Approved FY 2020 Budgets

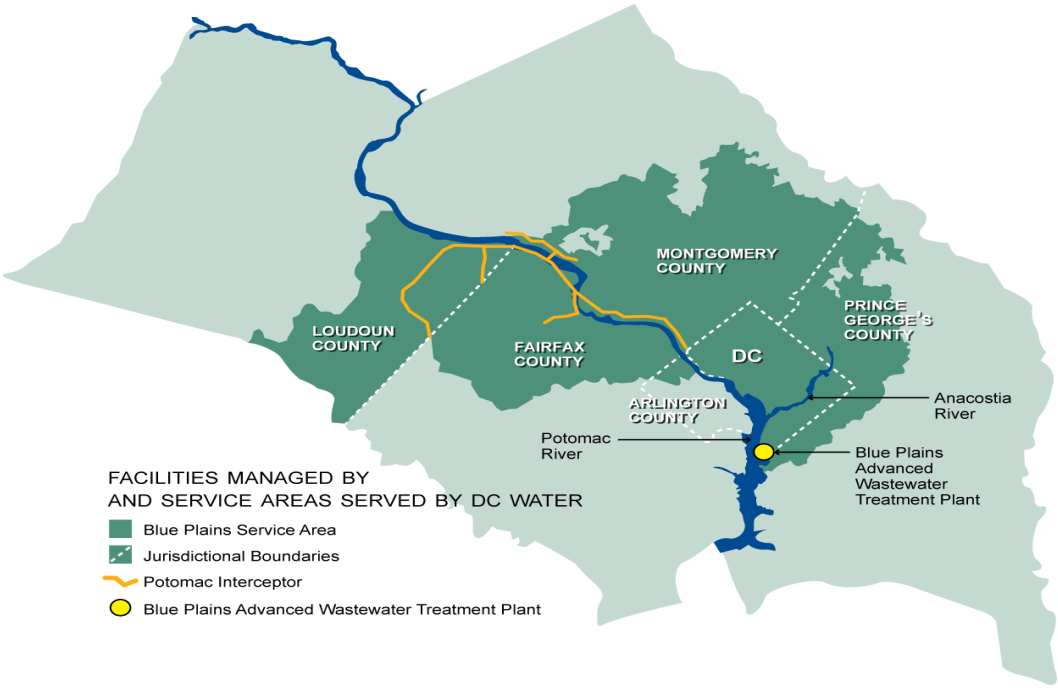
Section II: OVERVIEW

Anacostia River next to DC Water Headquarters

History: The District of Columbia Water and Sewer Authority (DCWASA), was created by District law in 1996, with the approval of the United States Congress, as an independent authority of the District Government with a separate legal existence. In 2010, the Authority rebranded and became DC Water. DC Water is the sole water and sewer utility in the District of Columbia.

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 1900's and 2 percent dating back to the 1860s before the Civil War.

Service Area: Providing approximately 700,000 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.



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. DC Water, in partnership with the U.S. Army Corps of Engineer's Washington Aqueduct, ensures a high-quality treatment process for delivering outstanding drinking water throughout the year. DC Water purchases water produced by the Aqueduct and distributes to its customers in the District of Columbia.

Pumped and Treated Water Storage: During Fiscal Year 2018, DC Water pumped an average of 94.0 million gallons of water per day. In addition, DC Water stores 61 million gallons of treated water at its eight facilities. The Washington Aqueduct stores an additional 49 million gallons.

Water Distribution System: DC Water delivers water through roughly 1,350 miles of interconnected pipes, four pumping stations, five reservoirs, four water tanks, 43,860 valves, and 9,510 fire hydrants.

Sewer System: DC Water operates 2,000 miles of combined, separate, and stormwater sewers, 50,000 manholes and 25,000 catch basins, 9 off-site wastewater pumping stations and 16 stormwater pumping stations.

Blue Plains Advanced Wastewater Treatment Plant (BPAWWTP): 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. Recycled water from the Blue Plains Plant, is used in the treatment of wastewater and is not sold for retail use.

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.

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, 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, and tracks water consumption. CIS also tracks and manages meters, handles customer inquiries, complaints, and service orders as well as provides call center support.

Community Service: Donating its time and resources, DC Water strives to be present at events that align with its mission and allows the Authority to engage with the residents about pertinent projects and services. Employees actively support a variety of charitable projects and community services. DC Water also invests in the community; 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 BPAWWTP and providing hands-on-lessons, field trips and environmental education events to more than 2,000 students in our service area during the school year. DC Water seeks to educate and support its customers as stewards of the environment.

Employees: Approximately 1,200 people are employed by DC Water and work at various facilities across the District of Columbia, and providing vital services to our customers.

Governance: DC Water's Board of Directors establishes policies and guides the strategic planning process. The Board is composed of 22 members, (11 principals and 11 alternates) 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. The members of the Board of Directors also serve on various Sub Committees, DC Retail Water & Sewer Rate, Environmental Quality and Operations, Finance and Budget, Governance, Human Resources and Labor Relations, Strategic Planning and Audit.

Financial Performance: During fiscal year 2018, 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 21st consecutive unqualified audit opinion of its financial statements and 17th consecutive Distinguished Budget Presentation Award from the Government Finance Officers Association (GFOA).

DC Water Financial Information ($ Millions)

Bond Rating: AAA/Aa1/AA	FY 2019	FY 2020
Revenue (Cash Receipts)	$ 665.6	$ 693.9
Operating Budget	$ 582.8	$ 614.5
Capital Disbursement Budget	$ 439.1	$ 420.3

The chart below highlights DC Water's operating expenditures, capital disbursements, revenues, rates and fees.

