



APPROVED BUDGETS



DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Section II OVERVIEW

History: In 1996, the District of Columbia Water and Sewer Authority was created by District law, with the approval of the United States Congress, as an independent authority of the District Government with a separate legal existence.

Age of Pipes: The median age of District water main pipes is over 77 years old, with approximately 9 percent of pipes installed in the 1900s and 2 percent dating back to the 1860s before the Civil War.

Service Area: Providing more than 681,000 residents and 21.3 million annual visitors in the District of Columbia with retail water and wastewater (sewer) service, DC Water has a total service area of approximately 725 square miles. In addition, DC Water treats wastewater for approximately 1.6 million people in neighboring jurisdictions, including Montgomery and Prince George's Counties in Maryland and Fairfax and Loudoun Counties in Virginia.

Employees: Approximately 1,100 people are employed by DC Water and work at various facilities across the District.

Drinking Water Quality: With a strong emphasis on water quality, DC Water maintains an annual flushing program, regulatory and voluntary water quality testing and ongoing system upgrades. In partnership with the U.S. Army Corps of Engineers Washington Aqueduct, DC Water ensures a high quality treatment process for delivering outstanding drinking water throughout the year.

Pumped and Treated Water Storage: During Fiscal Year 2017, DC Water pumped an average of 98.2 million gallons of water per day. In addition, DC Water stores 61 million gallons of treated water at its eight facilities. The Washington Aqueduct which treats drinking water; stores an additional 49 million gallons.

Water Distribution System: DC Water delivers water through 1,310 miles of interconnected pipes, four pumping stations, five reservoirs, three water tanks, 43,860 valves, and 9,510 fire hydrants.

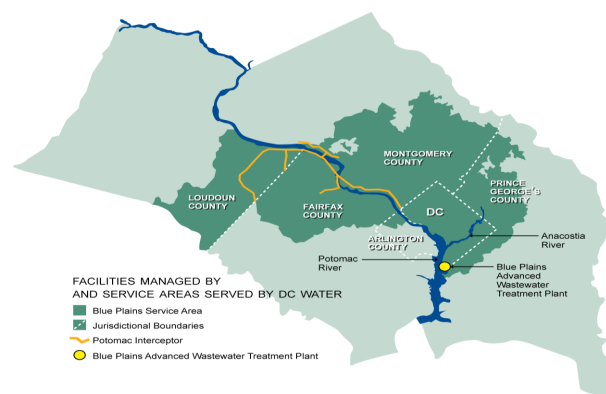
Blue Plains Advanced Wastewater Treatment Plant: Blue Plains, located at the southernmost tip of the District, is the largest advanced wastewater treatment facility in the world, covering 150 acres along the Potomac River.

Wastewater Treatment Capacity: Blue Plains treats an annual average of 290 million gallons per day (MGD) and has a design capacity of 384 MGD, with a peak design capacity to treat more than one billion gallons per day.

Sewer System: DC Water operates 1,900 miles of combined, separate, and stormwater sewers; 50,000 manholes and 25,000 catch basins; 9 wastewater pumping stations; 16 stormwater pumping stations; 12 inflatable dams; and a combined sewer swirl facility.

Financial Performance: During fiscal year 2017, DC Water maintained its three bond ratings for senior lien revenue bonds. The ratings from Standard and Poor's Investors Service, Moody's Investors Service, and Fitch Ratings remained as AAA, Aa1, and AA, respectively. DC Water also received its 20th consecutive unqualified audit opinion of its financial statements.

DC WATER SERVICE AREA



Customer Service: DC Water communicates valuable customer-related information through bill inserts, monthly newsletters, its website, and social media to include Facebook, YouTube, Flickr, Twitter and Instagram. Using an interactive voice recognition system, DC Water makes information readily available in more than 150 languages.

A 24-hour Emergency Command Center, at (202) 612-3400, operates as the centralized communication facility for receiving and responding to a variety of emergency calls from customers and the public.

DC Water's new Customer Information System (CIS) provides an integrated environment that enrolls new customers, generates billings, manages credit and collections, tracks water consumption, tracks and manages me-

ters, handles customer inquiries, complaints, and service orders as well as provides call center support.

Community Service: Donating their time and resources, DC Water employees actively support a variety of charitable projects and community services. DC Water also invests in the community by conducting science laboratory exercises in District high schools and engaging the public through tours of the Blue Plains Plant.

Community Outreach: Maintaining an active presence in the community through sharing time and resources is a core value at DC Water. Whether attending meetings and community events throughout the District or inviting the public into its doors at the Blue Plains Advanced Wastewater Treatment Plant, DC Water seeks to educate and support its customers as stewards of the environment.

Governance: DC Water's Board of Directors establishes policies and guides the strategic planning process. The Board is composed of 22 members, representing the District, Montgomery and Prince George's Counties in Maryland and Fairfax County in Virginia. The District members set rates, charges and policies for District services. The entire Board votes and establishes policies for joint-use services. The Chief Executive Officer and General Manager reports to the Board and manages operations and performance of the enterprise.

DC Water Financial Information (\$ in millions)

Bond Rating: AAA/Aa1/AA	FY 2018	FY 2019
Revenue (Cash Receipts)	\$620.5	\$649.5
Operating Budget	\$561.9	\$582.8
Capital Disbursements Budget	\$450.0	\$439.1

Budget Summary

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Description		Unit of Measurement	FY 2018	FY 2019	Increase/ (Decrease)
Operating Budget		\$ in thousands	\$561,947	\$582,781	\$20,834
Ten-Year CIP (Cash Disbursements)		\$ in billions	\$3.75	\$4.00	\$0.25
Total Revenue		\$ in thousands	\$620,472	\$649,467	\$28,995
Wholesale Operating Revenues		\$ in thousands	\$76,028	\$79,237	\$3,209
	Water Residential – 0 – 4 Ccf	Ccf	\$3.39	\$2.91	(\$0.48)
	Water Residential - > 4 Ccf	Ccf	\$4.26	\$3.90	(\$0.36)
	Water Multi-family	Ccf	\$3.80	\$3.37	(\$0.43)
	Water Non-residential	Ccf	\$4.40	\$4.05	(\$0.35)
	Sewer	Ccf	\$6.00	\$7.75	\$1.75
	Monthly Clean Rivers IAC	ERU	\$25.18	\$23.00	(\$2.18)
	Water System Replacement Fee	5/8"	\$6.30	\$6.30	\$0
	PILOT Fee	Ccf	\$0.49	\$0.50	\$0.01
	ROW Fee	Ccf	\$0.18	\$0.18	\$0.00

