local communities, fostering innovative cybersecurity companies, and safeguarding the City, its services, and local institutions from cyberattacks.

- **FORMALIZE THE LONG-TERM ROLE AND CAPACITY OF THE CITY’S CYBERSECURITY FUNCTION**

Working with the City Council, we will seek to formalize NYC3’s long-term organizational structure. As the City’s 2019 Hazard Mitigation Plan highlights, we must expand NYC3’s existing functions to better respond to new threats, including fake audio and video generated by artificial intelligence (AI), data-center malware, and industrial attacks. The City will build, test, deploy, and maintain modern emergency management plans to enlist the aid of City employees and the private sector during city-scale cyberattacks.

- **HELP NEW YORKERS COMBAT INTERNET MISINFORMATION**

In a partnership between the City’s Chief Democracy Officer and NYC3, and with support from local government, we will launch public awareness campaigns that empower New Yorkers to critically engage with digital content and develop protocols for how the City can respond to highly visible misinformation at critical moments (e.g., during rollouts of major programs, or right before election day). Additionally, we will leverage relationships with social media platforms to combat localized misinformation at key moments. For more, see *A Vibrant Democracy*.

- **MOBILIZE A “NATIONAL CYBER CONSORTIUM” TO CONFRONT KNOWN AND EMERGING CYBERTHREATS**

The City will create a national coalition of local governments, academic institutions, and other entities to confront

cyberthreats. The coalition will share relevant data and best practices, integrate crisis response plans, and conduct joint simulations of cyberattacks. The City will develop a rotational program for public cybersecurity employees to learn from cybersecurity professionals in other cities to spread best practices, drive professional development, and enhance cooperation. Finally, we will build on our 2019 announcement of the New York City Cyber Critical Services and Infrastructure group, a partnership between NYC3, NYPD, the Manhattan District Attorney’s Office, and 17 critical industry sectors to coordinate on pressing cybersecurity challenges.

- **PROTECT THE CITY’S 240,000 SMALL BUSINESSES AND CONSUMERS FROM CYBERTHREATS**

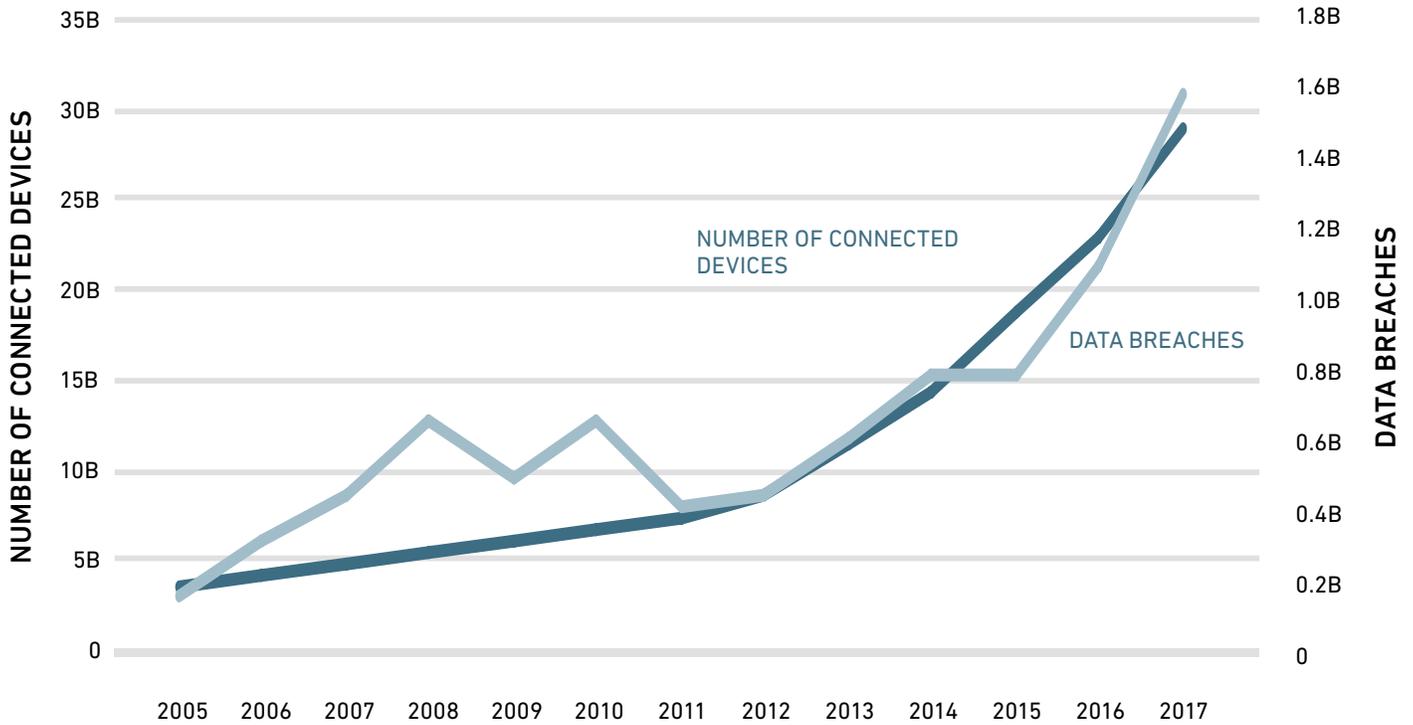
Launched in 2018, the NYCx Cybersecurity Moonshot Challenge explores innovative and affordable solutions to safeguard small businesses from cyberattacks. In 2019, City agencies will make small business owners aware of affordable and user-friendly cybersecurity software and services, and launch technical training programs to help them install and deploy the software. NYC3 will also leverage policies, standards, and legislative tools to enhance small business protection.

