



Capital Plan

Calendar Years 2021-2025

December 30, 2020

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Overview

NYCHA’s 2021 – 2025 Capital Plan provides approximately \$7.405 billion in planned commitments for infrastructure improvements, major modernization, other systemic upgrades and repair, resiliency, and fortification of developments damaged or impacted by Superstorm Sandy. The Plan is based on the current federal capital funding outlook, funding from local elected officials and the City of New York, as well as expected disaster recovery in the wake of Superstorm Sandy.

The Plan includes \$6.6 billion in Federal and City funds to address physical improvements to the Authority’s buildings.. The City funding includes \$1.6 billion to address lead, mold, heating, elevators and pests. The Federal funding includes \$951 million to address structural and exterior work, including brick and roof projects, \$682 million to address heating and plumbing work and \$121 million for elevator replacements. The State funding includes \$334million for boilers and \$81 million for elevator replacements. Overall, of the \$7.405 billion dollars included in this Plan, 48.9% is from Annual Federal Capital Grants, 40.4% is from the City of New York, 5.7 % comes from the State of New York, and 5.0% comes from other sources (Community Development Block Grant, Disaster Recovery, and Other).

Table 1
Capital by Funding Source
(\$ In Thousands)

Funding Sources	2020 Carry Forward Balance	2021 New Funds Available	Total Available for 2021	2022	2023	2024	2025	2021 - 2025 Plan Totals
Federal	\$ 699,584	\$ 585,012	\$ 1,284,595	\$ 585,012	\$ 585,012	\$ 585,012	\$ 585,012	\$ 3,624,641
City	\$ 1,191,058	\$ 387,845	\$ 1,578,903	\$ 404,207	\$ 336,000	\$ 336,000	\$ 336,000	\$ 2,991,110
State	\$ 414,478	\$ -	\$ 414,478	\$ -	\$ -	\$ -	\$ -	\$ 414,478
Community Development Block C	\$ 141,393	\$ -	\$ 141,393	\$ -	\$ -	\$ -	\$ -	\$ 141,393
Disaster Recovery	\$ 95,723	\$ -	\$ 95,723	\$ 22,021	\$ 24,983	\$ -	\$ -	\$ 142,727
Other	\$ 66,107	\$ 24,582	\$ 90,689	\$ -	\$ -	\$ -	\$ -	\$ 90,689
Grand Total	\$ 2,608,343	\$ 997,438	\$ 3,605,781	\$ 1,011,239	\$ 945,995	\$ 921,012	\$ 921,012	\$ 7,405,038

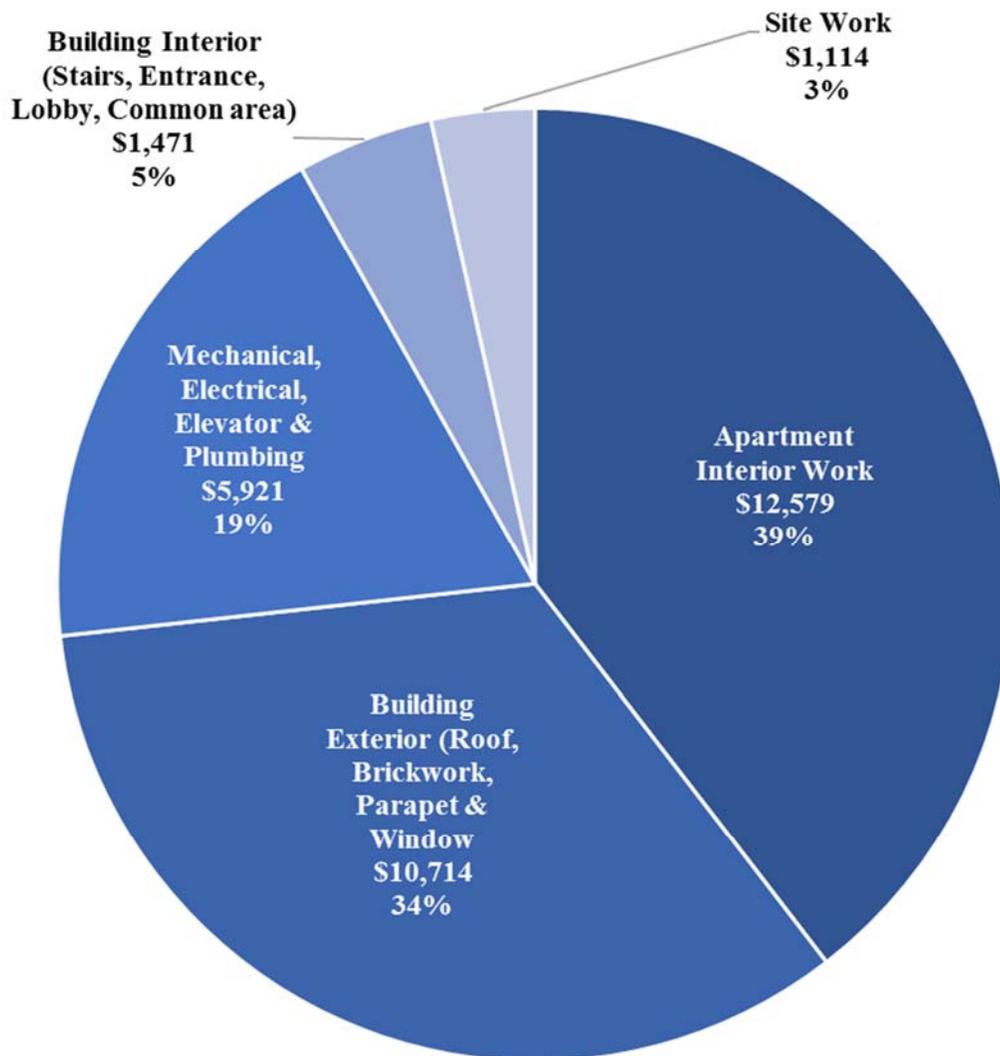
NYCHA's Chronic Funding Gap

NYCHA's aging housing stock requires far more capital investment than has been available from Federal, State, and City grants. The 2017 Physical Needs Assessment (PNA) estimates over \$31.8 billion dollars in capital needs in the first five years. The capital needs are projected to grow anywhere from \$42.7 billion to \$68.6 billion over the next ten years depending on the estimated rate of deterioration. Of NYCHA's 2,351 residential buildings, 77% are more than 40 years old.

Chart 1

Five Year PNA – NYCHA's Capital Needs

(\$ In Million)



\$31.8 Billion

New York City Housing Authority

Funding available to NYCHA for capital improvements has failed to keep pace with growing needs but has historically declined. From 2001 to 2017, annual federal capital grants have declined \$74 million, or 18%, from \$420 million to \$346 million. Beginning in 2018 and continuing through 2021, Federal capital funding has increased substantially. NYCHA was awarded \$528 million in 2018 and \$552 million in 2019. Despite the increase in appropriations to the Capital Fund program over the years, rising costs continues to result in very real cuts to the program. This chronic funding gap has severely constrained NYCHA's ability to make necessary repairs and upgrades to brickwork, roofs, elevators, building systems (such as heating and plumbing systems), and apartment interiors.

