

An aerial photograph of the Gilboa Dam, showing the dam structure, a large reservoir with a reflection of clouds, and surrounding green hills and roads.

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Transportation and Utility Investor Forum

New York City Municipal Water Finance Authority

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Gilboa Dam

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The New York City Water and Sewer System – Operating and Governance Structure

- ▶ NYC's Department of Environmental Protection (DEP) operates New York City's water and sewer system ("the System"). The City is reimbursed for operating and maintenance expenses subordinate to debt service
- ▶ The NYC Water Board owns System revenues and sets rates to fully fund all the debt service and operating costs of the System
- ▶ NYW issues bonds for the improvement of the System



- ▶ DEP manages capital improvement program and operates and maintains the System for the Board
- ▶ Bills and collects revenue from customers for the Board



- ▶ Leases System from the City
- ▶ Sets rates and charges
- ▶ Owns System revenues
- ▶ Revenues deposited in "lock-box"
- ▶ Governing body consists of 7 members appointed by the Mayor



- ▶ Issues bonds to fund capital improvement program
- ▶ Holds statutory and contractual first claim on gross revenues
- ▶ Has no System operating functions

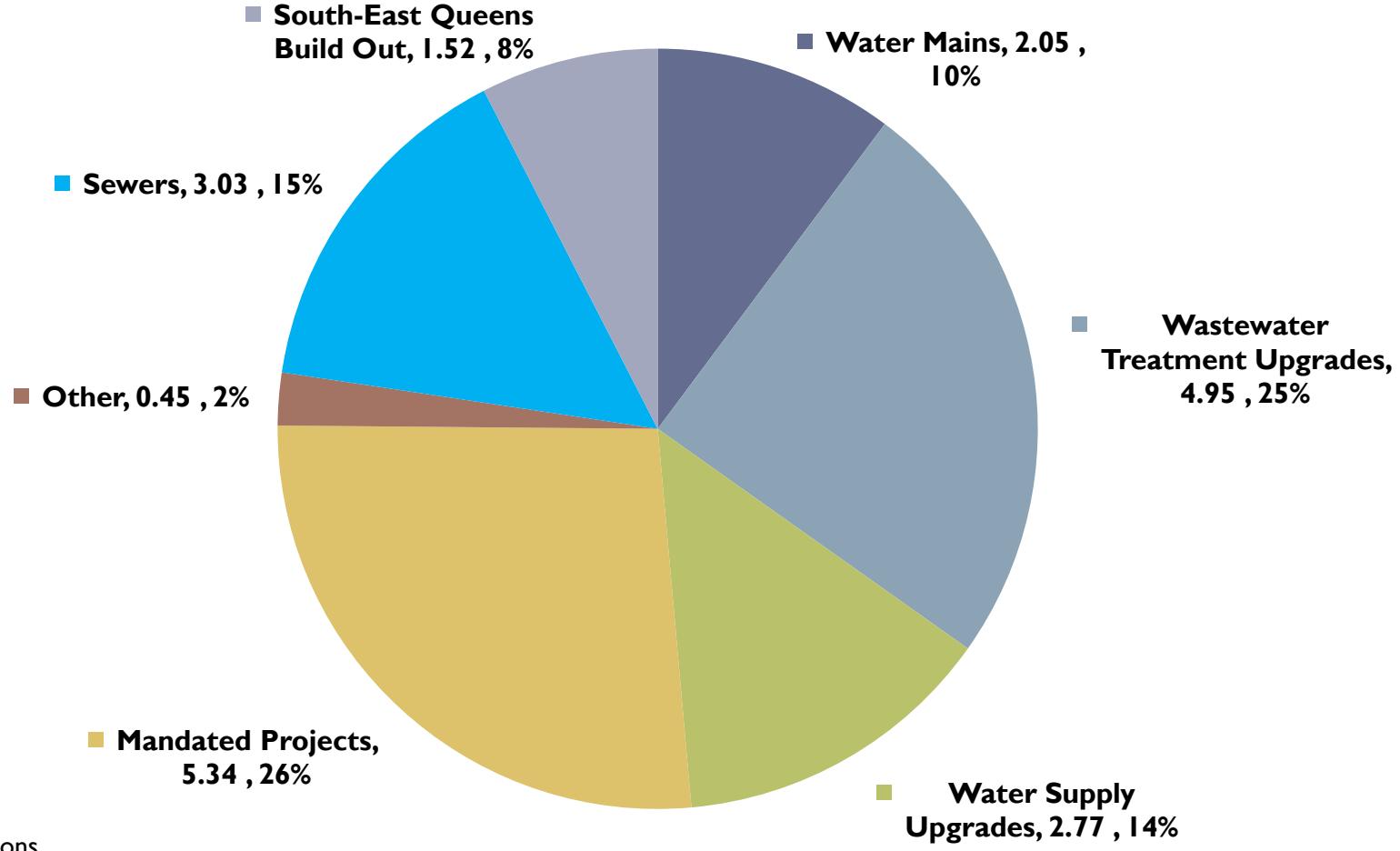
Overview of The System – Large, Essential Service Provider Serving 9 Million New Yorkers