- **ESTABLISH NEW YORK CITY AS A GLOBAL CYBERSECURITY LEADER**

New York City has the talent and educational resources to become a global center for cybersecurity training, services, and job creation. As part of the City’s Cyber NYC program, we will create 10,000 good-paying cybersecurity jobs by 2030, and cultivate a thriving and inclusive start-up ecosystem that attracts companies from around the world. To ensure cybersecurity careers are accessible to all New Yorkers, we will launch a “cyber boot camp” to train more than 1,000 residents from underserved communities with the necessary skills to excel in cybersecurity jobs. In collaboration with City University of New York, Columbia University, New York University, Cornell Tech, and iQ4, we will launch an Applied Learning initiative to both make experiential learning available in the classroom and build more diverse talent pipelines between our major research universities and cybersecurity employers. The City will also open two world-class spaces — the Global Cyber Center by SOSA, and Hub.NYC by Jerusalem Venture Partners — for cybersecurity programming, ecosystem development, technical demonstrations, and start-up acceleration. Finally, we will develop and launch a collaboration between the Department of Education (DOE), the Economic Development Corporation, and NYC3 to offer and support cybersecurity education and career awareness across DOE schools.

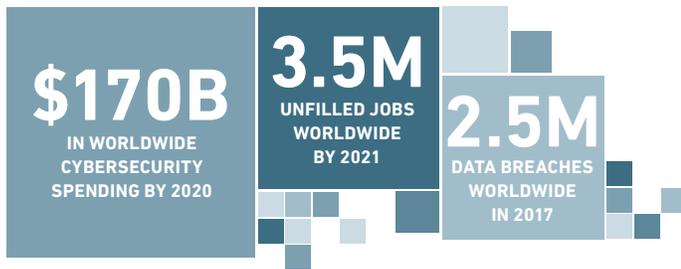
The frequency and severity of global cyberattacks against both public and private sector institutions has increased over time. This makes the City's investments in its cyberinfrastructure and talent pipeline more important to our long-term prosperity and resiliency.

Source: Group SIR, Cisco, CompTIA, Statista



As cybersecurity breaches have increased, so has the demand for trained cybersecurity professionals.