Description	Unit of Measure	FY 2019	FY 2020	Increase / (Decrease)
Total Operating Expenditure	$ in thousands	$582,781	$614,523	$31,742
Capital Disbursements	$ in thousands	$439,117	$420,342	($18,775)
Ten-Year CIP (Cash Disbursement)	$ in billions	$4.00	$4.96	$0.96
Total Operating Revenue	$ in thousands	$665,650	$693,797	$28,147
Wholesale Operating Revenues	$ in thousands	$82,992	$82,539	($453)
Residential 0-4 Ccf (Lifeline) [2]	Ccf	$2.91	$3.06	$0.15
Residential - > 4 Ccf [2]	Ccf	$3.90	$4.10	$0.20
Multi-family / DC Housing [2]	Ccf	$3.37	$3.54	$0.17
Non-Residential	Ccf	$4.05	$4.25	$0.20
DC Water Retail Rates – Sewer	Ccf	$7.75	$8.89	$1.14
DC Water Clean Rivers IAC	ERU	$23.00	$20.94	($2.06)
DC Water Customer Metering Fee	5/8"	$3.86	$3.86	$0.00
Water System Replacement Fee [1]	5/8"	$6.30	$6.30	$0.00
PILOT Fee	Ccf	$0.50	$0.51	$0.01
Right of Way Fee	Ccf	$0.18	$0.19	$0.01
Stormwater Fee	ERU	$2.67	$2.67	$0.00

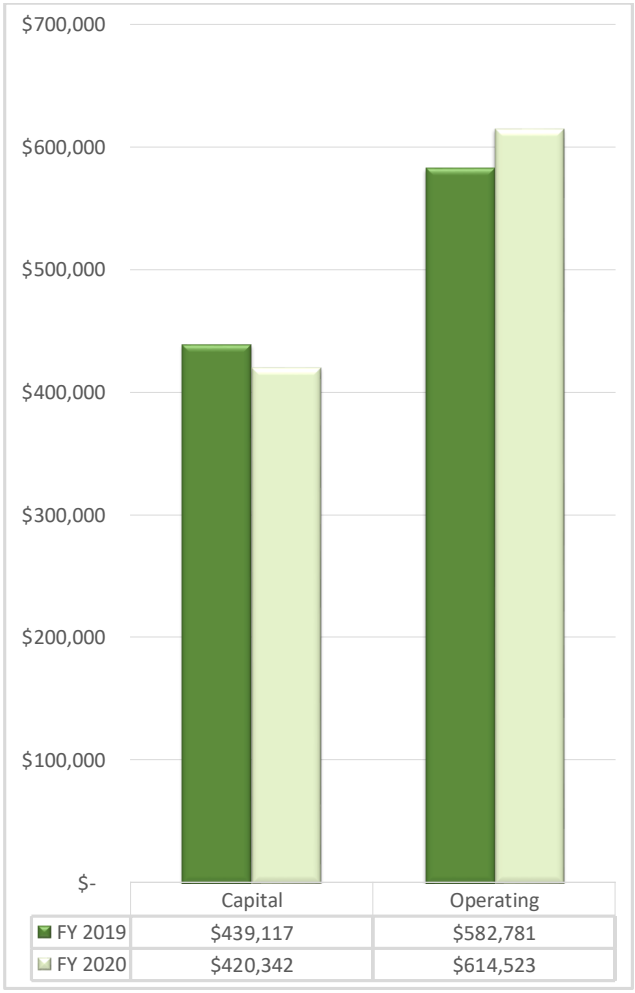
Ccf - hundred cubic feet or 748 gallons
(1) DC WATER WSFR of $6.30 effective October 1, 2015.
(2) Proposed Class-Based rates

Comparative Capital & Operating Expenditures

$ in thousands

Capital and Operating Budgets Ensure Service Needs and Strategic Objectives are Met

	APPROVED FY 2019	APPROVED FY 2020
CAPITAL (Cash Disbursements Basis)*		
Wastewater Treatment	$ 69,979	$ 66,620
Sanitary Sewer	44,927	43,646
Combined Sewer Overflow	195,350	151,427
Stormwater	4,220	8,571
Water	61,884	71,720
Washington Aqueduct	12,930	15,532
Capital Equipment	34,518	26,823
Non Process Facilities	15,309	36,002
Total Capital	$439,117	$ 420,342
OPERATING		
Personnel Services	$162,620	$ 170,680
Contractual Services	81,679	81,886
Water Purchases	30,520	34,929
Chemicals and Supplies	32,092	33,158
Utilities	26,905	26,953
Small Equipment	1,240	989
Total O&M	335,055	348,594
Debt Service	199,025	215,340
Cash Financed Capital Improvements	26,999	28,556
Payment in Lieu of Taxes	16,602	16,934
Right of Way Fees	5,100	5,100
Subtotal Operating	582,781	614,523
Personnel Services charged to Capital Projects	(18,259)	(22,748)
Net Operating	$564,522	$ 591,775



*Reflect revisions to FY 2019 capital disbursement budget during the FY 2020 cycle. The overall budget remains the same as previously approved by the Board.

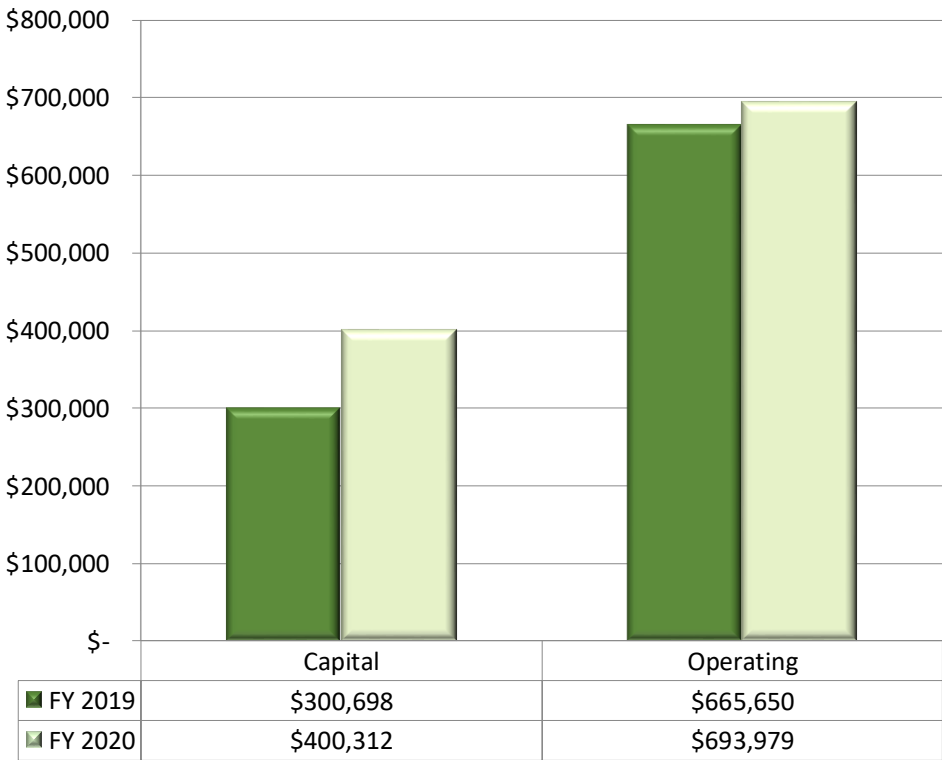
Comparative Capital & Operating Revenues

