Schedule ML-4

Rating Agency Reports

Philadelphia, Pennsylvania

New Issue Report

Ratings

New Issue

Water and Wastewater Revenue Refunding Bonds, Series 2017	A+

Outstanding Debt

Water and Wastewater Revenue Bonds	A+

Rating Outlook

Stable

Related Research

2017 Water and Sewer Medians (December 2016)

2017 Outlook: Water and Sewer Sector (December 2016)

Fitch Rates Philadelphia, PA's Gas Works Rev Refunding Bonds'; Outlook Stable (August 2016)

Analysts

Andrew DeStefano
+1 212 908-0284
andrew.destefano@fitchratings.com

Doug Scott
+1 512 215-3725
doug.scott@fitchratings.com

New Issue Details

Sale Information: Approximately $293,000,000 Water and Wastewater Revenue Bonds, Series 2017, scheduled to sell the week of April 3 via negotiated sale.

Security: First lien on net revenues of the Philadelphia Water Department's (PWD) combined water and sewer system.

Purpose: To finance capital improvements, make a deposit to the debt service reserve and pay issuance costs.

Final Maturity: Oct. 1, 2052.

Key Rating Drivers

Satisfactory Financial Performance: PWD generates narrow but consistent financial margins. All-in debt service coverage (DSC), calculated by Fitch Ratings, has averaged 1.3x over the past five years and was just 1.2x in fiscal 2016. While below Fitch's median for the rating category, PWD's consistency in setting rates annually to achieve 1.3x DSC and healthy liquidity levels support the 'A+' rating.

Significant Long-Term Capital Needs: PWD's capital improvement program (CIP) totals $2.2 billion through fiscal 2023. Longer-term capital needs are substantial, a result of required consent order projects and long-term maintenance needs associated with Philadelphia's (the city) aging infrastructure. Terms and conditions under the consent order provide the city with some flexibility as to the affordability and projected timeline of the projects.

Debt Burden to Rise: Debt levels are currently manageable but will increase significantly with sizable additional borrowing expected to fund 80% of PWD's long-term capital needs. Leverage levels are expected to become high with continued sizable borrowing planned over the next two decades.

Consistent Annual Rate Increases: PWD regularly raises water and sewer rates to support the increased capital spending and to achieve 1.3x DSC. Rates have risen by around 5% annually over the past decade. Rates are affordable but expected to continue trending higher to fund long-term capital improvements.

Economic Characteristics Remain Mixed: The service area is highly diverse and well anchored by a broad and stable economy. However, low income levels persist, contributing to below-average collection rates and high water loss.

Rating Sensitivities

Insufficient Rate Recovery: The Stable Rating Outlook reflects Fitch's expectation that consistent rate action will be taken to support planned capital spending. However, if PWD experiences any difficulty in achieving timely and sufficient rate recovery, financial margins could decline, which would likely prompt negative rating action.

Rating History — Revenue Bonds

Rating	Action	Outlook/ Watch	Date
A+	Affirmed	Stable	3/23/17
A+	Affirmed	Stable	10/6/16
A+	Affirmed	Stable	3/20/15
A+	Affirmed	Stable	12/31/13
A+	Affirmed	Stable	6/27/13
A+	Affirmed	Stable	10/9/12
A+	Revised	Stable	4/30/10
A–	Upgraded	—	6/7/00
BBB+	Assigned	—	12/1/98

Related Criteria

Revenue-Supported Rating Criteria (June 2014)

U.S. Water and Sewer Revenue Bond Rating Criteria (November 2016)

Credit Profile

Philadelphia's combined water and sewer utility system serves city residents on a retail basis and a small number of wholesale customers operating in neighboring counties. Service area characteristics include generally low wealth levels and higher than average unemployment rates that are sufficiently mitigated by a sizable and well-anchored employment base.

Management of the combined system falls under the water department, one of the city's 10 operating departments. The water department commissioner is appointed by the managing director of the city subject to mayoral approval. Financial results are reported as an enterprise fund in the city's audited financial statements, and financial management is centralized, with all city operating funds monitored by the city's finance and budget departments. While the revenues of the system are legally and practically separate from other city funds, the centralized system keeps the financial management of the city and water fund closely tied.

Of the PWD's roughly 2,067 employees, approximately 1,880 are unionized. A collective bargaining agreement recently reached for the vast majority established a four-year contract spanning fiscal years 2017–2020. Contract terms, including annual salary increases that will average 2.75%, appear manageable and are factored into the PWD's current financial forecast.

Customer Profile and Service Area

PWD serves a highly diverse and predominantly residential customer base. The water system serves all of the 1.6 million residents of the city as well as a small wholesale customer that serves customers in neighboring Montgomery and Delaware Counties. In total, the water system directly served 480,000 accounts in fiscal 2016. Limited growth in the customer base is anticipated.

The wastewater service area, which comprises greater portions of the surrounding counties, includes a larger population estimated at nearly 2.3 million. The system directly serves 450,000 wastewater customers and 50,000 storm water-only accounts. The combined system's 10 largest customers by revenue represent a stable mix of either large healthcare or governmental institutions that accounted for just 9.9% of fiscal 2016 total billings.

The city maintains 11 wholesale agreements for wastewater service and one wholesale contract for water service to customers outside the city's boundaries. Total wholesale revenue accounted for a moderate 5% of total system revenues in fiscal 2016. All of the wholesale agreements extend through at least fiscal 2023, with several running through fiscal 2025 or later.

Community Characteristics

Philadelphia's large population, sound economic underpinnings and distinct role as the economic driver for the broader metropolitan statistical area (MSA) ensure the continued stability of PWD's service area. Employment opportunities are fairly well diversified, despite being weighted towards a stable cluster of large higher education and healthcare institutions that dominate the city's 10 largest employers. The University of Pennsylvania remains by far the city's largest employer, followed by the Children's Hospital of Philadelphia. Tourism, government and financial services also play an important role in the city's economy.

Unemployment continues to trend downward but remains elevated relative to state and national levels. The city's November 2016 unemployment rate fell from the preceding months but increased slightly from the 5.8% recorded in November 2015. Weak income levels persist, as the city's poverty rate remains nearly twice the national rate, and median household income

(MHI) approximates just 70% of state and national averages. Consequently, PWD's accounts receivable balances and annual write-offs are consistently high relative to most utilities. Including the collection of delinquent accounts, management estimates annual revenue collection at about 95%.

Operating Profile

Water System

Operations are stable and system capacity is robust. The city's water supply, significant excess treatment capacity and lack of growth pressures position PWD well to continue meeting customer demand from existing resources for the foreseeable future. Approximately 59% of the utility's current water supply is drawn from the Delaware River; the balance is taken from the Schuylkill River. Annual water sales, even on peak days, typically equal about one-half of the city's combined rated treatment capacity of 546 million gallons daily (mgd), and nearly one-third of the combined withdrawal (680 mgd) permitted from both water supply sources. Storage capacity of treated and untreated water exceeds 1 billion gallons.

The water system is compliant with all applicable permits and regulatory standards and guidelines. However, unbilled, unaccounted for water loss continues to be a concern. Unauthorized consumption was reduced by a notable 40% during the 1990s, but progress has since stalled as non-revenue, unauthorized water has remained at or close to 30% over the past several years. Ongoing efforts to reduce water loss include the implementation of an automatic meter reading system, utilization of a leak detection program, locking of fire hydrants and replacing water mains.

Sewer System

The wastewater collection system consists of approximately 19 pumping stations, nearly 760 miles of sanitary sewer, about 740 miles of storm sewer, roughly 1,850 miles of combined sanitary and storm sewer, and 135 miles of major interceptor sewer that convey wastewater to three city-owned treatment plants. Wastewater treatment capacity is ample, as the system typically operates at approximately 36% of the 1,059-mgd maximum flow capacity.