- ▶ 1 billion gallons of quality drinking water provided to approximately 9.4 million New Yorkers daily
- ▶ Abundant, mostly unfiltered, water supply
 - 19 reservoirs
 - 3 controlled lakes
- ▶ 3 watershed areas
 - Catskill
 - Delaware
 - Croton
- ▶ 6,800 miles of water mains
- ▶ 1.2 billion gallons of wastewater treated daily
- ▶ 14 NYC and 8 upstate wastewater treatment plants
- ▶ 7,500 miles of sewer pipes
- ▶ 4 major combined sewer overflow tanks



System Capital Improvement Strategy – Totaling \$20.1 Billion City Funds For FY2020 - 29

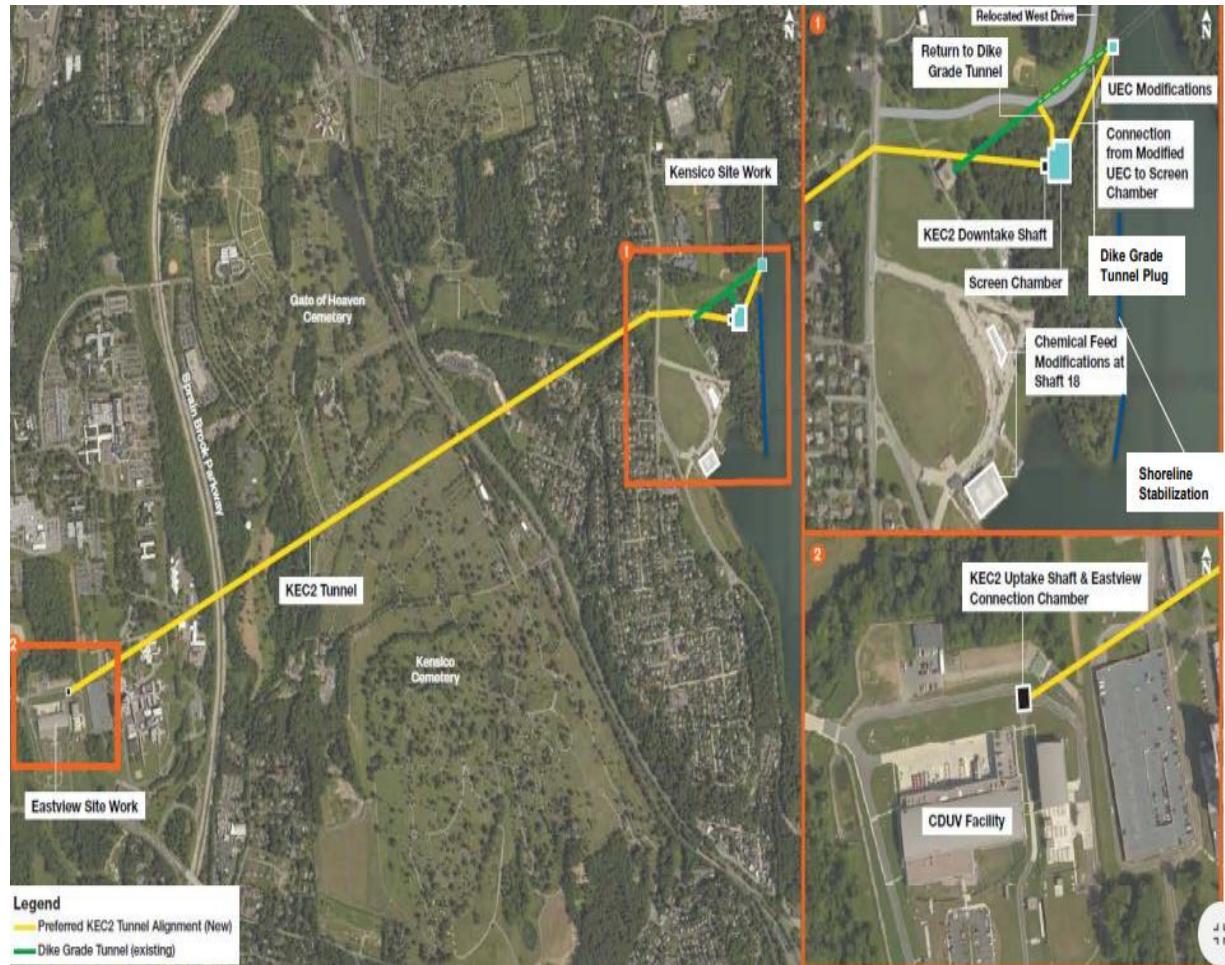
- Achieves a balance of maintaining a state of good repair, allocating funds for critical pollution control and sewer expansion projects to serve flood-prone areas