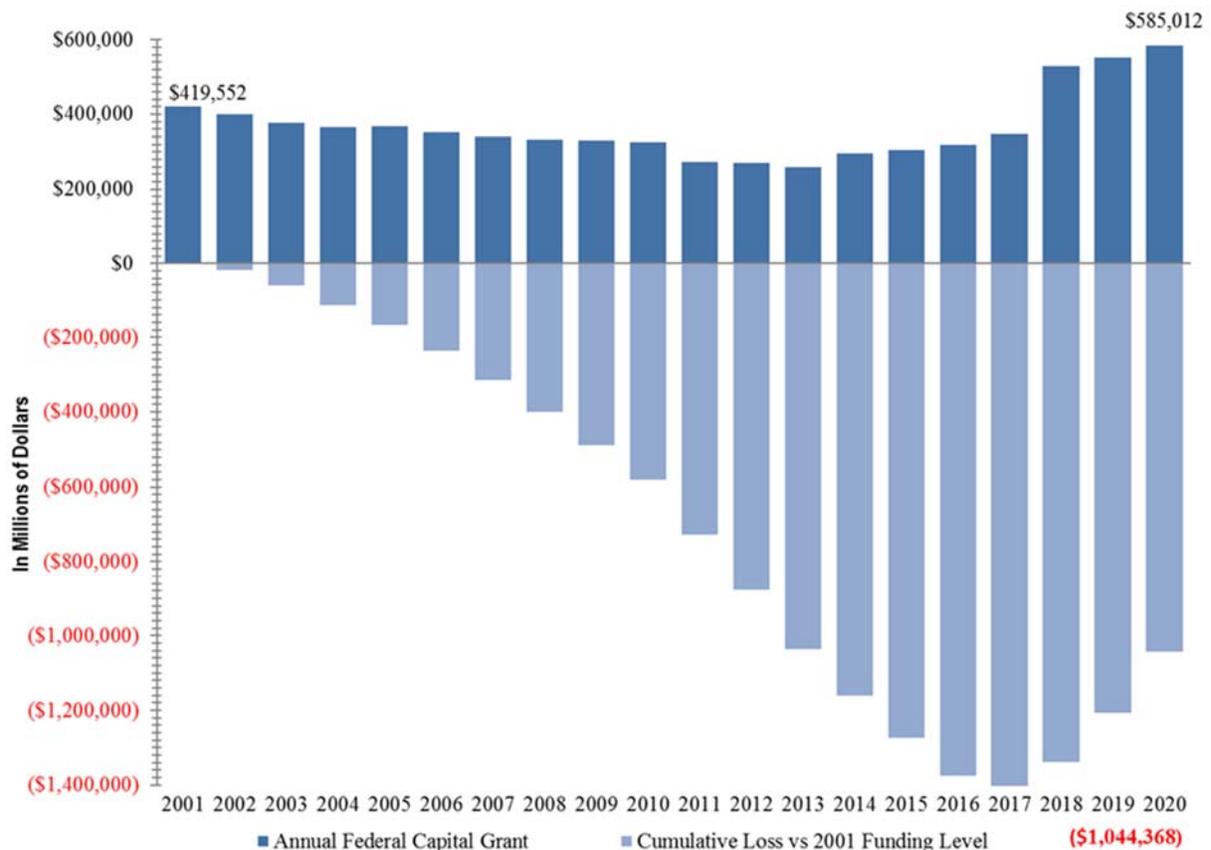
Federal Capital Funding Since 2001

NYCHA has experienced a cumulative federal capital grant funding loss of \$1.044 billion since 2001. Funding shortfalls have meant that only \$2.330 billion has been invested in capital improvements during the last five years (2016-2020). Over the last four years, there has been an increase to federal capital fund allocation. Continuous funding at the 2020 level of \$585 million would reduce the overall funding shortfall.

Chart 2

Federal Capital Funding Since 2001

(\$ In Millions)



NYCHA's Capital Funding Sources

Federal Funding:

NYCHA is using an optimistic approach in allocating the Federal Capital Funds by using the 2020 capital fund grant amount of \$585 million. Despite this assumption, the funding allocation for 2021 remains unclear. Below is a chart summarizing funding allocation by administering areas/departments

Table 2

All Funds (In Thousands)

Administrating Areas	2020 Carry Forward Balance	2021 New Funds Available	Total Available for 2021	2022	2023	2024	2025	2021 - 2025 Plan Totals
Administration	\$ 1,724	\$ -	\$ 1,724	\$ -	\$ -	\$ -	\$ -	\$ 1,724
Healthy Homes	\$ 16,144	\$ 16,700	\$ 32,844	\$ 16,700	\$ -	\$ -	\$ -	\$ 49,544
IT	\$ 9,935	\$ 15,716	\$ 25,651	\$ 15,716	\$ 5,698	\$ 4,404	\$ 4,404	\$ 55,872
Operations	\$ 49,819	\$ 67,865	\$ 117,685	\$ 67,865	\$ 84,565	\$ 84,565	\$ 84,565	\$ 439,246
Safety & Security	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Capital Projects	\$ 351,781	\$ 219,477	\$ 571,258	\$ 248,729	\$ 258,730	\$ 258,725	\$ 279,681	\$ 1,617,122
Finance	\$ 270,180	\$ 265,254	\$ 535,433	\$ 236,002	\$ 236,019	\$ 237,317	\$ 216,362	\$ 1,461,133
Grand Total	\$ 699,584	\$ 585,012	\$ 1,284,595	\$ 585,012	\$ 585,012	\$ 585,012	\$ 585,012	\$ 3,624,641

Federal Deadlines

Federal capital grant awards require NYCHA to meet deadlines for establishing contracts to perform work (obligation deadline) and completing work (expenditure deadline). Accordingly, NYCHA prioritizes its capital projects to meet and exceed the federal obligation and expenditure deadlines. The U.S. Department of Housing and Urban Development (HUD) requires housing authorities to obligate 90% of capital grant in 24 months and to expend 100% of capital grant in 48 months. If these deadlines are not met, housing authorities may incur penalties, such as the forfeiture of funds. In 2020, NYCHA met HUD mandated deadlines ahead of schedule.

