NEW YORK CITY WATER BOARD

PUBLIC INFORMATION REGARDING WATER AND WASTEWATER RATES

APRIL 2006

NEW YORK CITY WATER BOARD
Information Booklet

Table of Contents

INTRODUCTION

Introductory Statement 1
DEP Program Overview 5
Schedule for Water Board Rate Adoption 10
Program Summary 11
Revenue Enhancement from Collection Enforcement 13
Water and Wastewater Rate History 14
FY2007 Rate Projection (Change Over Time) 15
Residential Water & Sewer Charges as a Percentage of Median Household Income 16
Annual Water & Wastewater Charges (Residential) - FY2007 17
Annual Water & Wastewater Charges (Commercial) - FY2007 18
Annual Water & Wastewater Charges (Industrial) - FY2007 19
Typical NYC Water/Wastewater Charges 20
Change in Single Family Charges - Selected Cities 21
Five-Year Water and Wastewater System Capital Program 22
Five-Year Capital Program Components (Mandated vs. Critical Infrastructure) 23
Ten-Year Water and Wastewater System Capital Program 24
Ten-Year Capital Program Investment Allocation (Dollars) 25
Ten-Year Capital Program Investment Allocation (Percentage) 26

2007-2008 FINANCIAL DETAIL

Anticipated Water and Wastewater System Expenditures 27
Water vs. Wastewater System Costs 28
Water/Wastewater System Cost - FY2007-FY2007 29
Rate Advisor's Conclusions 30

GENERAL INFORMATION

Process for Water Board Rate Adoption 31
Important Objectives of the Water Board in Establishing Rates and Charges 32
Operating Relationships 33
Description of the Water System and the Wastewater System 34

Introductory Statement

The New York City Water Board ("the Board") has prepared this information booklet to acquaint the public with its rate and billing policy and regulatory proposals for Fiscal Year 2007 ("FY2007") and with the financial condition of the water and wastewater system (the "System") and its budget for the upcoming year.

Public hearings concerning the proposals set forth herein will be held in each borough of the City. The schedule of the dates, times and locations for these hearings, the purpose of which is to present and explain the Board's proposals and provide an opportunity for public comment is included in this information booklet.

The Board's FY2007 rate proposal is to increase water rates by 9.4% percent. The current published forecast of System rates, developed almost one year ago, anticipated a 5.6% increase would be required for FY2007. Accordingly, this proposal represents an increase over prior projections.

The factors that have led to a higher required rate increase for FY2007 include the following.

Increases in Operating Expenses
Water and wastewater system operations and maintenance require higher funding levels in FY2007 as compared to FY2006. Current estimates of new operating expense needs include increases for the following major categories.

- Heat, Light, Power and Fuels ($9 million): the movement of energy prices to higher levels impacts the water and wastewater system as well as virtually every other sector of the economy.

- Chemicals ($6 million): chemicals are used both in drinking water supply and in wastewater treatment. Chemical costs are affected by energy price increases as energy is an input into both their production and their transportation/delivery to the user.

- Property Taxes on Watershed Lands ($12 million): taxes on City lands and improvements in the watershed have been increasing as a rapid pace, well in excess of the rate of inflation. Current FY2006 taxes are approximately $100 million and FY2007 taxes are anticipated to increase to approximately $112 million, an increase of 12%.

- Environmental Health & Safety ($16 million): DEP has made a major commitment to full compliance with Environmental Health & Safety mandates which have grown out of the settlement of several court proceedings.

- Newtown Creek Wastewater Treatment Plant ($12 million): the upgrade of the Newtown Creek WPCP to full secondary treatment will require additional personnel, power, energy and chemical usage.

- Biosolids Transport and Disposal ($4 million): sludge, or "biosolids," is a byproduct of the sewage treatment process and must be disposed. Prices for biosolids transportation and disposal at out-of-state sites are increasing.

- Bureau of Customer Services ($3 million): additional resources related to an increase meter reading expenses, and to support the billing of customer accounts, the collection of payments and the resolution of disputes.

Decrease in Base Revenue Forecast

Last year, DEP and the Board established a goal of improving collection efficiency and collecting past due accounts. The collection plan assumed that $50 million per year in additional one-time revenues would be collected over the next several years. While FY2006 collections have increased in excess of the base collection rate, collection performance has not met the expectation of a $50 million per year benefit. Accordingly, our collection plan has been reduced to reflect $15 million per year in additional one-time revenues from collection enforcement as compared to the previous $50 million per year. DEP will continue to aggressively pursue the collection of delinquent monies owed by customers. It is unfair to the vast majority of customers who pay their bills in a timely manner to allow some customers to defer or avoid paying their bills. At the same time, higher collection rates will permit lower rate increases and lower annual water/sewer charges for all customers. The Board may adjust the base revenue forecast, with the consequent impact on projected annual collections and rates, when justified by changes in collection performance.

Federal and State Mandates

Apart from the operating expense and revenue plan changes summarized above that have an incremental impact on FY2007 rates, the Board notes that federal and state environmental mandates continue to drive system costs. Mandated capital infrastructure investments under the Clean Water and Safe Drinking Water Acts, as well as negotiated consent decrees, account for about 70% of the system's capital budget over the next five years. The resulting debt service incurred on bonds issued to finance these investments continues to be the single most important factor driving the need for rate increases. Aggregate debt service on bonds issued to finance capital expenditures is anticipated to increase $130 million from FY2006 to FY2007.

New York City Water/Sewer Rates Remain Competitive

Although rates and charges for water and wastewater service in the City have increased in recent years, the information presented herein demonstrates that charges in the City are competitive with charges levied in other jurisdictions. In absolute dollars and as a percentage of median income, NYC charges for single-family residential customers rank in the lower half of the twenty-four large cities surveyed and are below the average of all of these cities. The increase in the rates and charges of other cities in the last year illustrates that enhanced environmental management is a broad issue that many utilities in the water and wastewater industry are facing. The same mandates and challenges that are driving rate increases within the City are driving rate increases across the country.

A typical single-family homeowner in the City is currently paying about $571 per year or just under $48 per month for water and sewer services. The proposed increase will add less than $54

per year or approximately $4.48 per month to the average bill. The new bill for combined water and wastewater services will amount to about $52 per month and is likely to be less than the average monthly charges for electric service and heating and probably less than most telephone and cable TV services as well.

Proposed Billing Policy Changes

In addition to the rate proposal for basic water and wastewater service and the rate for wholesale water service provided to municipalities and water districts north of the City, the Board is also considering minor changes to certain billing policies and miscellaneous fees. A description of these proposed changes can be found in the Program Summary contained in this booklet.

DEP Program Overview

Water and Wastewater Capital Improvement Program
In FY2004, with the support of the Mayor, DEP doubled its 10-year capital program to approximately $16 billion. The current capital plan, which covers a five year period extending from the current FY2006 though FY2010, anticipates environmental infrastructure investments amounting to $9.9 billion. The capital program allocates substantial resources to the City's water supply infrastructure and to meeting DEP's commitments mandated by a variety of consent orders. This funding will help ensure continued compliance with federal and State mandates, the protection of drinking water quality, the advancement of work on the Third Water Tunnel in Brooklyn, Queens and Manhattan, expansion of the water main and sewer collection networks in the City, and improvements to the City's fourteen wastewater treatment plants.

Among the capital investments to be made in the next four years are:

$904 Million to Protect Upstate Watersheds
The City is supporting a number of watershed protection programs in its Catskill and Delaware watersheds. These programs, which include everything from rehabilitating upstate septic systems to buying land surrounding our system of reservoirs, help to ensure that the high quality of New York City's source waters remains that way for years to come. DEP has acquired more than 70,000 additional acres of critical watershed lands, protecting in perpetuity the forests and meadows through which our drinking water passes.

$329 Million to Continue Building the Third Water Tunnel and to Begin Construction of the Kensico Aqueduct
The City relies on infrastructure that is, for the most part, almost 100 years old to bring water from its upstate reservoirs. These two projects will enable the City to inspect and repair its older tunnels, while providing redundancy in the water supply system in case of emergency.

$1.3 Billion to Build a Filtration Plant for the Croton Water System
Ten percent of the City's water comes from the Croton Reservoir system, which is located in the more populated counties of Westchester and Putnam, where pollution is more common and more difficult to control. The Croton filtration plant will ensure that water from the Croton system continues to meet New York City's high standards for quality. Construction has begun at the Mosholu Golf Course in Van Cortlandt Park in the Bronx on this important facility.

$579 Million to Build an Ultraviolet Disinfection Facility for Catskill and Delaware Water Supplies
The City is designing an ultraviolet (UV) light disinfection facility for the Catskill and Delaware water supplies. Once operational, this facility will inactivate certain waterborne pathogens. The facility is expected to treat 2 billion gallons of water per day, and will be the largest of its kind in the nation. Site preparation activities at the construction site in Westchester County are expected to begin in late 2006.

$162 Million Dependability/Alternative Sources Program

The infrastructure that carries drinking water from the Catskill and Delaware watersheds to New York City has been in continuous operation for decades without ever having been taken offline in any significant way for inspection or repair. While neither of the aqueducts is in danger of immediate failure, at some time in the future, each must be shut down for inspection and the City will lose access to a large percentage of its supply for a period of time. DEP has initiated a Water Supply Dependability Study in order to determine how to ensure that a sufficient supply of drinking water will be delivered to its 9 million customers when that happens. The Dependability Study is intended to develop a plan that will enable DEP to take critical water system components out of service, one at a time, for inspection and repair and still meet demand.

$3.0 Billion to Upgrade Sewage Treatment Plants in the City

The water in New York Harbor is the cleanest it has been in over 90 years. To continue that progress and to meet the requirements of federal government mandates, the City must upgrade its older sewage treatment plants. More than $1 billion of this amount will be used to improve water quality in Long Island Sound by reducing nitrogen, thereby improving the environment for fish and shellfish native to these waters.

$302 Million to Decrease the Amount of Raw Sewage that Flows from Combined Sewers into New York Harbor when it Rains

The City is building facilities to capture the overflows from combined sanitary and storm sewers before they can reach the Harbor and impair water quality or pollute City beaches. At present, much of the City is serviced by a combined sewer system, wherein sanitary flow combines with storm water during wet weather and exceeds treatment capacity at wastewater treatment plants. The City is constructing a variety of facilities to address this problem, including large-scale infrastructure such as storage tanks, creation of in-line storage within sewer mains, pump station upgrades, regulator improvements, throttling facilities, floatables controls, and even the expansion of wet weather capacity at two of its wastewater treatment plants.