Key Projects:

Kensico-Eastview Connection

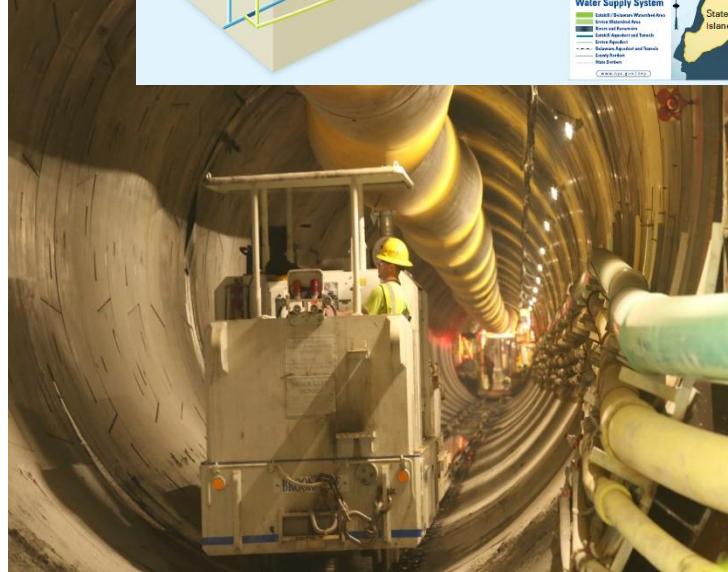
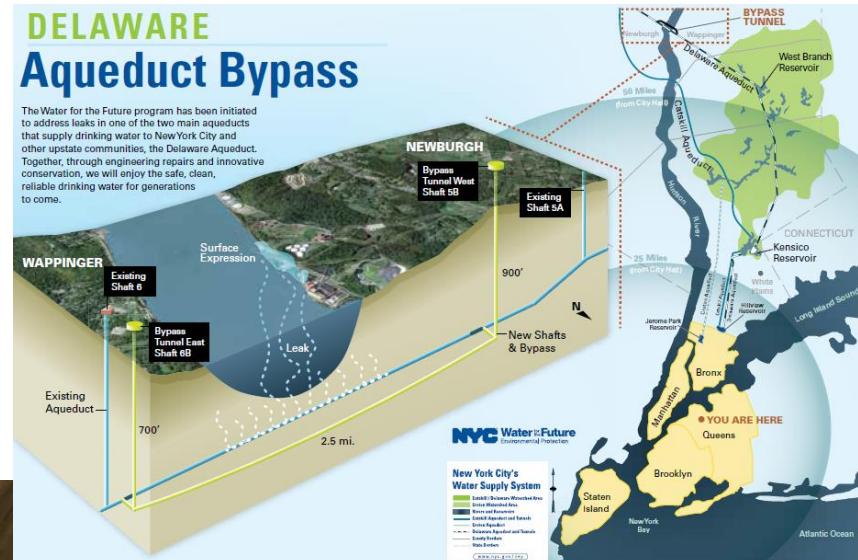
- ▶ As part of the May 2019 Consent Decree to cover Hillview Reservoir, DEP will construct the Kensico-Eastview Connection between Kensico Reservoir and the Catskill/Delaware ultraviolet facility, providing critical redundancy in the supply system
- ▶ The project is estimated to cost \$1.3B, all of which is included in the Capital Improvement Program