All three treatment plants are currently operating under five-year National Pollutant Discharge Elimination System (NPDES) permits that expired on Aug. 31, 2012. The city filed its applications for permit renewal on time (in February 2012) and does not expect any hindrances in eventually getting the permits renewed. The system continues to operate under an extension of the expired permits, as determined by the policies of the Pennsylvania Department of Environmental Protection (DEP).

While officials have previously stated that no hindrances to renewing the NPDES permit are expected, the fairly recent declaration that the Delaware River is impaired due to an elevated level of polychlorinated biphenyls could potentially impede the renewal process and result in a costly remediation process. No estimate on the potential cost has been determined.

Green City, Clean Waters Program

The city signed a consent order and agreement (the COA) with the DEP in 2011 requiring the city to address combined sewer overflows (CSOs) over a 25-year period ending in fiscal 2036. Terms of the agreement, including total cost and timeline, are considered by Fitch to be generally favorable when compared to alternative, likely more costly strategies.

The city's long-term control plan to substantially eliminate CSOs is reflected in its Green City, Clean Waters Program (the program). Under the program, the city will continue to implement green technologies, including significant increases to the number of greened acres (9,600 in total) throughout the city as a means to capture rainwater runoff that would otherwise overwhelm the utility's combined sewers and pollute the city's waterways. The program also includes wastewater treatment facility enhancements, pipe renewal and replacement and the offer of a credit to customers willing to reduce the amount of impervious area on their property.

The COA sets the ultimate water quality goal as the elimination or removal of pollutants that otherwise would be removed by the capture of 85% by volume (average citywide) of the combined sewage collected in the city's combined sewer system during precipitation events. To that end, the COA requires water quality milestones to be met in five-year intervals. The milestones require the city to green a certain number of acres, reduce overflow volume and line a certain number of miles of interceptor. The city met the first five-year milestone, including construction of more than 800 greened acres, and management believes it is on track to meet the second five-year interim milestone in 2021. Fitch will continue to monitor the city's performance as the project milestones escalate.

The COA provides the city with some flexibility. Escalation of COA costs in excess of 2.27% of the city's MHI would allow the city to petition the DEP for an extension of time to complete the COA so the financial burden does not become excessive on ratepayers. While fines may result for non-compliance with any of the milestones, the amounts would not be significant. Fitch notes that COA costs used to calculate the percentage of MHI are based on the monthly sewer charge only.

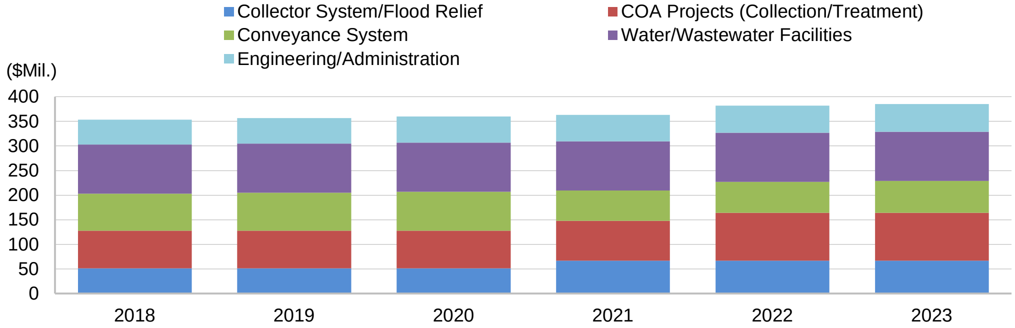
Environmental Regulations, R&R Drive Large Capital Program

Typical of most large, older urban combined utilities facing combined sewer overflow mitigation and long-term renewal and replacement issues, PWD's capital improvement plan (CIP) is substantial. Projected capital spending spanning fiscal years 2018–2023 totals $2.2 billion, or $366 million on average per year, and is over 20% higher than the CIP two years earlier. As only roughly 22% of the current CIP addresses CAO projects and infrastructure rehab and replacement are expected to be ongoing, Fitch expects capital spending will further increase over the intermediate term.

Water and wastewater treatment plant upgrades together with the COA and related long-term control plan projects account for the vast majority of planned spending and continue to be the primary drivers behind the ongoing escalation in costs. Other spending priorities include PWD's efforts to increase its sewer pipe and water main replacement programs to keep pace with the city's aging infrastructure. The city's average age of plant remains high at 22 years. However, much of the city's sewer collection system consists of brick sewer lines that typically have very long useful lives.

The current capital plan continues a trend of relying heavily on long-term debt as a funding source, primarily the result of modest operating margins and narrow debt service coverage that yield modest amounts of excess cash flow for pay-as-you-go capital funding. Including the current issuance, approximately 80% of project costs over the next six years will be financed with annual bond issuances averaging nearly $308 million through fiscal 2022. Equity contributions will fund the balance.

Capital Improvement Plan



Source: Philadelphia Water Department.

Debt Burden to Rise

PWD's debt burden is currently manageable but expected to rise significantly over time. As of fiscal year-end 2016, PWD had $1.8 billion of mostly fixed-rate long-term revenue bonds and $135 million in Pennsylvania Infrastructure Investment Authority loans outstanding. The utility's ratio of debt to net plant totaled 88% in fiscal 2016, which slightly exceeds Fitch's rating category median of 76%.

Debt to funds available for debt service was 7.5x as compared to the Fitch rating category median of 9.1x. Debt per customer, which includes an approximation of the number of retail customers served through wholesale contract, remains below the rating category median for the 'A' category at approximately $1,549 in fiscal 2016. However, Fitch expects all debt metrics to rise as PWD relies heavily on long-term debt as a funding source, primarily the result of narrow debt service coverage margins that yield modest amounts of excess cash flow. Including the current issuance, approximately 80% of project costs over the next six years will be financed with debt; annual bond issuances are projected to average roughly $308 million annually through fiscal 2022.

With long-term capital needs escalating, Fitch anticipates the amount of future debt will continue to outpace the rate of amortization of bonds outstanding, leading to a steady rise in leverage over time. Fitch believes the continued escalation in the size of the CIP, coupled with a strategy of funding capital costs almost entirely with long-term debt, could eventually begin pressuring financial margins.

Exposure to variable-rate debt and derivatives diminished significantly in recent years as management has taken a more conservative approach to debt management. As a result, total variable-rate debt comprises just 4% of the system's total debt portfolio, down from a peak of 30% in prior years. The system is party to a fixed payer swap with Citigroup (parent IDR rated 'A'/Stable by Fitch) as the counterparty. The notional amount is $51.6 million and the mark-to-market valuation is negative $1.5 million (as of June 30, 2016). The swap will terminate on Aug. 1, 2018 or may be terminated early by PWD if Citigroup's rating falls below 'A3'/'A–', or by Citigroup if PWD's rating falls below the same rating threshold (following a 30-day cure period).

Swap termination payments are subordinate to payment of senior-lien obligations, and there are no collateral posting requirements. If required, the city could easily absorb having to make a termination payment based on PWD's strong liquidity adjusted for swap exposure.

Charges and Rate Affordability

Rates for service generally consist of a service charge based on meter size as well as declining block consumption charges. Typical of most storm charges nationally, stormwater fees are based on a property's impervious surface area. Historically, management has typically taken a measured approach to raising rates, leading to combined charges that Fitch considers to be affordable for the majority of the rate base.

Consistent Rate Action

Financial margins have remained consistent as a result of regular annual rate action over at least the past 12 years. In early 2016, the rate board approved 5.1% and 4.5% increases for fiscals 2017 and 2018. The Philadelphia Water, Sewer and Storm Water Rate Board (the rate board), an independent rate-making body responsible for fixing and regulating water, sewer and stormwater rates, was established in 2014. The rate board has full rate-setting authority, and its decision regarding proposed rate adjustments must be made no later than 120 days following a rate filing. Rate board members are appointed by the mayor and approved by city council. Management reports that the rate approval process with the new rate board was timely and smooth. Fitch expects PWD's ability to continue to enact needed rate action to support planned capital spending is unchanged under the new process.