$461 Million to Build the Staten Island Bluebelt System and the New Connecting Storm Sewers

The Bluebelt eliminates the need for even more expensive storm sewer networks in parts of Staten Island by preserving natural open spaces for stormwater management. The Staten Island Bluebelt program provides environmentally sound and economically prudent stormwater management for the borough's South Richmond area. Benefits of the program include improved drainage and flood control, enhancement of the natural environment, wetland restoration and improved stream water quality. The program has expanded to the mid-Island area with the launching of the South Beach, New Creek, and Oakwood Beach Bluebelts.

For more than 150 years, New Yorkers have invested in the infrastructure that provides residents and businesses with clean drinking water and the means to properly dispose of wastewater. DEP is continuing that tradition by taking meaningful steps to protect and improve this valuable legacy for generations to come.

Drinking Water Quality Protection Program
New York City obtains its drinking water primarily from three watersheds: the Croton system located mainly in Westchester and Putnam Counties; the Catskill reservoir system located in Schoharie, Greene, Ulster and Orange Counties; and the Delaware reservoir system located in Delaware, Sullivan, Ulster and small portions of Greene and Schoharie Counties.

The City works with its upstate partners – groups like the Catskill Watershed Corporation, the Watershed Agricultural Council, and the Watershed Protection and Partnership Council – to implement its comprehensive watershed protection plan to ensure the high quality of New York City's drinking water supply at its sources.

These efforts include the following programs:

Watershed Agricultural Program
The Watershed Agricultural Program (WAP) is a comprehensive effort to develop and implement pollution prevention plans for commercial farms in the Catskill and Delaware Watersheds. DEP has expanded this program to farms located east of the Hudson River. From 1992 to 2007, the City has committed approximately $75 million to developing, implementing and supporting best management practices and whole farm plans in the watershed.

Forestry Program
Forests cover more than three-quarters of New York City's watersheds. In partnership with landowners, loggers and the forest industry, DEP supports a voluntary Watershed Forestry Program. Trained foresters have completed management plans covering more than 80,000 privately owned acres. The City's commitment to funding the Forestry Program is in excess of $4 million and is scheduled to run to the end of June 2007.

Stream Management Program
DEP works with watershed communities and landowners to address problems that affect the water quality of Catskill Mountain streams, including stream bank and bed erosion, flood hazard risks and habitat degradation. Program elements include the development of stream management plans and a network of stream restoration demonstration projects. The City has committed nearly $31 million to stream management and has worked to secure an additional $5 million from various environmental groups as well as State and federal agencies.

Wastewater Infrastructure
For small communities in the Catskill/Delaware watershed, the costs of building and operating new sewage treatment plants are prohibitive. The New York City Water Board has appropriated $92 million to finance the construction of seven new sewage treatment plants and $10 million for septic systems in smaller watershed communities whose source water quality is most threatened by septic system failure. The Water Board will also provide funding for upgrades to existing

municipal treatment plants in order to significantly reduce or eliminate the discharge of pathogens.

Septic System Rehabilitation
Septic systems are used to treat wastewater from homes and small businesses that aren't served by sewer systems and treatment plants. Very old and failing systems threaten both groundwater and surface water quality. In 1997, the Water Board contributed $13.6 million in program support to repair or replace failing septic systems. In 2002, the Water Board provided an additional $15 million to continue the program.

Stormwater Infrastructure
Contaminants such as metals, oils, nutrients from fertilizers and bacteria can be located on the surface of saturated soils or impervious surfaces such as parking lots or rooftops. They are easily dislodged and carried by stormwater runoff into storm sewers, watercourses, and eventually into drinking water supply reservoirs. Funded originally in 1997 by the Water Board with $7.6 million, the Stormwater Retrofit Program supports the design, construction and maintenance of stormwater best management practices. In 2002, the Water Board allocated an additional $7.5 million to extend the program.

Water Delivery and Wastewater Collection
Replacement and reinforcement of the trunk mains and the distribution main system have improved water circulation, water pressure and system reliability. All areas of the City experience better water pressure now than twenty years ago and there are fewer water pressure problems than in the past.

Water Tunnel No. 3, under construction since the 1970s, will provide redundancy for much of the City's distribution system. The thirteen-mile, Stage 1 section of the Tunnel was activated in 1998 and currently delivers water to the Bronx and upper Manhattan. The 10.5-mile Brooklyn/Queens leg of Stage 2 was completed in May 2001. Supply shafts that will feed water from this new section to the distribution system are under construction. It is anticipated that the Brooklyn/Queens section will begin delivering water to Staten Island, Brooklyn and Queens by 2009. Construction of the 8.5-mile leg of the Manhattan section of Stage 2 commenced in the summer of 2003, and it is expected that water delivery will begin in 2012.

The 10-Year Capital Improvement Plan now includes a project to construct a new aqueduct from the Kensico Reservoir in Westchester County to the Hillview Reservoir in Yonkers. This deep tunnel construction will run approximately 16 miles and take ten years to complete. When finished, the new aqueduct will provide redundancy and security for the water transmission system between Kensico and the City line.

Improvements to the Staten Island water distribution network have increased system reliability and have enhanced fire protection as well. Extension of the sanitary sewer system on Staten Island continues each year, connecting more homes and businesses to the City's wastewater system, thereby eliminating septic systems.

Wastewater Management

About 1.3 billion gallons of wastewater from homes, businesses, schools and streets in the five boroughs are treated each day at DEP's fourteen wastewater treatment plants. Purified effluent water is discharged back into the New York Harbor, which is defined as all fresh and tidal water within or adjacent to New York City.

According to DEP's latest annual Harbor Survey Report, water quality in New York Harbor and the surrounding rivers has shown great improvement over the past thirty years. The Harbor Survey is an ongoing effort that monitors the City's waterways and has been in existence since 1909. The survey conducted water quality analyses at 34 regularly sampled sites. Additionally, significant improvement was seen following treatment plant expansions and upgrades since 1985 and the start-up of the City's last two wastewater treatment plants in 1988. Further improvements since 1989 are attributed to increased surveillance of and improved operations and maintenance for all of the City's sewage treatment plants. All but one of New York City's treatment plants have been upgraded to include secondary treatment, with the final plant upgrade, in Newtown Creek, to be completed by the end of 2007. All public beaches have been open nearly continuously since 1992. Wet weather beach advisories have been lifted at all but three of these beaches. Priority pollutants are in decline and sediment and bottom dwelling creatures have recovered. Shore birds have returned to breed in several areas of the harbor. Fish advisories and shellfish restrictions have been relaxed.

DEP continues implementation of an Urban Watershed Planning Program that focuses on those areas within the harbor that remain impacted. This program looks at certain water bodies and their drainage basins and is developing a comprehensive plan for each. Some of the projects in the program include construction of combined sewer overflow facilities for Paerdegat Basin in Brooklyn, Flushing Bay in Queens, and the Bronx River, which will substantially improve the surrounding water bodies and the communities in which they are located.

The Alley Creek Combined Sewer Overflow (CSO) Project in the Bayside section of Queens is a multi-faceted project that will address a number of important public and environmental concerns. The project will eliminate street flooding in the area during rainstorms, improve the water quality of Alley Creek and Little Neck Bay, and create a natural park setting in an urbanized area.

It is noted that the System has realized a significant increase in the capture of wet weather flows in recent years, which has reduced CSO discharges into the harbor. The reduction in CSO discharges is attributable to several factors including technical adjustments to the system's Stormwater management facilities, and even more so to water conservation and water use reduction which have made additional capacity available in the wastewater system to handle and process stormwater.

Schedule for Water Board Rate Adoption

April 7, 2006 — **Water Board Meeting to Approve Public Notice of 9.4% Rate Increase**

Rate Hearing Dates and Locations

Borough	Location	Date/Time
Manhattan	St. John's University - Manhattan 101 Murray Street, Room 118 New York, NY 10007	Monday May 1, 2006 5:30 P.M.
Queens	Department of Environmental Protection Lecture Room, 6th Floor 59-17 Junction Boulevard Flushing, NY 11373	Tuesday May 2, 2006 1:00 P.M.
Brooklyn	Brooklyn College Student Center-Alumni Lounge, Rm. 409 (Opposite Whitehead Hall) East 27th Street and Campus Road Brooklyn, NY 11210	Tuesday May 2, 2006 6:00 P.M.
Bronx	Herbert H. Lehman College Carman Hall, Room B-39 250 Bedford Park Boulevard West Bronx, NY 10468	Wednesday May 3, 2006 9:30 A.M.
Staten Island	College of Staten Island Center for the Arts, Recital Hall 2800 Victory Boulevard Staten Island, NY 10314	Wednesday May 3, 2006 6:00 P.M.

May 12, 2006 — **Water Board Meeting to Adopt Rates for Fiscal Year 2007**
St. John's University – Manhattan
101 Murray Street
New York, NY 10007

May 2006 — **Flat-Rate Bills are Mailed**

July 1, 2006 — **Fiscal Year 2007 Rates Become Effective**

Program Summary

FY 2007 Rate Proposals

- Increase in-City water rates by 9.4% for all customers, flat-rate and metered, and for billing programs
- Maintain in-City wastewater rates at 159% of water charges
- Increase wholesale water rate to upstate municipalities and water districts to an amount currently anticipated to be $660.48 per million gallons

FY 2007 Billing Policy Proposals and Changes to Miscellaneous Fees

Multiple Family Conservation Program (MCP)
The current deadline to file for entry into this program is December 31, 2006. The Board proposes to extend the deadline to apply for MCP by two years to December 31, 2008. The reason for the extension is to enable DEP to implement a program to assist toilet fixture replacement for those accounts eligible for and opting for MCP, but requiring toilet fixture replacement to qualify.

Extension of Transition Program for Residential Premises with Six or More Dwelling Units and Pre-Transition Program Flat-Rate Charge
In conjunction with MCP, these programs were set to expire on June 30, 2007, and in conjunction with the MCP extension described above, their expiration will also be extended two years to expire June 30, 2009. After June 30, 2009, properties currently in these programs must have filed an application and been approved for eligibility into MCP or they will be converted to metered billing.

Miscellaneous Fees for Wastewater Service
DEP currently imposes a fee of $200 to perform, at the request of a customer, a dye test to determine the existence of a connection to the wastewater system. The Board proposes to extend this fee to include any engineering field investigation performed which determines the availability and/or condition of a wastewater connection in lieu of a dye test.

Letter of Authorization
The Board and DEP require that customers file a signed and notarized Letter of Authorization designating an Authorized Representative to dispute their water and sewer charges. Existing policy provides that should the Letter of Authorization fail to state a term, DEP will deem it to expire one year after it is signed. The Board proposes to limit all Letters of Authorization to a maximum one-year period. In addition, the Board will require that if a valid Letter of Authorization is on file with DEP, a new Letter of Authorization designating a different representative will not be accepted until the property owner revokes in writing the previously filed Letter of Authorization. The purpose of this revision is to avoid situations where DEP is unsure whom the owner currently desires as a representative because of the existence of multiple designation letters, each of which have future expiration dates.