Source: EDC



### INVEST IN DATA INFRASTRUCTURE TO IMPROVE DATA INTEGRATION AND INTERAGENCY COLLABORATION

In order to deliver high-quality, integrated services to residents, businesses, and visitors, data must often be collected, shared, and integrated across multiple agencies for operational use, analysis, and evaluation. This is driven by the availability of smart, secure, reliable, up-to-date, and resilient technology. To improve our data sharing and integration capabilities, we will develop a broad spectrum of platforms, products, and services, supported by updated enterprise network architecture and infrastructure, with a particular focus on enhanced resiliency. We will continue to promote existing City governance frameworks that help agencies navigate the legal, privacy, and information security concerns inherent with data integration. This not only creates economies of scale for solving complex multi-agency data integration challenges, but also grows a body of business use cases that can serve as governance models for future integration projects.

# INITIATIVE 30 OF 30

## IMPLEMENT BEST PRACTICES FOR ASSET MAINTENANCE AND CAPITAL PROJECT DELIVERY

### **TO SUPPORT THE LONG-TERM SUSTAINABILITY OF THE CITY'S BUDGET, WE MUST CONTINUE TO REFINE ASSET MANAGEMENT PRACTICES AND STREAMLINE CAPITAL-PROJECT DELIVERY.**

Too often, capital projects suffer from schedule delays and cost overruns due to the complex regulations, process inefficiencies, and engineering challenges inherent to the process. DDC's *A Strategic Blueprint for Construction Excellence* provides a thoughtful framework for improving capital-project delivery at the agency — the successful implementation of which should be emulated across the City.

### **ANTICIPATE MAINTENANCE NEEDS AND MAKE SMART REPAIRS**

The fiscal crisis of the 1970s clearly demonstrated the risks associated with deferred maintenance. By neglecting asset management, the City would have to contend with crumbling infrastructure and higher costs in the long run. The modern approach New York City employs today reflects the need for constant assessment and maintenance. By anticipating infrastructure needs and making smart repairs, the City can preempt the need for the costlier capital projects that would otherwise be necessary to replace failing assets.

#### **• ACHIEVE A STATE OF GOOD REPAIR**

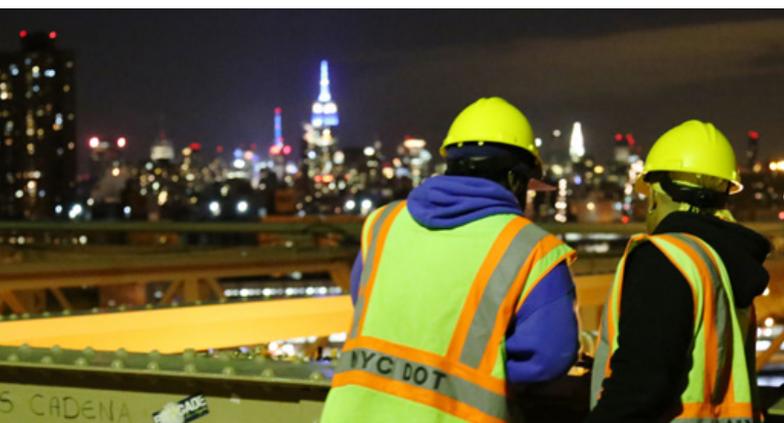
The most recent Preliminary Ten Year Capital Strategy dedicates 55 percent of planned spending to achieving a state of good repair. This money will go toward repairing and rehabilitating assets, allowing the City to lengthen their service life and reap the full benefits of investments made in new assets many years ago. Whenever possible these assets are repaired in ways that make them more resilient and reliable over time.

#### **• IMPROVE AND EXPAND ASSET CONDITION ASSESSMENTS**

Each year, DDC manages the inspection and assessment of nearly 250 City assets, including service-providing facilities, libraries, and waste management facilities, through the Charter-mandated Asset Information Management System (AIMS). However, these assessments must be made more robust in order to capture all the critical information required for project scoping — much like the assessments the School Construction Authority performs annually on its own assets. To this end, DDC will expand its asset surveys to 800 inspections per year. At the same time, it will make a subset of the assessments more actionable by enhancing building condition surveys to be used by sponsor agencies for capital project prioritization and initial scoping.