$ in thousands

Capital and Operating Budgets Ensure Revenue Sufficiency to Maintain Service Levels

	REVISED FY 2019	APPROVED FY 2020
CAPITAL		
Wholesale Capital Payments	$ 67,112	$ 67,321
EPA Grants & CSO Appropriations	18,215	38,990
Interest Income on Bond Proceeds	2,981	3,658
Pay-Go-Financiang	98,540	103,852
Revenue Bonds/Commercial Paper/EMCP*	110,000	180,716
System Availability Fee	3,850	5,775
Total Capital Revenue	**$ 300,698**	**$ 400,312**
OPERATING		
Residential	118,531	124,353
Commercial	164,542	173,826
Multi-Family	93,137	100,884
Federal Government	67,054	71,887
Municipal & Housing	27,869	28,110
Water System Replacement Fee (WSRF)	39,717	39,717
Metering Fee	10,776	10,776
Wholesale	82,992	82,539
Other Revenue	61,032	61,887
Total Operating Revenue	**$ 665,650**	**$ 693,979**

* Extendable Municipal Commercial Paper



- 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}
- ROW fee remains the same at $0.18 per Ccf

Ccf is equivalent to hundred cubic feet or 748 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 $1.14 per Ccf to $8.89 per Ccf, {increase of $1.53 to $11.89 per 1,000 gallons}
- Monthly Clean Rivers Impervious Area Charge decrease of $2.06 to $20.94 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}

Ccf is equivalent to hundred cubic feet or 748 gallons

Cash Flow Summary

$ in thousands

	FY 2018 Actual	FY 2019 Approved	FY 2019 Revised	FY 2020 Approved
OPERATING BUDGET				
Operating Revenue				
Residential, Commercial & Multi-Family	$ 260,495	$ 299,927	$ 295,197	$ 332,704
Federal	39,552	41,525	41,525	47,940
Municipal	10,979	9,083	9,121	10,052
D.C. Housing Authority	7,137	8,303	8,340	9,235
Groundwater	-	5.00	5.00	5.00
Water System Replacement Fee (WSRF)	40,896	39,717	39,717	39,717
Metering Fee	11,745	10,776	10,776	10,776
Payment in Lieu of Taxes / Right of Way Fee	21,236	21,701	21,701	22,113
Clean Rivers IAC Revenue	127,591	108,945	116,945	99,123
Subtotal Retail	**519,630**	**539,982**	**543,328**	**571,666**
Wholesale	81,022	79,237	82,992	82,539
Interest Earnings	2,166	2,740	2,740	3,589
Transfer from Rate Stabilization Fund	-	-	6,000	-
Other Operating Rev. (1)	28,128	27,085	30,167	35,615
Total Operating Revenue (1)	**630,946**	**649,044**	**665,227**	**693,409**
Operating Expenditures				
Personnel Services	138,993	144,361	144,361	147,932
Contractual Services	73,404	81,679	81,679	81,886
Chemicals & Supplies	34,679	32,082	32,082	33,158
Utilities & Rent	23,414	26,915	26,915	26,953
Water Purchases	27,665	30,520	30,520	34,929
Small Equipment	606	1,240	1,240	989
Subtotal - Operating Expenditures	**298,760**	**316,796**	**316,797**	**325,847**
Payment in Lieu of Taxes / Right of Way Fee	21,376	21,702	21,702	22,034
Debt Service	178,399	199,025	198,754	215,340
Cash Financed Capital Improvements/Defeasance	35,260	26,999	26,999	28,556
Total Operating Disbursements	**533,794**	**564,522**	**564,251**	**591,776**
CAPITAL Disbursements (See Section VI for more details)				
Sources of Capital Funds	599,330	323,793	300,698	400,311
Uses of Capital Funds	489,929	439,118	439,117	420,342
Capital Disbursements Overage / (Shortage)	109,401	(115,325)	(138,419)	(20,031)
CASH RESERVES				
Beginning O&M Reserve Balance (Net of Rate Stabilization Fund)	147,212	140,000	166,796	165,000
Operating Surplus	97,149	84,520	100,974	101,633
Wholesale Customer Refunds/Payments for Prior Years	8,987	(1,500)	(10,982)	(3,448)
Transfer to Rate Stabilization Fund	-	-	-	-
Federal Customer Refund/Payments for Prior Years	(9,019)	(5,821)	(5,821)	1,317
Interest Earned from Bond Reserve	227	424	424	570
Pay-As-You-Go Capital Financing	(77,761)	(73,624)	(75,391)	(81,071)
Project Billing Refunds	-	(4,000)	(11,000)	(4,000)
Ending O&M Reserve Balance (Net of Rate Stabilization Fund)	**166,796**	**140,001**	**165,000**	**180,000**
Rate Stabilization Fund	$ 61,450	$ 61,450	$ 55,450	$ 55,450

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

In the early history of Washington, DC, water and sewer operated as separate entities. Early incarnations of the agency we now call DC Water included the District of Columbia Water Board (1859—1872) and the District of Columbia Board of Public Works (1872—1932).