Iteration of Current Board and DEP Policies in Rate Schedule

It is proposed that certain existing Board and DEP billing practices, policies and procedures be incorporated into and cited in the Board's Rate Schedule to enhance its completeness. Such currently existing policies include the following.

- Maintenance and Repair of Meters – The Board proposes to make explicit that DEP's responsibility for the maintenance and repair of water meters used for billing purposes does not extend to the building's plumbing system, including but not limited to service lines, control valves, check valves, and internal piping all of which are the responsibility of the property owner. Accordingly, owners are responsible for ensuring that the building's plumbing system is in an adequate state of repair so as to enable DEP to repair, upgrade or replace the meter.
- Destruction of Meter or Components – Currently, DEP may assess a fee when a water meter requires repair or replacement due to the customer's vandalism or other actions. It is proposed that the Board specify and clarify what is intended by the term "other actions." Accordingly, the term "other actions" will be replaced with the more specific "failure to reasonably protect the meter or components", which will encompass all situations in which the property owner fails to act reasonably to protect the meter or components.

Revenue Enhancement from Collection Enforcement

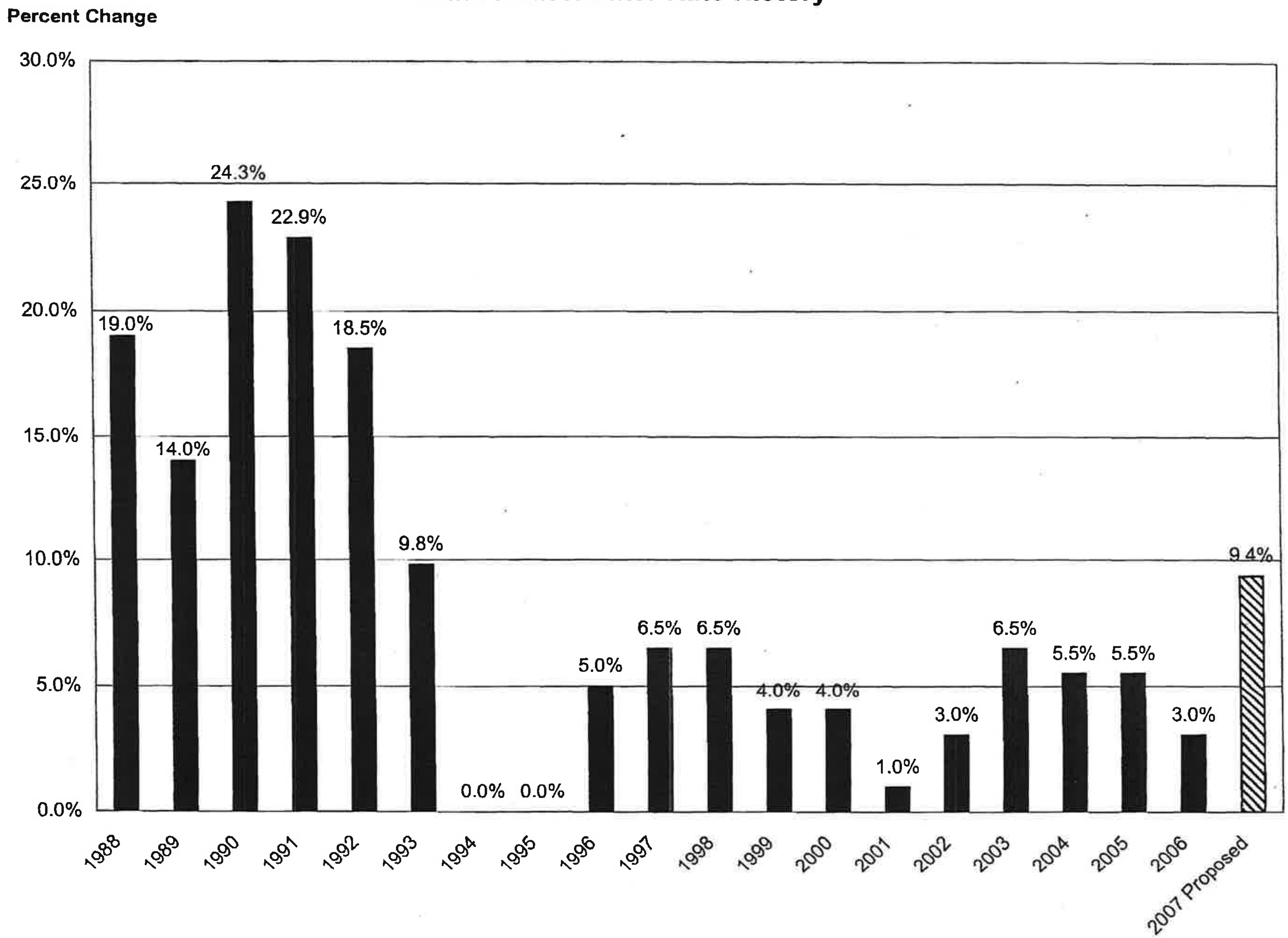
The Board's proposed 9.4% increase in FY2007 water and sewer rates is necessitated in part by the need to scale back prior assumptions relative to the amount of increased revenues anticipated to be received from collection enforcement activities. While DEP has improved revenue performance measurably, the improvement year-to-date has not been as great as previously assumed. In 2005, it was assumed that $50 million per year in one-time revenues would be received in FY2006 through FY2010 from a more forceful pursuit of delinquent accounts. Through March, FY2006 collections, notwithstanding a 3% rate increase, are up 5% over FY2005. In dollar terms, however, the improvement is approximately $20 million rather than the $50 million previously counted on and included in the projections for future years. The current collection plan subtracts a portion of the one-time revenues received from collection enforcement and assumes one-time revenues of only $15 million per year over the next three years. The Board may adjust the base revenue forecast, with the consequent impact on projected annual collections and rates, when justified by changes in collection performance.

DEP will continue to aggressively pursue the collection of delinquent monies owed by customers. It is unfair to the vast majority of customers who pay their bills in a timely manner to allow some customers to defer paying their bills. Higher current collection rates could permit lower rate increases and lower annual water/sewer charges for all customers

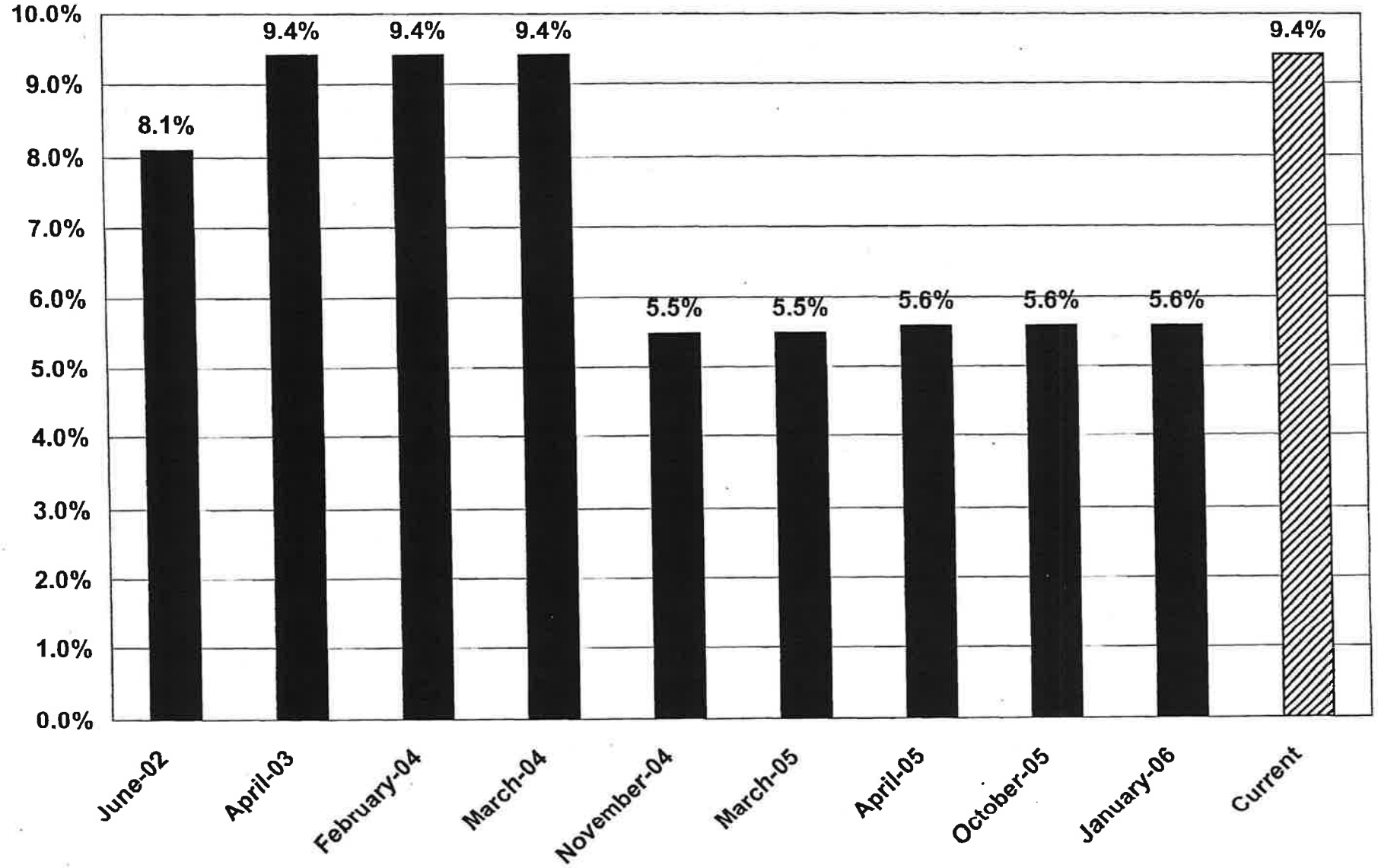
Among the collection enforcement activities conducted by DEP are:

- Initiating dunning and collection action on accounts that have not paid their bill by its due date;
- Enforcing termination of service for non-payment of delinquent commercial accounts;
- Exploring more aggressive collection enforcement on residential accounts including actions such as property foreclosures and selected water service shut-offs;
- In addition, the Water Board will be working closely with the City to make changes in the lien sale law to allow delinquent residential water charges, particularly those associated with multi-family buildings, to be sold in the lien sale without a coinciding property tax delinquency.