Key Projects:

Delaware Aqueduct

- ▶ Considered to be among the most complex repair projects in the history of the City's water system
- ▶ DEP began repairing sections of the Delaware Aqueduct in 2017, to repair a 15-35 million gallons per day leak
- ▶ DEP is undertaking water augmentation projects to ensure an uninterrupted water supply when the main tunnel is closed in October 2022 for 5-8 months – no reduction in water delivery to NYC is anticipated
- ▶ The project is projected to cost \$1.2 billion; mining beneath the Hudson River is underway, with more than 70% of the tunnel mined out to date



Key Projects:

Queens Sewer Projects

- ▶ Post-World War II residential and commercial development in South East Queens outpaced the construction of vital public infrastructure, including storm sewers, resulting in the area being flood-prone
- ▶ In 2015, the City announced a \$1.5B commitment to alleviate flooding in the area
- ▶ Major components of the drainage build-out include the construction of large trunk sewer pipes



Key Projects:

Green Infrastructure Projects

- ▶ By retrofitting NYC's streets, sidewalks and other public property, and incentivizing retrofits on private property, DEP is targeting a CSO reduction goal of 1.67 billion gallons per year
- ▶ Originally implemented in Staten Island, *Bluebelt* programs preserve natural drainage corridors including streams, ponds, and wetlands, and enhance them to perform their functions of conveying, storing, and filtering runoff precipitation such as stormwater.
- ▶ As of early 2019, the Program has committed over \$600 million in capital funds since fiscal year 2012, and has approximately \$1 billion currently budgeted through fiscal year 2029