(In Thousands)

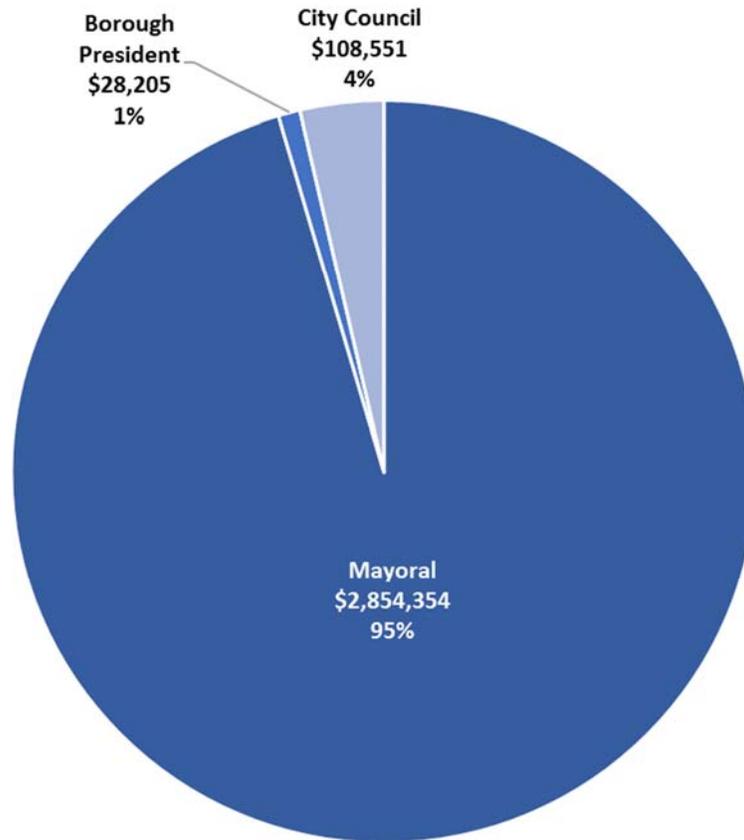
Awards	Obligations Deadline	Expenditures Deadline	Current Modified Budget	Obligation	Expenditures	Funds Available	Obligation %	Expenditure %
CF2016	4/12/2018	4/12/2020	318,733	318,733	318,733	-	100%	100%
CF2017	8/16/2020	8/16/2022	346,326	346,326	346,326	-	100%	100%
CF2018	5/28/2021	5/28/2023	528,246	495,286	364,700	32,960	94%	69%
CF2019	4/15/2022	4/15/2024	551,749	392,333	123,994	159,416	71%	22%
CF2020	3/25/2022	3/25/2024	585,012	220,218	130,714	364,794	38%	22%
Grand Total			2,330,065	1,772,896	1,284,466	557,169	76%	55%

City Capital Funding:

Mayor Bill de Blasio has provided funding to NYCHA to address the needs of the aging public housing infrastructure. The funding in this Plan is based on the City’s FY 2021 September Capital Plan and includes Mayoral initiatives as well as funding allocated by elected officials (i.e., Council Members and Borough Presidents).

FY 2021-2025 City Capital by Funding

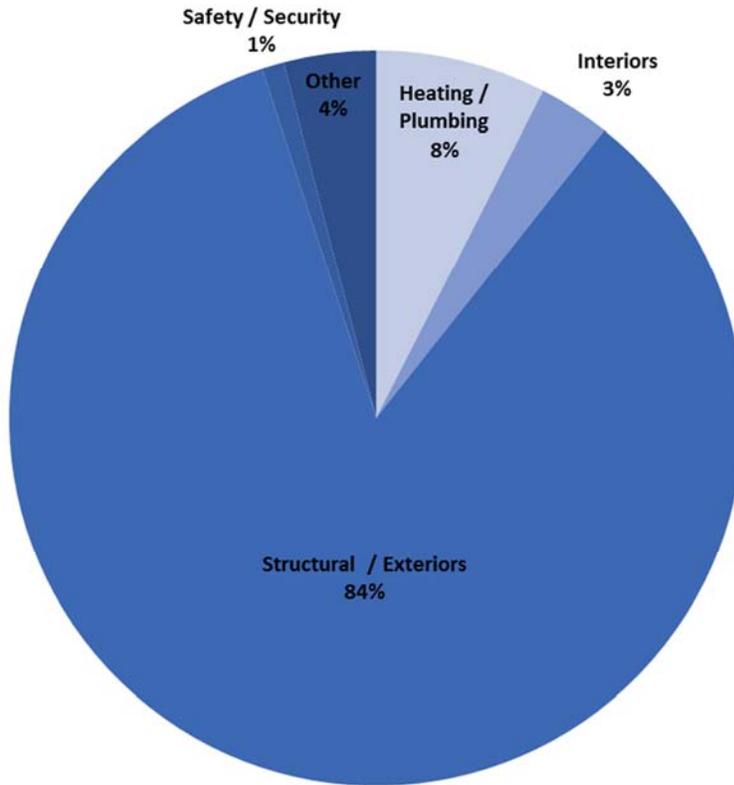
Chart 3 (\$ In Thousands)



\$3.0 Billion

FY 2021-2025 City Capital by Work Type

Chart 4 (\$ In Thousands)



Total: \$3.0 Billion

2020 Accomplishments

Capital Projects Division

Completed Projects:

In 2020, Capital Projects Division (CPD) succeeded in completing capital work at 106 developments, valued at \$358 million, impacting more than 84,000 households. As of end of December 2020, there was ongoing construction at 200 developments, totaling \$4.07 billion, impacting over 138,00 households. The projects in the CPD portfolio include jobs funded primarily by Federal, State, and City partners. There is also Energy Performance Contract (EPC) funding of approximately \$310 million primarily for boiler replacements, heating controls, and lighting efficiency. The projects completed in 2020 and ongoing work include improvements to playgrounds, security enhancements, interior and exterior compactors, apartment renovations, boiler replacements, elevator replacements, and fortifying NYCHA's building envelopes (including exterior brick and roofs). Below are NYCHA's selected capital projects highlights and accomplishments for 2020. **City Capital Accomplishments:**

Mayoral Roofing Initiative:

The Mayoral Roofing Initiative, originally consisting of thirteen phases, was consolidated by the Office of Management and Budget to be completed in 8 tranches due to the successes of the program. It provides a total of \$1.3 billion to replace aging roofs and to improve the lives of approximately 175,000 NYCHA residents in 947 buildings. Replacing the roofs will make buildings cooler and consume less energy as well as protect from water leakage to apartments. Upon completion, NYCHA will be out of deferred maintenance and into life-cycle costs on roofing.

Status:

Tranche I:

- Completed in 2018 roof installations at 65 buildings at six developments.

Tranche II:

- Construction has been completed at 53 buildings at 7 developments.
- Legal issues at Breukelen delayed the completion of 25 roofs. Legal issues have been resolved and construction has resumed.

Tranche III:

- Tranche III consists of 9 developments, containing 92 roofs.
- Construction has been fully completed at six developments, which consist of 65 roofs.
- Construction is ongoing at three developments, of which 18 roofs have been completed and 9 roofs remaining to be completed.

Tranche IV:

- This Tranche comprises 134 roof replacements at 12 developments.
- Construction has started in two developments.
- Ten developments are in Procurement process.

Tranche V:

New York City Housing Authority

- There are eight developments with a total of 111 roofs to be replaced. These projects are in varying stages of Design.

Security Enhancements

- Two developments were completed under the MAP CCTV/LAC program in 2020 and one development is remaining to be completed.
- Completion of 15 Non-MAP CCTV/LAC projects in 2020, with predominantly City funding of approximately \$8.3 million.
- Three lighting projects are in the pipeline, two of which are already in design.
- Quality of Life
- Completed renovation of one basketball court at Jefferson in 2020, costing about \$500,000.
- Completed structural upgrade to four senior centers, including bathroom renovations, new kitchen equipment, plumbing, and electrical upgrades, costing about \$8.1 million.
- One gym in a community center at Forest in 2020, costing about \$400,000.

