

Public Information Regarding Water and Wastewater Rates

April 2010

NEW YORK CITY
**WATER
BOARD**



Introductory Statement

The New York City Water Board (“the Board”) has prepared this information booklet to inform the public on its rate proposals for Fiscal Year 2011 (“FY 2011”) and provide them with information on the financial condition of the water and wastewater system (the “System”), as well as its budget for the upcoming year.

New York City’s water and wastewater systems are among the largest in the world. The water supply system delivers more than 1 billion gallons of high quality water every day to eight million people in New York City and approximately 1 million residents in four counties north of the City. The City’s fourteen Wastewater Treatment Plants (WWTPs) treat roughly 1.3 billion gallons of wastewater daily. New York City’s water and sewer infrastructure plays a critical role in guaranteeing public health and the economic vitality of New York City. By 2030, New York City’s population is expected to have grown by more than a million residents. To accommodate this growth, uphold the high quality and integrity of the City’s drinking water, and ensure the long term viability of the water and sewer system, the Bloomberg Administration has made a commitment to New York City’s water infrastructure in PlaNYC, released in April 2007.

NYC water rates are set to cover the system’s operating and capital expenses each year, which include the cost of treatment, transmission and distribution, and state of good repair. Most New York City properties are charged a uniform water rate. Wastewater charges are levied at 159% of water charges. Approximately 6% of all properties (mostly multi-family residential) are billed on the basis of a series of fixed flat-rate “frontage” charges determined by the width of the property’s street frontage; the number of families; building fixtures and other measures.

In the coming fiscal year, the largest driver of the system’s annual budget is its net debt service, accounting for 42% of the total revenue needed in FY 2011. Expenses spent on operations and maintenance for this vast system will be 41% of its budget. Debt service is a direct result of DEP’s massive capital construction projects. These capital construction projects—such as the Croton Water Filtration Plant, the Catskill and Delaware Ultraviolet (UV) Disinfection Plant, Newtown Creek Wastewater Treatment Plant and City Water Tunnel 3—will all have significant citywide impacts on New York’s water and wastewater systems.

The ratio of mandated to non-mandated capital projects will drop from 2011 onward. However, DEP will have to pay down those initial investments over the next thirty years. Constructing these massive projects simultaneously is costly; for fiscal years 2003 through 2010, 69% of DEP’s capital budget was directed for mandated projects. Due to the decreased amount of State and Federal funding, the NYC Municipal Water Finance Authority (WFA) has had to take on increasing amounts of debt to finance these projects. From July 2006 to April 9, 2010, the New York City Water Finance Authority issued \$8.4 billion in debt. The resulting debt service has become the single largest driver of water and wastewater rate increases: both DEP’s capital outlays and the water rate have increased since 2007, with both capital outlays and water rate percentage increases peaking in 2009. Currently, the WFA’s total outstanding debt is \$23.7 billion. DEP’s current daily capital expenditure rate is approximately \$9 million per day on construction, design and construction management.

Although costly, citywide improvements such as the Catskill/Delaware UV Disinfection Plant, the Croton Water Filtration Plant, City Water Tunnel 3, and the upgrade of the Newtown Creek Wastewater Treatment Plant will become key elements of New York City's water and wastewater infrastructure. This unprecedented era of capital improvements will not only maintain aging infrastructure in a state of good repair, it will expand the system to ensure that the City's water and wastewater systems continue to support future generations of New Yorkers. As outlined in PlaNYC—the Bloomberg Administration's comprehensive blueprint for a sustainable New York City in 2030 and beyond—these investments will insure that the water and wastewater systems will support the projected increase in population, continue to provide world-class drinking water, and improve the surrounding waterways for increased recreational use.



The Catskill/Delaware UV Disinfection Plant will ensure the long-term viability of the Catskill and Delaware watersheds, which can provide up to 90% of the City's water supply. This Plant, which will cost roughly \$1.6 billion and will be completed in 2012, will provide greater UV treatment capacity than all other existing UV treatment plants in North America combined. The UV Plant is also a key element of the Filtration Avoidance Determination (FAD), which requires the City to acquire environmentally-sensitive land in the watershed, adopt strong watershed rules and regulations and institute and maintain a comprehensive watershed protection program to avoid constructing a filtration plant for the Catskill and Delaware water supplies. A Catskill/Delaware filtration plant would have a capital construction cost of more than \$10 billion and require approximately \$100 million annually for operations. New York City's historic ten-year FAD marks the successes of DEP's initiatives throughout the watershed. As of April 1, 2010, DEP has invested approximately \$368 million to acquire title or conservation easements on approximately 108,000 acres of land throughout the watershed.



Like the Catskill and Delaware UV Disinfection Plant, the Croton Water Filtration Plant will also secure one of New York City's watersheds. The Croton system is the oldest and smallest of New York City's three watersheds and, because it is closest to the City, is the most affected by development. The Croton Water Filtration Plant, a \$2.8 billion facility that is scheduled to be operational in 2012, will be able to filter about 30% of the City's drinking water, or 290 million gallons per day. Once the Croton Water Filtration Plant and the Catskill/Delaware UV Disinfection Plant are both operational, 100% of New York City's water will either be filtered or will receive two different forms of disinfection. These measures will ensure the safety and highest quality of the water furnished to nine million New Yorkers.



City Water Tunnel No. 3 will provide New York City with critical water supply redundancy. The completion of the project in 2013 will allow DEP to inspect and repair City Water Tunnels No. 1 and 2, which have been in constant operation since they first went into service, in 1917 and 1936, respectively. City Water Tunnel No. 3 has a total capital cost of approximately \$6 billion.

The projects that DEP is building today will have long-term benefits for generations of New Yorkers. DEP engineers strive to build infrastructure today that will emulate our system's historic sustainability: again, City Water Tunnels No. 1 and 2 have been in constant operation since 1917 and 1936. City Water Tunnel No. 1 was completed at a cost of \$27 million, or \$989 million in today's dollars. City Water Tunnel No. 2 was completed at a cost of \$57 million, or \$1.5 billion in today's dollars. DEP expects that City Water Tunnel No. 3 will represent a similar long-term investment, benefiting the people and City of New York for generations.