Beginning in 1932, the Agency operated as the District of Columbia Department of Sanitary Engineering and constructed the first sewage treatment plant at Blue Plains. The Agency went through another transition to the District of Columbia Department of Environmental Services in 1971, then operated as the Water and Sewer Utility Administration (WASUA) under the Department of Public Works from 1985 to 1996.

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, is required to approve any Board action; except, that 7 affirmative votes are required for approval of the Authority's budget and 8 affirmative votes are 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 many operating weaknesses. 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. Today, DC Water is one of the best utilities not only in North America but in the world.

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 of Columbia 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. In FY 2018 we issued 36 thousand alerts to over 16 thousand customers.

Basis of Accounting

DC Water is a single enterprise fund and maintains accounting records using the modified 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 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

Typically in May or June, the CEO & General Manager and CFO kick off the budget season. In July, 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 August and in early September, departments complete budget reviews with budget staff, and in September and October, reviews are held with the Executive Team and with the CEO & General Manager in tandem.

Typically, in December 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. The budget is proposed for the following fiscal year (e.g. beginning October 1, 2019). The Committees review the budget documents in December through February and submit budget recommendations to the full Board in March. Typically, decisions are finalized and Board action on the budget is taken between March and April.

Upon budget adoption, the Budget Office 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 Finance Department 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

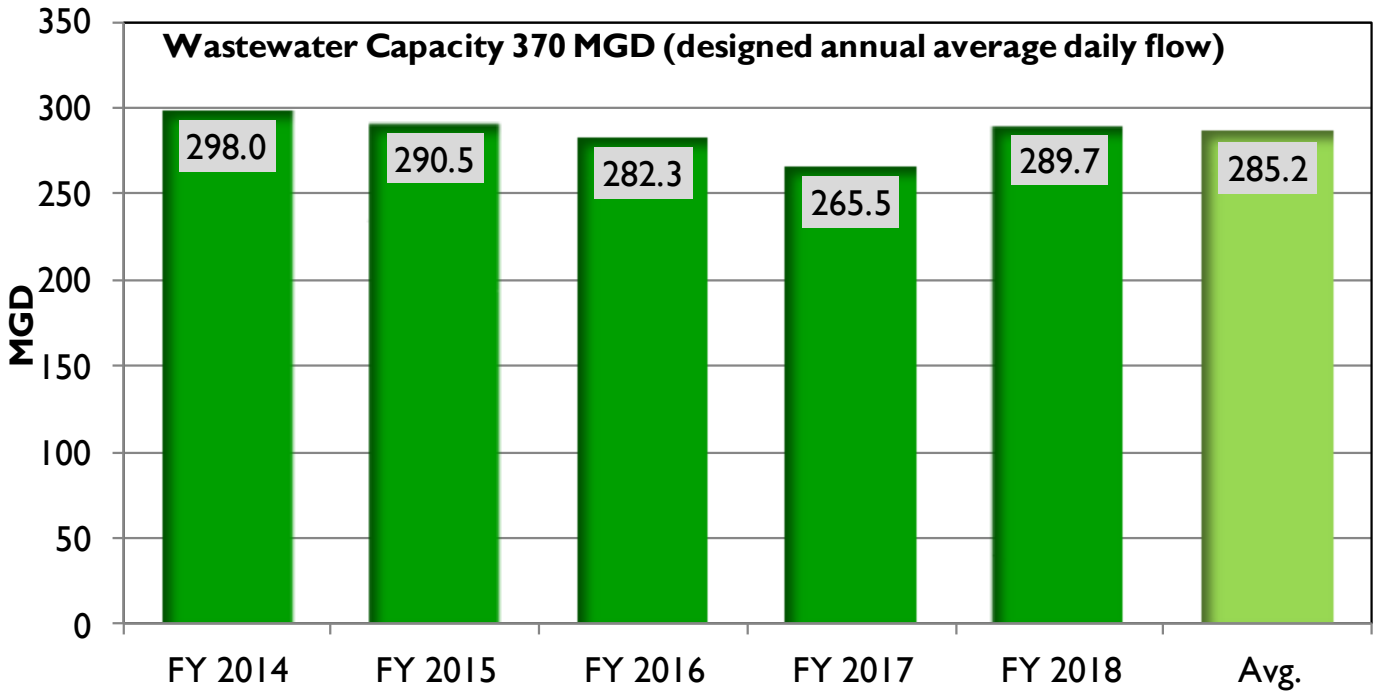
The CEO & General Manager has control over the budget as approved by the U.S. Congress, at the appropriation level, i.e., DC Water's overall approved operating budget and capital authority at the Authority-wide level in the capital budget. The CEO & General Manager has the authority to approve budget reprogramming between departments. Any additional budget spending above the budget appropriation level requires approval from the U.S. Congress.

Month	Activity
July 6	Distribution of budget templates and guidelines
July 10	Chief Executive Officer (CEO) & General Manager's (GM) Budget Kickoff Meeting
July 12	Budget Bootcamp (Budget Process & Authority-wide shared Items Review)
August 10 - 24	Departmental FY 2020 budget submission to Budget Office
September 7	Executive Team Briefing on Departmental O&M Budgets
October 4 - 15	Departmental FY 2020 Operating and Capital Budget Reviews with Budget Office, Office of General Manager, Information Technology (IT), Engineering & Technical Services and Administrative Services
October 16	Executive Team Briefing (Ten-year Capital Improvement Program)
October 18	Environmental Quality & Operations Committee Review of Capital Improvement Program options
October 25	Finance & Budget Committee Review of Capital Improvement Program options
November 2	Transmit Preliminary Budget Recommendations to Departments
November 15	CEO & GM and Executive Team's briefing of Operating and Ten-year CIP
December 6	Retail Rates Committee Review of Capital Improvement Program options & Financial Impacts
December 17	Executive Team's briefing of Operating and Capital Equipment
December 18	Finance & Budget Committee Review of Capital Improvement Program options & Financial Impact
January 25	Finalize Ten-Year Financial Plan (Operating, Capital Improvement Program, Revenues, Rates & Fees) Transmittal of CEO's & GM's Final Budget Proposal to Executive Vice Presidents & Department Heads
February 7	Budget Workshop - Board Briefing of the CEO & GM's Proposed FY 2020 Budgets
February 8	Wholesale Customer Briefing
February	Board Committees Conducted in-depth Review of Budget Proposal
March	Board Committees Forward Recommendations to Full Board for deliberation/action Budget Book Preparation & Production
April 4	Board Adoption Submission to the District of Columbia for onward transmission to U.S. Congress