Waste and Pest Management Initiative

- Interior compactors, exterior compactors, and bulk crushers are to be replaced at 37 developments.
- In 2020, 15 projects were completed, impacting 12 developments.
- The Initiative will be completed in 2021.

Federal Capital Accomplishments

In compliance with HUD's mandated deadlines, NYCHA places priority on achieving its Capital Plan obligation and expenditure targets ahead of schedule. NYCHA's goal is to obligate 90% of its capital funds within 16 – 18 months, ahead of HUD's 24-month obligation deadline.

Due to COVID-19, HUD extended the obligation and expenditure deadlines by one year.

To date, the grants under the Capital Fund Programs have been obligated and expended as follows:

HUD Obligations

- 2017 Capital Fund Grant - to date, CPD has obligated \$222 million, or 100%. 90% of the funds were obligated within 15 months of receipt of funds, 9 months ahead of deadline. The grant was fully obligated by May 2020.
- 2018 Capital Fund Grant – to date, CPD obligated \$344 million, or 92% of the \$374 million budget.
- 2019 Capital Fund Grant – to date, CPD obligated \$265 million, or 64% of the \$415 million budget.
- 2020 Capital Fund Grant – to date, CPD obligated \$84 million, or 33% of the \$257 million budget.

HUD Expenditures

- 2017 Capital Fund Grant – CPD fully expended \$222 million by May 2020.

- 2018 Capital Fund Grant – CPD has expended \$210 million, which is 56% of the grant of \$374 million, to be fully expended by May 2023.
- 2019 Capital Fund Grant – There has not been any expenditure for this grant, which has a deadline of April 2024.

Energy & Sustainability

Energy

- Continued construction for four active energy performance contracts totaling \$310 million. Scope of work includes Whitman and Patterson boiler replacements, new BMS and heating controls including apartment temperature sensors at 58 developments; LED lighting upgrades (apartment & public space) at 70 developments; and Soundview domestic hot water (DHW) decoupling from central boiler plants.
- All lighting work is complete, 37 heating control sites are online with the BMS and Whitman boiler room plant is operating on the new boilers.
- Executed a \$23 million re-financing of the Ameresco A EPC to include heating controls at 7 additional developments.
- AC Pilot: Installed 230 ACs, covering about 75% of the buildings. A controls vendor was procured and began installing the WIFI network that will control the units for demand response. Project will be complete in time for the 2021 Summer.
- Entered into \$1.7 million in Weatherization Assistance Program Agreements at 2 developments.
- In collaboration with NYSERDA finalized the procured an architecture and engineering firm to design a net-zero solution at Ravenswood building 12.
- Procured four Energy Service Companies (ESCO) to implement future energy performance contracts. Three task orders issued to the new ESCOs and energy audits have begun.

Sustainability

- NYCHA's first lease, for 1.8 MW of solar at Queensbridge North and South began construction in August and is currently in progress. In 2020, NYCHA also signed its second solar lease, for 1.2 MW of solar power across 40 roofs across Kingsborough, Glenwood, and Carver, and construction began in November. In addition to the 3 MW of solar power currently in construction, an additional 8 MW are in development. Over two dozen NYCHA residents have been trained and hired to install the solar projects currently in construction.
- NRR funding for additional food waste disposal (FWD) installations was cut due to COVID-19 budget cuts. Sustainability assessed the potential decrease in food waste from the waste stream at sites where food waste FWDs disposals were installed. The reports did not conclude any significant reduction in food waste, NYCHA will not pursue additional funding for FWD retrofit installations.
- Enlarged ground-floor trash chute doors were installed at 10 developments, bringing the NYCHA total to 50 completed developments. These enlarged doors will make it more convenient to dispose of larger trash bags for compaction in existing interior compactors rather than dumping trash bags outside.

- Sustainability awarded a task order to install 131 interior compactors at 24 developments.
- As part of a new IDIQ contract awarded in July 2020, NYCHA installed cardboard balers at nine developments and 1 NYCHA vehicle repair shop to prepare cardboard for recycling by DSNY and remove it from bulk waste streams sent to landfills. NYCHA started demonstration projects at Morris I and Marcy Houses to convert a hydraulic trash compactor into a cardboard-only compactor. They also receive cardboard from at least 3 surrounding developments. NYCHA is in discussions with DSNY on expanding this work.
- In March 2020, NYCHA released Requests for Qualifications for two Design-Build (DB) procurements for the redesign of waste and recycling facilities at 7 sites and for installation of a pneumatic waste collection system at Polo Grounds Towers. Both DB procurements were shortlisted to 3 teams, each to move on to the RFP stage in the fall of 2020. RFP drafting began in September and is underway.
- Sustainability released a Mattress Recycling Program RFP in September 2020 to procure mattress recycling services for up to 100 developments as funding allows.
- In June 2020, NYCHA awarded a contract for the development of a behavioral change campaign to promote a positive waste management culture among NYCHA residents. The campaign will apply public awareness and behavioral change techniques, including updating outdated waste management and recycling signage and replacing it with standard up-to-date signage.
- In Fall 2020, Sustainability awarded contracts to 4 separate vendors to support waste management and other sustainability programs through resident engagement, outreach, and graphic design. The firms (Green City Force, Hester Street, Pratt, and Grain Collective) will help inform residents of sustainability work that is going on in their developments, how they can participate, and how they can shape current and future programming.
- Sustainability kicked off the development of a Climate Adaptation Plan, focused on developing strategies physical enhancements (e.g. flood barriers, backup generators, cooling systems, etc.) to its portfolio that will help protect residents against future climate risks.
- FEMA and DEP funded Cloudburst Project in East Harlem: Dewberry Engineering was contracted to lead the project and has completed the desktop research and geotechnical analysis. DEP and Dewberry are currently coordinating on creation of a conceptual design and cost benefit analysis. The final report and presentation are expected by 4th quarter 2021.

Local Law 11

Pursuant to the NYC Department of Buildings regulations, NYCHA proposes to repair the unsafe buildings and comply with NYC Local Law 11 requirements to repair all unsafe conditions found at the exterior walls of all NYCHA owned buildings city wide. All buildings higher than six (6) stories are required to be inspected once every five years. Upon filing an UNSAFE report, the owner, or person in charge, shall immediately commence such repairs or reinforcements as required to secure the safety of the public and make the facades conform to the provisions of the administrative code (RCNY §103-04). All unsafe conditions shall be corrected within thirty (30)

days from the submission of the report (RCNY §103-04). Property owners must repair dangerous conditions within 90 days of filing a technical report (NYC DOB FISP).

A total of 37 buildings were completed at a cost of \$27 million in 2020.