The construction at the Newtown Creek Wastewater Treatment Plant (WWTP) is a major program that addresses wastewater treatment and harbor water quality. Newtown Creek—the largest of DEP's 14 WWTPs—is in the midst of a \$5 billion upgrade. The work being done on site, which will be complete in 2013, will enhance the level of treatment the plant provides, raising its capacity to 700 million gallons during wet weather, and increasing its rate of pathogen removal to 85%.

Because of the upgrades throughout the wastewater treatment system, the City's fourteen WWTPs are functioning better than ever before. Recently, the New York State Department of Environmental Conservation (DEC) and DEP announced the end of the "Bubble Limit," a special operational guideline that had allowed DEP to operate outside of State regulations governing wastewater treatment. This limit was enacted to allow DEP to continue treating wastewater while it was simultaneously upgrading and maintaining its plants. This limit ended three years ahead of schedule because the wastewater treatment system has already attained State levels of pathogen removal. According to the Harbor Water Quality Survey Program, New York City's harbor waters are currently the cleanest they have been in the 100 years that harbor water quality has been measured.



As DEP continues to direct significant resources towards improvements that will have citywide impacts, DEP has also made robust investments in local communities. Upgrading and maintaining basic water and wastewater services as well as implementing projects that will preserve the waterways surrounding the City are top priorities. DEP has invested \$40 million for a trunk main in 110th Avenue between Sutphin Boulevard and 173rd Street in Queens, along with other sewer and water work in the area. As City Water Tunnel 3 comes online, DEP will invest in water main work throughout Manhattan. In the Bronx, roughly \$18 million will be spent on the Croton Force Main, a 6" subsurface pipe that will convey waste material from the Croton Filtration Plant to the Hunts Point Wastewater Treatment Plant for processing. In Staten Island, a new \$200 million siphon will provide critical redundancy for the Borough's water supply. In Brooklyn, DEP will spend \$236 million on the Avenue V Pumping Station, a facility that will reduce Combined Sewer Overflows (CSOs) in Coney Island Creek and Gravesend Bay by up to 85%. These are only some of the improvements that DEP is making on the local level.

As DEP continues to make citywide and local improvements, the Agency has undertaken an 8% reduction in its operating budget that will reduce the annual expense budget by \$80 million in fiscal years 2011-2014. But despite these cost-saving measures, the Agency will still need to properly maintain its facilities and infrastructure. In March and April of this year, contract settlements were ratified with the two unions representing maintenance and operations personnel in the Bureau of Wastewater Treatment, ending litigation between the City and the unions. The agreements cover Stationary Engineers (Electric) and Senior Stationary Engineers (Electric)—represented by Local 3, IBEW—and Sewage Treatment Workers and Senior Sewage Treatment Workers—represented by District Council 37's Local 1320. The agreements resolve long-standing contract disputes, dating as far back as 1995. DEP is funding this settlement through the use of reserves previously built into the water rate, the 8% reduction in the operating budget, and savings in interest rates on WFA debt.

Citywide water consumption (i.e., usage by metered customers, frontage customers, the City and other users together with leakage and other unbilled water) has shown a long-term pattern of decline. After an increase in citywide consumption in FY 2008, water consumption decreased significantly in FY 2009 and again in FY 2010, to the lowest levels since the City experienced a severe drought approximately 45 years ago. Year-to-date consumption for FY 2010 is approximately 5% lower than during the same period of FY 2009, but the pace of the decline has slowed significantly from December 2009 through March 2010. Part of the historical decline in usage can be attributed to the toilet rebate program and the installation of water meters in the 1980s and 1990s. Other factors, such as increased efficiency in appliances and limitations on water use in new fixtures (e.g., toilets, washing machines, dishwashers) may continue to reduce per capita use as customers replace old fixtures. Consumption in FY 2009 and year-to-date in FY 2010 is also being impacted, in part, by economic conditions. Cities such as Boston and Washington, DC are experiencing similar declines in usage and, on a national basis, electricity usage declined for two years in a row for the first time in many years.

In light of these trends in water consumption and the anticipated future needs of the System, the NYC Water Board and DEP undertook an in-depth study of System expenditures and revenue sources to examine alternatives to the current rate structure. The NYC Water Board and DEP partnered with Booz Allen Hamilton Inc. (BAH) to review DEP's existing rate structure and current capital and operating expenses, and to compare these with industry best practices. One of the alternative rate structures examined in the study, a separate charge for the costs of collecting and treating stormwater, is being proposed for further evaluation in a pilot for next year. The pilot will assess a sewer charge for stormwater on approximately 350 standalone parking lots that have no water service. Even though the flat, impervious surfaces of these parking lots produce a lot of stormwater runoff, these lots, because they have no water service, are currently paying nothing toward the costs of managing stormwater. The pilot will provide critical information needed to determine how a more widespread application of a stormwater charge might work.



DEP is committed to providing more timely and accurate consumption and billing information to customers. In pursuit of this goal, DEP is installing Automated Meter Reading (AMR) technology for all accounts citywide. AMR will allow DEP to virtually eliminate estimated bills, and customers will be able to view their actual water consumption at least four times per day. DEP has installed nearly 280,000 Automated Meter Reading (AMR) units, putting the agency more than 33% on the way to connecting all of its 834,000 customers by January 2012. DEP's website will allow all customers with AMR installations to access online information that will provide them with the amount and cost of their daily water consumption. Automated Meter Reading technology, combined with a new customer information system, will provide customers the tools to better manage their water and will enable DEP to more accurately plan and budget for water consumption.

The Board and DEP have always worked to mitigate rate increases whenever possible. As the Agency's collection and monitoring systems have modernized, so has DEP's Bureau of Customer Service (BCS). The ongoing transformation of BCS includes the implementation of a stronger set of enforcement tools and expanded customer assistance. Since 2006, DEP has expanded call center hours for customer convenience, dramatically reduced customer call wait time, reduced the response time for written customer inquiries, added online bill payment to its website, and begun notifying customers of unusual increases in water consumption. As part of the FY 2011 rate proposal, DEP is offering an introductory discount to meter-billed customers who enroll online to have their water bills automatically debited from their checking account. The program will provide to each direct-debit subscriber over the next year a credit equal to 1% of next year's bills.