Comparative Capital & Operating Expenditures

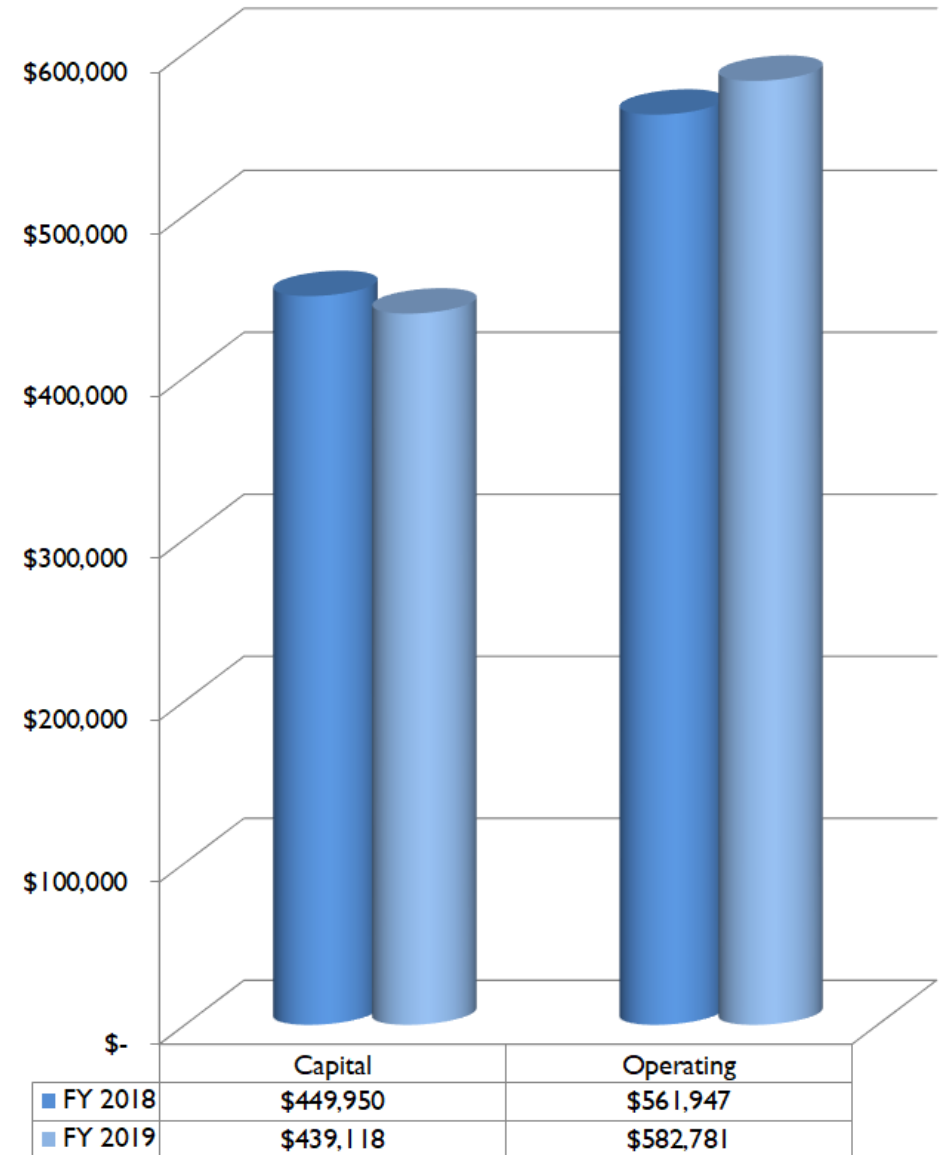
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\$ in thousands

CAPITAL AND OPERATING BUDGETS ENSURE SERVICE NEEDS AND STRATEGIC OBJECTIVES ARE MET

	APPROVED FY 2018	APPROVED FY 2019
<u>CAPITAL (Cash Disbursements Basis)*</u>		
Wastewater Treatment	\$ 95,485	\$ 74,617
Sanitary Sewer	29,802	32,947
Combined Sewer Overflow	181,816	200,343
Stormwater	945	4,909
Water	58,043	45,747
Washington Aqueduct	11,768	12,930
Capital Equipment	39,898	34,518
Non Process Facilities	32,193	33,107
Total Capital	\$ 449,950	\$ 439,118
<u>OPERATING</u>		
Personnel Services	149,193	162,620
Contractual Services	79,353	81,679
Water Purchases	30,156	30,520
Chemicals and Supplies	30,659	32,092
Utilities	29,399	26,905
Small Equipment	1,071	1,240
Total O&M	319,831	335,055
Debt Service	185,480	199,025
Cash Financed Capital Improvements	35,260	26,999
Payment in Lieu of Taxes	16,276	16,602
Right of Way Fees	5,100	5,100
Subtotal Operating	561,947	582,781
Personnel Services charged to Capital Projects	(21,061)	(18,259)
Net Operating	\$ 540,886	\$ 564,522

* Reflects revised FY 2018 capital disbursements budget



Comparative Capital & Operating Revenues

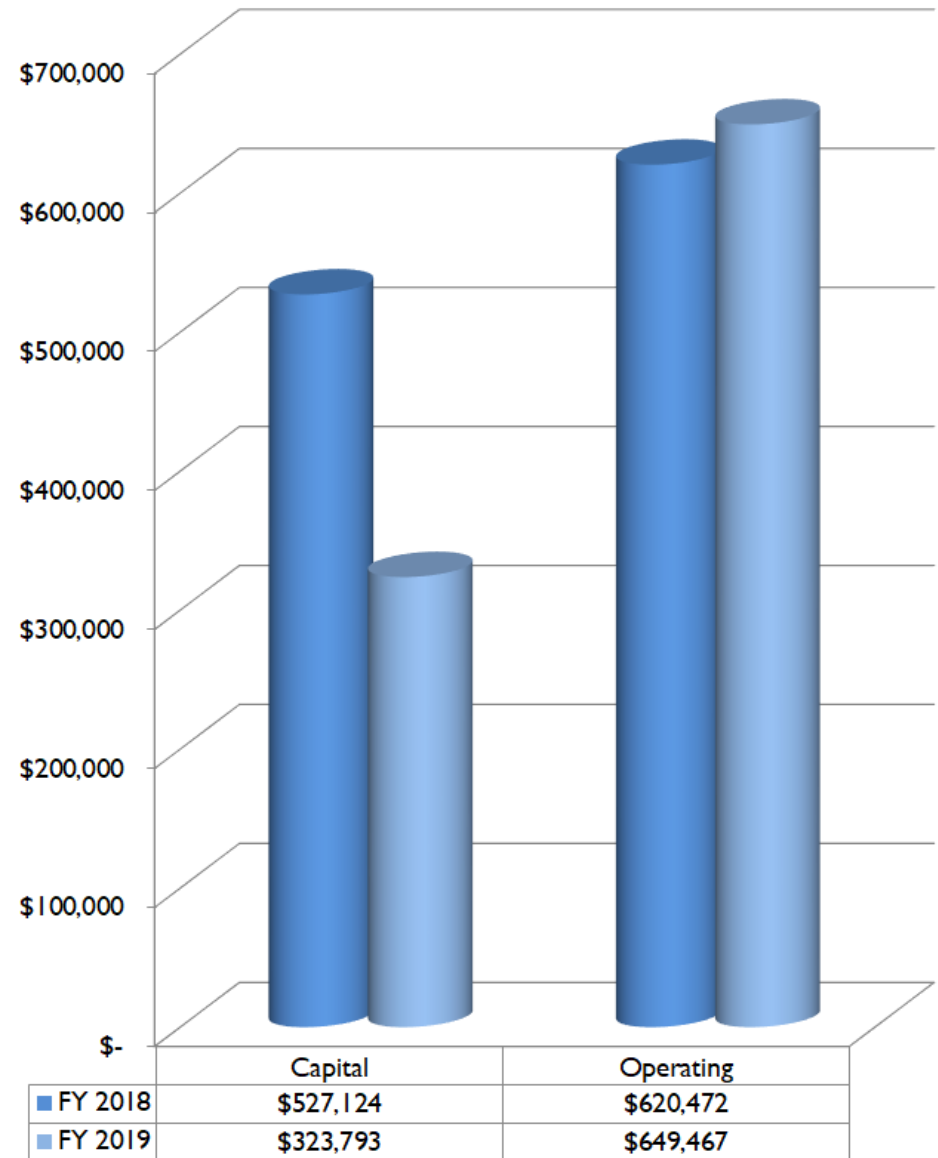
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CAPITAL AND OPERATING BUDGETS ENSURE REVENUE SUFFICIENCY TO MAINTAIN SERVICE LEVELS