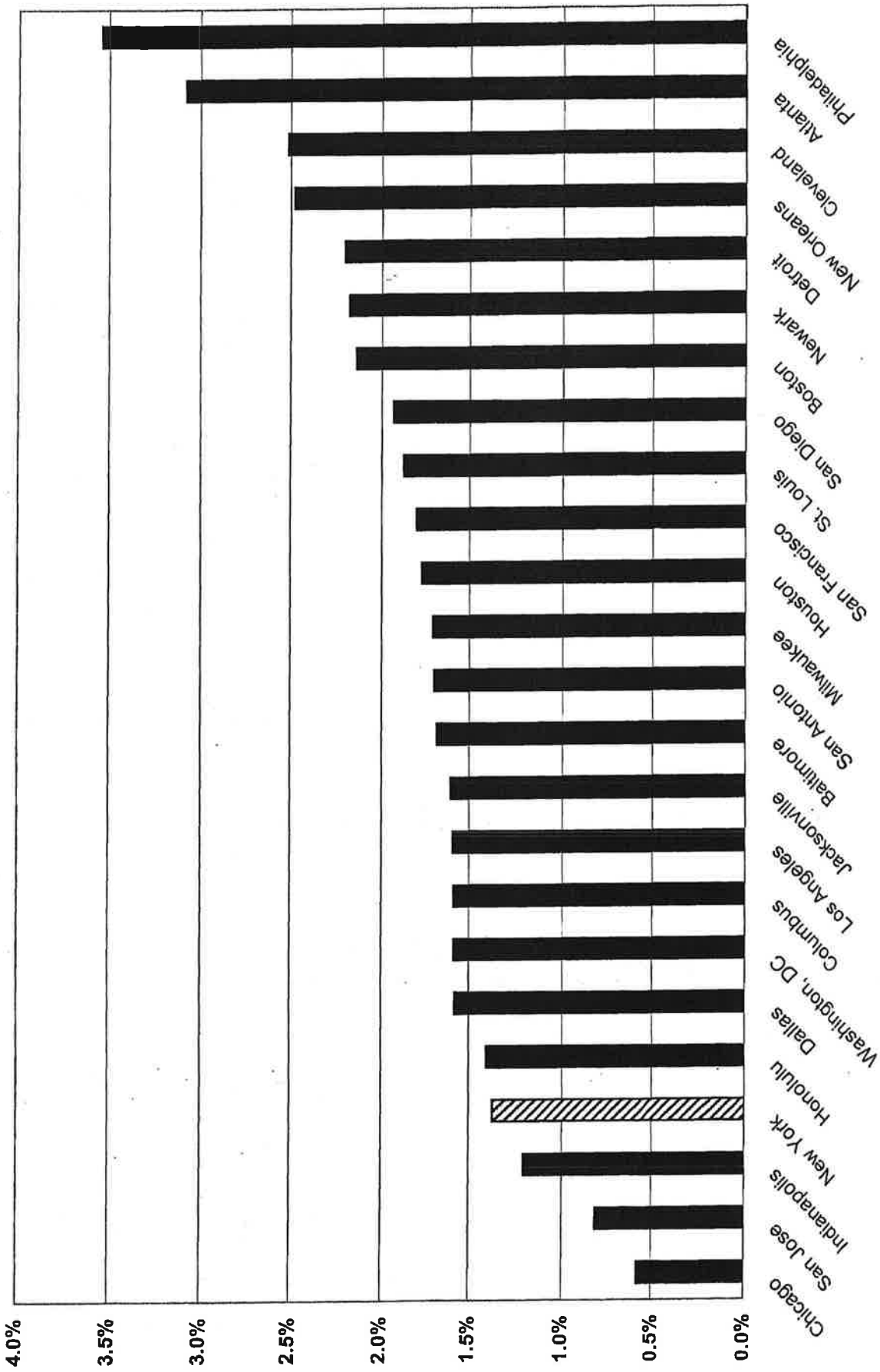
Water/Wastewater Rate History



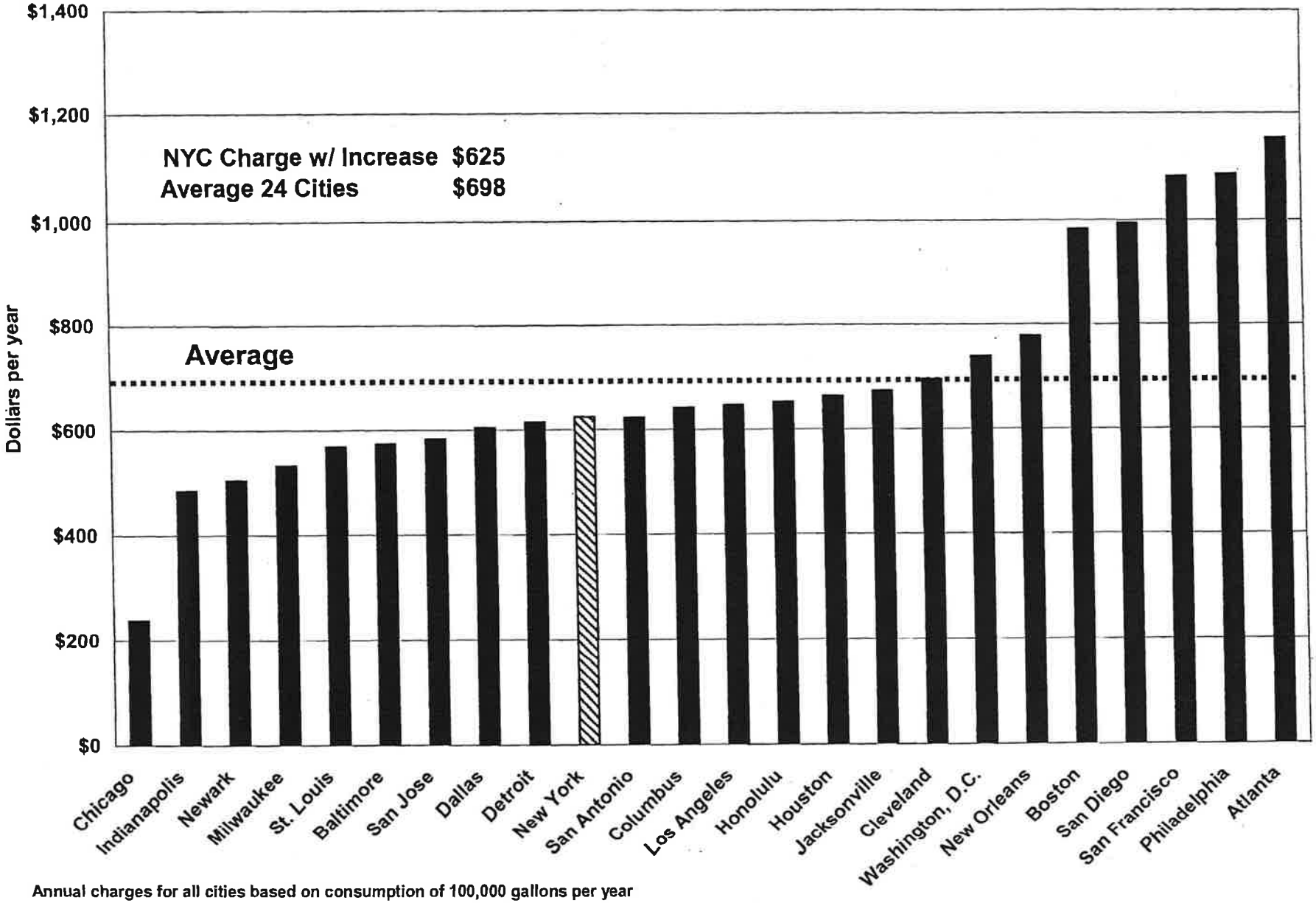
FY2007 Rate Projection
Change Over Time



Residential Water/Wastewater Charges as Percent of Median Household Income

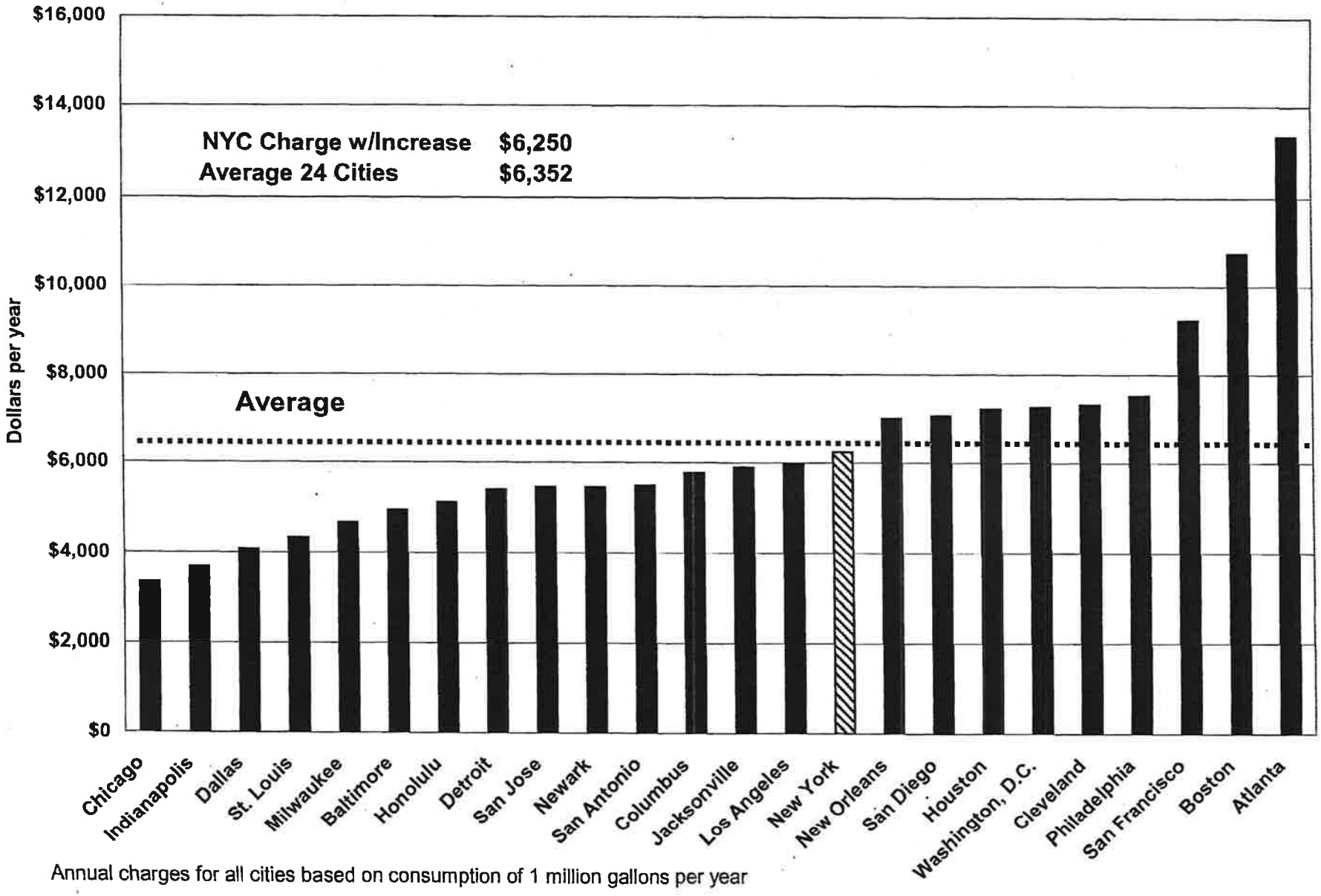


Annual Water/Wastewater Charges
2006 Residential



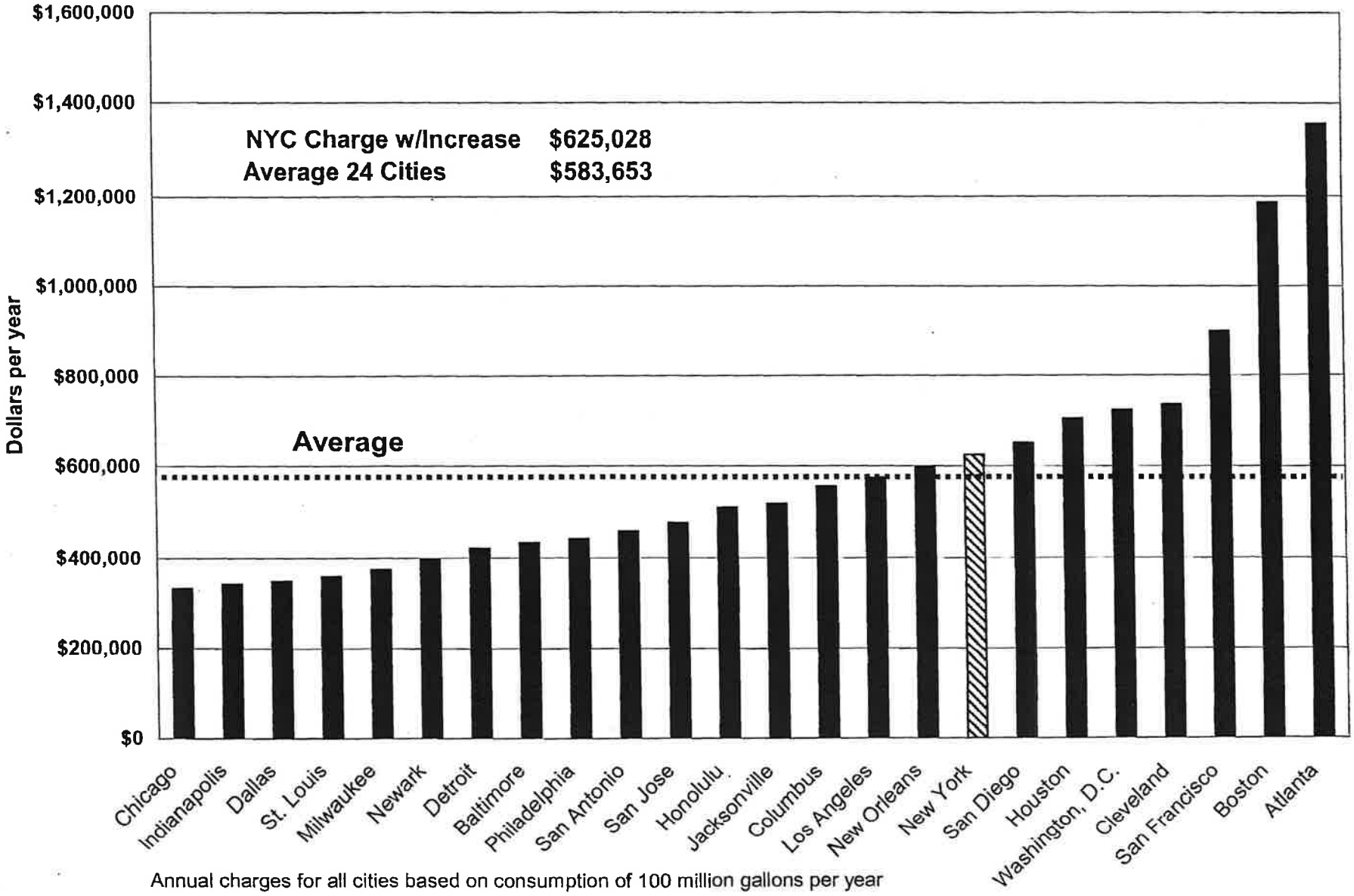
Annual charges for all cities based on consumption of 100,000 gallons per year

Annual Water/Wastewater Charges
2006 Commercial



Annual charges for all cities based on consumption of 1 million gallons per year

Annual Water/Wastewater Charges
2006 Industrial



Annual charges for all cities based on consumption of 100 million gallons per year

Typical New York City Charges

Assuming Proposed 9.4% Increase in FY2007 Rates

(Combined Water/Wastewater Charge)

	FY2006 Average	FY2007 Average	Change
Flat-Rate Customers			
Single Family Residential	$645	$705	$60
Two-Family Residential	$1,000	$1,094	$94