The City, through DOT, remains committed to vigilant, proactive asset management, best demonstrated through its stewardship of the bridges and routine in-depth condition assessments. Recent assessments have led to investments to rehabilitate the iconic East River bridges, DOT has also performed assessments on the Brooklyn, Manhattan, and Queensboro bridges, including analyzing the Brooklyn Bridge's capacity to carry an expanded bike and pedestrian pathway. DOT also plans to explore new technology for real-time monitoring of individual bridges and tunnel components. By combining component-level condition data with work histories, DOT will be better able to improve its understanding of deterioration rates and asset life cycles, allowing for timely and specific interventions to keep the City's bridges and tunnels in a state of good repair.

The Department of Parks and Recreation (Parks) has also expanded its asset condition assessments, first focusing on four pilot asset types: synthetic turf fields, retaining walls, recreation centers, and comfort stations. DPR established a small assessment team to focus on inventory, inspection, scope, and cost estimation in order to prioritize projects and funding requests needed to address asset conditions.



# A STRATEGIC BLUEPRINT FOR CONSTRUCTION EXCELLENCE

**IN THE SPRING OF JANUARY 2019, DDC RELEASED A STRATEGIC BLUEPRINT FOR CONSTRUCTION EXCELLENCE.** DDC is New York City's leading construction management agency, building infrastructure and public buildings for 29 sponsoring agencies, in addition to the numerous nonprofits that receive funding from the City. DDC's comprehensive plan to improve capital project delivery includes the following ten strategies:

- Modernize procurement
- Use innovative project delivery methods
- Empower DDC project managers
- Streamline change order approval and payment
- Get projects approved and started faster
- Plan projects better and minimize mid-stream scope changes
- Work with utilities companies more effectively
- Become more active community partners
- Transform information technology
- Promote continuous professional development



**THE RECONSTRUCTION OF TILLARY STREET WILL CREATE A SAFER AND MORE WELCOMING GATEWAY TO BROOKLYN. THE PROJECT INCLUDES TRAFFIC SAFETY, LANDSCAPING, AND DESIGN IMPROVEMENTS AND WILL REPLACE MUCH OF THE UNDERGROUND INFRASTRUCTURE.**

Source: DOT, DDC



**THE GANSEVOORT STREET AREA RECONSTRUCTION IN THE MEATPACKING DISTRICT OF MANHATTAN INCLUDES THE REPLACEMENT OF WATER MAINS AND CONSTRUCTION OF CATCH BASINS—IN ADDITION TO TREE PLANTING, PLAZA RECONSTRUCTION, AND DECORATIVE PAVING.**

Source: DDC



**RESTORATION OF THE HIGH BRIDGE CONNECTING THE BRONX TO MANHATTAN HAS BEEN RECOGNIZED INTERNATIONALLY FOR ITS ARTISTIC MERIT AND INNOVATION REHABILITATING INFRASTRUCTURE OF HISTORIC SIGNIFICANCE.**

Source: DDC



**THE PUBLIC SAFETY ANSWERING CENTER II (PSAC2) WAS BUILT WITH STREAMLINED COORDINATION ACROSS SEVERAL CITY AGENCIES TO FORM A SECONDARY BACKBONE OF 911 CALL INTAKE AND DISPATCH FOR THE CITY, PROVIDING REDUNDANCY TO CURRENT EMERGENCY 911 SERVICE.**

Source: DDC

**• USE SENSOR TECHNOLOGY TO IMPROVE ASSET MANAGEMENT AND QUALITY OF LIFE**

New York City agencies are using sensors, data analytics, and internet-connected smart infrastructure to monitor the water supply, improve the flow of buses, and track air pollution. The increased precision and frequency of available data regarding these assets has made it possible for agencies to plan maintenance more effectively, track local variations in environmental conditions, and even save New Yorkers money (e.g., predicting leaks using water-meter readings). Over time, the use of sensors can also improve the City’s geospatial data and understanding of its subterranean assets.