- Completed inspection at 1,533 buildings (100%) of Cycle 8 of LL11 buildings.
- Increased the number of safe buildings in Cycle 8 from 607 to 653.
- Cycle 9 started on February 21, 2020 and 37 buildings have been filed with DOB.
- Received authorization for approximately \$80.1 million.
- Expended approximately \$27 million for repair work and approximately \$19 million on sidewalk sheds. In 2020, 39,013 linear feet of sheds were installed.
- Removed approximately 31,075 linear feet of sidewalk sheds in 2020.

2021 Capital Plan Highlights

Capital Projects Division

City Plan

The City's capital projects portfolio being managed by CPD through 2025 is approximately \$3 billion. Approximately 54% of the funds received by the City are attached to the HUD Agreement. The funding allocated for the HUD Agreement is addressing lead, mold, heating plants, and waste management. In addition to other city funded projects including roof replacement, façade repairs, boiler replacement and related repairs, security enhancements, grounds improvement, and energy conservation measures.

The City agreement is for \$2.2 billion over the next 10 years for capital projects improvements. The Plan is currently pending monitor approval. Approximately 60% of the action plan is allocated toward lead abatement projects. An additional 10% is allocated toward building systems, including heating and elevators. The balance is allocated toward waste management.

In 2018, a commitment was made to NYCHA to provide \$200 million under the Mayoral Heating Initiative program for the installation of boilers, domestic hot water systems, and temperature controls. In that same year, NYCHA allocated \$156 million of the funds for boiler replacement for eleven developments. Design for those developments were completed in 2018 were awarded in 2019. Additionally, \$43.1 million was available in FY 2020, and is being allocated to support heating plant upgrades at additional developments. These upgrades will include separation of domestic hot water from the heating system and installation of heat monitoring systems

As part of the Mayor's Waste & Pest Management Initiative, NYCHA received over \$30 million in funds to replace or install exterior and interior compactors, excavate and clean basement crawl spaces and purchase bulk crushers. These measures will assist in reducing resident exposure to rodents, which studies have shown can trigger asthma attacks and spread communicable diseases.

Brick & Roof

The brick and roofing program are funded under the Mayor's \$1.3 billion roofing initiative. In 2021, the allocation is for \$62 million (4% of the 2021 budget). CPD has expedited the roofing replacement initiative through a more aggressive schedule from thirteen tranches down to eight. The objective is to shorten the delivery time for these replacements. Over the next 4 years, there will be an allocation of approximately \$111 million for each of the years to replace the roofs at the designated developments. CPD requested the allocation for 2021 be increased to \$213 million by advancing allocations from future years.

The schedule for 2021 is to continue to complete the remaining roofs in Tranche 3, with an expected completion date of February 2021 for one development, with the remaining two developments projected to be completed by December 2021. Tranche 4 is in progress: construction has started at two of twelve developments. The eight developments of Tranche 5 are in various stages of Design.

Security Enhancement

The remaining MAP CCTV/LAC project at Patterson is expected to be fully completed by November 2021. The CCTV portion was already completed. MAP CCTV and lighting work at

Red Hook East and Red Hook West is incorporated into the work currently being done under the Recovery and Resilience program.

The 2020-2024 City Plan has allocated approximately \$55 million (4%) of the funding to security enhancements, which include installation of CCTV/LAC and lighting across the City. Of these funds, over \$7 million funded by the Borough Presidents and City Council Members are planned for lighting.

Quality of Life

In 2021, approximately \$129 million (8%) is being allocated to enhance the quality of life for NYCHA residents by improving the community facilities, and recreational centers and repair or replacement of playgrounds.

At Parkside, \$1.7 million in City funding has been allocated for the community center to address the HVAC upgrade, kitchen renovation, window placement, and new mirrors in the multi-purpose room. The project is currently in the planning stage.

Ongoing senior center projects include a kitchen renovation at Bronx River, with an allocation of \$1 million projected to be completed by September 2022.

Approximately \$38 million has been allocated in 2021 for elevator repair and replacement.

As mentioned previously, the Mayor's Waste & Pest Management has an impact on the quality of life of the residents since it will provide additional funding for garbage disposal systems that will reduce the exposure to the infestation of rodents.

Major Renovation

\$10 million of Mayoral funding will be contributed towards the ongoing repairs to apartments at 6 developments putting them back on the rent roll so that more apartments are available for residents. Repairs at Taft are expected to begin in 2021. Additional apartments have been identified by Recovery and Resilience and will be added to the project once the scope is approved.

Heating & Plumbing

Approximately \$200 million is being provided through the Mayor's Heating initiative to address heating issues at 20 developments, impacting approximately 45,000 residents. This initiative includes boiler replacement, domestic hot water system, and heating controls. It is expected that this system of repairs as well as new system replacement will result in approximately \$5 million in energy savings.

Under this Plan, 39 boilers will be installed at 10 developments to alleviate the chronic outages previously experienced by residents. Heat and hot water systems will be modernized at twelve developments (ten developments receiving both boilers and domestic hot water (DHW) decoupling and two developments getting only DHW decoupling) where the hot water system will be separated from the boiler system. In addition, there are 7 developments that will be receiving only the heating controls component. The separation of DHW from the heating systems will permit the heating system to be turned off in summer months, enabling better preventive maintenance of the boilers as well as reducing wear on the boilers, thereby extending their useful life.

Gas riser replacements and underground fire and water line projects in excess of \$53 million are at various stages of the construction cycle. Developments impacted are Smith, Castle Hill, and Wagner.

Ventilation Modernization

In 2017, the City committed \$20 million to modernize ventilation systems in 17 developments located in East Harlem as part of the East Harlem Rezoning portfolio. Design and preparation of construction documents is complete. NYCHA is in the process of procurement. It is anticipated that the work will commence in the second quarter of 2021.

Federal Plan

The Capital Projects Division will receive \$1.265 billion in new Federal Funding over the period from 2021 to 2025 for investment in NYCHA's building portfolio. The projections over the upcoming years are summarized below.

Brick and Roof Projects

For the FY 2021-2025 Capital Plan, \$272 million, or approximately 22% of the allocation of the Federal Plan, is targeted at building exteriors, including brick and roof projects. This work will ensure that building exteriors are watertight by replacing aging, deficient roofs and repairing brick façades. A significant portion of this funding will be allocated for Local Law 11 brickwork replacement projects at 9 developments. The remaining portion of this funding will support major exterior roof work at Polo Grounds and Harborview Terrace developments. These sites have been prioritized based upon the Physical Needs Assessment (PNA) level of deficiencies and roof ratings, as well as an analysis of the volume of work order tickets.

Elevators

The funding for the elevator portfolio is \$54 million which is 4% of the Federal Plan. This allocation will be used to replace 78 elevators at 6 developments, including Grant, Lafayette, and Smith. Sites are prioritized based on conditions assessments.

One of the largest projects in the elevator portfolio is a comprehensive replacement of the 24 cars at Smith development.

Heating and Plumbing

Over \$602 million, or about 48% of the Federal Plan will be allocated to heating and plumbing projects.