Walk-Up Apartments	$3,063	$3,351	$288
Charge per Dwelling Unit	$460	$504	$43
Elevator Apartments	$34,470	$37,710	$3,240
Charge per Dwelling Unit	$522	$571	$23

Metered Customers

	Rates per 100 Cubic Feet		
Residential & Commercial			
Water	$1.65	$1.81	$0.16
Wastewater	$2.62	$2.87	$0.25
Combined	$4.27	$4.68	$0.40

Typical Metered Charges

	Average Annnual Charges		
	FY2006	FY2007	Change
Single Family (100,000 gallons)	$571	$625	$53.70
Per Multifamily Unit (85,000 gallons)	$486	$531	$45.65

Change in Single Family Charges

2005 - 2006

	Dollars	Percent Change
Newark	$131	35.2%
San Francisco	$217	25.1%
St. Louis	$80	16.3%
Honolulu	$91	16.2%
New Orleans	$87	12.5%
Indianapolis	$47	10.8%
San Diego	$96	10.7%
Milwaukee	$46	9.4%
New York City	**$54**	**9.4%**
Baltimore	$47	9.0%
Detroit	$47	8.3%
24 City Average	$57	9.2%

Water and Wastewater System Capital Program

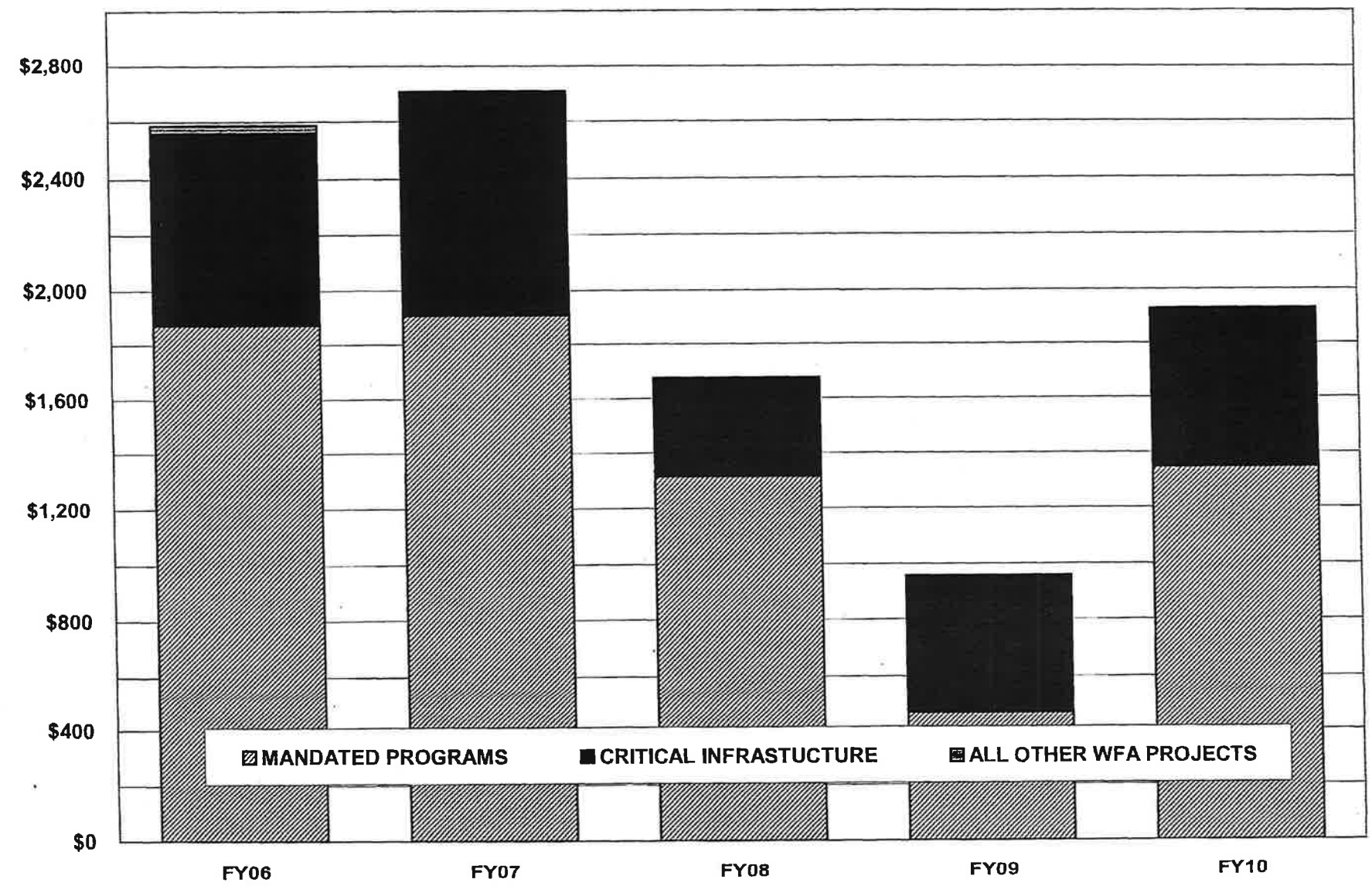
(Per January 2006 Commitment Plan)