Wastewater System Capacity Ensures Service Area Meets Needs Through 2040

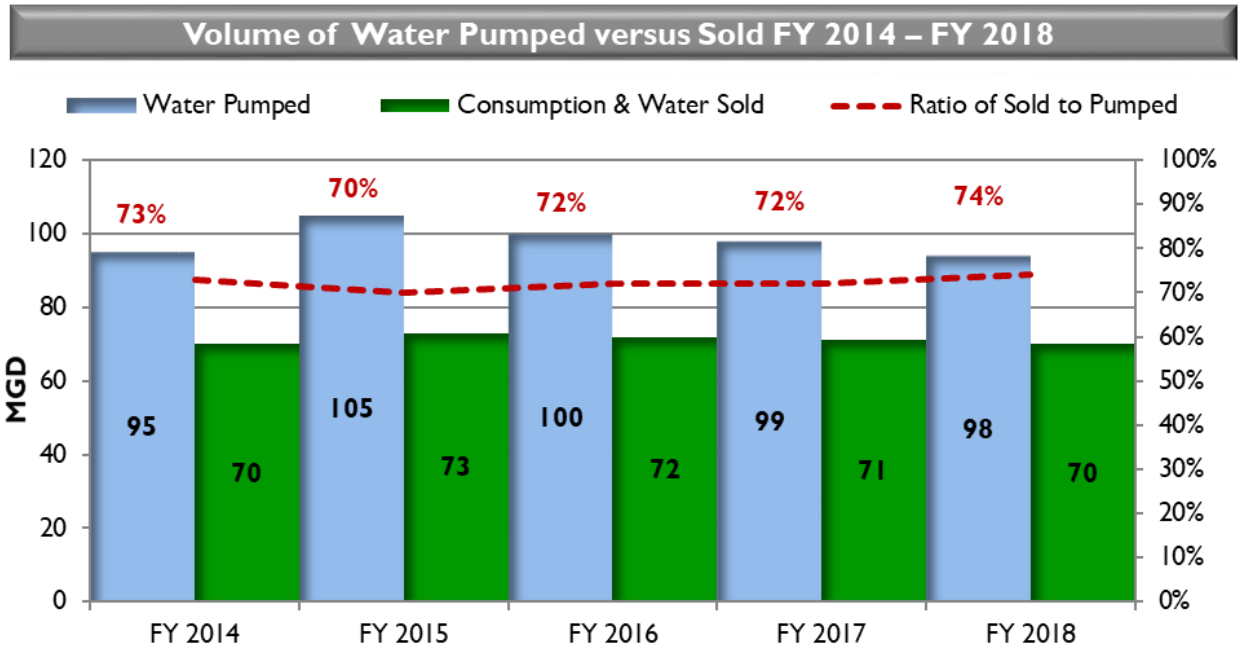
- Blue Plains is the world's largest advanced wastewater treatment plant
  - — Treats an average of approximately 300 million gallons per day (MGD) annually
  - — Designed for average daily flow of 370 MGD and peak wet weather capacity of 1,076 MGD
- System comprises 1,800 miles of sanitary, stormwater and combined sewers; 125,000 building sewer lateral; 22 flow-metering stations; 9 off-site wastewater pumping stations; and 16 stormwater pumping stations

Historical Wastewater Treatment vs. Capacity FY 2014 –FY 2018



Water System Capacity Meets Service Area Needs

- Water is purchased from the Washington Aqueduct, owned and operated by the U.S. Army Corps of Engineers
- Four pumping stations provide adequate capacity to meet peak demand
  - Bryant Street, New Fort Reno, 16th and Alaska, Anacostia
- One Washington Aqueduct pumping station with capacity sufficient to take over for Bryant Street pumping station
- System comprises 1,350 miles of interconnected pipes



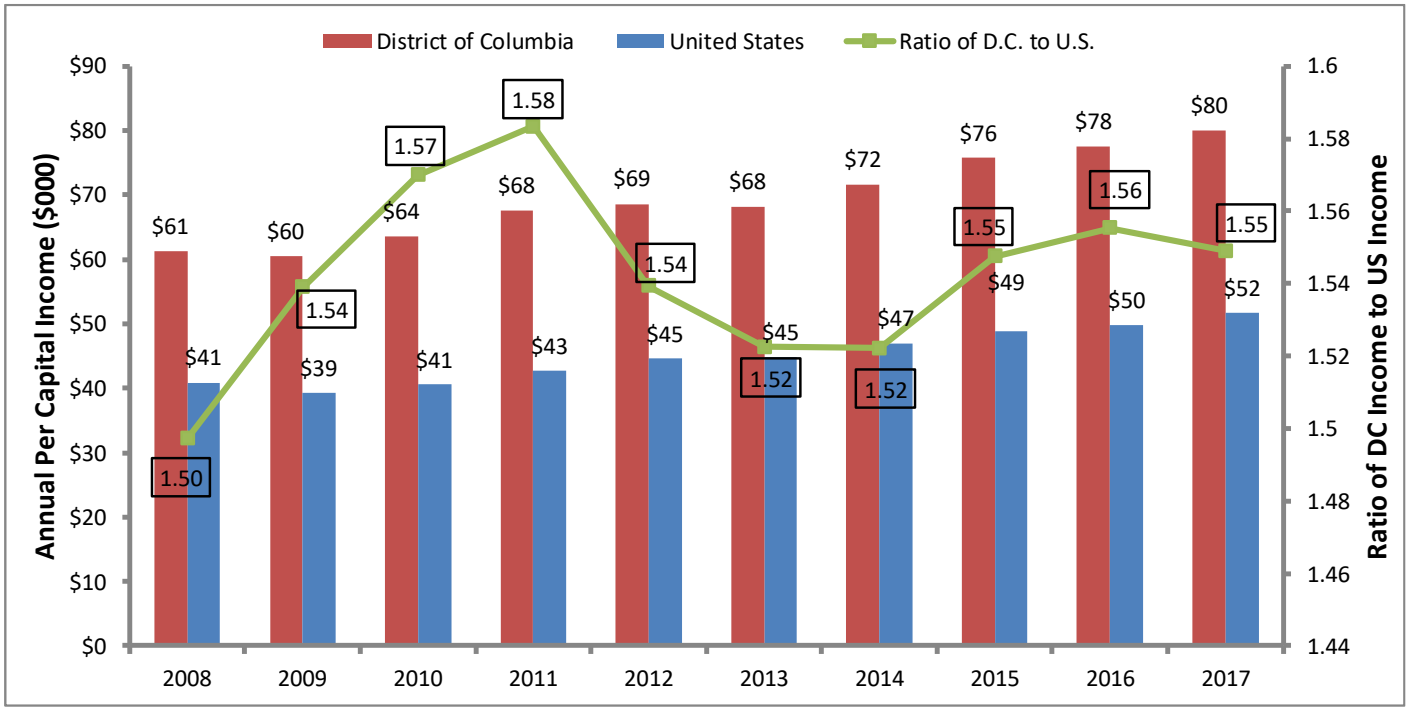
Strong financial planning requires careful monitoring and analysis of various trends and factors that may influence the market place. In this case, the market place for DC Water is the District of Columbia and its surrounding region. DC Water monitors consumption and wastewater flow trends within the 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 recent national recession well. Regional unemployment rates remain relatively low and the regional per capita incomes remain higher than the U.S. average. Office vacancy rates have increased 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.