591

Greened Acres from 2010-2018

4,585

Assets constructed
or in construction

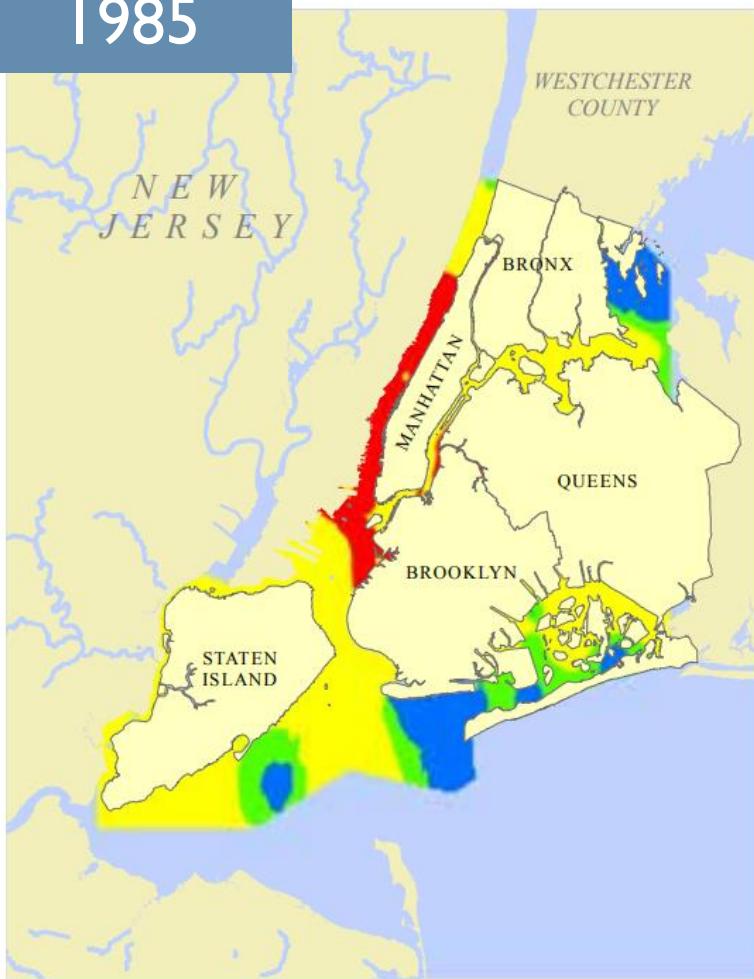
~5,500

Assets going into
construction in 2019



Investment Impact: Major Improvement in Water Quality

1985



Today



The Secret Ingredient To New York's Famous Bagels



“Champagne” of Drinking Water



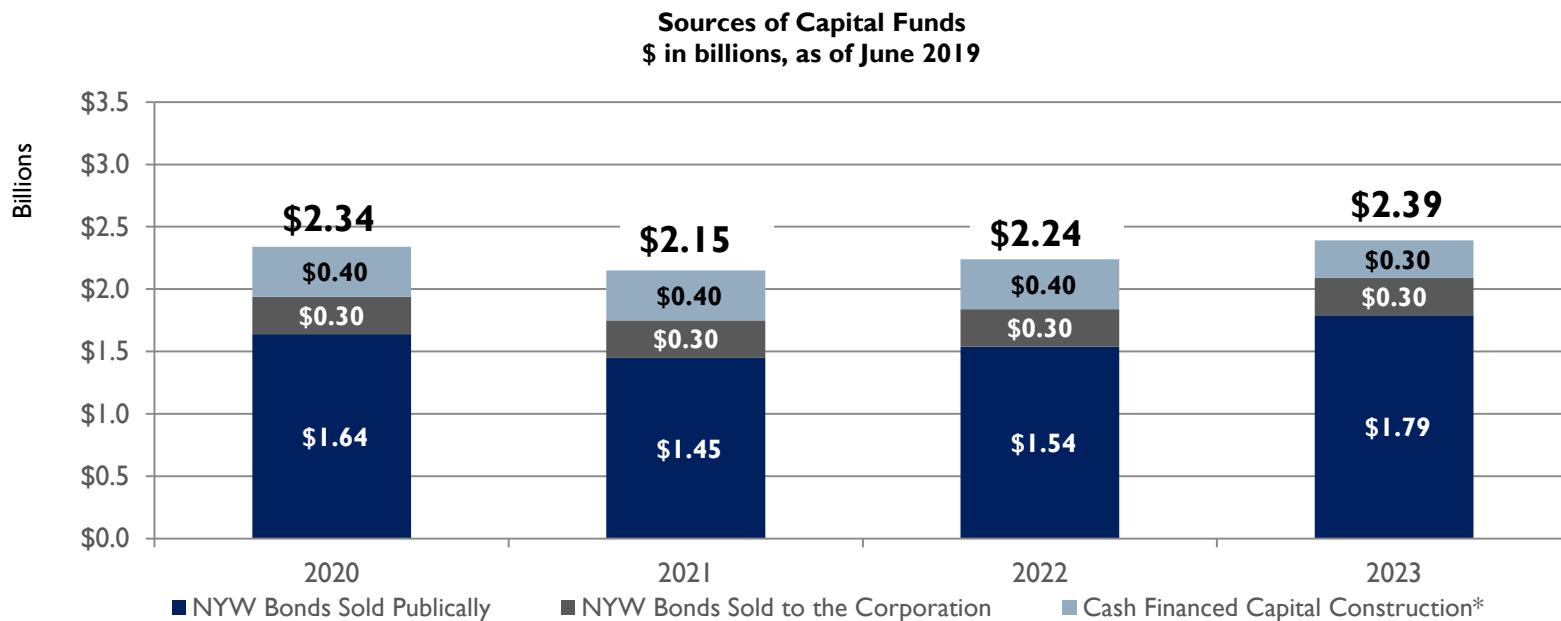
Investment Impact: Safe and Delicious Drinking Water

- DEP tested 53,200 water samples, which were analyzed 654,000 times by scientists working in DEP's water quality labs
 - In 2018, no water quality issues were uncovered through the testing procedures
- Physical and chemical parameters:
 - DEP tested for 41 parameters, none exceeded the allowable level
- Organic parameters:
 - DEP tested for 17 parameters, none exceeded the allowable level
- Microbial parameters:
 - DEP tested for 3 parameters, none exceeded the allowable level