Program $(000)'s

	FY06	FY07	FY08	FY09	FY10	5-Year Total
Croton Filtration	77,380	1,170,643	91,386	-	-	1,339,409
Ultra Violet Disinfection Facility	(10,654)	44,896	544,500	-	-	578,742
Filtration Avoidance Program	84,395	14,200	10,000	2,109	10,000	120,704
Other Watershed Investments	272,737	61,750	251,425	90,709	105,977	782,598
Newtown Creek	43,171	401,778	-	-	352,000	796,949
East River Plants	681,738	156,900	117,672	80,936	424,912	1,462,158
Combined Sewer Overflow	139,965	11,104	7,170	34,700	109,149	302,088
Wastewater Plants & Pumping Stations	273,407	20,000	164,228	164,625	106,196	728,456
Other Water Pollution Control Projects	90,103	250	101,510	56,125	212,618	460,606
Utility Relocation	42,879	27,463	27,725	31,401	28,175	157,643
Lanfill Remediation	176,943	-	-	-	-	176,943
MANDATED PROGRAMS	$1,872,064	$1,908,984	$1,315,616	$460,605	$1,349,027	$6,906,296
	72.3%	70.4%	78.5%	48.1%	69.9%	70.0%
Sewer Construction	253,059	161,604	168,984	132,451	166,821	882,919
In-City Water Main Construction	196,393	168,132	76,148	116,740	71,369	628,782
Water Tunnels	9,835	30,000	88,803	100,000	100,000	328,638
Dependability/Alternative Sources	-	58,582	-	103,048	-	161,630
Hillview Ancillary Facilities	19,760	102,100	-	-	139,000	260,860
Delaware Aqueduct Project	39,499	177,300	-	-	-	216,799
Water Conservation & Metering	31,965	16,000	9,500	10,000	19,000	86,465
Other DEP Projects	136,374	77,771	8,699	27,661	78,877	329,382
CRITICAL INFRASTUCTURE	$686,885	$791,489	$352,134	$489,900	$575,067	$2,895,475
	26.5%	29.2%	21.0%	51.1%	29.8%	29.4%
ALL OTHER WFA PROJECTS	$28,599	$9,310	$9,250	$8,090	$7,100	$62,349
	1.1%	0.3%	0.6%	0.8%	0.4%	0.6%
TOTAL CAPITAL PROGRAM	$2,587,548	$2,709,783	$1,677,000	$958,595	$1,931,194	$9,864,120
	100%	100%	100%	100%	100%	100%