	APPROVED FY 2018	PROPOSED FY 2019
<u>CAPITAL</u>		
Wholesale Capital Payments	\$ 90,214	\$ 65,851
EPA Grants & CSO Appropriations	32,120	44,339
Interest Income on Bond Proceeds	1,549	2,981
Pay-Go-Financing	103,242	100,623
Revenue Bonds/Commercial paper/EMCP*	300,000	110,000
Total Capital Revenue	\$ 527,124	\$ 323,793
<u>OPERATING</u>		
Residential	111,600	117,377
Commercial	156,272	163,067
Multi-Family	87,042	93,208
Federal Government	62,167	67,054
Municipal & Housing	26,291	27,081
Water System Replacement Fee (WSRF)	39,717	39,717
Metering Fee	10,776	10,776
Wholesale	76,028	79,237
Other Revenue	50,579	51,950
Total Operating Revenue	\$ 620,472	\$ 649,467

* Extendable Municipal Commercial Paper



- Water and Sewer volumetric rates are listed below:
 - Residential customers: “Consumption of 0 – 4 Ccf” water rate increase of \$0.16 per Ccf to \$3.39 per Ccf, {increase of \$0.21 to \$4.53 per 1,000 gallons}
 - Residential customers: “Consumption greater than 4 Ccf” water rate increase of \$0.20 per Ccf to \$4.26 per Ccf, {increase of \$0.27 to \$5.70 per 1,000 gallons}
 - Multi-family customers: water rate increase of \$0.18 per Ccf to \$3.80 per Ccf, {increase of \$0.24 to \$5.08 per 1,000 gallons}
 - Non-residential customers: water rate increase of \$0.21 per Ccf to \$4.40 per Ccf, {increase of \$0.28 to \$5.88 per 1,000 gallons}
- Sewer rate increase of \$0.29 per Ccf to \$6.00 per Ccf, {increase of \$0.39 to \$8.02 per 1,000 gallons}
- Monthly Clean Rivers Impervious Area Charge increase of \$2.94 to \$25.18 per ERU to recover the costs of the DC Clean Rivers Project
- Water System Replacement Fee (WSRF) of \$6.30 for 5/8” meter size will remain the same. This fee varies with meter size. The WSRF is to recover the costs of 1 % renewal and replacement program for water service lines
- PILOT fee increase of \$0.01 per Ccf to \$0.49 per Ccf {increase of \$0.01 to \$0.65 per 1,000 gallons}
- ROW fee increase of \$0.01 per Ccf to \$0.18 per Ccf {increase of \$0.01 to \$0.24 per 1,000 gallons}

- Water and Sewer volumetric rates are listed below:
 - Residential customers: “Consumption of 0 – 4 Ccf” water rate decrease of \$0.48 per Ccf to \$2.91 per Ccf, {decrease of \$0.64 to \$3.89 per 1,000 gallons}
 - Residential customers: “Consumption greater than 4 Ccf” water rate decrease of \$0.36 per Ccf to \$3.90 per Ccf, {decrease of \$0.49 to \$5.21 per 1,000 gallons}
 - Multi-family customers: water rate decrease of \$0.43 per Ccf to \$3.37 per Ccf, {decrease of \$0.57 to \$4.51 per 1,000 gallons}
 - Non-residential customers: water rate decrease of \$0.35 per Ccf to \$4.05 per Ccf, {decrease of \$0.46 to \$5.42 per 1,000 gallons}
- Sewer rate increase of \$1.75 per Ccf to \$7.75 per Ccf, {increase of \$2.34 to \$10.36 per 1,000 gallons}
- Monthly Clean Rivers Impervious Area Charge decrease of \$2.18 to \$23.00 per ERU to recover the costs of the DC Clean Rivers Project
- Water System Replacement Fee (WSRF) of \$6.30 for 5/8” meter size will remain the same. This fee varies with meter size. The WSRF is to recover the costs of 1 % renewal and replacement program for water service lines
- PILOT fee increase of \$0.01 per Ccf to \$0.50 per Ccf {increase of \$0.01 to \$0.67 per 1,000 gallons}
- No increase in ROW fee, which remains the same at \$0.18 per Ccf {\$0.24 per 1,000 gallons}

- Water and Sewer volumetric rates are listed below:
 - Residential customers: “Consumption of 0 – 4 Ccf” water rate increase of \$0.15 per Ccf to \$3.06 per Ccf, {increase of \$0.20 to \$4.09 per 1,000 gallons}
 - Residential customers: “Consumption greater than 4 Ccf” water rate increase of \$0.20 per Ccf to \$4.10 per Ccf, {increase of \$0.27 to \$5.48 per 1,000 gallons}
 - Multi-family customers: water rate increase of \$0.17 per Ccf to \$3.54 per Ccf, {increase of \$0.22 to \$4.73 per 1,000 gallons}
 - Non-residential customers: water rate increase of \$0.20 per Ccf to \$4.25 per Ccf, {increase of \$0.26 to \$5.68 per 1,000 gallons}
- Sewer rate increase of \$0.39 per Ccf to \$8.14 per Ccf, {increase of \$0.52 to \$10.88 per 1,000 gallons}
- Monthly Clean Rivers Impervious Area Charge increase of \$2.58 to \$25.58 per ERU to recover the costs of the DC Clean Rivers Project
- Water System Replacement Fee (WSRF) of \$6.30 for 5/8” meter size will remain the same. This fee varies with meter size. The WSRF is to recover the costs of 1 % renewal and replacement program for water service lines
- PILOT fee increase of \$0.01 per Ccf to \$0.51 per Ccf {increase of \$0.01 to \$0.68 per 1,000 gallons}
- ROW fee increase of \$0.01 per Ccf to \$0.19 per Ccf {increase of \$0.01 to \$0.25 per 1,000 gallons}