The two stand alone water lien sales and the three Payment Incentive Programs (PIPs) that DEP offered to delinquent customers have netted over \$200 million in revenue over the past two fiscal years, and have reduced the number of long-term delinquencies. If DEP did not have the authority to collect arrears from delinquent customers through the selling of a lien, there would have been a significant revenue gap, which would have placed additional pressure on the water rate. DEP needs this authority to continue to ensure that all customers pay their fair share of the costs for the construction, operation and maintenance of the water system.

Even as DEP begins to use a new set of tools for tracking consumption and enforcing payment, the agency recognizes that the current economic recession has affected residents throughout the City, and has taken steps to help whenever possible. On February 8, 2010, DEP announced the Water Debt Assistance Program, an initiative that will temporarily relieve qualified homeowners who are at risk of foreclosure of their past-due water and sewer debt.

The New York City Water Board is committed to maintaining a world-class system while keeping it affordable for its rate payers.

Schedule for Water Board Rate Adoption

April 9

Rate Proposal to Water Board

May 4—13

Public Hearings

May 21

Water Board Meeting to Adopt FY 2011 In-City Rate

June 18

Public Hearing on Upstate Rate

June 25

Water Board Meeting to Adopt FY 2011 Upstate Rate

July 1

New Rates become effective

Staten Island

May 4, 8:00 pm

Wagner High School

1200 Manor Road

Staten Island, NY 10314

Bronx

May 6, 7:00 pm

Public School 14

3041 Bruckner Blvd.

Bronx, NY 10461

Manhattan

May 7, 2:00 pm

City Planning Commission

22 Reade Street

New York, NY 10007

May 12, 7:00 pm

P.S. 124

40 Division Street,

New York, NY 10002

Queens

May 11, 7:00 pm

Edison High School

165-65 84th Avenue

Jamaica, NY 11432

Brooklyn

May 18, 7:00 pm

Public School 102

211 72nd Street

Brooklyn, NY 11209

Program Summary

FY 2011 Rate Proposal

- Increase in-city water rates by 12.9% for all customers, flat-rate and metered, and for all billing programs
- Maintain in-city wastewater rates at 159% of charges

FY 2011 Billing Policy Proposals and Changes to Miscellaneous Fees Direct Debit Discount

On February 4th 2010, DEP implemented Direct Debit (auto-pay/full pay). The process lets customers set up customer identifications and have full payment debited against the provided bank account. DEP proposes a 1.0% discount to be provided for all metered billed customers who sign up for this service for one fiscal year. A credit would appear on the next quarterly bill reflecting 1.0% of the prior quarter's payment in full.

Sewer Charge for Stormwater: Pilot for Standalone Parking Lots which Receive No Water Service

A pilot program is proposed for FY 2011 to assess a sewer charge for stormwater for standalone parking lots that currently receive no water service. The charge would be assessed on a square foot basis, and would not exceed five cents per square foot. Any such lot which has implemented Stormwater management practices specified by the Board shall be exempt from any wastewater charge for Stormwater under this pilot program upon approval by the Board.

Increase Fee For Service Termination

Current charge is \$500 per termination. Actual cost of work necessary to terminate service is \$2,700 (based on 65 terminations last year). DEP proposes to raise fee incrementally to \$1,000 in FY 2011

Fees for Certain Services Provided by the Bureau of Water and Sewer Operations

- 1) The hydrant flow test fee will be increased from \$250 to \$500.
- 2) A new backflow prevention plan review fee of \$350.
- 3) A new backflow exemption approval fee of \$100.

Rate Consultant's Recommendations

It is anticipated that the 12.9% increase in water and sewer rates proposed by the Board will yield sufficient revenues to cover the expected cost of providing water and wastewater service in FY 2011.

Though the ratio of wastewater system costs to water system costs is currently somewhat lower than historical experience due to recent investments to protect the quality of the City's water supply, scheduled investments in the capital improvement program for rehabilitation and construction of wastewater treatment facilities and other projects will cause the ratio of wastewater system costs to increase in the future. Accordingly, the long-term ratio of wastewater system costs to water system costs is reasonable compared to the current ratio of wastewater charges to water charges.

The billing policy proposals advanced by the Board, including the direct debit discount in FY 2011 for all metered customers who sign up for this service and a stormwater rate pilot program for certain parking lots, are reasonable and not inconsistent with the practices of other jurisdictions.

Process for Water Board Rate Adoption

- The Board must adopt rates which will satisfy the revenue requirements of the System
- The Water Finance Authority projects revenue bond debt service on bonds issued after 1986 to finance water and wastewater capital projects and certifies the FY2011 amount to the Water Board
- The City Office of Management and Budget projects the Water and Wastewater Systems' operating and maintenance expenses and certifies the FY2011 amount to the Water Board based on the Mayor's Executive Budget
- The System's consulting engineer must certify that expenses are reasonable and appropriate
- The Board must hold a public hearing in each borough of New York City
- At its Annual Meeting in May, the Board adopts an Annual Budget based on the system expenses that have been certified to it and adopts a rate which will produce sufficient revenues to meet those expenses

DEP Capital Program Overview

From FY 2000 to FY 2009, DEP committed \$20.4 billion to its capital program, and plans to spend an additional \$3.2 billion on its capital program in FY 2010, per the prior FY 2011 Preliminary Plan. These investments have secured the City's current water and wastewater systems today, and will benefit additional New Yorkers for generations to come. The facilities that DEP has constructed through its Capital Program have already made a significant impact on the City's water infrastructure: in 2007, the City was granted an historic ten-year Filtration Avoidance Determination, or FAD, for 90% of its water supply. The City's harbor waters are as clean as they have been in over 100 years, based on over 100 years of sampling data. And the New York State Department of Environmental Conservation (DEC) recognized DEP's wastewater treatment infrastructure by removing the "Bubble Limit," a special, relaxed Citywide standard DEP met while continuing to construct plant upgrades at Newtown Creek. The upgrades at the Newtown Creek WWTP, the largest of the City's 14 WWTP's, have been so effective that DEC and DEP ended the bubble limit three years ahead of schedule.