Before the rate board was created, PWD last established rates independently in fiscal 2012 by adopting a four-year rate plan that increased rates through fiscal 2015. Despite more than a decade of rate adjustments, including a 5.1% increase for fiscal 2017, the average monthly combined bill for water, sewer and storm remains fairly affordable at $74 per month (for 4,500 gallons), equal to approximately 2% of the city's MHI.

PWD continues to struggle with below-average collection rates. With delinquent collections factored in, roughly 95% of budgeted revenues are collected each year. Implementation of an income-based water rate assistance program within the current forecast period could aid in reducing receivables and increasing collections, although any improvement on both fronts would likely be offset by reduced rate revenue, which PWD estimates will be equal to roughly 2% of total revenue. Rates for fiscal years 2017 and 2018 factor in this anticipated loss of revenues.

Financial Performance

Fitch considers PWD's financial operations to be well managed, despite historically narrow DSC levels. Management budgets to meet a 1.3x DSC target, which in some years requires transfers from the rate stabilization fund (RSF) to balance lower projected cash flow amounts.

Depending on yearly customer demand, collections and containment of operating expenditures, the RSF is utilized to supplement operating revenues. However, rate revenues have historically covered annual debt service obligations by a satisfactory margin without the use of the RSF. Financial projections have historically shown annual drawdowns of the RSF, although actual results have either reduced or eliminated the need for the planned transfers.

Operating results for fiscal 2016 were in line with prior projections, continuing a consistent trend of satisfactory financial performance. DSC declined slightly to 1.2x from fiscal 2015's 1.3x, leaving the RSF largely unchanged at $205.7 million. Fitch's DSC calculation incorporates below the line transfers out of the water and sewer fund related to various contractual obligations. Total available liquidity, which includes the RSF, PWD's residual fund and unrestricted cash and investments also showed modest improvement, increasing to a robust 265 days of cash on hand. Fitch's DSC calculation incorporates below the line transfers out of the water and sewer fund related to various contractual obligations.

Financial Projections

Updated projected financial results provided by PWD's rate consultant show a continued trend of low but stable coverage and acceptable liquidity levels through fiscal 2022. DSC net of RSF transfers is forecast to remain in a relatively weak range of 1.15x–1.20x in fiscal years 2017 and 2018. DSC improves in fiscal 2019 as a scheduled decline in debt service is expected to lead to coverage of 1.30x–1.40x (not including RSF transfers). With sizable long-term capital spending needs and cost recovery expected to remain steady, stronger financial results are not anticipated.

RSF balances are anticipated to decline slightly with a projected ending balance in fiscal 2022 of $184 million. While liquidity will fluctuate somewhat over the next few years, Fitch expects PWD to sustain cash at levels generally consistent with the current 'A+' rating.

Assumptions built into the forecast appear reasonable, although anticipated future rate increases will depend on rate board approval. The rate board's approval of increases for fiscal years 2017 and 2018 are viewed positively by Fitch, and the board's role in rate approval is largely viewed to be neutral to the revenue bond rating. Modest declines in consumption are incorporated into the projections, and no additional growth in customer accounts is assumed.

Covenants

Security

The current offering and outstanding parity bonds are secured by a first lien on net revenues of the combined water and sewer system.

Rate Covenant

The rate covenant requires that rates, charges and fees be sufficient to yield net revenues at least equal to 1.2x senior-lien annual debt service (ADS) and 1.0x all-in ADS and all required deposits.

Additional Bonds Test

Additional parity debt can be issued if a consulting engineer certifies that with the issuance of the additional bonds, the rate covenant will be satisfied in the fiscal year the debt is issued in addition to the following two fiscal years. If capitalized interest is part of the debt structure, the two-year lookout provision begins the year after the capitalized interest period ends.

Debt Service Reserve Fund

The current offering will carry a cash-funded debt service reserve fund (DSRF). The DSRF requirement is the lesser of maximum annual debt service or the maximum amount permitted to be deposited under IRS regulations. Outstanding parity bonds carry a parity reserve that is fully funded with over $200 million in cash and accrued interest.

Financial Summary

($000, Audited Fiscal Years Ended June 30)

	2011	2012	2013	2014	2015	2016
Balance Sheet						
Unrestricted Cash and Investments	60,994	80,654	82,524	71,166	80,070	79,074
Other Unrestricted Current Assets	39,788	31,646	146,613	140,383	147,747	141,670
Available Restricted Cash and Investments	191,963	210,551	162,311	210,008	221,383	220,890
Current Liabilities Payable from Unrestricted Assets	(186,826)	(200,381)	(211,872)	(214,671)	(225,234)	(238,542)
Net Working Capital	**105,919**	**122,470**	**179,576**	**206,886**	**223,966**	**203,092**
Net Fixed Assets	1,886,726	1,938,001	2,019,350	2,070,492	2,149,680	2,230,233
Net Long-Term Debt Outstanding	1,739,179	1,819,891	1,830,387	1,935,252	2,110,797	1,967,114
Operating Statement						
Operating Revenues	558,483	601,801	610,988	639,974	676,867	670,820
Non-Operating Revenues Available for Debt Service	4,659	3,334	12,079	4,207	3,732	5,850
Connection Fees	2,038	—	—	—	—	—
Total Revenues Available for Debt Service	**565,180**	**605,135**	**623,067**	**644,181**	**680,599**	**676,670**
Operating Expenditures (Excluding Depreciation)	337,241	328,289	366,789	383,019	406,786	413,894
Depreciation	86,924	92,113	89,045	90,523	103,763	101,711
Fitch-Calculated Operating Income	**141,015**	**184,733**	**167,233**	**170,639**	**170,050**	**161,065**
Net Revenues Available for Debt Service	**227,939**	**276,846**	**256,278**	**261,162**	**273,813**	**262,776**
All-In Annual Debt Service (ADS)	185,500	192,400	201,000	201,710	205,270	219,304
Financial Statistics						
All-In ADS (x)	1.23	1.44	1.28	1.29	1.33	1.20
Days Cash on Hand	274	324	244	268	270	265
Days Working Capital	115	136	179	197	201	179
Debt/Net Plant (%)	92	94	91	93	98	88
Outstanding Long-Term Debt Per Customer ($)	1,337	1,401	1,410	1,549	1,663	1,549
Free Cash/Depreciation (%)	49	92	62	66	66	43

Note: Fitch may have reclassified certain financial statement items for analytical purposes.

Source: Philadelphia and Fitch.

The ratings above were solicited by, or on behalf of, the issuer, and therefore, Fitch has been compensated for the provision of the ratings.

MOODY'S
INVESTORS SERVICE

CREDIT OPINION
21 March 2017

New Issue

Rate this Research

Contacts

Nicole Serrano 212-553-4143
VP-Senior Analyst
nicole.serrano@moodys.com

Christopher Coviello 212-553-0575
VP-Senior Analyst
christopher.coviello@moodys.com

Philadelphia Water & Sewer Enterprise

New Issue - Moody's Assigns A1 to Philadelphia Water & Sewer Enterprise, PA's $285M Series 2017; Outlook Stable

Summary Rating Rationale

Moody's Investors Service has assigned an A1 rating to Philadelphia Water & Sewer Enterprise, PA's $285 million Water and Wastewater Revenue Bonds, Series 2017. Concurrently, Moody's has affirmed the A1 rating on $1.97 billion of outstanding parity debt. The outlook remains stable.

The A1 rating reflects the system's healthy cash position and consistent debt service coverage, as well as its large and diverse service area. These positive characteristics are moderated by a sizeable consent order and the system's aging infrastructure, both of which will require significant capital investment going forward.