Cash Flow Summary

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\$ in thousands

	FY 2017 Actual	FY 2018 Approved	FY 2018 Revised	FY 2019 Approved
OPERATING BUDGET				
Operating Revenue				
Residential, Commercial & Multi-Family	\$ 255,971	\$ 268,331	\$ 268,463	\$ 299,927
Federal	36,925	39,620	39,619	41,525
Municipal	9,431	8,247	8,122	9,082
D.C. Housing Authority	7,171	7,311	7,428	8,303
Groundwater	-	5	5	5
Water System Replacement Fee (WSRF)	40,522	39,717	39,717	39,717
Metering Fee	11,566	10,776	10,776	10,776
Payment in Lieu of Taxes / Right of Way Fee	20,777	21,511	21,601	21,701
Clean Rivers IAC Revenue	112,875	115,577	119,733	108,945
Sub-total Retail	495,238	511,428	515,466	539,981
Wholesale	81,136	76,028	76,028	79,236
Interest Earnings	1,537	2,097	1,986	2,547
Other Operating Rev. ⁽¹⁾	38,966	27,155	26,652	27,279
Total Operating Revenue ⁽¹⁾	616,877	616,707	620,132	649,043
Operating Expenditures				
Personnel Services	129,512	128,132	128,132	144,361
Contractual Services	78,444	79,353	79,353	81,679
Chemicals & Supplies	34,313	30,156	30,659	32,082
Utilities & Rent	22,695	30,659	29,399	26,915
Water Purchases	26,954	29,399	30,156	30,520
Small Equipment	895	1,074	1,071	1,240
Subtotal - Operating Expenditures	292,813	298,770	298,770	316,797
Payment in Lieu of Taxes / Right of Way Fee	21,057	21,376	21,376	21,702
Debt Service	161,208	185,480	184,278	199,025
Cash Financed Capital Improvements/Defeasance	24,199	35,260	35,259	26,999
Total Operating Disbursements	499,276	540,886	539,683	564,523
Operating Surplus ⁽¹⁾	177,600	75,821	80,449	84,520
CAPITAL Disbursements (See Section VI for more details)				
Sources of Capital Funds	611,963	354,953	527,124	323,793
Uses of Capital Funds	545,315	387,307	449,952	439,118
Capital Disbursements Overage / (Shortage)	(66,648)	(32,354)	(77,172)	115,325
CASH RESERVES				
Beginning O&M Reserve Balance (Net of Rate Stabilization Fund)				
Operating Surplus	162,652	162,652	147,212	140,000
Wholesale Customer Refunds/Payments for Prior Years	117,600	82,660	80,449	84,520
Transfer to Rate Stabilization Fund	(10,906)	(10,000)	(11,000)	(5,500)
Federal Customer Refund/Payments for Prior Years	(10,000)	-	-	-
Interest Earned from Bond Reserve	(19,200)	(19,201)	(9,019)	(5,821)
Pay-As-You-Go Capital Financing	140	323	340	424
Ending O&M Reserve Balance (Net of Rate Stabilization Fund)	(93,073)	(76,434)	(67,982)	(73,624)
Rate Stabilization Fund	147,212	140,000	140,000	140,000
Rate Stabilization Fund	\$ 61,450	\$ 51,450	\$ 61,450	\$ 61,450

(1) Does not include interest earned from the debt service reserve fund

The District of Columbia Water and Sewer Authority (DC Water) was created in April 1996 and began operating October 1, 1996 under and pursuant to an act of the Council of the District of Columbia and an act of the United States Congress. Previously, the Water and Sewer Utility Administration, a division of the District's Department of Public Works, performed DC Water's operations. In the aftermath of the District's financial crisis in the 1990s, Congress created an independent utility agency governed by a Board of Directors consisting of eleven principal and eleven alternate members who represent the District of Columbia, Montgomery and Prince George's Counties in Maryland and Fairfax County in Virginia to govern DC Water. The Mayor of the District of Columbia appoints, and the Council confirms, all District Board members, including the Chairperson. In addition, the Mayor appoints the five principal and five alternate members who represent the surrounding jurisdictions based on submissions from those jurisdictions. All members serve four-year terms. The existence of a quorum and an affirmative vote of a majority of the members present, who are permitted to participate in the matter under consideration, shall be required to approve any Board action; except, that 7 affirmative votes shall be required for approval of the Authority's budget and 8 affirmative votes shall be required for the selection or relieving of the CEO & General Manager. All Board members participate in decisions directly affecting the general management of joint-use facilities (such as projects at the Blue Plains Advanced Wastewater Treatment Plant), and only the District of Columbia members participate in decisions for those matters that affect only District ratepayers. Rate setting authority resides solely with the Board of Directors, and is a non-joint use matter.

At its inception, DC Water faced a cash shortage and projected multi-million dollar deficit. The newly established utility was also burdened with a barely functional fleet, poorly maintained infrastructure, an antiquated billing system, and a number of operating weakness. Through the leadership of an active Board of Directors and strong management staff, a line of credit was obtained, municipal bonds were issued and new strategic goals, business processes and technologies were developed. DC Water made tremendous strides in its prudent financial management and cutting-edge technology, customer service improvements, extensive

capital investment, environmental stewardship, peer-reviewed research and establishment of an award winning fleet. Our credit rating since 1996 has gone from no credit to AAA.

Over the years, we have developed strong partnerships with the District government, Congress, suburban jurisdictions, federal regulators and environmental advocates. We are continuing to strengthen our existing partnerships while reaching out to establish new relationships. Our success has been acknowledged through many awards as well as positive financial results and audits over the years. Since 1996, the Authority has met its mission of providing clean drinking water to residents of the District of Columbia and wastewater conveyance and treatment services to both residents of the District and wholesale customers in Maryland and Virginia.

At DC Water, we focus all of our technology initiatives on improving both the quality of services we provide to our customers and organizational effectiveness. We were one of the first utilities to automate our meter reading program (AMR) which has been heralded as a best practice in the industry. The automated meters use radio frequency and cell phone technology to send daily water usage information from the meter to DC Water. This tool analyzes daily water consumption and provides monthly and yearly averages on an account so a customer can monitor their own water use. In addition, we developed a powerful application in-house called the High Use Notification Application (HUNA). This tool alerts customers of unusually high amounts of water delivered to their meter so they can check for leaks and avoid a high bill. Over the last 10 years that we have offered the service, 33% of all customers have received at least one alert. We anticipate reaching a total of 120,000 alerts sent to customers in 2018.