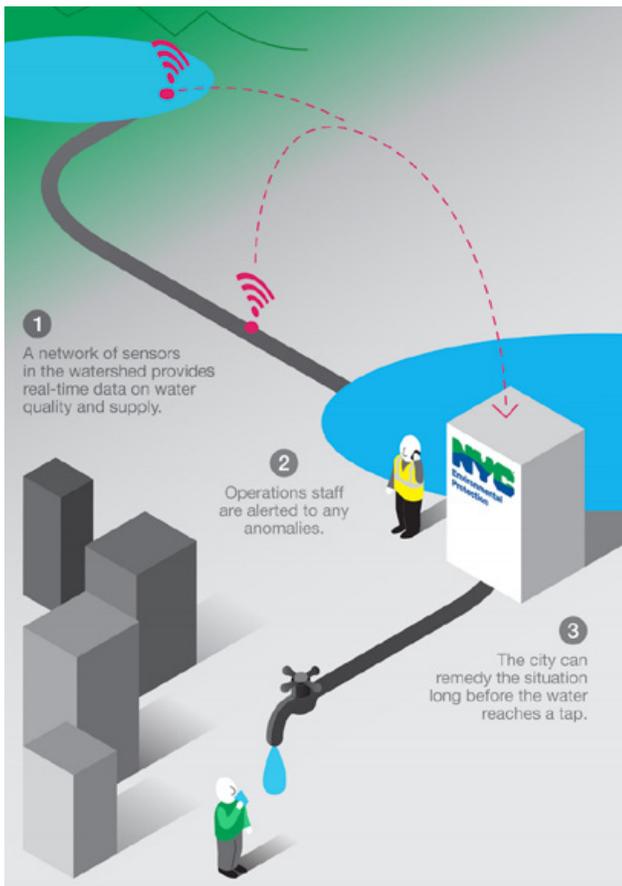
To remain at the forefront of smart cities around the world, New York City will centralize its approach to internet-connected sensing and other urban technologies, publishing a full Internet of Things (IoT) strategy by 2020. IoT broadly refers to physical devices connected to the internet that can collect data or be controlled remotely.

Currently, much of this sensor deployment is being pioneered by individual agencies. But new technologies and challenges call for greater interoperability and coordinated deployments. Building on the IoT guidelines released by the City in 2016, which was endorsed by 35 cities around the world, the City will look to institute comprehensive IoT review procedures that emphasize greater interagency collaboration, and sharing of real-time data. The review procedures will ensure compliance with the cybersecurity and privacy protocols established by the City’s Chief Information Security Officer and Chief Privacy Officer. The City is currently conducting pilot projects using this approach.

The City recognizes that the deployment of sensors and other smart infrastructure, along with equipment for internet connectivity, traffic operations, and public safety, may strain already crowded public space. The City will explore innovative strategies such as smart poles, modifications to existing street furniture, and integrated sensor arrays to deploy equipment efficiently, while preserving or enhancing the attractiveness of the streetscape.

Deploying smart technology effectively is crucial to improving City services and quality of life. For example, the City’s automated water meter reading system connects residents to water usage data, saving millions of dollars since its launch.

Source: Mayor’s Office of the Chief Technology Officer, DEP



## DELIVER PROJECTS ON TIME AND ON BUDGET

Due to New York City's density and congestion, high labor costs, and a number of institutional factors, the City struggles to consistently deliver capital projects on time and on budget. To address this issue, the City has worked to improve its capital delivery process to better deliver core infrastructure such as streets, sewers, schools, and parks. The City will devote more resources to scoping projects upfront, streamline procurement, fix burdensome regulations, implement best practices, and deepen public accountability. Additionally, regulations at the State level must be changed to give the City more tools at its discretion, and unlock efficiencies throughout the capital process.