Credit Strengths

» Willingness to implement required annual rate increases

» Proposed debt increases financially offset by debt service cliff in 2018

» Healthy cash reserves and newly formalized reserve policy

» Closed-loop legal framework

Credit Challenges

» Consent Order & Agreement and aging infrastructure necessitate hefty CIP and related debt issuance

» Relatively untested rate board; continued rate increases are required to support debt and capital plan

Rating Outlook

The outlook is stable given consistent historical results, and the expectation of a continued positive trend. Rates are approved in concert with increases to debt service, which should keep annual debt costs manageable. Engineer and financial consultant reports are required for each bond issuance, also adding to operational stability and comprehensive debt planning.

Factors that Could Lead to an Upgrade

» Considerable improvement in debt service coverage

» Service area expansion / revenue growth beyond rate increases

Factors that Could Lead to a Downgrade

» Failure to increase rates commensurate with coverage requirements

» Material reductions in debt service coverage levels

» Notable deterioration in cash and liquidity

Key Indicators

Exhibit 1

Philadelphia Water and Sewer Enterprise, PA					
System Characteristics					
Asset Condition (Net Fixed Assets / Annual Depreciation)	22 years				
System Size - O&M (in $000s)	364,197				
Service Area Wealth: MFI % of US median	71.%				
Legal Provisions					
Rate Covenant (x)	1.20				
Debt Service Reserve Requirement	DSRF funded at MADS				
Financial Strength					
	2012	2013	2014	2015	2016
Operating Revenue ($000)	601,801	610,988	639,974	676,867	670,820
O&M ($000)	300,829	345,409	354,686	376,528	364,197
Net Funded Debt ($000)	1,667,321	1,619,397	1,716,239	1,889,599	1,746,224
Annual Debt Service Coverage (x)	1.58	1.40	1.42	1.48	1.42
Cash on Hand	371 days	260 days	289 days	292 days	300 days
Debt to Operating Revenues (x)	2.8x	2.7x	2.7x	2.8x	2.6x

Source: Moody's Investors Service

Recent Developments: Significant, Proactive Capital Improvement Plan

The Series 2017 bonds are being issued as part of a six-year Capital Improvement Plan. As of January 2017, the full cost of the program is expected to be $2.2 billion, with new bond issuance through 2022 to contribute $1.72 billion, or roughly 78%. The rest of the plan will be funded through capital reserves and pay-go spending.

About 23% of planned capital expenditures are related to the system's 2011 Consent Order & Agreement with the Pennsylvania Department of Environmental Protection (PaDEP) and the US Environmental Protection Agency (EPA). This consent order addresses the system's combined sewer overflow discharge to the Delaware and Schuylkill rivers.

To address the consent order, management has outlined a twenty-five year "Green Waters, Clean City" initiative, which utilizes green as well as traditional infrastructure expenditures to address stormwater management needs. The Department has partnered with other city departments in Philadelphia and also private business owners as part of this effort. As of fiscal 2016, the Department has met all of its initial five-year milestones.

Detailed Rating Considerations

Service Area and System Characteristic: Large and Diverse Service Area

The Philadelphia Water and Sewer Enterprise ("the system", or "the Department") serves a large and diverse urban and suburban base, consisting primarily of the City of Philadelphia (A2 negative). The water system serves more than 1.5 million individuals through 480,000 active customer accounts and one wholesale account with Aqua Penn.

The system maintains three treatment plants, which pull water from the Delaware (59% of water) and Schuykill (41% of water) rivers. These plants together have a rated treatment capacity of 546 MGD and a combined maximum source water withdrawal capacity of 680 MGD, well above the system's average and maximum daily water production of 238 MGD and 258 MGD, respectively, for 2016. The system's water meets all standards set by the DEP and EPA.

The wastewater system serves a moderately larger area with 545,000 retail accounts (including 50,000 storm water only accounts) and 10 wholesale accounts with neighboring communities and authorities. These wholesale accounts contributed about 5% of overall revenues for fiscal 2016. The wastewater system infrastructure includes three treatment plants. These plants provide a combined average treatment capacity of 522 MGD and peak capacity of 1,059 MGD, again well above the average flow of 379 MGD in 2016. The system maintains a long-term contract and lease with Philadelphia Municipal Authority to operate its Biosolids Recycling Center through fiscal 2028, and has realized approximately $10 million in annual savings since initiating the contract.

With a population of more than 1.5 million, Philadelphia is the fifth-largest city in the US. The population is growing, albeit slowly. The growth is primarily attributable to national demographic trends favoring urban areas, as well as the appeal of the city's substantial mix of universities, hospitals, and other employers.

Among the system's 10 largest customers - aside from the city itself, its school district, and its public housing authority - are the University of Pennsylvania (Aa1 stable), Honeywell Resin & Chemicals, Temple University (Aa3 stable), and the federal government, all of which provide stability and a healthy diversity to the local economy.

Philadelphia's demographic profile remains below average, with median family income estimated at 69% of the Commonwealth and 71% of the US medians. Poverty has been flat at 25% – 26% since 2010. Unemployment spiked to 10% in 2009, and while that number has certainly improved, it remains above the state and national rates. As of December 2016, unemployment is 5.9% for the city, versus 4.9% for the Commonwealth as a whole and 4.5% for the US.

We utilize Philadelphia's demographic statistics as a proxy for the system's socioeconomic profile, however, the overall profile is somewhat stronger than these numbers, as it includes wealthier suburbs in Montgomery (Aa1 stable), Bucks (Aaa stable), and Delaware (Aa1) counties.

Debt Service Coverage and Liquidity: Healthy Liquidity and Consistent Debt Service Coverage

The Department's commitment over the past decade to consistently increasing rates has led to stable debt service coverage, though coverage is moderately more narrow than peers. In 2016, Moody's adjusted net revenues covered debt service by approximately 1.42 times, and has been relatively stable in the 1.4 times range over the last five years.

Moody's evaluates coverage based on Generally Accepted Accounting Principles with a few adjustments, while the Department reports figures on a "legally enacted" basis that is more cash-focused. These two bases often differ from year-to-year. According to the system's calculation, senior-lien coverage, on a legally enacted basis, was 1.24 times for fiscal 2016. Though somewhat slim versus peers, coverage is consistent even on this basis, averaging 1.23 times for the last three fiscal years.

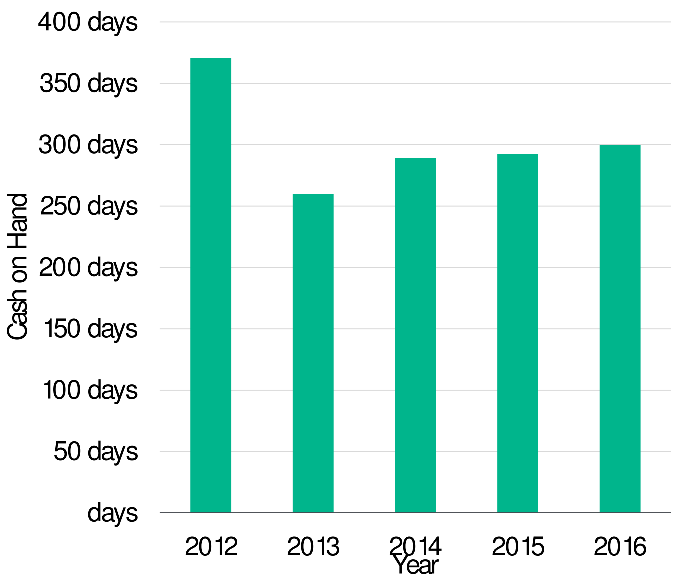
As noted, the Department's long term capital plans include significant additional debt. Based on management's five-year projections, which include a level customer base, additional annual rate increases, and modest revenue (4% average annual increase) and expenditure (3.5% average annual increase) growth, senior lien debt service coverage is expected to increase slightly from 1.25 times (fiscal 2017) to 1.30 times in fiscal 2019. Favorably, the system has a history of outperforming budgeted figures.