Basis of Accounting

DC Water is a single enterprise fund and maintains accounting records using the accrual basis of accounting in accordance with Generally Accepted Accounting Principles (GAAP). Under this basis of accounting, revenues are recorded when earned, and expenses are recorded when incurred. DC Water's expenditure budget is prepared on a comparable basis to GAAP, with the exception of debt service (including principal and interest) that is budgeted in full when due. Depreciation and interest expense are recorded as expenses for financial statement purposes. (Depreciation is not budgeted.)

Annual Budget Process

As a first step in the budget development process, the Finance, Accounting & Budget Department updates DC Water's ten-year financial plan to reflect any revisions to the capital improvement program and any other major revenue or operating budget issues, and analyzes the potential impact of these items on rates. In addition to these items, the ten-year plan is also developed based on the financial and rate-setting policies adopted by the Board as well as the Board's Strategic Plan.

Approval Process

In June, departments submit their initial budget requests for management review. DC Water's strategic and operational priorities are included in each department's work plan and performance agreements, as appropriate. During the month of June and in early July, departments complete budget reviews with budget staff, and in July and August, reviews are held with the Executive Team and with the CEO & General Manager in tandem.

Typically in November of each year, management presents the operating budget, ten-year capital improvement program and ten-year financial plan to the Board's Environmental Quality and Operations Services, DC Water Retail Water and Sewer Rates and Finance and Budget Committees for their review. This budget is proposed for the following fiscal year (e.g. beginning October 1, 2018). The Committees review the budget documents

in November through December and submit budget recommendations to the full Board in December. Typically, decisions are finalized and Board action on the budget is taken between December and January.

Upon budget adoption, the Budget Department publishes and distributes the approved budget book and ensures that DC Water's budget is included in the District of Columbia's budget submission, which is transmitted to the U.S. Congress for approval. Once approved by Congress, the budget is effective October 1 of each year.

Budgetary Control

After the U.S. Congress approves the budget, the operating and capital budgets are loaded into the DC Water's financial management system, which prevents overspending without appropriate approvals. The Department of Finance, Accounting and Budget prepares monthly management reports for each operating unit, management staff, the Board of Directors and its various committees. The reports are consistently reviewed each month to ensure that DC Water complies with its authorized budget levels.

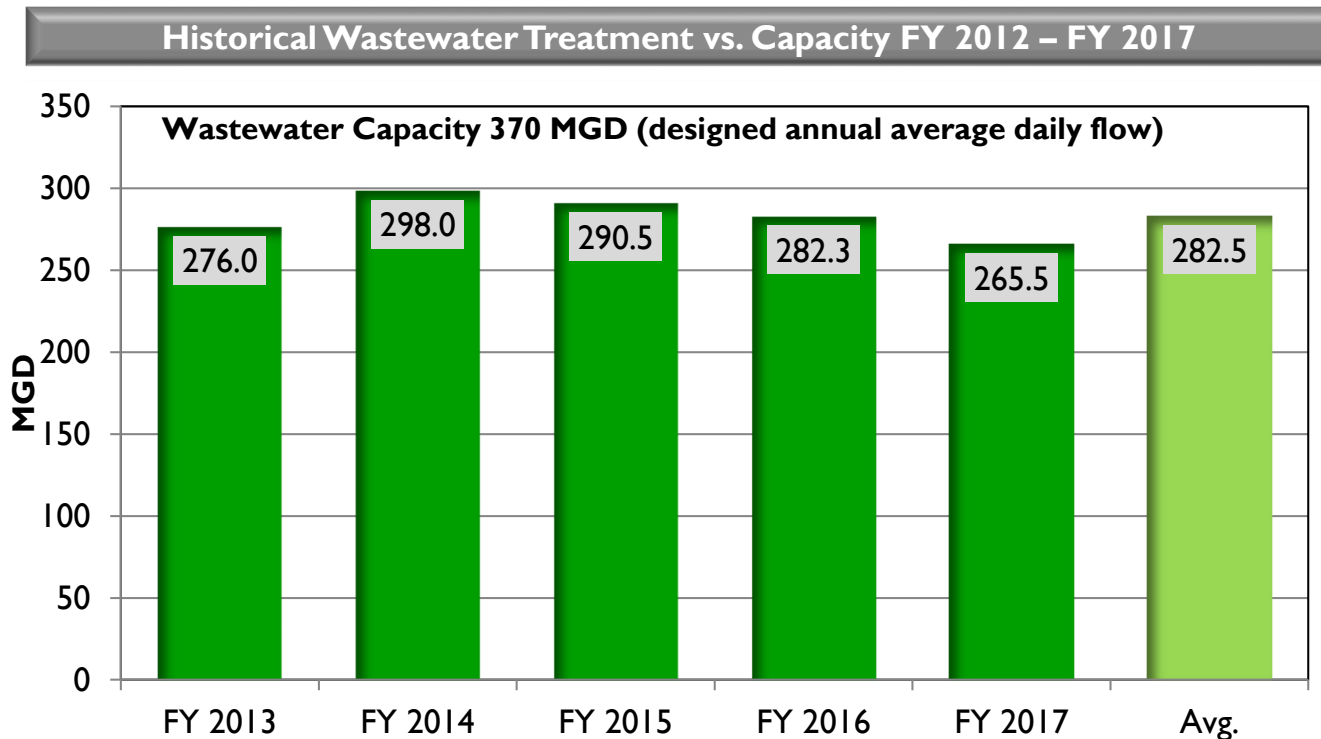
Amendment Process

The CEO & GM has control over the budget as approved by the U.S. Congress, at the appropriation level. Therefore, the CEO & GM has the authority to approve budget reprogramming between departments. However, additional budget spending authority is requested through the U.S. Congress for approval.

Month	Event
May 5	Distribution of budget manual and budget templates
May 30	Chief Executive Officer (CEO) & General Manager's Budget Kickoff Meeting
May 31	Budget Boot Camp
June 23	Departmental O&M and Capital Equipment submission to Office of Chief Operating Officer (OCCO)
July 21	FY 2019 Operating and Ten-Year Capital Budget requests submitted to Finance, Accounting and Budget department (Team FAB)
August	Evaluation of departmental FY 2019 budget requests by Budget Department Begin Preliminary Ten-Year Financial Plan update (Submit IMA, CSO and EPA grants)
Oct - Nov	Departmental FY 2019 Operating and Capital Budget Reviews with Team FAB, Office of General Manager, Information Technology (IT), Engineering & Technical Services and Support Services
November	Completion of Final FY 2019 Operating and Ten-Year Capital Budget Decisions Process CEO & GM and Executive Team's briefing of Operating and Ten-year CIP
December	Finalize Ten-Year Financial Plan (Operating, Capital Improvement Program, Revenues, Rates & Fees) Transmittal of CEO & GM's final budget proposal to Assistant General Managers & Department Heads Budget Book Preparation and Production
January 4	Budget Workshop – Board Briefing of the CEO & GM's Proposed FY 2019 Budgets and FY 2019 & FY 2020 Retail Rates & Fees Proposal
January 5	Wholesale Customer Briefing
January	Committees conduct in-depth review of budget proposal
February	Committees forward recommendations to full Board for deliberation/action
March 1	Board Adoption
March	Submission to the District of Columbia