### • IMPROVE PROJECT SCOPING

By properly scoping projects early in the capital process, risks can be identified ahead of time to avoid schedule delays and costly change orders. Unexpected field conditions frequently change the scope of a project already in construction. The City's expansion of pre-design site testing and front-end planning can allow for both better budgeting and designers to plan for known risks and properly coordinate with utilities. At the same time, an improved change order management system will help minimize the financial and scheduling impacts of these occurrences.

Featured in DDC's Strategic Blueprint, the Front End Planning units perform an early review of project proposals with sponsor agencies and to ensure goals, budgets, scopes, and schedules all align. Bringing architectural, engineering, cost estimating, and project management tools to bear, FEP helps sponsoring agencies understand exactly what they are asking for and how much it will cost. The City will ensure the FEP units receive the additional resources necessary to review all projects that come to DDC. For larger-scale projects, the City manages the Capital Project Scope Development (CPSD) Program, which devotes resources to clearly determining project scope, cost, and other key factors before they are included in the capital plan. The City has expanded the program since 2015 and is experimenting with new ways to improve project scoping and design.

### • STREAMLINE PROCUREMENT, FIX BURDENSOME OVERSIGHT REQUIREMENTS, AND ADVOCATE FOR REFORMS TO ANTIQUATED STATE DELIVERY LIMITATIONS

The Procurement and Sourcing Solutions Portal (PASSPort) aims to make procurement easier for both agencies and vendors, taking a holistic, streamlined approach that incorporates process improvement, technology, and strong partnerships to achieve success. PASSPort will become the primary platform with which to do business with the City of New York. By streamlining procurement, and being better able to pay contractors on time, the City will be a better business partner. The data digitized through PASSPort will be invaluable in analyzing the capital portfolio, allowing the City to better understand vendor and agency performance.

Certain regulations at the City level slow the procurement process, significantly delaying capital projects without meaningfully solving the problems they were intended to fix. The City will work with the Council to identify opportunities to reduce unnecessary oversight requirements that slow down projects.

Although the City is improving its capital project delivery, the City is limited in its ability to select the delivery method best suited for each project. Currently, Design-Bid-Build is the only method allowed to the City across the board, by law. Exceptions have been made by the State Legislature for large-scale projects such as the Brooklyn-Queens Expressway and Borough-Based Jails System to allow the use of Design-Build, but the City needs to be empowered to select the best method for each project. In addition to Design-Build, Construction Manager (CM) Build and At-Risk provide new models for delivery that can save time and money for the City. New York City deserves the ability to use Design-Build, a benefit State agencies and the MTA currently possess, which can be granted to the City at no additional cost to the State.

The City's construction procurement decisions are also constrained by General Municipal Law (GML) 103, which requires the City to accept the lowest responsible, responsive bid in almost all cases. This law requires the City to award construction contracts on the basis of price alone and precludes evaluation of the quality of the bid, past performance by the bidder, and the contractor's proposed construction methodology. As a result, we cannot select the proposal that best meets an agency's goals and minimizes community impacts. Furthermore, there is no guarantee the lowest bidder will ultimately deliver the project as efficiently, economically, or with equal quality workmanship as a contractor whose original bid price was higher. Reform to GML-103 would authorize the City to select the contractor whose bid is judged to provide the best overall value to taxpayers on the basis of all of these criteria.

### • IMPLEMENT PROJECT MANAGEMENT BEST PRACTICES

Modernizing capital project delivery requires the City to take advantage of new approaches to project management, and develop custom-built technology solutions designed for managing complex public projects that integrate well with other City systems.

Integrated project delivery is a project management approach that maximizes efficiency and ensures accountability. With this method, integrated teams with dedicated leadership can take a holistic approach to managing projects by overseeing the project through each of the design, procurement, and construction phases. DDC's project management structure is beginning to utilize these principles, although integrated project delivery must become more widespread across all City agencies.

These project management teams must be equipped with the necessary technology systems to be effective. DDC's Benchmark offers a vision for modern, custom-built project management software. Part of DDC's \$16 million information technology



NEW YORKERS ENJOY THE RECONSTRUCTED COOPER SQUARE.