LIQUIDITY

The Department maintains ample liquidity. Favorably, as part of its transition to a rate board, management formalized reserve policies outside the indenture requirements, to ensure that liquidity remains strong. Management has adopted a formal a policy to maintain at least $110 million in its Rate Stabilization Fund and $15 million in its Residual Fund (adjusted for inflation). Additionally, the Department maintains Capital and Construction accounts that will be used to fund pay-go capital improvement.

At year-end 2016, total available operating cash in the Rate Stabilization and Residual funds amounted to $221 million, almost double the minimum requirement, and equating to approximately 217 day's cash on hand. In addition to these funds, the Department maintained $79 million in cash for operations during the same period. When all available cash is considered, unrestricted reserves as a percent of O&M increases to 82%, in line with national peers in the A1 rating category.

Exhibit 2



Source: Moody's Investors Service, Philadelphia Water & Sewer Enterprise CAFR 2012 - 2016

Debt and Legal Covenants

The Department's $1.97 billion of outstanding debt at year-end 2016 is manageable, but projected to grow significantly as part of its capital plan. Current debt is roughly 2.9 times revenues, and net funded debt is a significantly above average 78% of net fixed assets. Favorably, the existing debt structure is front-loaded, resulting in a debt service "cliff" in 2018, as debt service decreases from $206 million (fiscal 2017) to $156 million (fiscal 2019), a reduction of more than 30%. However, this annual savings is expected to be eliminated with the issuance of new debt in 2017 and beyond, resulting instead in relatively level debt service in the coming years.

The Department's five-year capital improvement plan, which reflects the consent order as well as other capital needs, totals $2.2 billion and is 78% debt-funded. If the capital plan is executed as currently structured, the system's debt burden will continue to grow.

LEGAL COVENANTS

The legal covenants governing the system's senior lien bonds are satisfactory. The senior lien rate covenant is 1.2 times and the total debt service covenant is 1.0 times (although the system currently has no subordinate debt). The indenture permits transfers from the rate stabilization fund, meaning the department could use prior-year surpluses to meet its covenant. The additional bonds test is to comply with the rate covenant.

The debt service reserve fund requirement is maximum annual debt service. Additionally, the system, by ordinance, requires that any surety in a debt service reserve fund be rated Aa or higher. A $67 million surety policy with Assured Guaranty Municipal Corp (A2 stable) is not eligible to be included in the reserve requirement. Thus, the department has a debt service reserve fund cash-funded at MADS, plus the surety policy. Effectively, the debt service reserve is currently funded at 1.34 times MADS.

DEBT STRUCTURE

Debt is mostly fixed; there are only two variable rate issuances outstanding, with total principal of $71.4 million (4% of total debt). The 1997B bonds, with principal outstanding of $53.2 million (3% total debt), are unhedged and mature in 2027. The other variable rate series is the 2005B, with current principal outstanding of $18.18 million (1% total debt).

DEBT-RELATED DERIVATIVES

The 2005B series is hedged through a fixed-payor swap with Citigroup Financial Products. As of June 2016, the swap mark-to-market is -$1.5 million. The 2005B bonds and related swap mature in 2018.

PENSIONS AND OPEB

The city of Philadelphia operates one defined-benefit plan: the City of Philadelphia Public Employees Retirement System (not including the pension plan for the Philadelphia Gas Works). It is a mature plan that has roughly 66,000 members, 28,000 active employees and 38,000 retirees. As a result, aggregate contributions into the plan are less than the amount of benefits payable in any given year, resulting in a higher reliance on investment income to make up the difference.

Favorably, the city reduced its assumed rate of return on its pension plan, to 7.75% (2015) from 8.75% (2005), and increased employee contributions under current union contracts. In addition, the city recently negotiated for new DC 33 union employees to enter a stacked hybrid plan. However, the city's rate of return is still above-average when compared to other local governments, and as a result of poor market performance last year, the city revised its fiscal 2017 contribution by an additional $12 million.

The city's minimum municipal obligation (MMO) for the plan was $598.5 million for fiscal 2016, while the city's actual contribution was $660 million, or about 9% above the required amount. Of this amount, $55.1 million (8% of operating expenses) represented the contribution from the water and sewer system. The system's pension contribution has increased by $10.6 million or 28.1% over the last five years. Going forward, the system's contribution is projected to increase by another 33% to $64.3 million (9% of fiscal 2016 expenses) through fiscal 2021.

Management and Governance

The system is one of the city's ten operating departments. Its operations are accounted for in the Water Fund, which is an enterprise of the City. The system is closed-loop with a cap on General Fund transfers to the lesser of (a) net reserve earnings or (b) $4.994 million. The Water Revenue Bureau is responsible for the billing, metering, and collection of revenues for the system. Favorably, the system maintains five-year projections that run through fiscal 2022.

The system's management has consistently increased rates and maintained a healthy amount of operating cash on hand. Until fiscal 2015, the water commissioner had the authority to set rates, and raised rates consistently, averaging around 5% between 2009 and 2015. Rates are now approved by an independent five-member rate board, whose members are appointed by the mayor and confirmed by city council.

While the decision maker for the system's rate increases has changed, much of process remains the same, and includes position briefs, a period of discovery between participants to the proceeding and system management, as well as mandated public hearings. Despite level rates in fiscal 2016, the board adopted a 5.1% and 4.5% increase for fiscal 2017 and 2018, respectively.

Current projections include additional rate increases through fiscal 2021, though these rates have not yet been adopted by the board.

Legal Security

The system's bonds are secured by a senior lien on the net revenues of its water and sewer systems. The bonds are on parity with PennVest state revolving fund loans. The system currently has no subordinate debt.

Use of Proceeds

Proceeds of the Series 2017 bonds will be used to fund various capital projects for the water and wastewater infrastructures of the Philadelphia Water and Sewer Enterprise system.

Obligor Profile

The Philadelphia Water & Sewer Enterprise provides water and sewer treatment service to the City of Philadelphia and some of its surrounding suburbs.

Methodology

The principal methodology used in this rating was US Municipal Utility Revenue Debt published in December 2014. Please see the Rating Methodologies page on www.moodys.com for a copy of this methodology.

Ratings

Exhibit 3

Philadelphia (City of) PA Wtr. & Sew. Ent.

Issue	Rating
Water and Wastewater Revenue Bonds, Series 2017	A1
Rating Type	Underlying LT
Sale Amount	$285,575,000
Expected Sale Date	04/05/2017
Rating Description	Revenue: Government Enterprise

Source: Moody's Investors Service

REPORT NUMBER 1063466

MOODY'S
INVESTORS SERVICE

S&P Global
Ratings

RatingsDirect®

Summary:
Philadelphia; Joint Criteria; Water/Sewer

Primary Credit Analyst:
Scott D Garrigan, New York (1) 312-233-7014; scott.garrigan@spglobal.com

Secondary Contact:
Erin Boeke Burke, New York 212-438-1515; Erin.Boeke-Burke@spglobal.com

Table Of Contents

Summary:

Philadelphia; Joint Criteria; Water/Sewer

Credit Profile		
US$293.295 mil wtr and wastewtr rev bnds ser 2017 due 10/01/2052		
Long Term Rating	A+/Stable	New
Philadelphia wtr & swr		
Long Term Rating	A+/Stable	Affirmed

Rationale

S&P Global Ratings assigned its 'A+' long-term rating to Philadelphia's series 2017 water and wastewater revenue bonds, affirmed its 'A+' long-term ratings and underlying ratings (SPURs) on the city's existing water and wastewater revenue, and also affirmed its 'AA+/A-1+' rating on Philadelphia's series 1997B bonds, which are jointly secured by the city and the letter of credit (LOC) provider TD Bank N.A. Except for when applying joint criteria, in which case the outlook is not meaningful, the outlook on the bonds is stable.

The city will use the series 2017 bond proceeds to finance capital improvements to its water and wastewater system.