As encouraging as these developments are, DEP expects that the coming years will mark a truly exciting time for the City's water and wastewater systems. Soon, multi-phase, decades-long projects such as City Water Tunnel No. 3, the Croton Water Filtration Plant, the Catskill/Delaware Ultraviolet Light Disinfection Plant, and the upgrades to the Newtown Creek WWTP will enter regular service. Ongoing projects, such as upstate land acquisition and maintaining infrastructure throughout the watershed to support the FAD, preparations to repair the Delaware Aqueduct, and the rehabilitation of the City's WWTPs will continue to expand and enhance New York City's water and wastewater systems, enabling the City to meet current demand and preparing it for an additional one million people by 2030.

\$3.7 billion to Upgrade, Modernize, and Maintain Wastewater Treatment Plants (WWTP's) (less CSOs)

The Water Supply and Wastewater Systems together create a 'closed loop': every day, about 1 billion gallons of water is delivered to New York City, and every day the City's 14 wastewater treatment plants collectively treat about 1.3 billion gallons of wastewater. Both the effectiveness of these plants and the skill of their operations personnel are evidenced by the fact that the New York State Department of Environmental Conservation (DEC) removed the City's "Bubble Limit" three years ahead of schedule, and by the fact that the harbor waters surrounding the City are the cleanest they've been in over a century. As with most City infrastructure, the 14 plants are aging, and DEP must invest a significant amount of its resources to maintain them in a state of good repair, and to modernize them to meet constantly-evolving state and federal standards.



\$1.9 billion to Ensure the Dependability of NYC's Water Supply System and to Explore Alternative Sources

Nine million people throughout New York City, Putnam, Ulster, Westchester, and Orange counties depend on the City's water supply system. Delivering about one billion gallons of water every day, New Yorkers have relied on this system for generations. Ensuring that our historic infrastructure continues to provide the same level of service to all New Yorkers is a priority for DEP: City Water Tunnels No. 1 and 2 have been in constant operation since they first went into service in 1917 and 1936, respectively, and, while they have steadily served New York for generations, both tunnels need to be brought into a state of good repair soon to prevent future maintenance costs from escalating. Other planned work, such as developing groundwater aquifers in Jamaica, Queens, constructing the Delaware-Rondout Aqueduct (a parallel tunnel to the existing Rondout-West Branch Tunnel), conducting a dependability study for the City's water supply and demand reduction, and building the Cross River and Croton Falls Pumping Stations, which will be able to transfer water from the Croton system to the Delaware system during emergencies, planned service outages, and periods of drought. The current pumping stations at Cross River and Croton falls can move 27 and 65 million gallons a day (MGD), respectively; the planned improvements will raise their capacities to 60 million MGD and 180 MGD, respectively, helping to secure the City's vital water supply system.

\$1.4 billion for Upstate Watershed Protection (Less the Catskill/Delaware UV Light Disinfection Plant)

Maintaining New York City's healthy, pure, and great-tasting water starts right at the source. Most experts agree that protecting the lands around a watershed is the best way to preserve the water itself. After creating an ecological buffer around its source waters, New York City was recently awarded a ten-year FAD from the Environmental Protection Agency (EPA). The FAD, double the length of the previous one given to the City, testifies to the effectiveness of New York City's comprehensive, ongoing watershed protection program. DEP owns and operates 6 WWTPs that serve upstate communities, has funded construction on 7 new upstate WWTPs; the Agency has also paid for the upgrade of the existing WWTP's in the watershed, and a portion of the O&M costs to provide the highest levels of treatment. Aside from building, upgrading, and maintaining wastewater infrastructure, DEP also works with local farmers to reduce pollution and constructs basic infrastructure such as dams, bridges, and roads, and acquiring land. Under the Bloomberg administration, land holdings in the watershed have doubled; New York City already protects about 137,000 acres in the upstate watershed, and is devoting funds to increase its holdings.



\$1.1 billion to Improve New York City's Water Quality and Prevent Untreated Sewage from entering the Harbor (CSOs)

One of the goals of Mayor Bloomberg's PlaNYC—the City's comprehensive plan for creating a greener, more sustainable City—is to open 90% of the City's water ways for recreation by 2030. The City's harbor water is already the cleanest it's been in over one hundred years, according to one hundred year's worth of sampling data. The funds in the current ten year program will continue the City's successes in protecting local water ways—programs such as CSO retention tanks, wastewater treatment plant upgrades, sustainable stormwater management practices, will help keep floatable trash, debris, oils, grease, and bacteria from entering our waterways. CSOs occur during especially wet weather, when the City's fourteen WWTP's are unable to treat all the waste and stormwater in the system. By updating our stormwater management system with both traditional mechanical upgrades (such as sewer reconstruction and pumping stations), as well as green infrastructure (such as tree pits, permeable pavements, rain barrels, and green roofs), New York City's water ways will continue to improve.

\$416 million to construct the Ultraviolet (UV) Light Disinfection Facility for the Catskill and Delaware Water Supplies

To support the 10-year FAD, New York City is constructing the Catskill and Delaware UV Treatment Facility. Once operational, this facility will be able to treat 2.4 billion gallons of water a day, or double the capacity of all other existing UV treatment facilities in North America. The Facility, which is being constructed in Westchester County, will serve as an additional barrier against microbiological agents, such as *Cryptosporidium* and *Giardia*. Once the Croton Water Filtration Plant and the Catskill/Delaware UV Light Disinfection Plant are both operational, 100% of New York City's water will either be filtered, or will receive two different forms of disinfection.

\$356 million to Complete City Water Tunnel No. 3, Stage 2

City Water Tunnels No. 1 and 2 have been in constant operation since they were first put into service, in 1917 and 1936, respectively. When City Water Tunnel No. 3 is completed in 2013, it will not only expand the City's water supply network, it will allow DEP to inspect and repair City Water Tunnels No. 1 and 2 for the first time in their existence. When it was first registered, City Water Tunnel No. 3 was the largest non-military contract in the western hemisphere. Construction on the 6-mile tunnel began in 1970, and much of the work is already complete and online: DEP activated portions of City Water Tunnel No. 3 in Bronx, Manhattan, and Queens in 1998. The current plan provides funding for the completion of supply shafts in Brooklyn, Queens, as well as completing and activating shafts in Manhattan. All told, City Water Tunnel No. 3 represents a \$6 billion investment in New York City.