Heating plant replacements are planned for 17 developments including: Woodside, Mitchel, and Pomonok. Additionally, there are 16 developments that are being federally funded as a supplement to State funding. These projects will fully replace heating plants and all ancillary equipment to optimize the total lifecycle investment, and to reduce fuel consumption. Underground steam distribution replacements are planned for 3 developments to ensure reliable and efficient heat delivery. The prioritization of these selected sites is based upon the assessment of conditions with regards to boiler equipment and underground piping age, volume of work tickets, NYCHA's Operations requests, and availability of replacement parts. In addition, this allocation will be used for gas risers at Van Dyke I, roof tanks at 3 developments (including Butler), and underground fire/water lines at 2 developments, including Whitman.

Safety and Security

From the Federal Plan, \$73 million, or about 6%, will be allocated for fire alarm and security systems. Of this amount, \$65 million is slated for inclusive security upgrade to install new main entrances, intercom and CCTV at 6 sites, including Kingsborough, O'Dwyer, and Roosevelt I and II.

Apartment Bathrooms

The Federal Plan allocates approximately 14% of funding, \$177 million, for the renovation of bathrooms at Jefferson, Highbridge, and Mitchel developments. Each of these developments has a high number of work order tickets. Having completed building envelope work at these sites, allows NYCHA to invest wisely in the interior of the buildings.

Energy Programs

Energy Performance Contracts (EPC):

- NYCHA set a goal of securing \$300 million in energy performance contracts funding by 2025. NYCHA has exceeded this goal and has received HUD approval of \$310 million for five energy performance contracts serving 93 developments. NYCHA expects to complete construction in 2021 for the three energy performance contracts.
- NYCHA has issued task orders to four IDIQ Energy Service Companies to begin energy audits for future energy performance contracts as of January 2021.

Weatherization Assistance Program

In 2016 NYCHA set a goal of securing \$30 million in Weatherization Assistance Program (WAP) by 2025. To date, NYCHA WAP contracts total \$14 million. WAP is a program of the US Department of Energy, administered by NYS Homes and Community Renewal. WAP provides grants of up to 80% of the cost of repairs and capital improvements that improve the energy efficiency of housing serving low-income residents. NYCHA plans to enter into \$3 million Weatherization Assistance Program Agreements for the April 2021 – March 2022 program year.

80x50 and Demonstrations Programs

- NYCHA is engaged in testing new technology to inform future capital investments toward meeting the City’s goal of reducing Greenhouse Gases by 80% by 2050. In 2018, NYCHA prepared its participation in RetrofitNY, a deep-energy retrofit competition of the New York State Energy Research and Development Authority (NYSERDA). NYCHA has procured an architecture and engineering firm to design a net-zero solution at Ravenswood building 12.
- NYCHA also developed a demonstration program to provide energy-efficient, smart AC units. Over 200 air conditioners were installed at Meltzer Tower. In response to the COVID-19 crisis, NYCHA partnered with the City to install approximately 12,000 new window ACs in apartments to provide in-unit cooling in response to the closing of cooling centers. Through a partnership with the Mayor’s Office of Sustainability and with funding from NYSERDA, NYCHA installed a demonstration installation of a VRF air-source heat pump for 7 top-floor apartments.
- NYCHA is also working with NYSERDA on a Research & Development challenge to develop an efficient packaged window heat pump. The goal is to invite manufacturers to create a cold climate heat pump with the efficiency of a split system that can be easily installed through an existing window opening. This would help reduce the costs of electrification for NYCHA as well as other affordable buildings seeking to convert to cleaner sources of heat.

Sustainability Programs

Waste Management

- Install Waste Management infrastructure: Sustainability awarded a task order to install interior compactors at 24 developments and enlarged hopper doors at an additional 10 developments. The enlarged hopper door installations were completed in 2020 and the interior compactor replacements are planned to be completed April 2021.
- In March 2020, NYCHA released a Design-Build RFQ for the design and construction of enhanced, centralized waste and recycling facilities at 7 developments. The re-envisioning of NYCHA’s waste yards with a focus on design excellence and stakeholder engagement provides the opportunity to transform these facilities with sustainability and innovation at the forefront. Waste and recycling facilities have the potential to improve the quality of life for residents while increasing the ability of staff to manage and store waste and recyclables for collection. The first 7 sites will provide a design model for future installations, and construction will include the replacement of exterior compactors, the addition of a bulk crusher, and a cardboard baler where appropriate.
- In March 2020, NYCHA released a Design-Build RFQ for a pneumatic waste collection system at Polo Grounds Towers in East Harlem. The system will provide residents with convenient disposal access for waste and recycling. Waste sent through the system will collect at a single location, making it convenient for DSNY pickup and eliminating the need for caretakers to transport trash. The system will be assessed for success and operational cost savings before NYCHA pursues funding for additional installations.
- Sustainability released a Mattress Recycling Program RFP in September 2020 to procure mattress recycling services for up to 100 developments as funding allows. The first batch of sites will be selected for 2021 implementation after the contract is awarded. The

Program will provide the collection infrastructure and services to keep NYCHA campuses free of improperly disposed mattresses and box springs. An added benefit of this program is that it will keep mattresses from overwhelming bulk waste management.

- In July 2020, NYCHA entered into a contract for the provision and installation of, and training on cardboard balers. Cardboard balers save development staff hours of time spent manually breaking down cardboard and tying bundles by mechanically compressing and securing cardboard for easy storage and collection. Balers also increase the recycling rate of NYCHA developments by increasing the likelihood of separation from trash and collection by DSNY recycling trucks. 10 balers were installed in 2020.
- At larger sites with enough compactor capacity, NYCHA is demonstrating the use of a hydraulic compactor and clustering sites for paper and cardboard recycling. The demonstration projects are taking place at Morris I, with paper/cardboard being collected from Morris I, Morris II, Butler, Webster, and Morrisania Houses, and Marcy, with paper/cardboard being collected from Roosevelt I, Roosevelt II, Tompkins, Sumner, Bedford-Stuyvesant Rehab, and 303 Vernon Avenue. NYCHA is discussing additional potential compactor conversions and clusters with DSNY. Converting compactors to be cardboard-only comes at no cost to NYCHA.
- In June 2020, NYCHA awarded a contract for the development of a behavioral change campaign to promote a positive waste management culture among NYCHA residents. The campaign will apply public awareness and behavioral change techniques, including updating outdated waste management and recycling signage and replacing it with standard up-to-date signage.
- In the fall of 2020, Sustainability awarded contracts to 4 separate vendors to support waste management and other sustainability programs through resident engagement, outreach, and graphic design. The firms (Green City Force, Hester Street, Pratt, and Grain Collective) will help inform residents of sustainability work that is going on in their developments, how they can participate, and how they can shape current and future programming.