Capital Program Components

Mandated vs. Critical Infrastructure

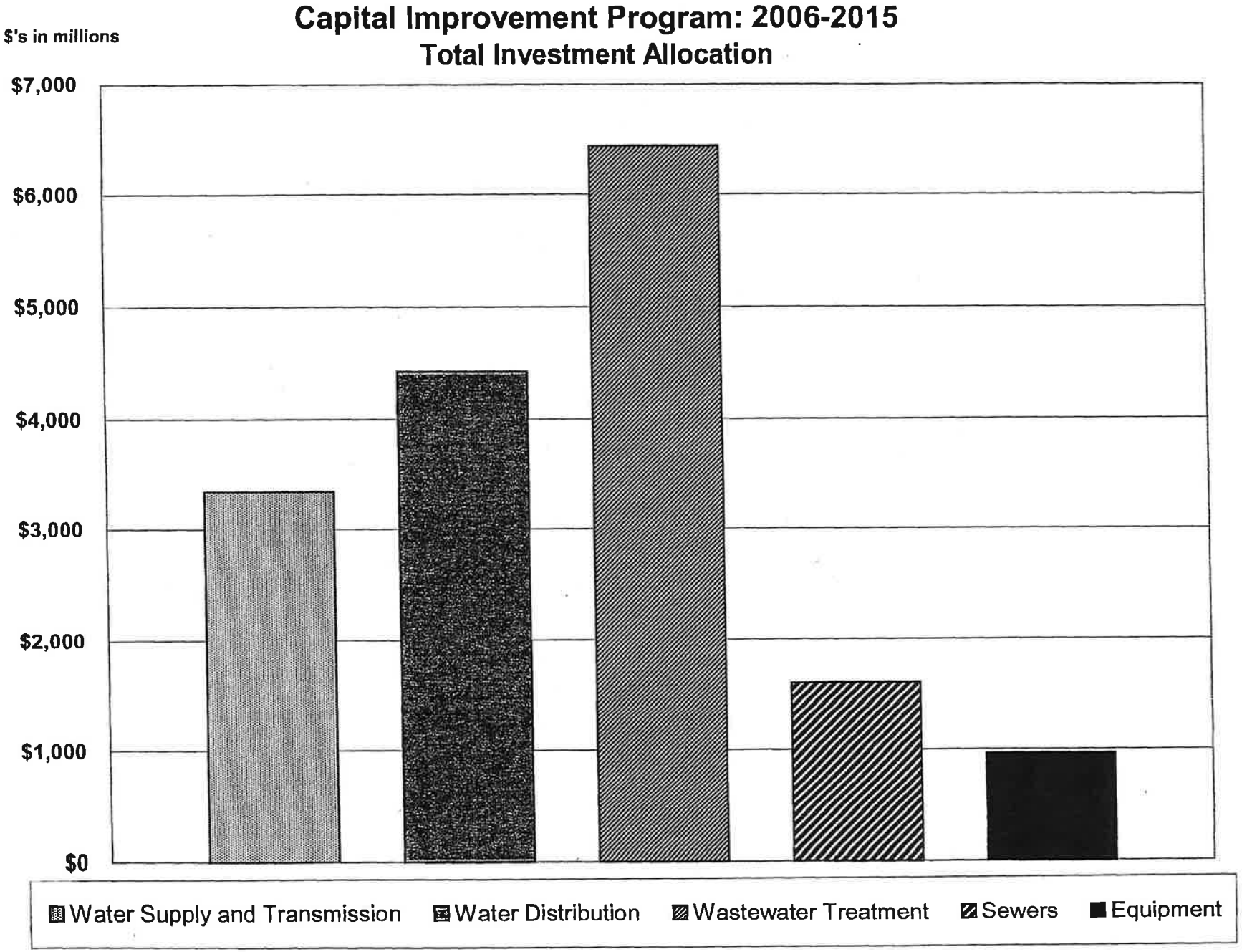


Water and Wastwater Capital Improvement Program

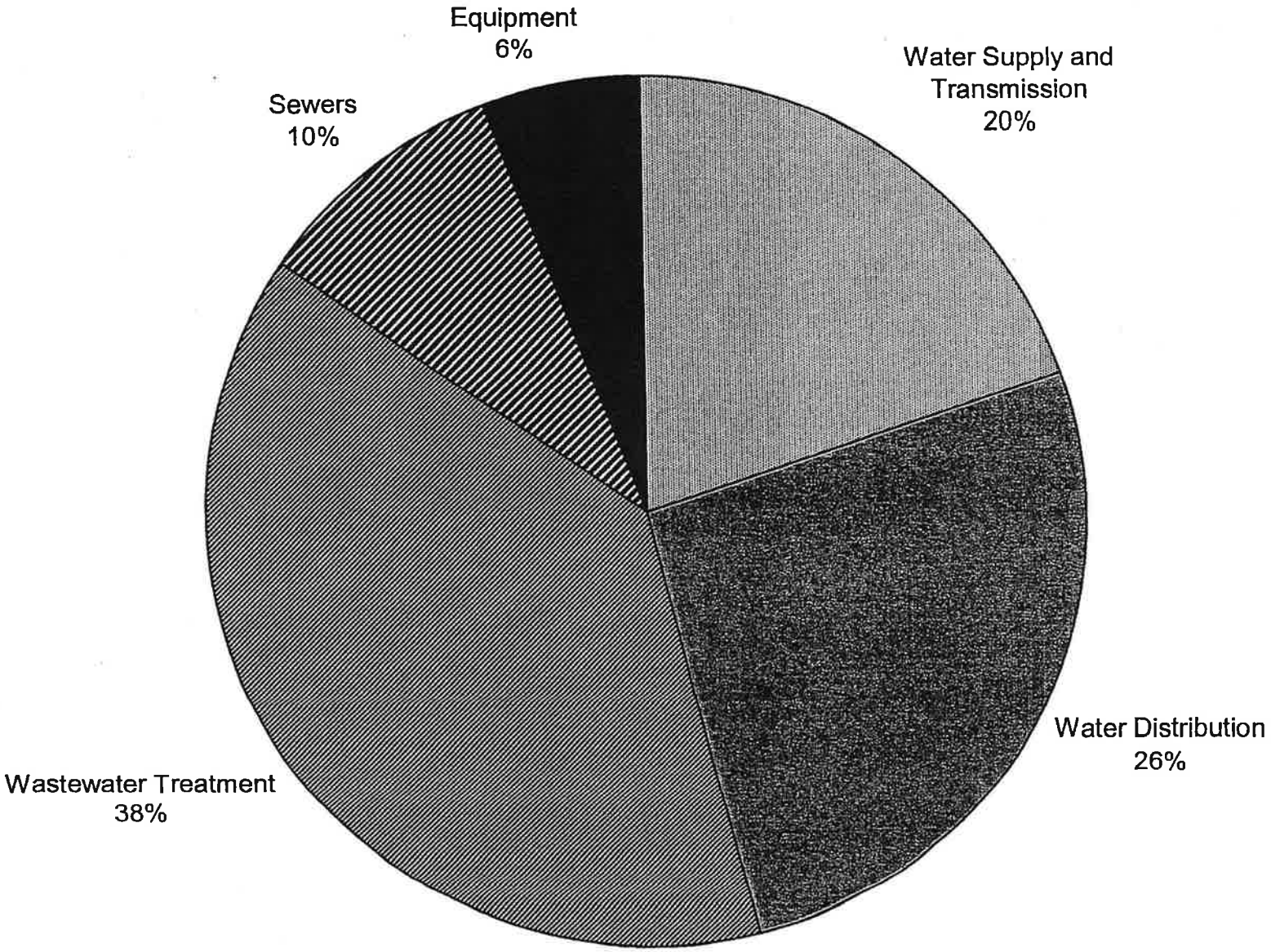
$ 000's

City Funds

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
Water Supply and Transmission											
Conveyance	$0	$57,582		$103,048	$0	$0	$301,299	$150,000	$203,455	300,000	$1,115,384
Kensico-City Tunnel		-	50,000	100,000	100,000	250,000	300,000	200,000	350,000	350,000	1,700,000
City Tunnel No.3, Stage 1	-	25,000	-	-	-	-	-	-	-	-	25,000
City Tunnel No.3, Stage 2	10,914	102,100	-	-	139,000	-	-	-	5,345	5,500	262,859
City Tunnel No. 1 Reconstruction	18,681	5,000	28,700	-	-	150,000	15,000	-	-	-	217,381
Miscellaneous Programs	-	1,000	10,103	-	-	-	-	-	-	-	11,103
Subtotal	$29,595	$190,682	$88,803	$203,048	$239,000	$400,000	$616,299	$350,000	$558,800	$655,500	$3,331,727
Water Distribution											
Brooklyn-Queens Aquifer	$15,784	$15,896	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$63,680
Croton Filtration Project	77,380	1,170,643	91,386	-	-	-	-	-	-	-	1,339,409
Dam Safety Program	125,603	33,250	232,125	46,000	34,000	-	55,000	-	-	-	525,978
Trunk & Distribution Main Extensions	54,269	9,388	18,643	52,574	5,260	47,013	28,106	41,458	50,000	52,558	359,269
Trunk & Distribution Main Replacement	126,340	142,848	53,505	60,166	62,109	64,461	91,262	67,126	71,400	71,546	810,763
Water Quality Preservation	260,374	264,896	573,800	46,818	81,977	21,255	22,593	11,941	21,600	23,545	1,328,799
Subtotal	$659,750	$1,636,921	$973,459	$209,558	$187,346	$136,729	$200,961	$124,525	$147,000	$151,649	$4,427,898
Water Pollution Control											
Consent Decree Upgrading & Const.	$130,673	$401,778	$0	$0	$384,457	$8,000	$31,000	$70,000	$28,722	$29,554	$1,084,184
Biological Nutrient Removal	89,387	-	-	-	8,712	-	-	-	-	-	98,099
Plant Upgrading & Reconstruction	276,629	20,000	164,228	164,625	106,196	95,465	87,489	89,574	73,721	75,932	1,155,859
Sludge Disposal	8,410	-	-	21,125	117,688	-	-	-	-	-	147,223
Plant Component Stabilization	622,725	157,150	219,182	115,936	497,130	405,000	280,000	430,000	236,201	370,633	3,333,957
Water Quality Mandates	137,774	12,104	7,170	54,700	129,149	127,500	5,000	7,000	30,000	108,000	618,397
Subtotal	$1,267,598	$591,032	$390,580	$356,386	$1,243,332	$635,965	$403,489	$596,574	$368,644	$584,119	$6,437,719
Sewers											
Replacement or Augmentation	$35,864	$19,827	$14,696	$24,110	$33,172	$8,671	$0	$12,818	$0	$3,300	$152,458
Extensions (New Develpopment)	86,769	84,340	87,621	42,988	80,204	99,065	75,803	91,177	105,000	105,000	857,967
Programmatic Replacement & Reconst.	251	118	-	-	500	-	-	-	-	-	869
Response to Regulatory Mandates	-	-	-	9,000	-	-	-	-	-	-	9,000
Replacement of Failing Components	126,540	55,677	65,603	55,069	51,661	48,112	48,319	44,450	44,450	44,450	584,331
Trunk Sewers	3,635	1,642	1,064	1,284	1,284	-	-	-	-	-	8,909
Subtotal	$253,059	$161,604	$168,984	$132,451	$166,821	$155,848	$124,122	$148,445	$149,450	$152,750	$1,613,534
Equipment											
Conservation	$31,965	$16,000	$9,500	$10,000	$19,000	$19,000	$10,000	$10,000	$10,000	$10,000	$145,465
Landfill Remediation - Brookfield Ave.	176,943	-	-	-	-	-	-	-	-	-	176,943
Management Information Systems	43,659	5,743	5,224	7,061	2,507	2,670	2,843	3,042	3,246	3,290	79,285
Facility Purchases & Reconstruction	57,888	72,028	4,475	1,600	37,913	-	-	-	-	-	173,904
Utility Relocation	42,879	27,463	27,725	31,401	28,175	29,618	28,235	29,597	27,800	28,328	301,221
Vehicles and Equipment	24,212	8,310	8,250	7,090	7,100	7,050	7,035	7,065	7,085	7,290	90,487
Subtotal	$377,546	$129,544	$55,174	$57,152	$94,695	$58,338	$48,113	$49,704	$48,131	$48,908	$967,305
Total City Funds	$2,587,548	$2,709,783	$1,677,000	$958,595	$1,931,194	$1,386,880	$1,392,984	$1,269,248	$1,272,025	$1,592,926	$16,778,183


Capital Improvement Program: 2006-2015
Total Investment Allocation
$'s in millions
$7,000
$6,000
$5,000
$4,000
$3,000
$2,000
$1,000
$0
Water Supply and Transmission
Water Distribution
Wastewater Treatment
Sewers
Equipment

Capital Improvement Program: 2006-2015
Total Investment Allocation



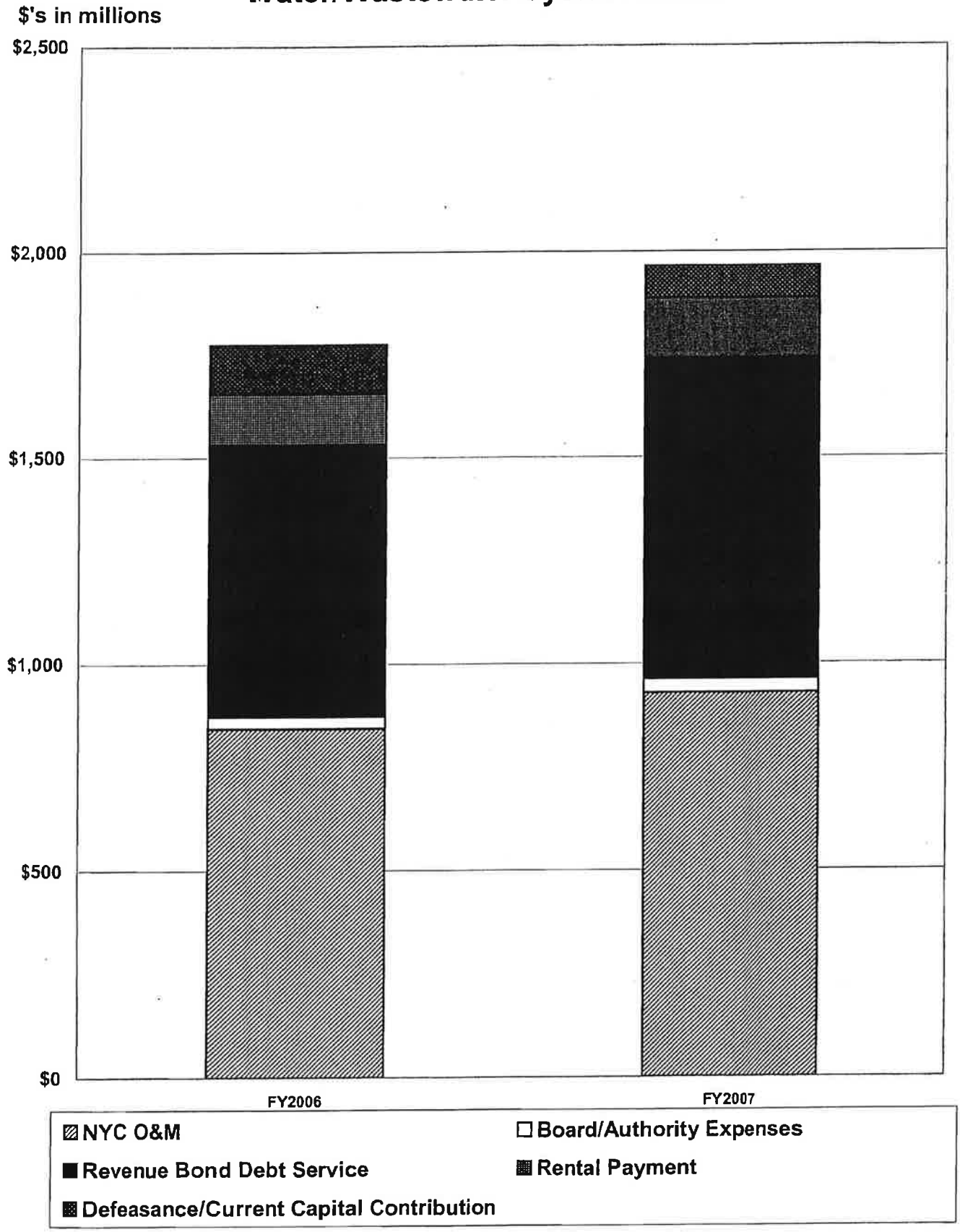
Anticipated Water and Wastewater System Expenditures
($'s in millions)

	FY2006	FY2007	Change
WFA Debt Service			
First Resolution Bonds:			
Outstanding Bonds	$515.7	$548.9	$33.2
Anticipated Future Bonds	0.0	24.0	24.0
Total First Resolution Bonds	$515.7	$572.9	$57.2
Subordinate Obligations:			
Interest on Commercial Paper	$30.0	$34.0	$4.0
Outstanding Second Resolution Bonds	364.9	395.1	30.2
Anticipated Future Second Resolution Bonds	0.0	58.6	58.6
Less: EFC Subsidy and Cap Interest	(93.3)	(111.9)	(18.6)
Actual Debt Service on Subordinated Obligations	$301.6	$375.8	$74.2
Less: Carryforward Revenues	(159.0)	(169.4)	(10.4)
Net Debt Service on Subordinated Obligations	$142.6	$206.4	$63.8
Debt Service Payable from Current Revenues	$658.3	$779.3	$121.0
Operating Expenses			
Authority/Board Operations	$29.0	$32.7	$3.7
Authority Expense for Defeasance of Debt	60.0	-	(60.0)
Water System	385.7	413.7	28.0
Wastewater System	468.7	507.7	39.0
Indirect Expenses	12.9	12.9	-
Judgments and Claims	8.0	8.0	-
Total Operating & Maintenance Expenses	$964.3	$975.0	$10.7
Less: Credit for Prior Year Excess O&M Payment	(31.4)	-	31.4
Less: Trust Account Withdrawals		(14.0)	(14.0)
Rental Payment	123.9	143.5	19.6
Current Capital Contribution	60.0	80.0	20.0
Total Operating Expenses	$1,116.8	$1,184.5	$67.7
Total Expenses	$1,775.1	$1,963.8	$188.7
Operating Revenues			
Water/Sewer User Payments	$1,848.9	$1,963.1	$114.2
Upstate Revenues	26.3	30.5	4.2
Miscellaneous Revenue	6.1	6.4	0.3
Water Finance Authority Investment Income	63.3	68.2	4.9
Total Revenues	$1,944.6	$2,068.2	$123.6
Surplus Carryforward	$169.5	$104.4	($65.1)

Water vs. Wastewater System Costs
($'s in millions)