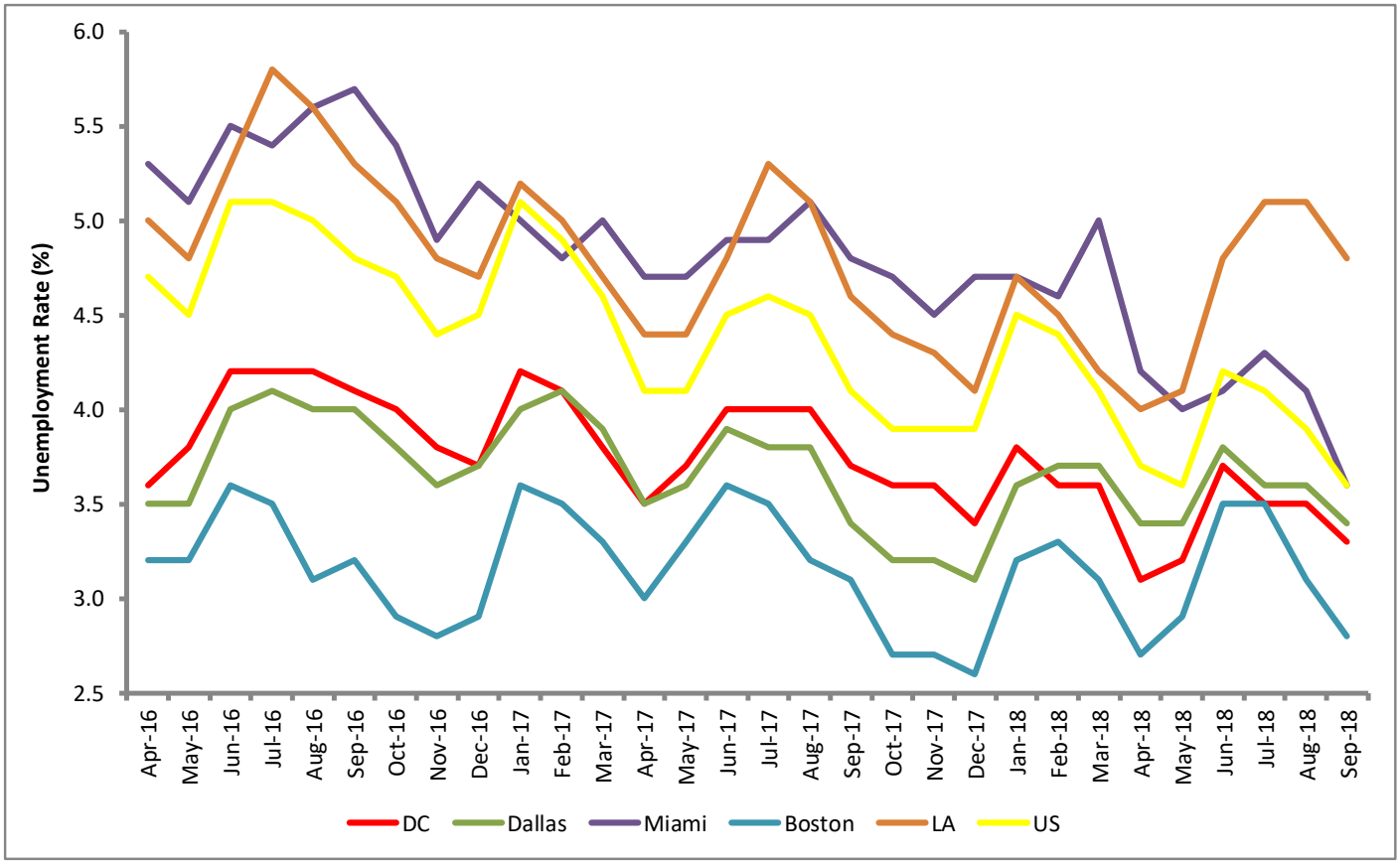
As the largest job center in the DC Metropolitan region, DC can be impacted by economic declines. However, impacts are tempered by the relatively stable federal employment enjoyed by the nation's capital.