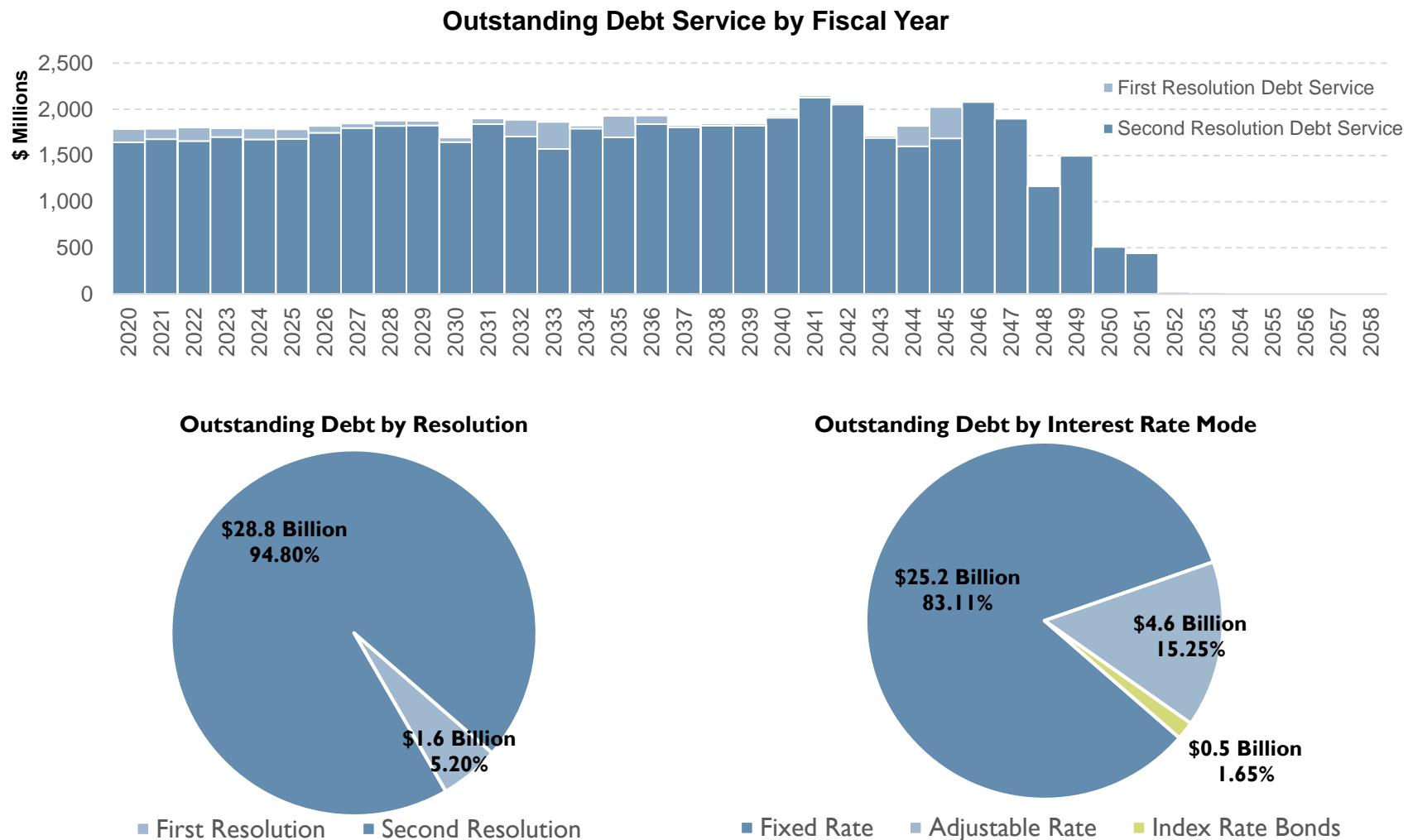
80-85% of Capital Plan Financed Through Debt Capital Markets