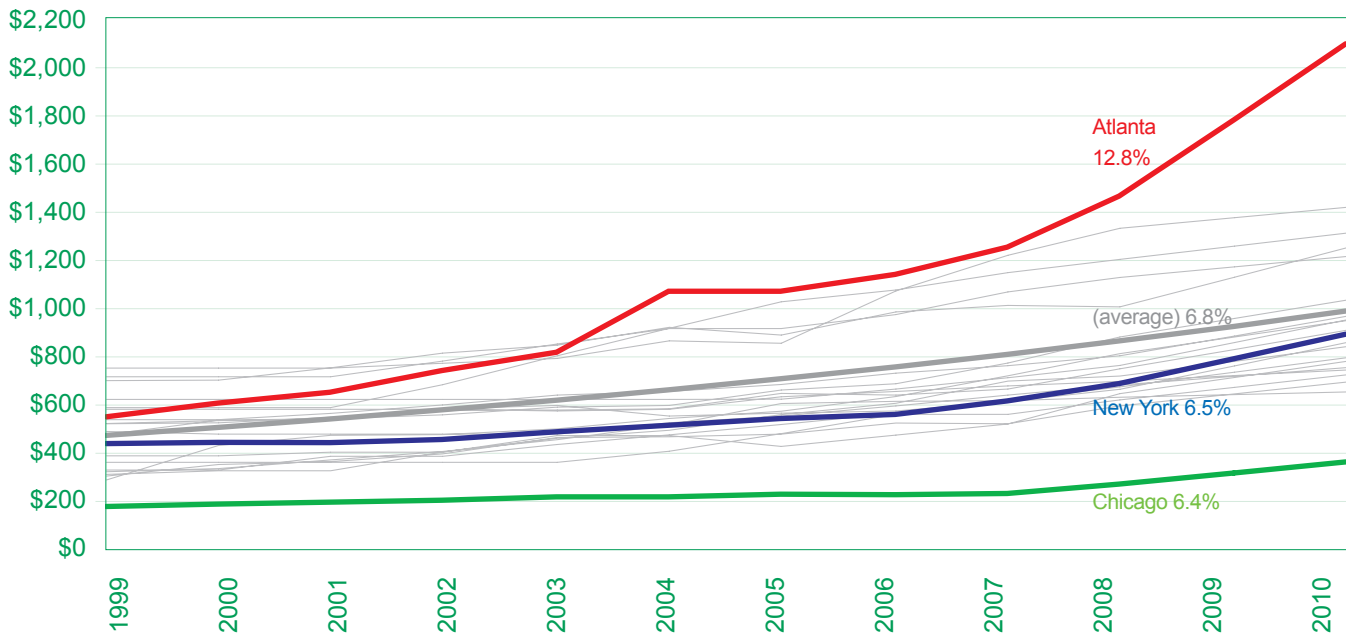
\$273 million to Build, Expand, Support, and Maintain the Staten Island Bluebelt System

As DEP modernizes and expands its traditional infrastructure (with upgrades to its wastewater treatment plants, sewer systems, and CSO storage tanks), the Agency is also developing innovative Best Management Practices (BMP's), such as Bluebelts, that will naturally convey, store, and filter storm water. Bluebelts are streams, ponds, and other wetland areas also provide flood protection, community spaces and wildlife habitats. This important "green infrastructure" demonstrates how wetland preservation can be both economically prudent and environmentally responsible: on Staten Island, the current Bluebelt system drains 15 watersheds (clustered at the southern end of the Island), plus the Richmond Creek watershed. There are three additional Bluebelts in the mid-Island area. The Bluebelts provide effective stormwater management for 14,514 acres of Staten Island, or about one-third of Staten Island's total land area. These award-winning projects have reduced the need for more expensive storm sewer networks.

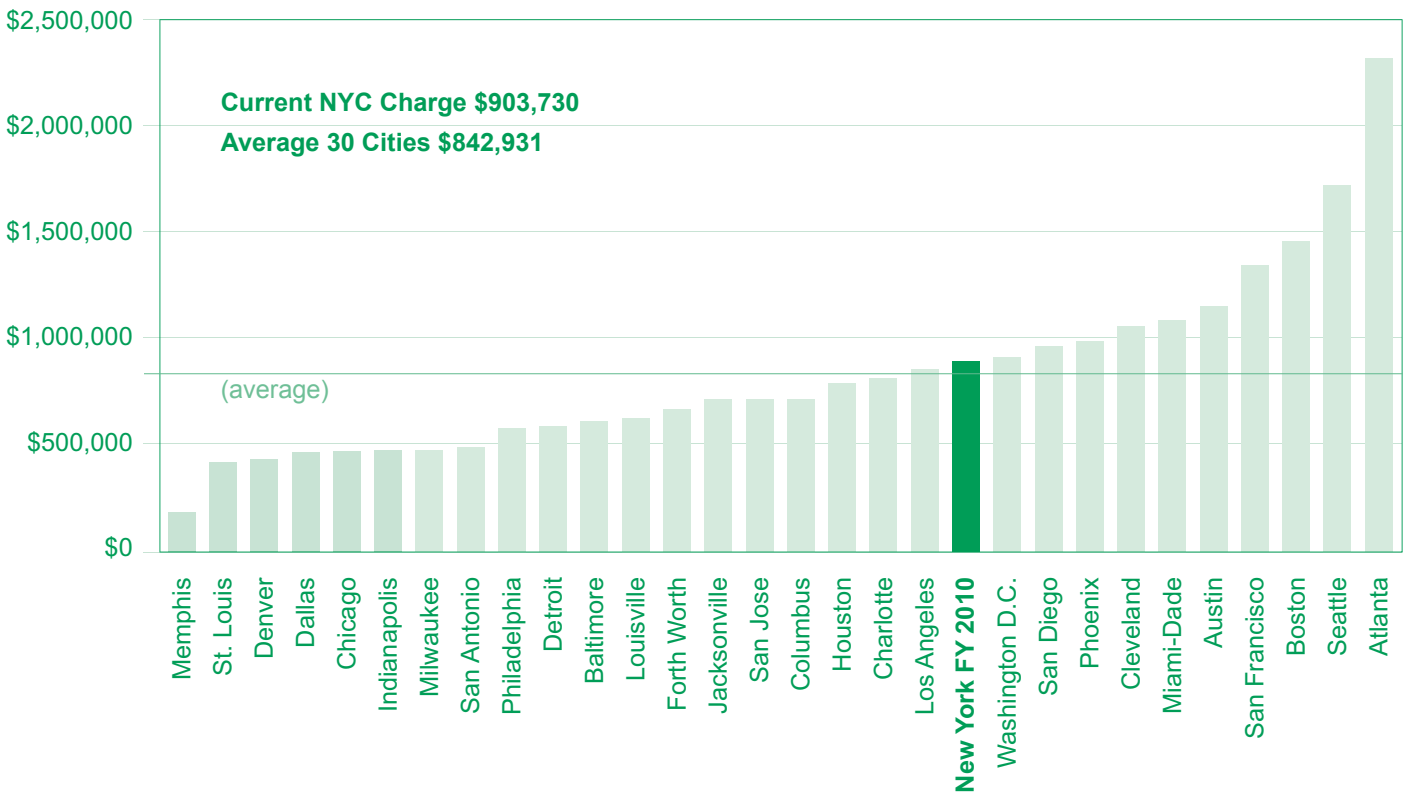
\$243 million for the continued construction and completion of the Croton Water Filtration Plant (including Parks)