	FY2007 Total Costs	Water Costs	Wastewater Costs
WFA Debt Service			
First Resolution Bonds:			
Outstanding Bonds	$548.9	$293.1	$255.8
Anticipated Future Bonds	24.0	12.8	11.2
Total First Resolution Bonds	$572.9	$305.9	$267.0
Subordinate Obligations:			
Interest on Commercial Paper	$34.0	$12.6	$21.4
Outstanding Second Resolution Bonds	395.1	39.5	355.6
Anticipated Future Second Resolution Bonds	58.6	5.9	52.7
Less: EFC Subsidy and Cap Interest	(111.9)	(11.2)	(100.7)
Actual Debt Service on Subordinated Obligations	375.8	$46.8	329.0
Less: Carryforward Revenues	(169.4)	(63.0)	(106.4)
Net Debt Service on Subordinated Obligations	$206.4	($16.2)	$222.6
Debt Service Payable from Current Revenues	$779.3	$289.7	$489.6
Operating Expenses			
Authority/Board Operations	$32.7	$9.7	$23.0
Authority Expense for Defeasance of Debt	-	-	-
Water System	413.7	413.7	
Wastewater System	507.7		507.7
Indirect Expenses	12.9	5.8	7.1
Judgments and Claims	8.0	3.6	4.4
Total Operating & Maintenance Expenses	$975.0	$432.8	$542.2
Less: Credit for Prior Year Excess O&M Payment	-		
Rental Payment	143.5	53.3	$90.2
Current Capital Contribution	80.0	29.7	50.3
Total Operating Expenses	$1,198.5	$515.8	$682.7
Total Expenses	$1,977.8	$805.6	$1,172.2

Water/Wastewater System Costs



Rate Advisor's Conclusions

- The 9.4% increase in water rates and charges proposed by the Board will yield anticipated revenues for Fiscal Year 2007 that are sufficient to cover the expected costs of providing water service and wastewater service.

- While the ratio of wastewater system costs to water system costs has declined somewhat in recent years due to ongoing water system 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 Rate Advisor has reviewed the Billing Policy and Miscellaneous Fee Proposals advanced by the Board. Part of this review included a comparison with the policies and practices of other large water and wastewater systems. The proposals are reasonable and likely to have a positive impact on system revenues.

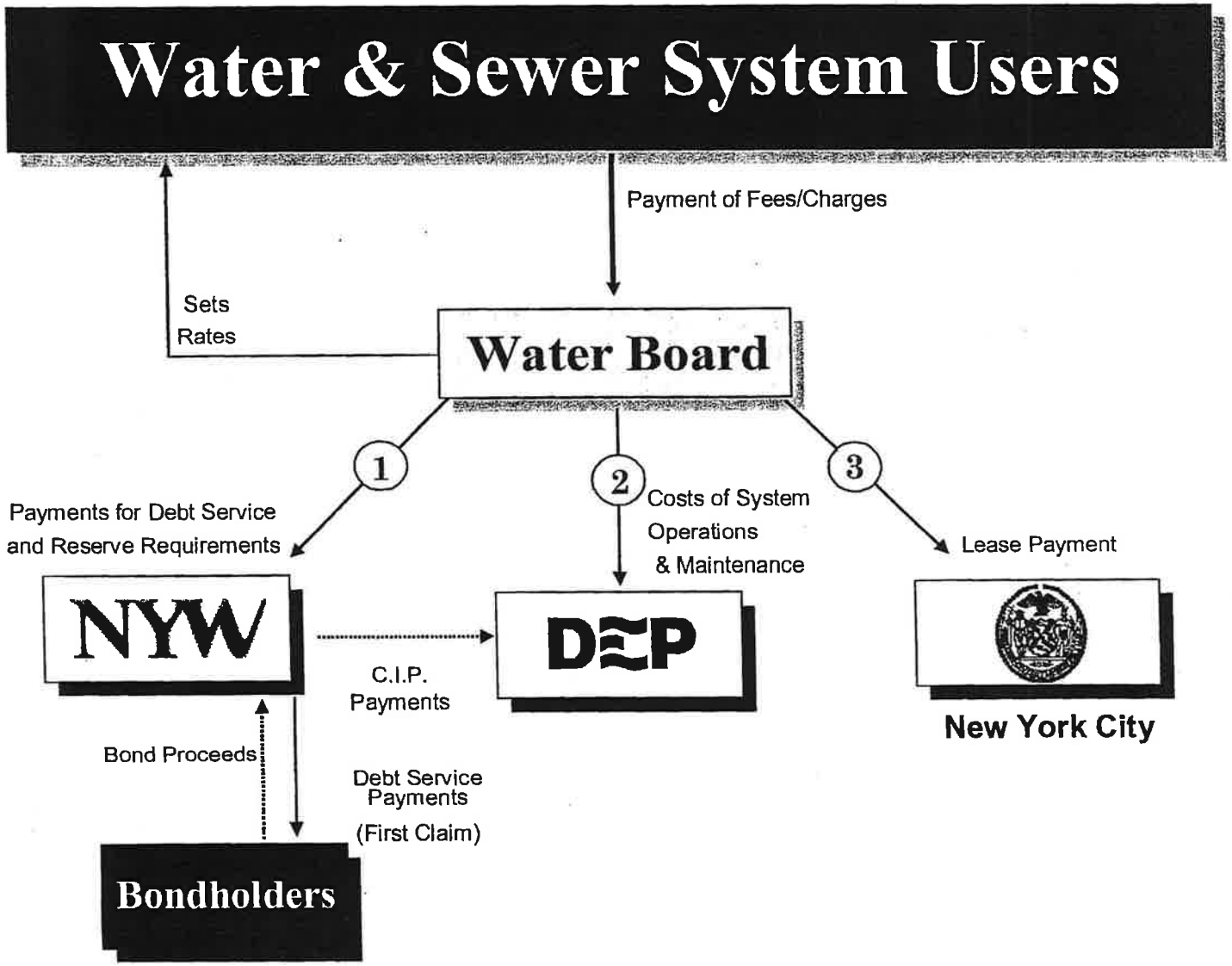
Process for Water Board Rate Adoption

- 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 FY2007 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 FY2007 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

Important Objectives of the Water Board in Establishing Rates and Charges

- Sufficient revenues must be raised by rates and charges and other sources of revenue in order to satisfy the revenue requirements of the Water System and the Wastewater System
- Rates and charges should be equitable and fair, in the sense that charges levied on different users reflect, as closely as practicable, the costs incurred in providing water and wastewater services.
- The rate structure, both present and long term, should provide a reasonably stable and predictable flow of revenue
- The rate structure should be relatively simple and easy to administer
- The rate structure should be understandable to the customer
- The rate structure should encourage water conservation

Operating Relationships



Description of the Water and Wastewater Systems

The Water System

DEP supplies water to over eight million people in the Boroughs of the Bronx, Brooklyn, Manhattan, Queens and Staten Island, an area of over 300 square miles. The City is also required by law to sell water to communities located in the eight counties where its water supply facilities are located. It currently provides water to approximately one million additional people in portions of four of the eight eligible counties.

Water for the System is derived from three upstate watershed and reservoir systems (the Croton, Catskill and Delaware watersheds) and a system of wells in Queens. The three upstate water collection systems include 18 reservoirs and three controlled lakes with a storage capacity of 550 billion gallons. They were designed and built with various interconnections to increase flexibility by permitting exchange of water from one system to another. This feature mitigates localized droughts and takes advantage of excess water in any of the three watersheds. The well system has 2.6 billion gallons of storage capacity.

In fiscal year 2005, the Water System provided an average of 1,096 million gallons per day from its upstate surface water systems to in-City and upstate customers as well as an average of 4 million gallons per day from wells located in southeast Queens. On summer days when demand is at its highest, the surface water system has provided over 1,500 million gallons per day. The well system could provide up to 33 million gallons per day. Unlike the City's surface water supply, which is a gravity-supplied system, well water is pumped from extensive underground aquifers.

Water is conveyed to the City through large aqueducts and balancing reservoirs. Within the City, water is distributed through two major tunnels. A third tunnel is now under construction. Tunnel 3 is being built in four stages and the first stage went into operation in July 1998. Stage 2 is currently under construction and is expected to be completed in 2012. Tunnel 3 will provide water delivery if Tunnels 1 or 2 are taken out of service for inspection and/or repair.

The water distribution system consists of a grid network of over 6,200 miles of pipe, as well as valves, fire hydrants, distribution facilities, gatehouses, pump stations and maintenance and repair yards. Various facilities provide storage to meet the hourly fluctuations in demand for water throughout the City, as well as any sudden increase in demand that might arise from fire or other emergencies.

New York City's water system is economical, flexible and reliable. Approximately 95% of the total daily water supply is delivered to the consumer by gravity. Only about 5% of the water is regularly pumped to maintain the desired pressure. As a result, operating costs are relatively insensitive to the cost of power.

The Wastewater System

The Wastewater System is comprised of the wastewater collection system and the wastewater treatment facilities. The Wastewater System is divided into fourteen drainage areas corresponding to the fourteen in-City wastewater treatment plants. More than 6,600 miles of sewer pipes of varying size convey wastewater to one of the wastewater treatment plants. Sewer pipes are classified as one of three types: sanitary, storm or combined. Sanitary sewers accommodate household and industrial waste. Storm sewers carry rainwater and surface water runoff. Combined sewers carry both types of waste. Approximately 70% of the City's sewers are classified as the combined type. In addition to sewage pipes, the wastewater system includes catch basins and seepage basins, which prevent flooding and sewer backups.

The wastewater treatment facilities have the capacity to treat approximately 1,805 million gallons of wastewater per day. Normally, the City produces 1,300 million gallons per day of dry-weather sewage. During periods of heavy rainfall, a combination of stormwater and sewage might bypass treatment and be released into the surrounding waterways since there may not be sufficient capacity to treat or retain all of the wastewater carried by the system. The facilities related to the treatment of sewage include fourteen wastewater treatment plants, a combined sewer overflow treatment plant, wastewater pump stations, sewer regulators and tide gates, laboratories, sludge dewatering facilities and inner-harbor vessels which transport sludge between facilities. When gravity flow becomes uneconomical or impractical for engineering reasons, wastewater pump stations lift sewer flow so that it can flow again by gravity and sewer regulators and tide gates control the rate of flow in the System. Sludge or "biosolids", a by-product of the sewage treatment process, is acceptable for land-based beneficial use as fertilizer. DEP has awarded contracts for the use of 100% of its biosolids. Current contracts include thermally drying sludge into fertilizer pellets at a facility in the Bronx, composting in Pennsylvania, direct land application in Colorado and Virginia, and lime stabilization in Colorado.

The Wastewater System also includes eight City-owned wastewater treatment plants located in the watershed region in order to prevent untreated sewage from being released into the waterways. Seven of the eight have been upgraded and the current Capital Improvement Plan includes funds to upgrade the eighth facility.