Source: DOT, DDC

strategic plan, Benchmark incorporates online project initiation, front-end planning, and a project management delivery system that facilitates payment processing. By building Benchmark in-house, the tool is customized to DDC's needs, is well integrated with other City systems such as the Financial Management System (FMS) and PASSPort, and lays the foundation for partner agencies to integrate into the system as well.

- **DEEPEN PUBLIC ACCOUNTABILITY THROUGH EXPANSION OF THE CAPITAL PROJECTS DASHBOARD**

The City maintains a dashboard that tracks all capital projects over \$25 million, which allows New Yorkers to track and analyze the City's delivery of projects. As modern project management software becomes more widely used by agencies, the Capital Projects Dashboard can integrate with these systems and expand to include a larger universe of projects and better geographic information.

*“Maintain the infrastructure we have, and ensure existing infrastructure is retrofitted for climate change and emergency preparedness.”*

– Resident of Upper West Side, Manhattan

# THE PATH FORWARD

**TO ACHIEVE OUR GOALS, WE MUST HAVE A PLAN AND HOLD OURSELVES ACCOUNTABLE.** Here, we identify the actions that are necessary to achieve our goals, the owners of each action, and the indicators that will help us measure progress and ensure success. We are also constantly working to raise our ambitions, with several opportunities in the near future to add more detail to select indicators and targets. For further information and a complete set of interim milestones, see our detailed action plans at [nyc.gov/OneNYC](http://nyc.gov/OneNYC).

INITIATIVE #28: MAKE FORWARD-THINKING INVESTMENTS IN CORE PHYSICAL INFRASTRUCTURE AND HAZARD MITIGATION		
STEPS TO GET THERE	AGENCY OWNER	FUNDING STATUS
Plan for capital investments holistically and collaboratively	DCP, DDC, DOT, DEP, SCA, City Hall	Partially Funded
Upgrade City infrastructure to continuously deliver high-quality services to New Yorkers	DEP, DSNY, DOT	Partially Funded
Spur improvements to utility distribution and transmission networks	MOS, City Hall	TBD
Invest in innovative and resilient transportation networks	DOT, DCAS, CH	Partially Funded
Establish a Citywide Enterprise Risk Management Task Force	City Hall	Budget Neutral
Invest in public health infrastructure to be able to respond to infectious disease	DOHMH, H+H, NYCEM	Partially Funded
INDICATORS	LATEST DATA	TARGET
Electric vehicle share of new motor vehicle sales	1.4% (2018)	20% by 2025
Share of electricity from clean sources	27% (2019)	100% by 2040

**INITIATIVE #29: IMPROVE DIGITAL INFRASTRUCTURE TO MEET THE NEEDS OF THE 21ST CENTURY**

STEPS TO GET THERE	AGENCY OWNER	FUNDING STATUS
Achieve universal broadband across the five boroughs	MOCTO, DOITT	Partially Funded
Ensure all New Yorkers benefit from connectivity by expanding digital education programs	MOCTO, NYC3	Partially Funded
Build and cultivate the most innovative cybersecurity ecosystem and the most cyber-resilient city in the world	NYC3, NYCEDC, CDO, DOE, MOCTO, SBS	Funded
Invest in the City's data infrastructure, enabling greater data integration and agency collaboration	DoITT	Funded
INDICATORS	LATEST DATA	TARGET
New York City households with a residential broadband subscription	71% (2017)	Increase
New York City households with three or more residential broadband provider options	36% (2017)	Increase
Use of New York City public computer centers	N/A	Increase
Neighborhoods with a commercial corridor served by free public Wi-Fi	42% (2019)	Increase
Neighborhoods with a zone that has three or more options for commercial fiber optic service	72% (2017)	Increase
Cybersecurity jobs	N/A	10,000 by 2030
NYC Secure App downloads	57,000 (2019)	300,000 by 2021