The 'A+' rating is based on the following characteristics:

- A very strong enterprise risk profile generally reflecting a broad and diverse service base and rates we view as affordable,
- A very strong financial risk profile primarily supported by a large available rate stabilization fund and debt service coverage (DSC) that exceeds covenanted minimum levels, and
- "Strong" operational and financial management assessments (OMA, FMA), reflecting robust policies and procedures that are well-embedded.

We view as credit weaknesses the following:

- Income levels for Philadelphia city and county that are measurably weaker than surrounding areas, and
- A sizable capital improvement plan (CIP) combined with an already high debt-to-capitalization ratio.

Securing debt service are net revenues of the water and sewer fund, which includes (net of operating expenses) rates and charges of the system, transfers from the rate stabilization fund, and interest earnings. Rates must be set to generate revenues and charges plus transfers from the rate stabilization fund that represent at least 1.2x annual debt service on senior revenue bonds and 1.0x coverage when including all subordinate debt (if outstanding, which currently they are not) and certain other transfers. The city can issue additional debt as long as it is complying with the rate covenant at the time of issuance and net revenue projections are sufficient to provide for rate covenant compliance for the two fiscal years following the debt issuance. As long as Assured Guaranty Municipal Corp. (AGM; formerly FSA) insures any of the city's 2005A, 2005B, and a portion of the 2010A bonds, it requires that the city maintain net system revenues (excluding transfers from the rate stabilization fund) totaling at least 90% of operating requirements (90% test). This provides additional bondholder protection, in our view, since this effectively limits how much the system can rely on draws from the rate stabilization fund. This provision also applies to the additional bonds test.

Philadelphia's combined water and sewer system is highly leveraged and the $2.2 billion 2018-2023 CIP is likely to require significant additional debt funding. However, since the city entered into a 25-year consent order and agreement with the Pennsylvania Department of Environmental Protection in 2011, a good portion of the CIP projects are now definable. As debt is layered in, we would expect that annual debt service costs would also steadily increase as additional debt is issued. We expect that management will continue to raise rates, as it has in the past, to fund these additional costs, as well as cash-funded capital costs and general operating expenses. Total debt has consistently represented no less than about two-thirds of capitalization, which we consider high. Given the large CIP, we do not expect this to change materially over time.

Only about 4% of the city's water and sewer revenue debt outstanding at the end of the 2016 fiscal year is variable rate, and just 3% remains unhedged after taking into account a floating-to-fixed interest rate swap related to the city's 2005B bonds (notional amount of $18.2 million); these bonds have been purchased by Bank of America pursuant to a variable-rate securities agreement that expires at bond maturity in 2018 and payable at 68.5% of LIBOR. The swap counterparty is Citigroup Inc. Under the swap, the city receives the 2005B bond rate or 68.5% of LIBOR and pays a fixed rate of 4.53%. The additional termination event for the counterparty and city are the same: if the ratings fall below 'A-'. As long as AGM insures the city's swap payments, no termination event based on the city's water and wastewater rating can occur as long as we rate AGM at least 'A'. Counterparty risk is somewhat elevated since we rate Citigroup 'A-/Negative'. The city, however, maintains the option of terminating the swap if Citigroup's ratings fall below the rating trigger; according to management, there are no current plans to change counterparties or terminate the swap.

Enterprise and financial risk profiles

Philadelphia's water and wastewater systems provide service to roughly 1.6 million people in the city with wholesale service providing services to additional residents outside city boundaries. The systems predominantly serve retail residential customers in the city, but also serve 12 surrounding townships and utility authorities on a wholesale basis. The number of retail accounts has remained relatively stable since 2001 and currently totals about 480,000 for the water system and 545,000 for the wastewater system, which includes about 50,000 stormwater-only accounts. The water department customer base, in which the city is the leading user, remains stable and diverse: The 10 leading retail customers accounted for about 10% of total revenue in fiscal 2016. Water withdrawal and wastewater treatment capacities are 680 million gallons per day (mgd) and 522 mgd, respectively. We consider water capacity adequate, given average use of less than half that; sewer average use is about 90% of capacity, but the city is actively working on enhancing treatment capacity.

Because the service base spans both Philadelphia and suburban areas, the demographic profile takes into account a wide range of socioeconomic scales. The city's unemployment rate has historically been above the national average, and was 5.9% for December 2016, as reported by the U.S. Bureau of Labor Statistics. In our opinion, income indicators for both the city and county are just adequate, with median household effective buying income (MHHEBI) at 72% of national levels; meanwhile, we consider combined metropolitan area median household incomes good at 114% of the national average. Portions of Bucks, Delaware, and Montgomery counties are part of the service base, which all have stronger median household income levels.

We view rates as affordable despite county poverty rates and city income levels that do not compare well with national averages. As part of our criteria application, we benchmark rate affordability against Philadelphia County's income levels and its poverty rates, which was last reported at about 26% by the U.S. Department of Agriculture. But rate increases have generally been regular and consistent. Since 2006, management has generally been raising rates by about 4%-7%, including the last 4.5% increase effective July 1, 2017. Management estimates that the average monthly combined bill currently totals $74.06 for 600 cubic feet of use.

Despite generally stable financial performance, the city does rely on periodic draws on its rate stabilization fund (RSF) to support operations. During the prior three fiscal years, it drew $1.6 million from its RSF in 2016, but deposited an aggregate of $44.4 million during fiscal years 2014 and 2015. Management's latest available financial projections show the water department continuing to rely periodically on RSF draws to meet its minimum coverage requirements, but the projections do not indicate the balance dropping below $174 million.

As reported on an unaudited basis, the system has been able to meet its targeted coverage of debt service by 1.2x. Management can reach this target by making a transfer into or out of its RSF, but the city also remains in compliance with the 90% test, as indicated above. On an audited basis, DSC has also generally remained at or above this 1.2x figure, and we calculate DSC for the fiscal year ended June 30, 2016 at 1.2x. We base our calculation on net audited operating revenues backing out depreciation and including miscellaneous non-operating revenues and expenses, and debt service on all revenue bonds and Pennvest loans. While operating transfers out for cost reimbursement to other departments is subtracted from net available for debt service, we do not count rate stabilization transfers in either revenues available or an operating expense.

Unrestricted cash levels, including the RSF balance, at the end of each fiscal year also demonstrate stable financial performance, in our view. The combined unrestricted and RSF balances have typically represented 225-275 days' operations (between about $225 million to $290 million). The bond ordinance also stipulates that amounts on deposit in the water department's RSF, capital fund, and residual fund (totaling $551 million at 2016 fiscal year-end) can all can be loaned to the revenue fund to pay operating expenses or even debt service because the revenue fund is included as pledged security for the revenue bonds.

We view both the operational and financial management policies for the water department as strong and well-embedded. The city has a full asset management program that helps inform its CIP project prioritization, good communication to ratepayers, related especially to implementation of its long-term control plan, green infrastructure projects, and rate plans; consistent rate adjustments through an independent rate board; and generally overall strong financial management practices applied to all its financial operations.

Outlook

The stable outlook reflects our opinion that the water department should be able to continue meeting or exceeding its financial projections as long as it keeps making consistent rate adjustments and controlling its overall costs in a fashion consistent with or better than what the projections indicate. The outlook is also supported by the large service base, which adds both geographic and socio-economic diversity to the department's rate base.

Upside scenario

If the city's actual financial performance significantly exceeds current projections, we could raise the rating. However, we view this scenario as fairly remote, at least within the two-year outlook horizon, given the city's large amount of capital and debt needs that we believe will support future financial performance more likely to be in line with what the current projections show, which is generally steady improvement in financial metrics as opposed to significant changes compared to historical trends.

Downside scenario

If financial metrics deteriorate, or a significant amount of additional capital spending is added to the city's CIP, we could lower the rating or revise the outlook to negative.