WASTEWATER SYSTEM CAPACITY ENSURES SERVICE AREA MEETS NEEDS THROUGH 2040

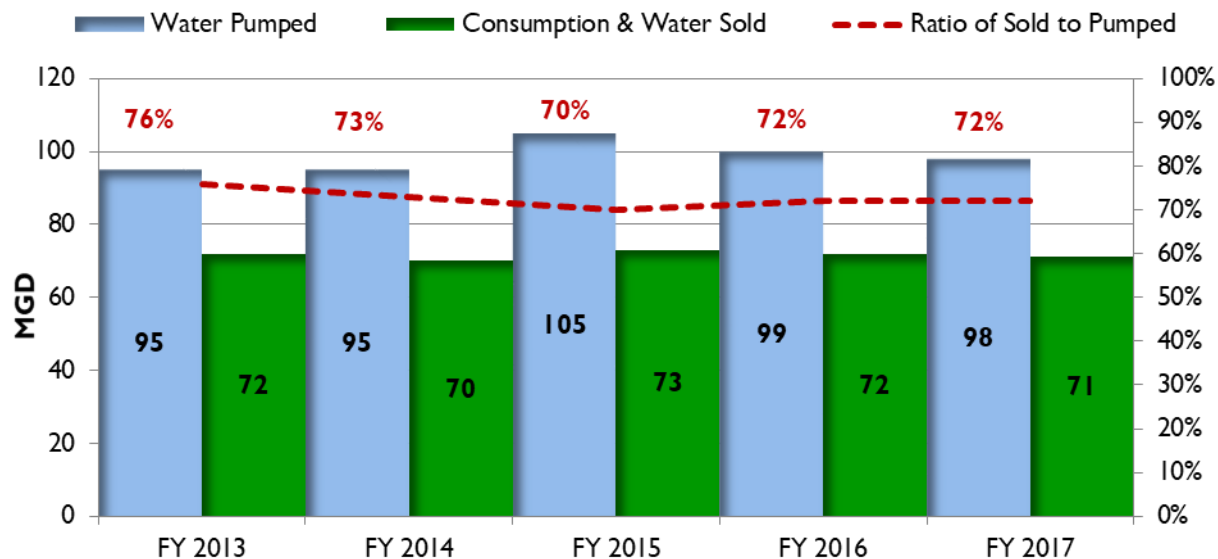
- Blue Plains is the world's largest advanced wastewater treatment plant
 - Treats an average of approximately 300 million gallons per day (MGD) annually
 - Designed for average daily flow of 384 MGD and peak wet weather capacity of 1,076 MGD
- System comprises 1,800 miles of sanitary, stormwater and combined sewers; 125,000 building sewer lateral; 22 flow-metering stations; 9 off-site wastewater pumping stations; and 16 stormwater pumping stations



WATER SYSTEM CAPACITY MEETS SERVICE AREA NEEDS

- Water purchased from the Washington Aqueduct, owned and operated by U.S.Army Corps of Engineers
- Total treatment capacity of 384 MGD exceeds average daily and peak requirements in service areas
- Four pumping stations with adequate capacity to meet peak demand
 - Bryant Street, New Fort Reno, I 6th and Alaska,Anacostia
- One Washington Aqueduct pumping station with capacity sufficient to take over for Bryant Street pumping station
- 1,310 miles of interconnected pipes

Volume of Water Pumped versus Sold FY 2013 – FY 2017



Infrastructure Index Leakage (ILI) :

FY 2013 – 6.89
 FY 2014 – 7.49
 FY 2015 – 9.94
 FY 2016 – 7.84
 FY 2017 – 9.00

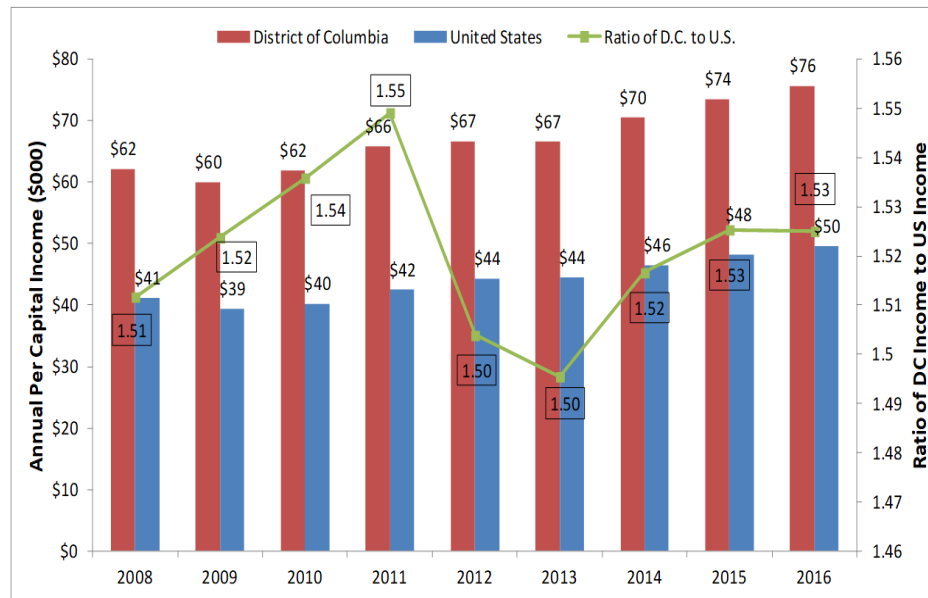
Strong financial planning requires careful monitoring and analysis of various trends and factors that may influence the market place. In this case, the market place for DC Water is the District of Columbia and its surrounding region. DC Water monitors consumption and wastewater flow trends within the customer base, weather patterns, regional income changes, population trends, federal activity in the region, housing starts, office vacancy rates and employment trends. A review of experiences from similar national systems is a useful benchmark assessment. While there are no crystal balls in the area of forecasting water demand, monitoring such data can provide insight into customer behavior and anticipated service demands.

Regional Economy

DC Water's service area has weathered the past national recession well. The regional unemployment rates remain relatively low and the regional per capita incomes remain higher than the U.S. average. Office vacancy rates have increased slightly in recent years while retail vacancy rates remain low. A major local employer, the federal government, remains relatively stable for this employment sector. Select demographic charts following support the generally positive outlook for the Washington Metropolitan region and its economy.