- ▶ Current Capital Plan Funding Sources for FY20-23 Assume:
 - ▶ \$6.4 billion NYW Bonds Sold Publically (70%)
 - ▶ \$1.5 billion Cash Financed Capital Construction (17%)
 - ▶ \$1.2 billion NYW Bonds issued to the NYS Environmental Facilities Corporation (“Corporation”) (13%)

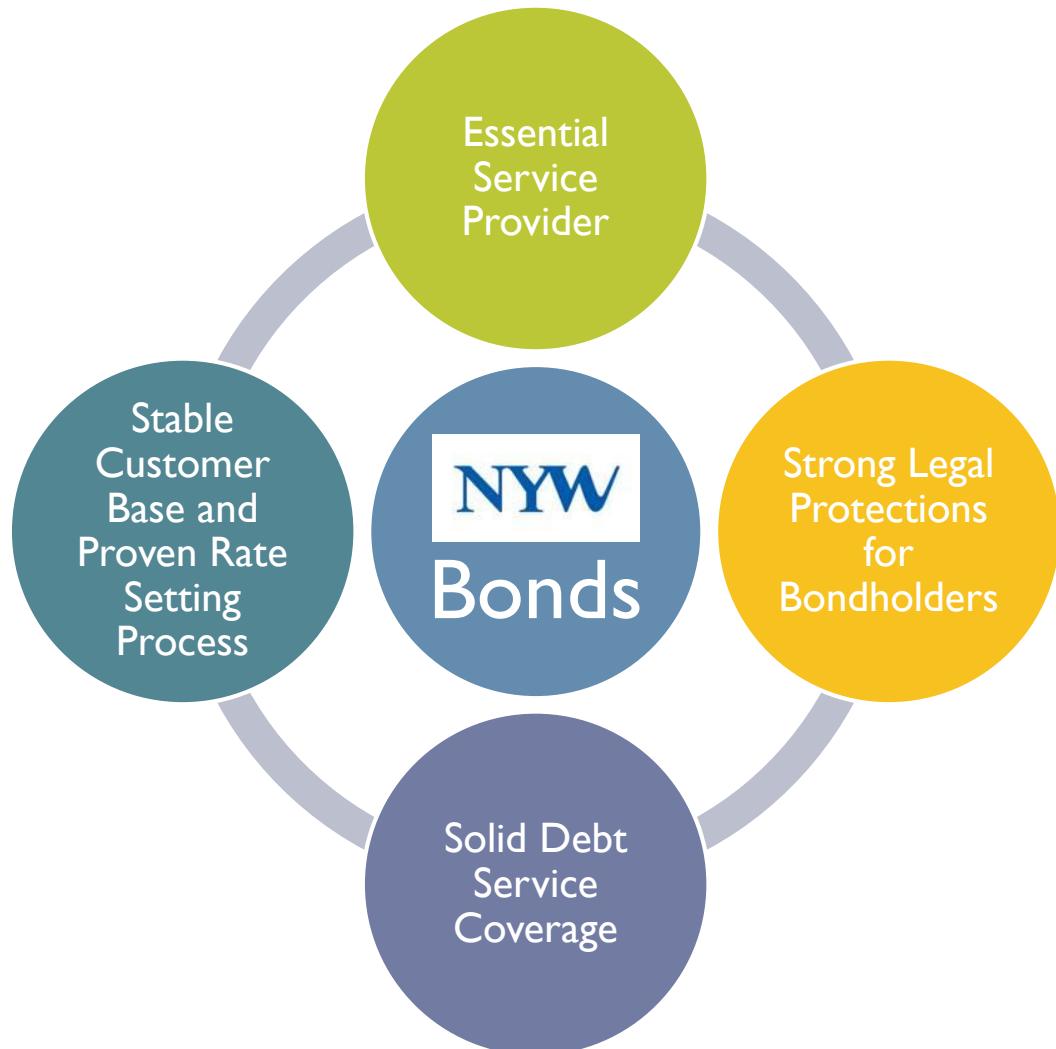


* Funds projected for Cash Financed Capital Construction may be used for the defeasance of NYW Bonds.

Overview of NYW Debt Portfolio



1st Resolution Ratings: S&P AAA/ Fitch AA+/Moody's Aa1
2nd Resolution Ratings: S&P AA+/ Fitch AA+/Moody's Aa1



Q&A

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