When operational in 2012, the Croton Water Filtration Plant will be able to provide New York City with 30% of its drinking water, and will have the capacity to treat 290 million gallons of water per day. The Croton Water Filtration Plant will filter water provided by the Croton reservoir system, the oldest and smallest of New York City's three watersheds. The Croton system, which is located in Westchester, Putnam, and Dutchess Counties, is more at risk from microbiological contamination (mainly because of development in the area) than the Catskill and Delaware reservoir systems. The City does not have to filter the Catskill and Delaware systems, which both received a Filtration Avoidance Determination from EPA. The Plant will be constructed beneath Van Cortland Park in the Bronx, and as a part of the site selection process for the contract, DEP agreed to work with New York City Department of Parks and Recreation to fund \$200 million developing parks throughout the Bronx. The Croton Water Filtration Plant will ensure the viability of the critical Croton reservoir system, and will secure New York City's water distribution network.

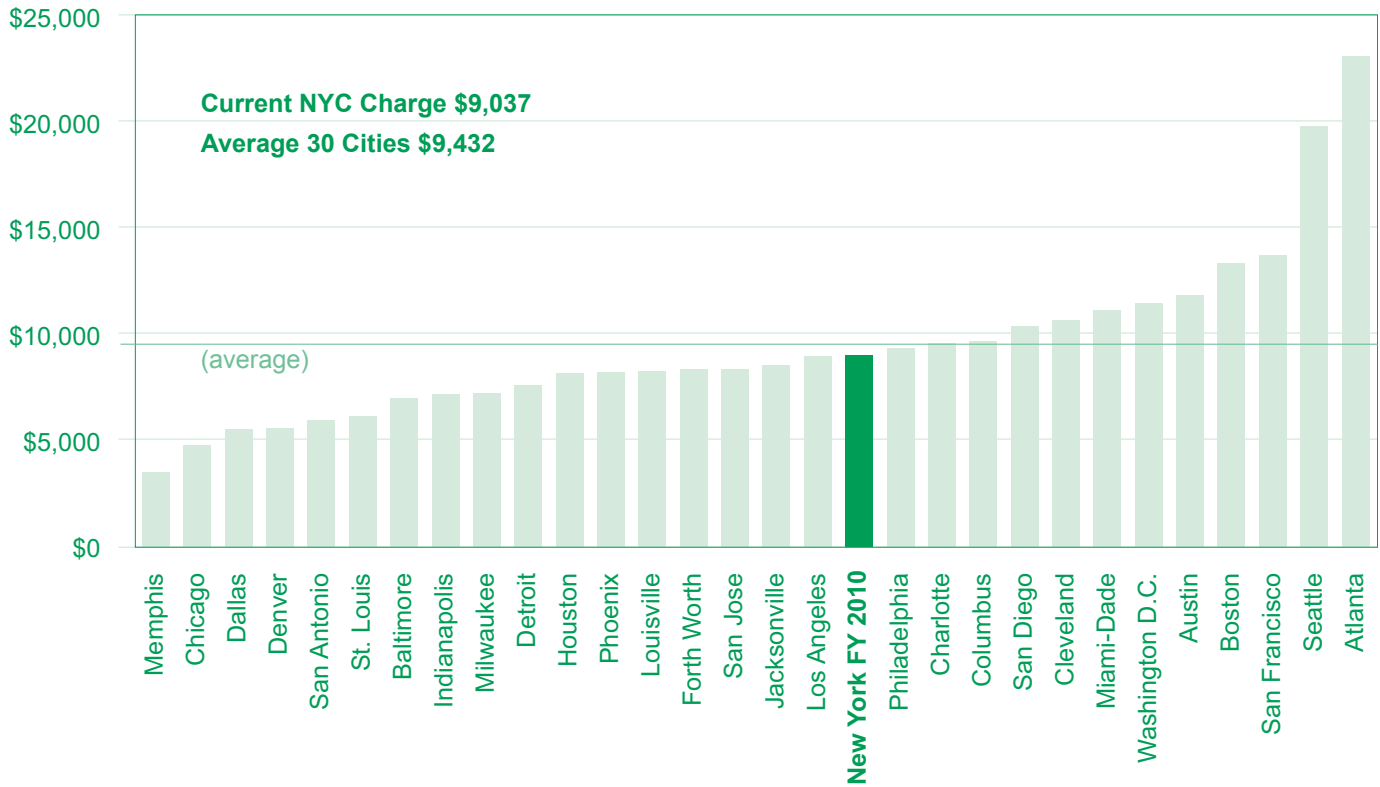
Rate Increase of Various Cities Over Time