DC Per Capita Income is Higher than US Average



Source: Bureau of Labor Statistics

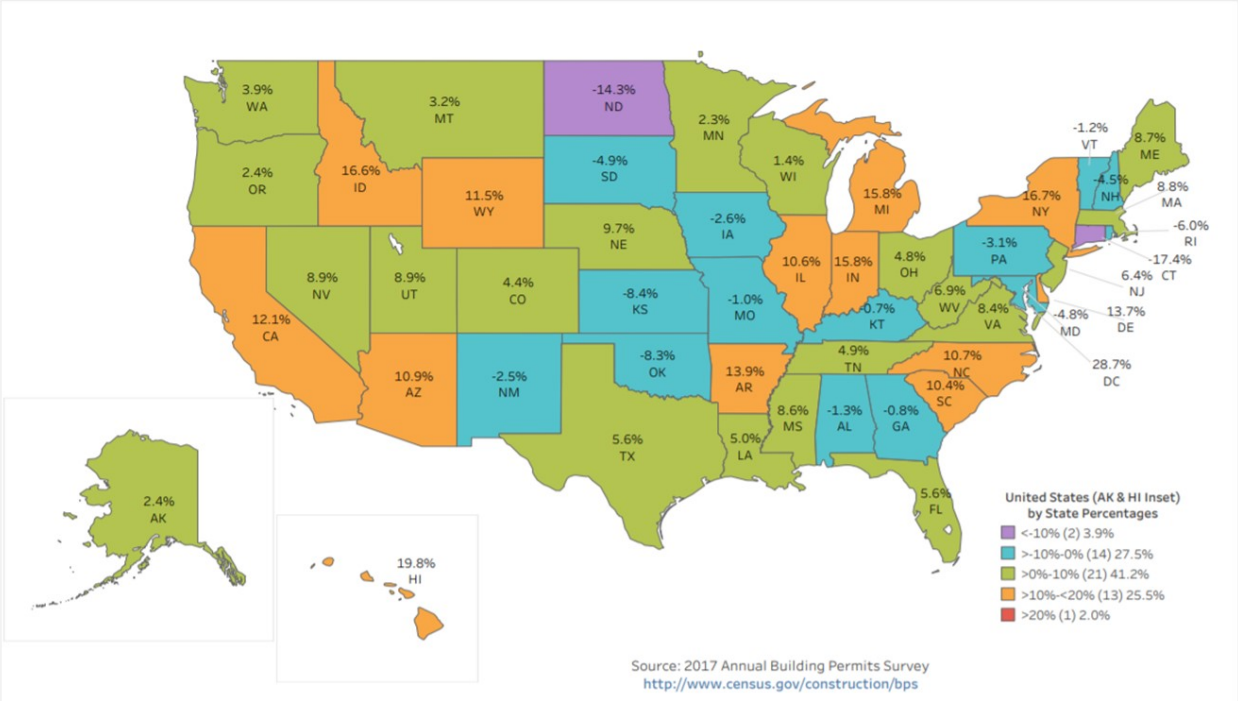
Unemployment Rate in the DC Region Remains Relatively Low



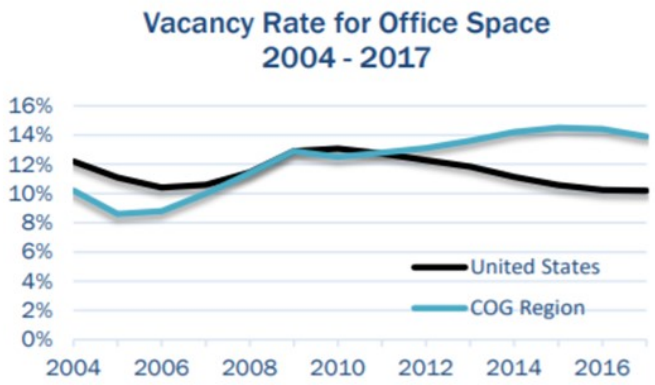
Source: Bureau of Labor Statistics

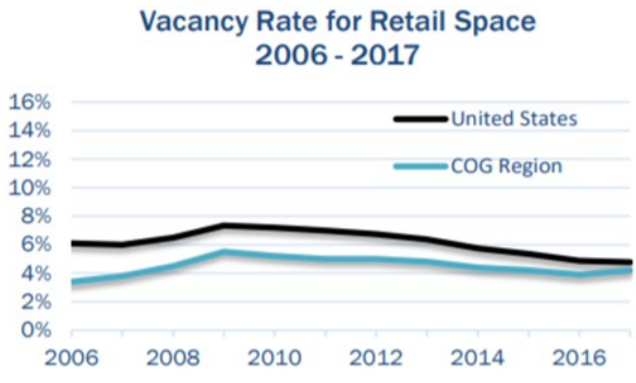
2016 – 2017
Significant Growth in New Housing Permit Issuance in DC

Percent Change from 2016-2017 of New Privately-Owned Housing Units Authorized by State



DC Metro Vacancy Rates are Above Pre-Recession Levels partly due to New Spaces Added to the Market





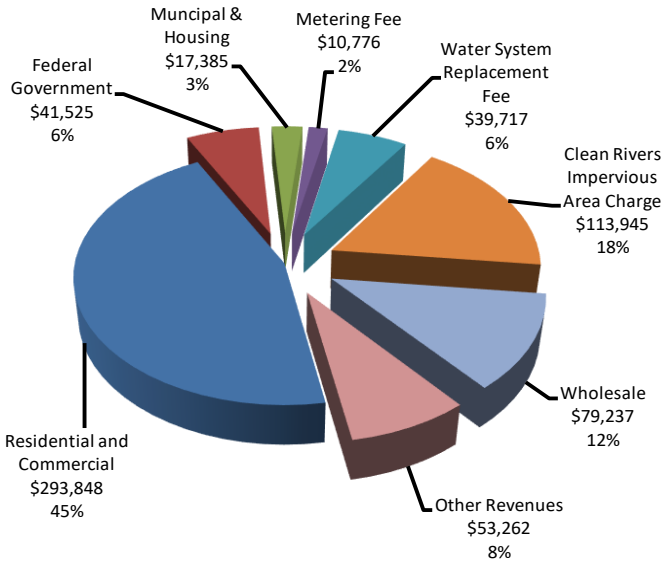
DC Water's performance is driven by federal government growth and associated industries, supporting regional growth and diversification.