Green Infrastructure

- Develop Green Infrastructure Stewardship Program: NYCHA is developing a volunteer Green Infrastructure (GI) education and stewardship program that promotes care of vegetative GI through clean up as well as planting days and programing at Bronx River Houses.
- Kick off GI projects to mitigate Combined Sewer Overflow: Maintenance at the 4 GI demonstration sites is ongoing. Designs for the 18 phase II green infrastructure sites have been completed. Construction kick off is scheduled for mid-March 2021 at Penn-Wortman, Linden, Boulevard, Cypress Hills, Pink and Throggs Neck Houses. All other Phase II GI sites are slated to begin construction in late spring or summer of 2021. Pre-planning work and geotechnical analysis for the 19 phase III GI sites is underway.
- 75% designs for the cloudburst project at South Jamaica Houses are being developed. Outreach to elected officials for funding of additional amenities including lighting and benches is being conducted.
- A FEMA funded study for a possible cloudburst project at Clinton Houses kicked off in September 2019. The total study award is for \$198,000 and DEP is the local match for

the project. Geotechnical Analysis was completed in January 2021. A conceptual design, cost benefit analysis and final report are being developed.

Climate & Solar

- Release Climate Adaptation Vulnerability Assessment: This report describes NYCHA’s vulnerabilities to climate change-induced hazards and how vulnerability varies across NYCHA’s portfolio of properties. A vulnerability assessment provides the basis for prioritizing risks and developing a climate adaptation plan. It catalogues the major climate hazards projected for New York City, along with the physical, social, and procedural characteristics that make NYCHA vulnerable to climate hazards in the coming decades.
- In 2016, NYCHA set a goal of hosting 25 MW of renewable energy on its property by 2025. NYCHA’s first community solar lease was signed in 2019, and in 2020 NYCHA signed its second solar lease; both projects broke ground last year. 3 MW of solar power are currently in construction across 5 developments and an additional 8 MW are in development. Over two dozen NYCHA residents have been trained and hired to install the solar projects currently in construction.

Recovery & Resilience

In December 2015, NYCHA gained access to \$3 billion, the largest grant in Federal Emergency Management Agency (FEMA) history. Since then, NYCHA has been moving full steam ahead to get shovels in the ground on all critical Recovery and Resilience projects. Through December 2020, 7 developments have had major Sandy Recovery Projects substantially completed, covering 63 residential buildings. As of the end of December 2020, NYCHA has awarded over \$3.12 billion in contracts related to Sandy Recovery and spent over \$1.92 billion. NYCHA continues making tremendous strides to ensure its developments are protected in the face of climate change and that projects are progressing as quickly as possible. As of the end of 2020, NYCHA has either delivered or is currently performing services at 35 developments, benefitting 246 buildings.

Status of Construction

- 7 developments complete.
- 28 developments with major progress (211 buildings benefiting).
- 94% of construction anticipated to be complete by end of 2022.

Construction Milestones

- 178 roofs completed.
- 1,566 exterior lights installed.
- 937 CCTV cameras installed.
- 67 layered access control (LAC) systems at doors installed.
- 77 new annexes in progress.
- 39 new annexes completed.
- 156 hot water heaters installed.
- 54 boilers in place.

- 116 generators installed.
- 25 generators turned over and operational.

Status of Funds

- \$3.26 billion total funding from HUD and FEMA
 - \$317 million CDBG-DR Award
 - \$261 million spent, \$56 million remaining to be spent
 - 90% of CDBG-DR Award expected to be spent by March 2021 (\$285 million)
 - Final 10% of CDBG-DR Award expected to be spent by April 2022 (\$32 million)
 - \$3.12 billion in contracts awarded
 - \$1.92 billion in work completed
 - Immediate Storm Response
 - Preliminary Construction
 - Design
 - Construction Management
 - Major Construction
 - Program Management

Status of Jobs

- 933 new Section 3 positions created
- 202 pre-apprenticeship training graduates (100% CDBG-DR funded)

Information Technology

NYCHA's Information Technology (IT) Department continues to make significant service improvements for both internal and external customers through the implementation of advanced technologies including technology upgrade that supports NYCHA's transformation business strategy.

In 2020/2021 NYCHA IT will transform its internal organizational structure to better support NYCHA's Blue Print for Change: Draft Transformation Plan by:

1. Developing a holistic strategic direction for IT
 - Assess the current IT maturity and satisfaction
 - Evaluate the stability of our infrastructure and application architecture
 - Publish an IT strategy and technology modernization plan
2. Closing the inter- and intra-departmental divide across major IT services and engagements
 - Stand up a business relationship management function
 - Establish Business IT Liaisons to represent every NYCHA department
 - Centralize IT communications and collaboration function
 - Design and launch a new IT intake process

- Align decentralized neighborhood model with IT intake process
- Conduct an IT organizational redesign to align to new operating model

3. Building out a cybersecurity program and enhance testing function

- Onboard a Chief Information Security Officer
- Develop a stronger partnership with NYC3
- Develop a cybersecurity management roadmap
- Consolidate the IT quality assurance (QA) function
- Establish and execute an IT QA management and end-to-end testing strategy

4. Standardizing around IT Service Management (ITSM) processes

- Conduct ITIL training for IT process owners, managers, and other practitioners
- Establish an independent ITSM function led by a senior manager
- Develop and integrate ITIL-processes (e.g., incident, problem, change, service asset and config, release mgmt.)
- Staff ITSM unit-level functions
- Complete the full deployment of ServiceNow

The 2021 portfolio of projects include:

- Optimize NYCHA's datacenters—both on-premise and in the cloud (PAAS, SAAS, IAAS, etc.),
- Upgrade Security tools to strengthen protections of PII, HIPAA, and financial data.,
- Harden NYCHA's DMZ and strengthen firewall to improve application and systems security.,
- Upgrade NYCHA's communication network and voice over internet protocol (VOIP) equipment (VOIP),
- Implement infrastructure upgrade/enhancements to replace end of life (EOL) infrastructure equipment,
- Upgrade EOL and obsolete router and switches,
- Refresh network printers across the authority,
- Refresh desktop computer equipment,
- Upgrade data storage,
- Support various application development upgrades and enhancements,
- Implement Kronos upgrade,
- Improve network security in response to identified threat intelligence,
- Support Oracle eBusiness suite enhancements including re-platforming Hyperion budget module,
- Upgrading, enhancing and expanding NYCHA's imaging systems,
- Complete implementation of business application supporting NYCHA's legal processes,
- Upgrade systems supporting NYCHA's Customer Contact center (CCC),
- Begin implementation of the initial phase of a Human Capital Management system,
- Begin conversion of hardcopy legal, HR and resident case documents to electronic formats,
- Support Maximo development work to support business functionality enhancement requests,
- Deliver various application enhancement to support critical business functionality in the Siebel CRM system,