**INITIATIVE #30: IMPLEMENT BEST PRACTICES FOR ASSET MAINTENANCE AND CAPITAL PROJECT DELIVERY**

STEPS TO GET THERE	AGENCY OWNER	FUNDING STATUS
Anticipate maintenance needs and make smart repairs	DDC, DCAS, OMB, DEP, DOT, MOCTO	TBD
Deliver new projects on time and on budget	DDC, OMB, DOT, DEP, DSNY, DCAS, MOCS, Ops	Partially Funded
INDICATORS	LATEST DATA	TARGET
DDC construction projects completed early or on time	88% (FY18)	Increase
Bridge projects (structural work) substantially completed on schedule	100% (FY18)	100%

For more information on the funding status of OneNYC initiatives, please see the City of New York Fiscal Year 2020 Executive Budget and Ten-Year Capital Strategy.



# WHAT YOU CAN DO

**BUILDING A STRONG AND FAIR CITY WILL REQUIRE THE HELP AND SUPPORT OF ALL NEW YORKERS. HERE ARE A FEW EASY STEPS YOU CAN TAKE:**

## 1

### **MAKE A PLAN FOR EMERGENCIES.**

Prepare for emergencies by making a disaster plan with your household members, and pack a Go Bag. Help your community prepare by requesting emergency preparedness training from New York City Emergency Management for your workplace, school, community center, or house of worship. Download the Ready NYC app or pocket guide to help devise your emergency plan. If you want to do more, join the Community Emergency Response Team (CERT) in your neighborhood.

## 2

### **USE OUR WATER RESPONSIBLY.**

Use our water responsibly by following water saving tips to repair leaks in your home, install water-saving devices such as faucet aerators and water-saving toilets and showerheads, and turn the water off during activities such as dishwashing, shaving, and brushing your teeth. When there's a heavy rainstorm, protect our waterways from sewage overflow by waiting to do laundry, shower, or wash dishes. If you're a student, encourage your local university to join the City's Water Challenge to Universities Program.

## 3

### **DOWNLOAD THE FREE NYC SECURE APP**

on your personal phone or tablet. The app detects potential threats in real time to your device, to Wi-Fi networks you may connect to, and for Android users, it detects whether any app you've downloaded might be unsafe. When the app detects a threat, it will send you an alert in real time and offer a recommendation on how to address the threat, such as suggesting you disconnect from a particular Wi-Fi network.

## 4

### **VISIT A PUBLIC COMPUTER CENTER.**

Access broadband by visiting one of the City's 500+ free public computer centers, including libraries, public housing facilities, senior centers, and community centers in the highest need neighborhoods. Access the internet, use new devices and tools, participate in digital skills training, or volunteer to support your neighbors. You can also access public Wi-Fi in nearly 80 parks and at LinkNYC terminals throughout the city.

## 5

### **LEARN ABOUT YOUR DIGITAL RIGHTS.**

Learn about your digital rights as a New Yorker by checking out the Cities Open Internet Pledge we founded in 2018. Beyond this, check out our Internet of Things guidelines and share feedback on our website. These guidelines, which are endorsed by more than 35 partners worldwide, support open and ethical digital device standards and prevent providers from being the gatekeepers between residents and the local government services on which they depend every day.

For more ways you can get involved, visit [NYC.GOV/OneNYC](https://nyc.gov/OneNYC). Share your story of taking action on social media and tag us at [#OneNYC](https://twitter.com/OneNYC).



THE CITY OF NEW YORK  
MAYOR BILL DE BLASIO

DEAN FULEIHAN  
FIRST DEPUTY MAYOR

DOMINIC WILLIAMS  
CHIEF POLICY ADVISOR

DANIEL A. ZARRILLI  
OneNYC DIRECTOR

LinkNYC

## Community Board 2 Full Board Meeting

Date Thursday, June 1

Time 6:30PM

Place Sunnyside Community Services, 43-31 39th St., Ground floor



Tap  on the tablet for updates

# OneNYC

Learn more about how we are building a strong and fair city: [NYC.GOV/OneNYC](http://NYC.GOV/OneNYC)



Join the conversation on social media and tag us at **#OneNYC**