Ratings Detail (As Of March 22, 2017)		
Philadelphia wtr & wastewtr (BAM)		
Unenhanced Rating	A+(SPUR)/Stable	Affirmed
Philadelphia wtr & swr		
Unenhanced Rating	A+(SPUR)/Stable	Affirmed
Philadelphia wtr & wastewtr		
Unenhanced Rating	A+(SPUR)/Stable	Affirmed
Philadelphia wtr & wastewtr VRDB - 1997B		
Unenhanced Rating	A+(SPUR)/Stable	Affirmed
Long Term Rating	AA+/A-1+	Affirmed

Many issues are enhanced by bond insurance.

Certain terms used in this report, particularly certain adjectives used to express our view on rating relevant factors, have specific meanings ascribed to them in our criteria, and should therefore be read in conjunction with such criteria. Please see Ratings Criteria at www.standardandpoors.com for further information. Complete ratings information is available to subscribers of RatingsDirect at www.globalcreditportal.com. All ratings affected by this rating action can be found on the S&P Global Ratings' public website at www.standardandpoors.com. Use the Ratings search box located in the left column.

MOODY'S
INVESTORS SERVICE

CREDIT OPINION
13 July 2017

New Issue

Rate this Research

Contacts

Nicole Serrano 212-553-4143
VP-Senior Analyst
nicole.serrano@moodys.com

Christopher Coviello 212-553-0575
VP-Senior Analyst
christopher.coviello@moodys.com

Philadelphia Water & Sewer Enterprise, PA

New Issue - Moody's Assigns A1 to Philadelphia Water & Sewer Enterprise, PA's $152.52M Series 2017B; Outlook Stable

Summary Rating Rationale

Moody's Investors Service assigns an A1 rating to Philadelphia Water & Sewer Enterprise, PA's $152.52 million Water and Wastewater Revenue Refunding Bonds, Series 2017B. Concurrently, Moody's maintains the A1 rating on $2.0 billion of outstanding parity debt. The outlook remains stable.

The A1 rating reflects the system's healthy cash position and consistent debt service coverage, as well as its large and diverse service area. These positive characteristics are moderated by a sizeable consent order and the system's aging infrastructure, both of which will require significant capital investment going forward.

Credit Strengths

» Willingness to implement required annual rate increases

» Proposed debt increases financially offset by debt service cliff in 2018

» Healthy cash reserves and newly formalized reserve policy

» Closed-loop legal framework

Credit Challenges

» Consent Order & Agreement and aging infrastructure necessitate hefty CIP and related debt issuance

» Relatively untested rate board; continued rate increases are required to support debt and capital plan

Rating Outlook

The outlook is stable given consistent historical results, and the expectation of a continued positive trend. Rates are approved in concert with increases to debt service, which should keep annual debt costs manageable. Engineer and financial consultant reports are required for each bond issuance, also adding to operational stability and comprehensive debt planning.

Factors that Could Lead to an Upgrade

» Considerable improvement in debt service coverage

» Service area expansion / revenue growth beyond rate increases

Factors that Could Lead to a Downgrade

» Failure to increase rates commensurate with coverage requirements

» Material reductions in debt service coverage levels

» Notable deterioration in cash and liquidity

Key Indicators

Exhibit 1

Philadelphia (City of) Water and Sewer Enterprise, PA					
System Characteristics					
Asset Condition (Net Fixed Assets / Annual Depreciation)	22 years				
System Size - O&M (in $000s)	364,197				
Service Area Wealth: MFI % of US median	71.00%				
Legal Provisions					
Rate Covenant (x)	1.20x				
Debt Service Reserve Requirement	DSRF funded at MADS				
Financial Strength					
	2012	2013	2014	2015	2016
Operating Revenue ($000)	601,801	610,988	639,974	676,867	670,820
System Size - O&M (in $000s)	300,829	345,409	354,686	376,528	364,197
Net Funded Debt ($000)	1,667,321	1,619,397	1,716,239	1,889,599	1,746,224
Annual Debt Service Coverage (x)	1.58x	1.40x	1.42x	1.48x	1.42x
Cash on Hand	98 days	87 days	73 days	78 days	79 days
Debt to Operating Revenues (x)	2.8x	2.7x	2.7x	2.8x	2.6x

Source: Moody's Investors Service and Philadelphia Water Department

Recent Developments: Significant, Proactive Capital Improvement Plan

The Series 2017B bonds are being issued as part of a six-year Capital Improvement Plan. As of January 2017, the full cost of the program is expected to be $2.2 billion, with new bond issuance through 2022 to contribute $1.72 billion, or roughly 78%. The rest of the plan will be funded through capital reserves and pay-go spending.

About 23% of planned capital expenditures are related to the system's 2011 Consent Order & Agreement with the Pennsylvania Department of Environmental Protection (PaDEP) and the US Environmental Protection Agency (EPA). This consent order addresses the system's combined sewer overflow discharge to the Delaware and Schuykill rivers.

To address the consent order, management has outlined a twenty-five year “Green Waters, Clean City” initiative, which utilizes green as well as traditional infrastructure expenditures to address stormwater management needs. The Department has partnered with other city departments in Philadelphia and also private business owners as part of this effort. As of fiscal 2016, the Department has met all of its initial five-year milestones.

Detailed Rating Considerations

Service Area and System Characteristics: Large and Diverse Service Area

The Philadelphia Water and Sewer Enterprise (“the system”, or “the Department”) serves a large and diverse urban and suburban base, consisting primarily of the City of Philadelphia (A2 negative). The water system serves more than 1.5 million individuals through 480,000 active customer accounts and one wholesale account with Aqua Penn.

The system maintains three treatment plants, which pull water from the Delaware (59% of water) and Schuykill (41% of water) rivers. These plants together have a rated treatment capacity of 546 MGD and a combined maximum source water withdrawal capacity of 680 MGD, well above the system's average and maximum daily water production of 238 MGD and 258 MGD, respectively, for 2016. The system's water meets all standards set by the DEP and EPA.

The wastewater system serves a moderately larger area with 545,000 retail accounts (including 50,000 storm water only accounts) and 10 wholesale accounts with neighboring communities and authorities. These wholesale accounts contributed about 5% of overall revenues for fiscal 2016. The wastewater system infrastructure includes three treatment plants. These plants provide a combined average treatment capacity of 522 MGD and peak capacity of 1,059 MGD, again well above the average flow of 379 MGD in 2016. The system maintains a long-term contract and lease with Philadelphia Municipal Authority to operate its Biosolids Recycling Center through fiscal 2028, and has realized approximately $10 million in annual savings since initiating the contract.

With a population of more than 1.57 million, Philadelphia is the sixth-largest city in the US. The population is growing, albeit slowly. The growth is primarily attributable to national demographic trends favoring urban areas, as well as the appeal of the city's substantial mix of universities, hospitals, and other employers.

Among the system's 10 largest customers - aside from the city itself, its school district, and its public housing authority - are the University of Pennsylvania (Aa1 stable), Honeywell Resin & Chemicals, Temple University (Aa3 stable), and the federal government, all of which provide stability and a healthy diversity to the local economy.

Philadelphia's demographic profile remains below average, with median family income estimated at 69% of the Commonwealth and 71% of the US medians. Poverty has been flat at 25% – 26% since 2010. Unemployment spiked to 10% in 2009, and while that number has certainly improved, it remains above the state and national rates. As of May 2017, unemployment is 6.7% for the city, versus 5.2% for the Commonwealth as a whole and 4.1% for the US.

We utilize Philadelphia's demographic statistics as a proxy for the system's socioeconomic profile, however, the overall profile is somewhat stronger than these numbers, as it includes wealthier suburbs in Montgomery (Aa1 stable), Bucks (Aaa negative), and Delaware (Aa1) counties.

Debt Service Coverage and Liquidity: Healthy Liquidity and Consistent Debt Service Coverage

The Department's commitment over the past decade to consistently increase rates has lead to stable debt service coverage, though coverage is moderately more narrow than peers. In 2016, Moody's adjusted net revenues covered debt service by approximately 1.42 times, and has been relatively stable in the 1.4 times range over the last five years.