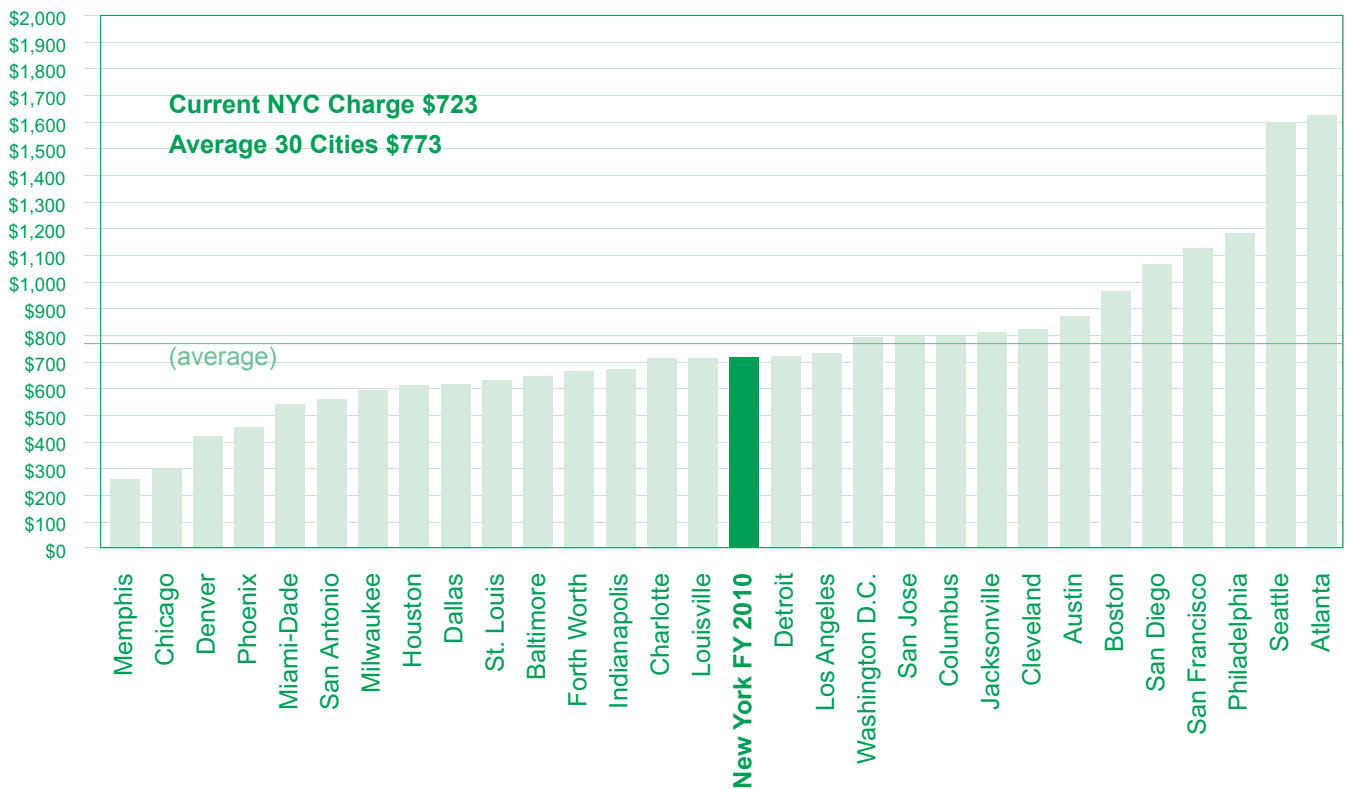
Annual Water/Wastewater Charges (Industrial)



Annual Water/Wastewater Charges (Commercial)



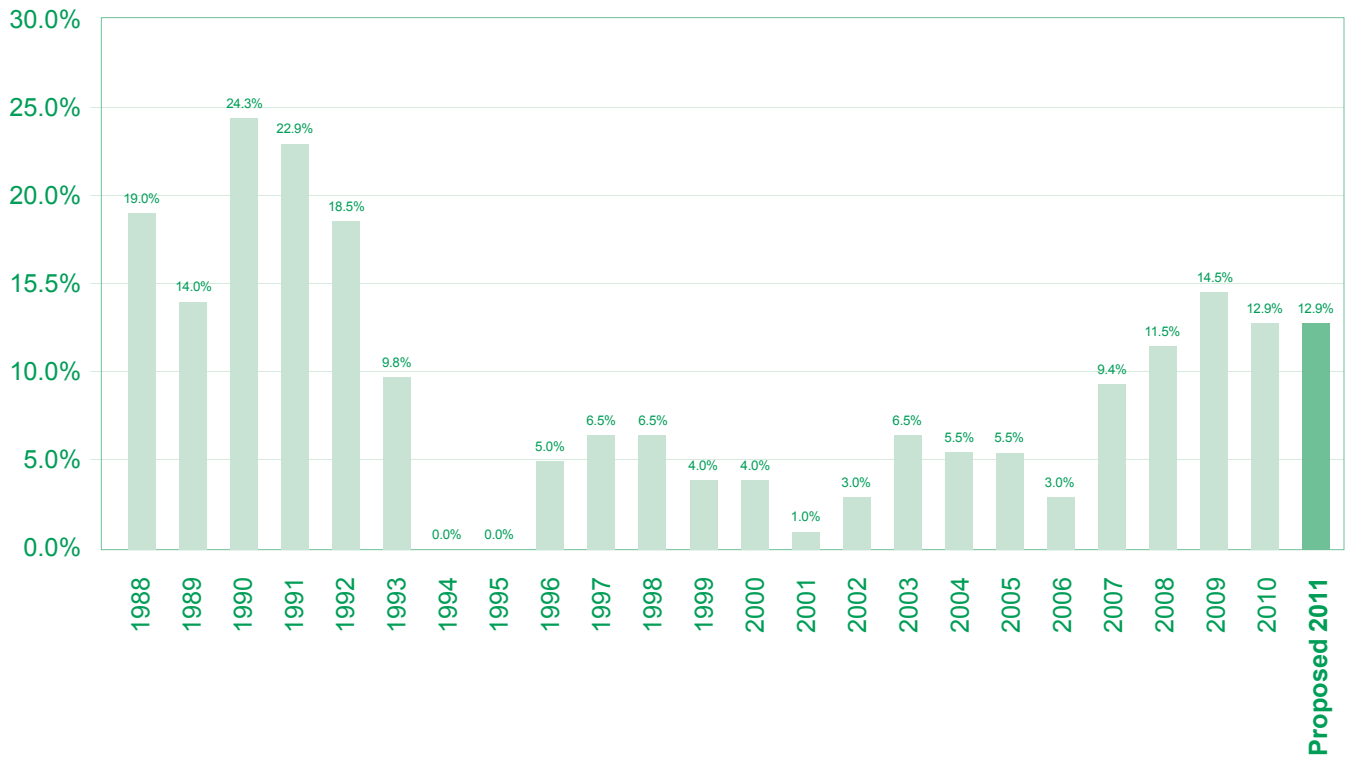
Annual Water/Wastewater Charges (Residential)