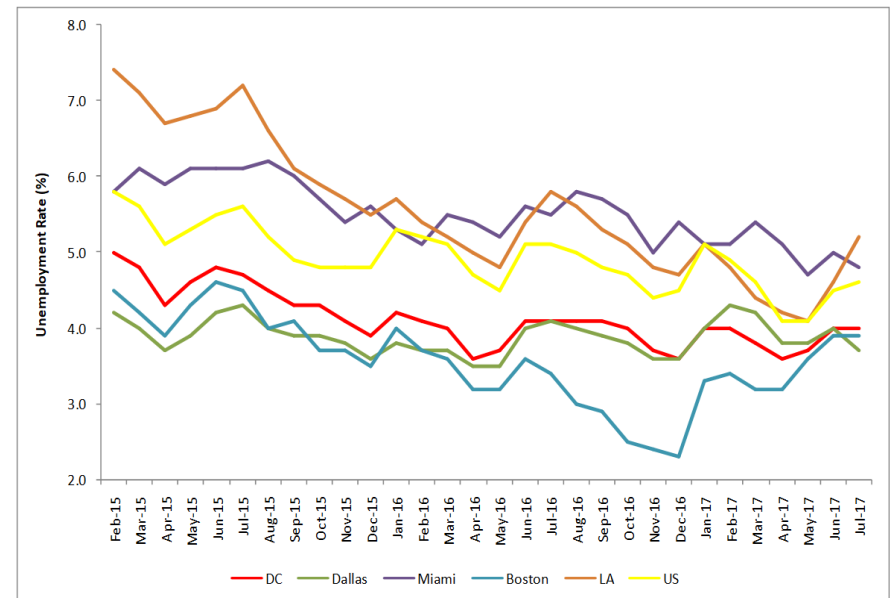
As the largest job center in the DC Metropolitan region, DC can be impacted by economic declines. However, impacts are tempered by the relatively stable federal employment enjoyed by the nation's capital.

DC Per Capita Income is Higher than U.S.Average



Source: Bureau of Economic Analysis

DC Unemployment Rate Remains Relatively Low

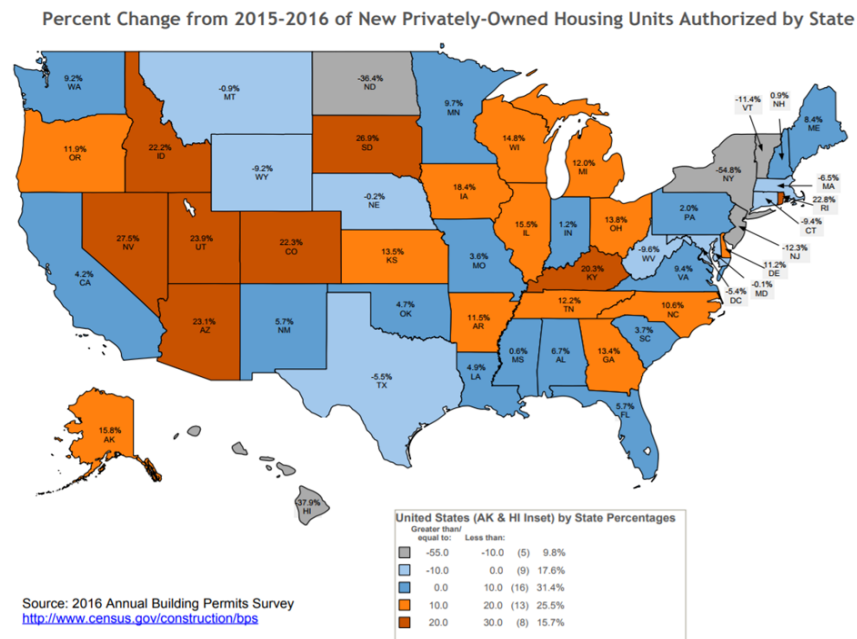


Source: Bureau of Labor Statistics

- The scale on the left side of the chart shows personal income per capita which applies to the columns in each year for DC and the U.S.
- The scale on the right side of the chart shows the ratio of DC income to U.S. income which is reflected by the line in the chart.

Low commercial office vacancy rates and growth in housing permits throughout the region provide positives signs for the regional economy.

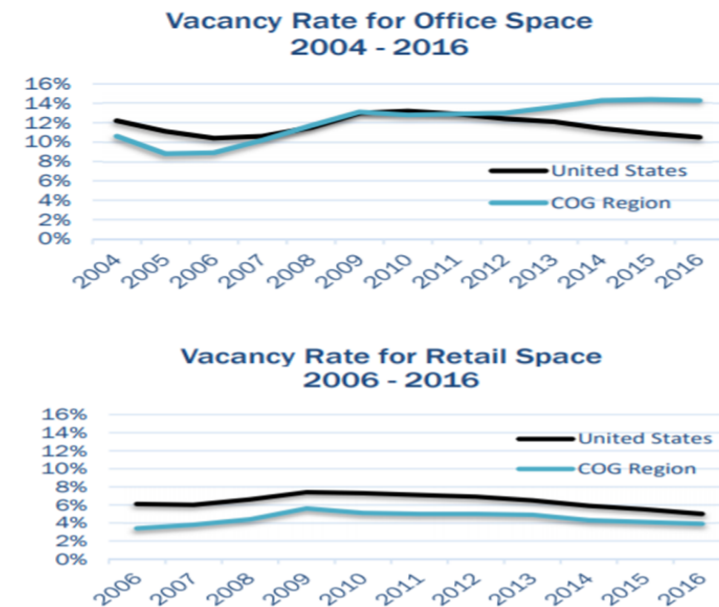
2015 – 2016 DC Growth in Housing-Permit Issuance at Par with the Rest of U.S.



Source: US Census Bureau

- DC's performance is driven by federal government growth and associated industries, supporting regional growth and diversification

DC Office Vacancy Rates Lower Than the Region



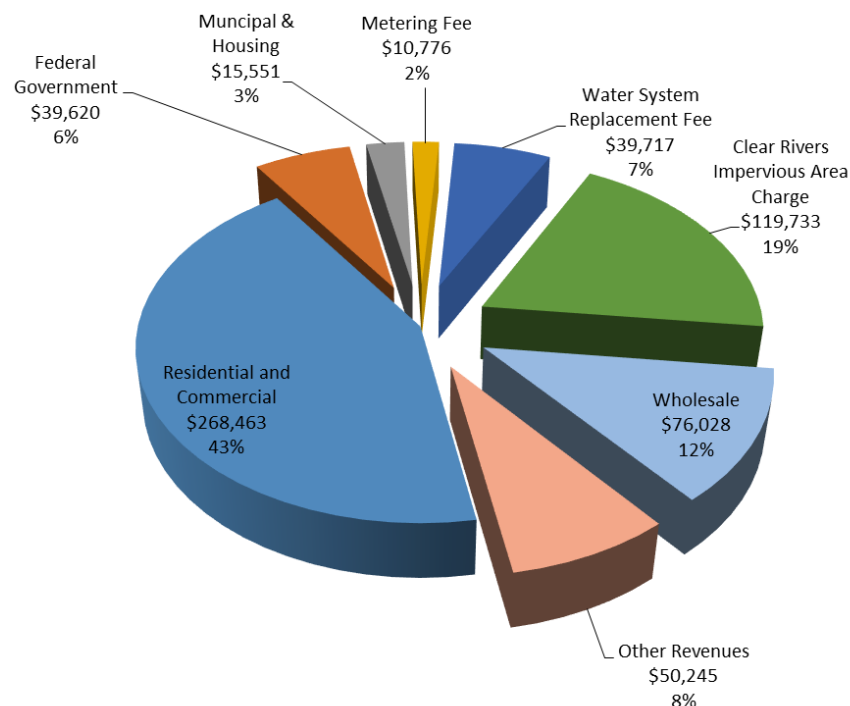
Source: District of Columbia Office of Chief Financial Officer and Delta Associates

- Source: Metropolitan Washington Council of Governments (COG)
- Note: COG region includes District of Columbia, Northern Virginia, and Suburban Maryland

The regional economic indicators are positive with strong incomes and unemployment below the national level. These factors coupled with stable consumption and the financial strength of some of the major AAA rated customers helps to ensure the financial success of DC Water.