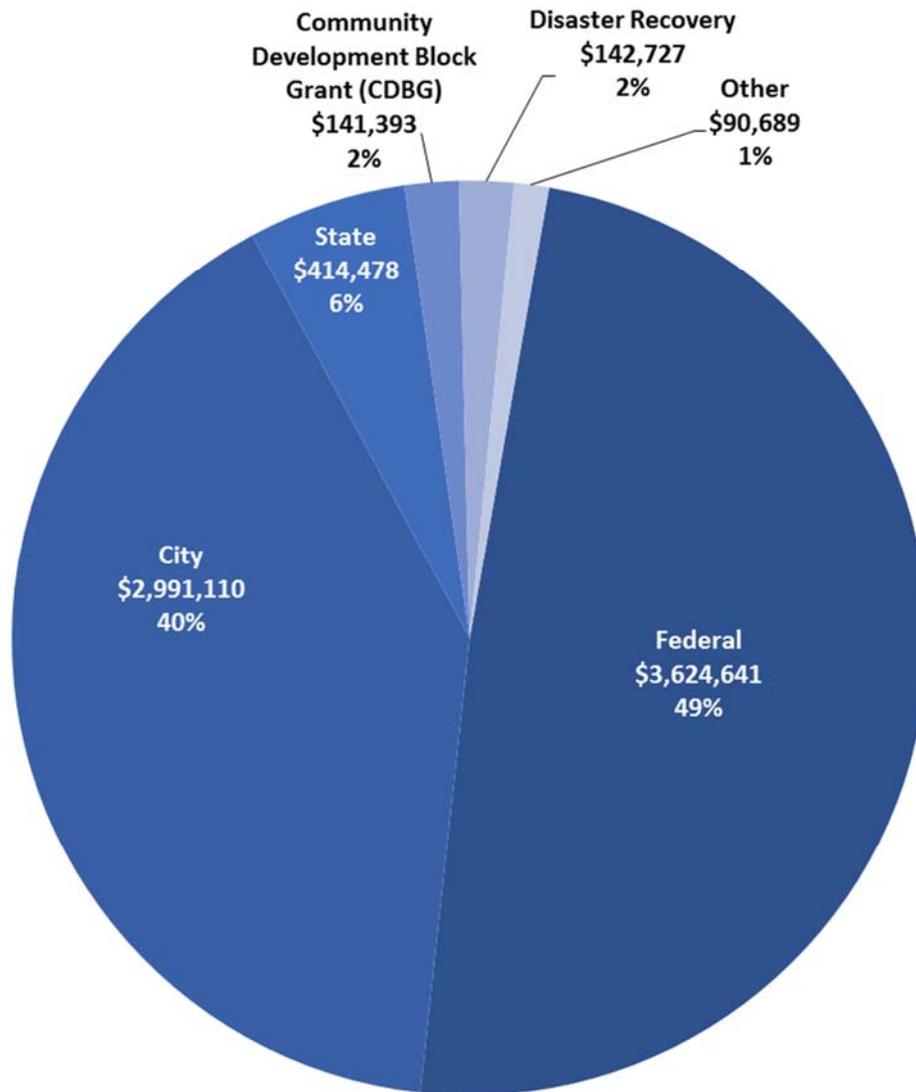
New York City Housing Authority

- Replace end-of-life (EOL) business applications including Movaris business workflow system,
- Provide technical training to staff.

Capital Funding Summary

FY 2021 – 2025 Capital Funding by Funding Source

Chart 5 (\$ In Thousands)

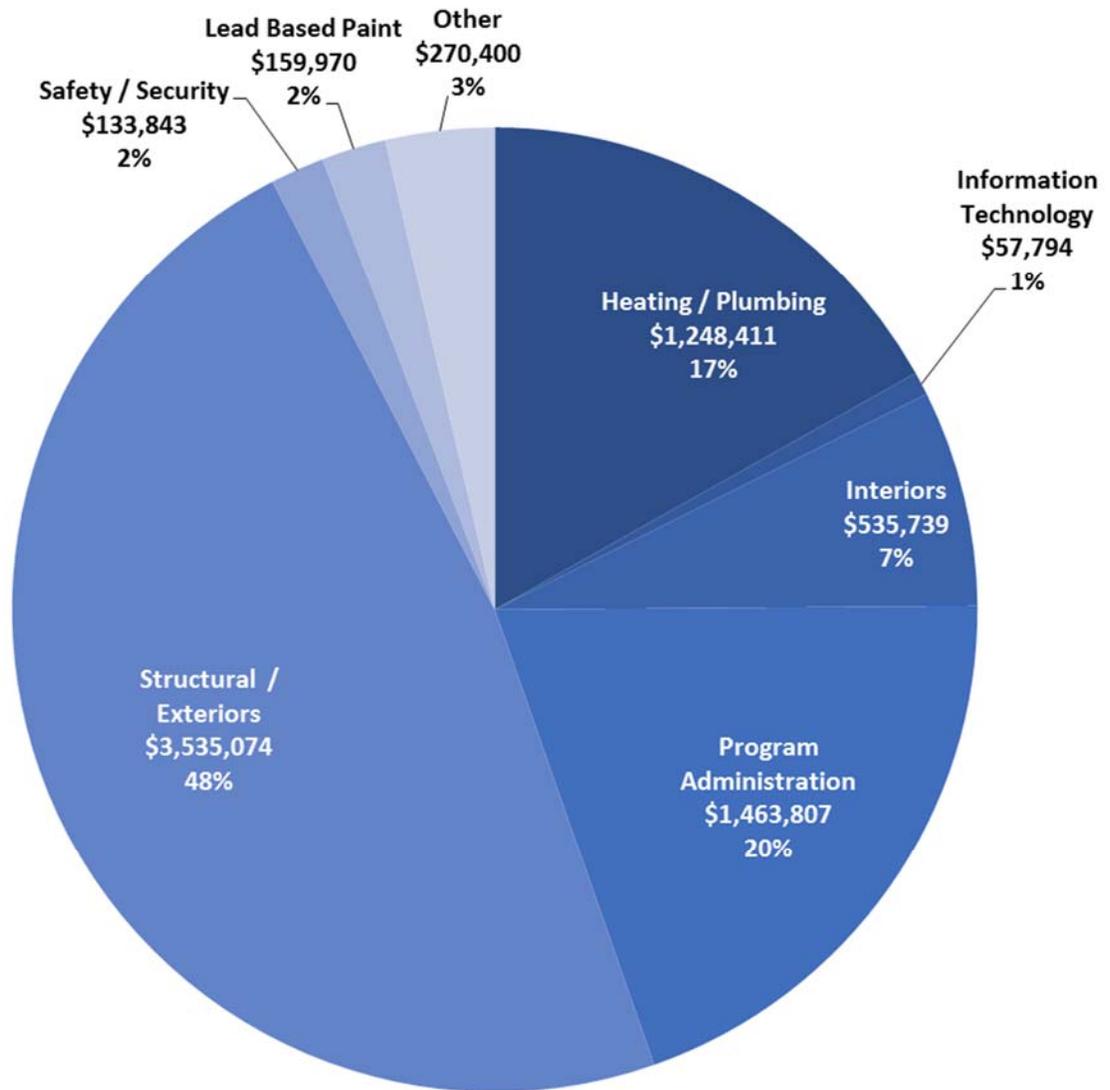


Total: \$7.4 Billion

- Other includes DANY, Public Housing Development Grant and State.

FY 2021 – 2025 Capital Plan by Work Type

Chart 6 - (\$ in Thousands)



Total: \$7.4 Billion

- Other includes Fire Safety, Garbage Disposal, Energy projects and A & E/CM Fees.