Anticipated Water and Wastewater System Expenditures (\$'s in millions)

	FY2010	FY2011	Change
WFA Debt Service			
First Resolution Bonds:			
Outstanding Bonds	\$500.7	\$609.0	\$108.3
Anticipated Future Bonds	0.0	11.9	11.9
Total First Resolution Bonds	\$500.7	\$620.9	\$120.2
Subordinate Obligations:			
Outstanding Second Resolution Authority Bonds	\$259.6	\$380.4	\$120.8
Anticipated Future Second Resolution Authority Bonds	0.0	43.4	43.4
Interest on Commercial Paper	5.0	42.5	37.5
Outstanding Second Resolution EFC Bonds	479.3	507.3	28.0
Anticipated Future Second Resolution Bonds	0.0	12.6	12.6
Less: EFC Subsidy and Cap Interest	(108.2)	(114.2)	(6.0)
Actual Debt Service on Subordinated Obligations	635.7	872.0	236.3
Less: Carryforward Revenues	(299.8)	(261.7)	38.1
Net Debt Service on Subordinated Obligations	\$335.9	\$610.3	\$274.4
Debt Service Payable from Current Revenues	\$836.6	\$1,231.2	\$394.6
Operating Expenses			
Authority/Board Operations	\$32.4	\$50.9	\$18.5
Water System	480.8	480.8	0.0
Wastewater System	922.7	629.3	(293.4)
Indirect Expenses	19.0	19.0	0.0
Judgments and Claims	6.0	8.0	2.0
Total Operating and Maintenance Expenses	\$1,460.9	\$1,188.0	(\$272.9)
Less: Credit fro Prior Year Excess O&M Payment	(13.3)	0.0	13.3
Less: Trust Account Withdrawals	(98.8)	0.0	98.8
Rental Payment	168.7	219.5	50.8
Deposits to O&M Reserve Fund	9.2	0.2	(9.0)
Current Capital Contribution	0.0	80.0	80.0
Total Operating Expenses	\$1,526.7	\$1,487.7	(\$39.0)
Total Expenses	\$2,363.3	\$2,718.9	\$355.6
Operating Revenues			
Water/Sewer User Payments	\$2,508.2	\$2,808.3	\$300.1
Upstate Revenues	43.6	51.2	7.6
Miscellaneous Revenue	11.3	10.5	(0.8)
Federal Credit Pmt. on Outstanding Build America Bonds	13.3	33.3	20.0
Water Finance Authority Investment Income	48.6	49.1	0.5
Total Revenues	\$2,625.0	\$2,952.3	\$327.4
Surplus Carryforward	\$261.7	\$233.5	(\$28.2)

Water Rate History (Percent Change)



Typical New York City Charges FY 2011 (with Proposed 12.9% Rate Increase)

	FY2010 Average	FY2011 Average	Change
Unmetered Frontage Accounts			
Average Annual Frontage Bill	\$14,055	\$15,868	\$1,813
Metered Customers, Rates per 100 Cubic Feet			
Water	\$2.61	\$2.95	\$0.34
Wastewater	\$4.15	\$4.69	\$0.54
Combined	\$6.76	\$7.63	\$0.87
Typical Metered Charges, Average Annual Charges			
Single Family Home (80,000 gallons)	\$723	\$816	\$93.27
Multifamily Dwelling Per Unit (52,000 gallons)	\$470	\$531	\$60.62

Capital Improvement Program: FY10-19 (Investment Allocation by Project Type)

	2010	2011	2012	2013	2014	2010-2014	
Water Pollution Control	1,640,749	669,058	284,513	331,596	315,458	3,241,374	
Water Supply	106,423	111,000	270,628	164,065	281,763	933,879	
Water Mains	828,892	553,832	470,317	533,206	408,476	2,794,723	
Sewers	276,117	244,480	268,299	181,441	207,494	1,177,831	
Equipment	367,466	92,542	52,662	46,928	101,020	660,618	
Total	3,219,647	1,670,912	1,346,419	1,257,236	1,314,211	8,808,425	
	2015	2016	2017	2018	2019	2011-2019	2010-2019
Water Pollution Control	328,704	482,865	175,244	285,490	247,457	3,120,385	4,761,134
Water Supply	346,924	136,007	828,388	335,424	621,960	3,096,159	3,202,582
Water Mains	140,869	219,739	120,769	120,035	131,043	2,698,286	3,527,178
Sewers	211,281	216,338	184,876	171,509	152,787	1,838,505	2,114,622
Equipment	30,133	35,967	95,810	113	10,838	466,013	833,479
Total	1,057,911	1,090,916	1,405,087	912,571	1,164,085	11,219,348	14,438,995

Capital Improvement Program: FY10-19 (Investment Allocation by Category)

	2010	2011	2012	2013	2014	2010-2014	
Mandated Projects	1,296,712	227,475	152,844	318,661	367,136	2,362,828	
Non-Mandated Projects	1,922,935	1,443,437	1,193,575	938,575	947,075	6,445,597	
Total	3,219,647	1,670,912	1,346,419	1,257,236	1,314,211	8,808,425	
	2015	2016	2017	2018	2019	2011-2019	2010-2019
Mandated Projects	87,435	408,587	2,789	338,160	105,946	2,009,033	3,305,745
Non-Mandated Projects	970,476	682,329	1,402,298	574,411	1,058,139	9,210,315	11,133,250
Total	1,057,911	1,090,916	1,405,087	912,571	1,164,085	11,219,348	14,438,995