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

The regional indicators are positive with strong incomes and unemployment below the national level. These factors, coupled with stable consumption and the financial strength 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 2019 revenues come from "AAA" rated entities and are received in advance of service:
  - —Federal Government
  - —Fairfax County
  - —Washington Suburban Sanitary Commission
  - —Loudoun County Sanitation Authority
- An additional 2.7% of revenues come from the District of Columbia which is rated "AA"

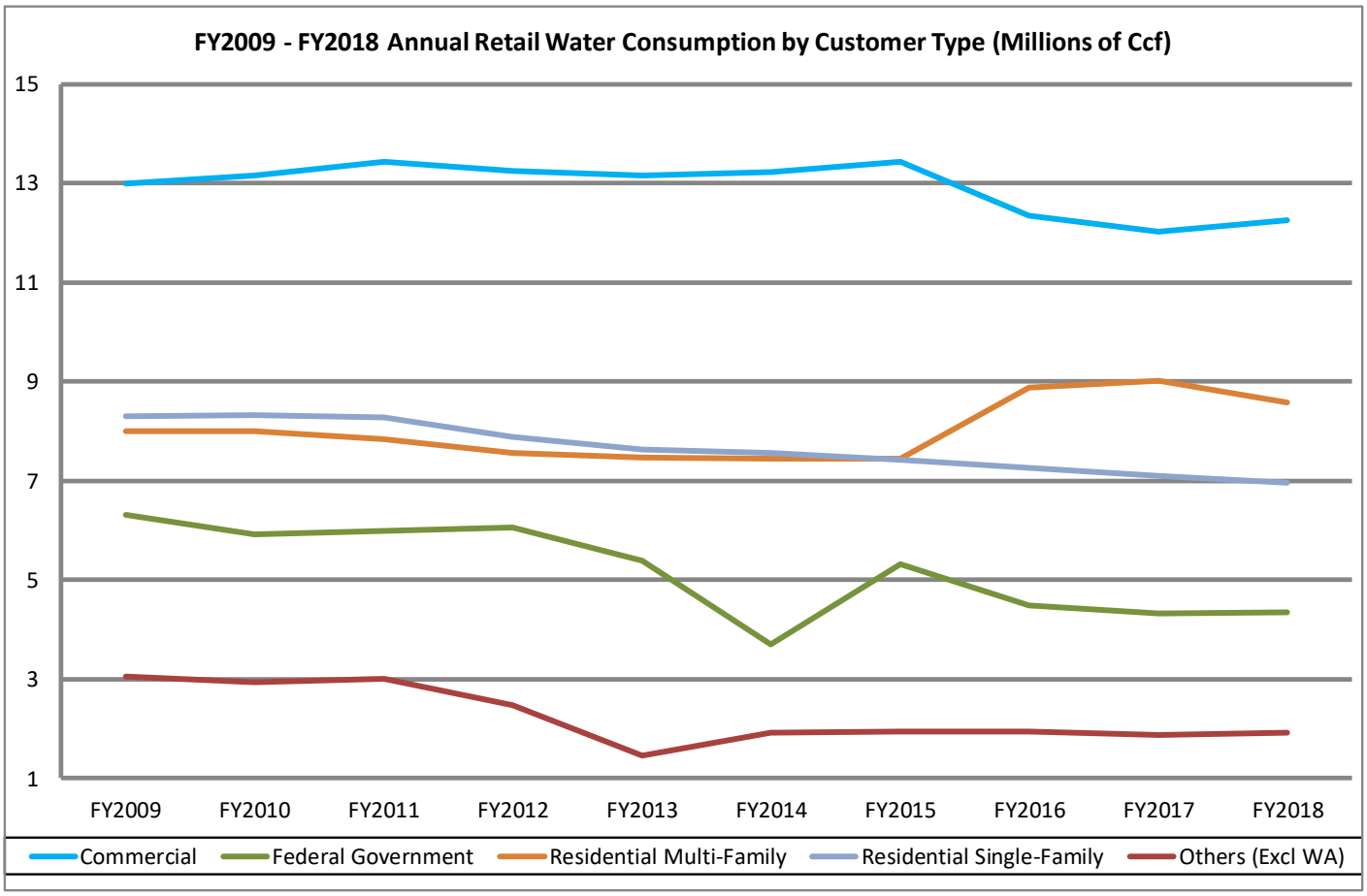


Media reports reference the service area's economic strength

- "The District of Columbia's Q4 2017 per capita GDP of $193,091 and April 2018 average weekly wage of $1,552 were far and away the highest in the country." Business Insider, June 30, 2018
- "The District continues to grow and diversify… Multifamily construction, according to the report, is on a tear — a record pace, in fact, with nearly 16,000 units now under construction …" Washington Business Journal, December 15, 2017
- "The Washington metropolitan area added 65,908 new residents last year, the fifth-largest numerical increase in population in 2017…" WTOP, March 22, 2018
- "… population in the "inner region" of Washington and eight nearby jurisdictions increased by 7 percent from 2010 to 2016… Households with incomes above $150,000 grew by 34 percent between 2000 and 2016, more than households at lower income levels." Loudoun Times-Mirror, November 5, 2018

Customer Demand: A reasonable degree of accuracy in forecasting water demand is important for sound financial planning and rate setting. The FY 2009 - 2018 actual average decline in usage is 1.4% annually, excluding the Washington Aqueduct. FY 2009 – FY 2018 average annual rate of change in demand for the customer classes: Commercial -0.7%; Federal Government: -4.1%; Single Family: -1.9%; and Other (include Exempt, DC Housing Authority, DC Municipal Government, and DC Water): -4.9%. Multi-Family increased by 0.8% annually.

DC Water Consumption by Customer Type



Source: DC Water

- FY 2018 consumption decreased 0.9%, mostly due to decreases in consumption for Single Family and Multi-Family accounts, offset somewhat by the increase in consumption in Commercial 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%. We believe that this estimate is prudent, consistent with peers such as New York and Boston and assures revenue sufficiency for the Authority.