The DC Water service area includes highly-rated customers

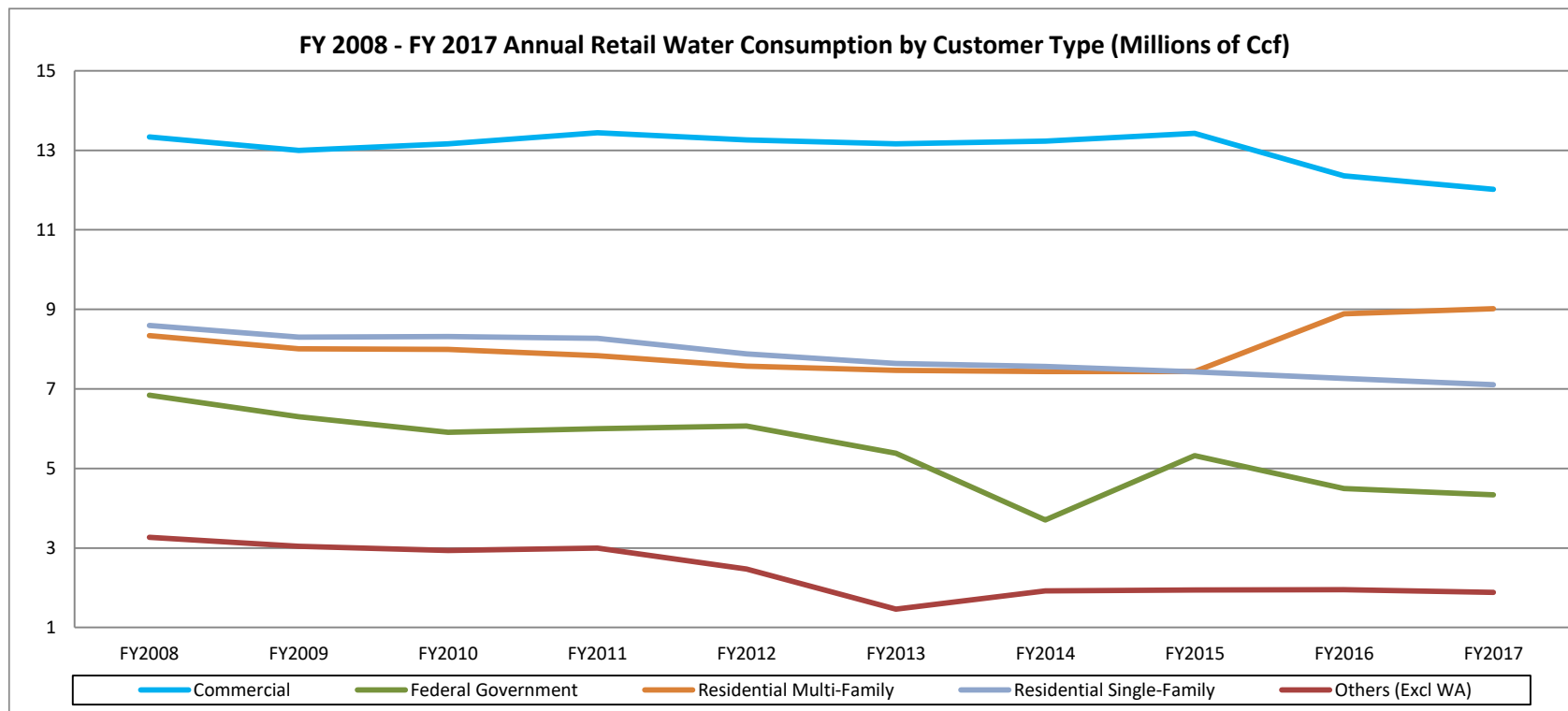
- ❑ About 18.6% of the projected FY 2018 revenues come from “AAA” rated entities and are received in advance of service:
 - Federal Government
 - Fairfax County
 - Washington Suburban Sanitary Commission
 - Loudon County Sanitation Authority
- ❑ An additional 2.5% of revenues came from the District of Columbia which is rated “AA”



Media reports reference the service area's economic strength

- ❑ “The District has the fifth-best economy in the U.S., according to a new analysis from WalletHub ... because of its strong economic activity, economic health and innovation potential.” Washington Business Journal, June 6, 2017
- ❑ “The Washington-area housing market enjoyed a strong year in 2016 ... D.C. continues to show the strongest price gains in the region ...” The Washington Post, February 9, 2017
- ❑ “Census estimates released Tuesday show D.C.’s population is ... the highest in about four decades... The Census Bureau said the largest factor in D.C.’s population growth was migration – people moving to the city from elsewhere.” The Washington Post, December 20, 2016
- ❑ “Cities where tech jobs are a smaller fraction of the economy have seen slower, but still steady, economic growth. Washington, D.C., has the second-highest median income in America at almost \$96,000 a year...” The Hill, September 15, 2017

Customer Demand: A reasonable degree of accuracy in forecasting water demand is important for sound financial planning and rate-setting. The FY 2008 - 2017 actual average decline in usage is 1.8% annually, excluding the Washington Aqueduct. FY 2008 – FY 2017 average annual rate of change in demand for the customer classes: Commercial -1.2%; Federal Government: -4.9%; Single Family: -2.1%; and Other (include Exempt, DC Housing Authority, DC Municipal Government, and DC Water): -5.9%. Multi-Family increased by 0.9% annually.



Water demand shows a decline relatively consistent with historic 1% decline assumption

- FY 2017 consumption decreased 1.7%, mostly due to decreases in consumption for Federal Government, Single Family and Commercial accounts, offset somewhat by the increase in consumption in Multi-Family accounts.
- DC Water has typically assumed an annual reduction in water demand of 1.0% in line with historic averages. The Financial Plan assumes an annual retail water consumption decline of 1.0%. We believe that this estimate is prudent, consistent with peers such as New York and Boston and assures revenue sufficiency for the Authority.



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