Moody's evaluates coverage based on Generally Accepted Accounting Principles with a few adjustments, while the Department reports figures on a "legally enacted" basis that is more cash-focused. These two bases often differ from year-to-year. According to the system's calculation, senior-lien coverage, on a legally enacted basis, was 1.24 times for fiscal 2016. Though somewhat slim versus peers, coverage is consistent even on this basis, averaging 1.23 times for the last three fiscal years.

As noted, the Department's long term capital plans include significant additional debt. Based on management's five-year projections, which include a level customer base, additional annual rate increases, and modest revenue (4% average annual increase) and expenditure (3.5% average annual increase) growth, senior lien debt service coverage is expected to increase slightly from 1.25 times (fiscal 2017) to 1.30 times in fiscal 2019. Favorably, the system has a history of outperforming budgeted figures.

As of June 2017, operating results, as projected by a consulting engineer, reflect net revenues available for debt service to be approximately $257 million, a decline of roughly 6% from actual fiscal 2016 results. Management has traditionally adhered to conservative budget projections, and expects actual results to exceed the consulting engineers projections for FY17. Senior lien debt service coverage is expected to be maintained at about 1.25 times.

LIQUIDITY

The Department maintains ample liquidity. Favorably, as part of its transition to a rate board, management formalized reserve policies outside the indenture requirements, to ensure that liquidity remains strong. Management has adopted a formal a policy to maintain at least $110 million in its Rate Stabilization Fund and $15 million in its Residual Fund (adjusted for inflation). Additionally, the Department maintains Capital and Construction accounts that will be used to fund pay-go capital improvement.

At year-end 2016, total available operating cash in the Rate Stabilization and Residual funds amounted to $221 million, almost double the minimum requirement, and equated to approximately 217 day's cash on hand. In addition to these funds, the Department maintained $79 million in cash for operations during the same period. When all available cash is considered, unrestricted reserves as a percent of O&M increases to 82%, in line with national peers in the A1 rating category.

Debt and Legal Covenants

The Department's $1.97 billion of outstanding debt at year-end 2016 is manageable, but projected to grow significantly as part of its capital plan. Current debt is roughly 2.9 times revenues, and net funded debt is a significantly above average 78% of net fixed assets. Favorably, the existing debt structure is front-loaded, resulting in a debt service “cliff” in 2018, as debt service decreases from $206 million (fiscal 2017) to $156 million (fiscal 2019), a reduction of more than 30%. However, this annual savings is expected to be eliminated with the issuance of new debt in 2017 and beyond, resulting instead in relatively level debt service in the coming years.

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PENSIONS AND OPEB

The city of Philadelphia operates one defined-benefit plan: the City of Philadelphia Public Employees Retirement System (not including the pension plan for the Philadelphia Gas Works). It is a mature plan that has roughly 66,000 members, 28,000 active employees and 38,000 retirees. As a result, aggregate contributions into the plan are less than the amount of benefits payable in any given year, resulting in a higher reliance on investment income to make up the difference.

Favorably, the city reduced its assumed rate of return on its pension plan, to 7.75% (2015) from 8.75% (2005), and increased employee contributions under current union contracts. In addition, the city recently negotiated for new DC 33 union employees to enter a stacked hybrid plan. However, the city’s rate of return is still above-average when compared to other local governments, and as a result of poor market performance last year, the city revised its fiscal 2017 contribution by an additional $12 million.

The city's minimum municipal obligation (MMO) for the plan was $598.5 million for fiscal 2016, while the city’s actual contribution was $660 million, or about 9% above the required amount. Of this amount, $55.1 million (8% of operating expenses) represented the contribution from the water and sewer system. The system’s pension contribution has increased by $10.6 million or 28.1% over the last five years. Going forward, the system's contribution is projected to increase by another 33% to $64.3 million (9% of fiscal 2016 expenses) through fiscal 2021.

Management and Governance

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The Water Revenue Bureau is responsible for the billing, metering, and collection of revenues for the system. Favorably, the system maintains five-year projections that run through fiscal 2022.

The system's management has consistently increased rates and maintained a healthy amount of operating cash on hand. Until fiscal 2015, the water commissioner had the authority to set rates, and raised rates consistently, averaging around 5% between 2009 and 2015. Rates are now approved by an independent five-member rate board, whose members are appointed by the mayor and confirmed by city council.

While the decision maker for the system's rate increases has changed, much of process remains the same, and includes position briefs, a period of discovery between participants to the proceeding and system management, as well as mandated public hearings. Despite level rates in fiscal 2016, the board adopted a 5.1% and 4.5% increase for fiscal 2017 and 2018, respectively.

Current projections include additional rate increases through fiscal 2021, though these rates have not yet been adopted by the board.

Legal Security

The system's bonds are secured by a senior lien on the net revenues of its water and sewer systems. The bonds are on parity with PennVest state revolving fund loans. The system currently has no subordinate debt.

Use of Proceeds

Proceeds of the Series 2017B bonds will be used to currently refund the outstanding Water & Wastewater Revenue Refunding Bonds, Series 2007B, and to refund on an advanced basis portions of the outstanding Water & Wastewater Revenue bonds Series 2010C and Series 2012. The city expects net present value savings of approximately $23 million or 15% of refunded principal.

Obligor Profile

The Philadelphia Water & Sewer Enterprise provides water and sewer treatment service to the City of Philadelphia and some of its surrounding suburbs.

Methodology

The principal methodology used in this rating was US Municipal Utility Revenue Debt published in December 2014. Please see the Rating Methodologies page on www.moodys.com for a copy of this methodology.

Ratings

Exhibit 2

Philadelphia (City of) PA Wtr. & Sew. Ent.

Issue	Rating
Water and Wastewater Revenue Refunding Bonds, Series 2017B	A1
Rating Type	Underlying LT
Sale Amount	$152,520,000
Expected Sale Date	08/10/2017
Rating Description	Revenue: Government Enterprise

Source: Moody's Investors Service

REPORT NUMBER 1079786

Moody's
INVESTORS SERVICE

FITCH RATES PHILADELPHIA (PA) WATER & WASTEWATER REVS 'A+'; OUTLOOK STABLE

Fitch Ratings-New York-13 July 2017: Fitch Ratings has assigned an 'A+' rating to the following Philadelphia, PA (the city) revenue bonds:

--Approximately $152 million water and wastewater revenue refunding bonds, series 2017B.

The city expects to sell the bonds in a negotiated sale the week of July 24. Proceeds will be used to current-refund all or a portion of the city's outstanding series 2007B and advance-refund all or a portion of the outstanding series 2010C and 2012 bonds for savings and pay issuance costs. The majority of the savings, which will be taken annually, are expected to occur at the end of the scheduled amortization through 2032.

The Rating Outlook is Stable.

SECURITY

The bonds are secured by a senior lien on combined net revenues of the Philadelphia Water Department's (PWD) water and sewer system.

KEY RATING DRIVERS

SATISFACTORY FINANCIAL PERFORMANCE: PWD generates narrow but consistent financial margins. Fitch-calculated all-in debt service coverage (DSC) has averaged 1.3x over the past five years and was just 1.2x in fiscal 2016. While below Fitch's median for the rating category, PWD's consistency in setting rates annually to achieve 1.3x DSC and healthy liquidity levels support the 'A+' rating.

SIGNIFICANT LONG-TERM CAPITAL NEEDS: PWD's capital improvement program (CIP) totals $2.2 billion through 2023. Longer-term capital needs are substantial, a result of required consent order projects and long-term maintenance needs associated with the city's aging infrastructure. Terms and conditions under the consent order provide the city with some flexibility as to its affordability and projected timeline.

DEBT BURDEN TO RISE: Debt levels are currently manageable but will increase significantly with sizeable additional borrowing expected to fund 80% of PWD's long-term capital needs.

CONSISTENT ANNUAL RATE INCREASES: PWD regularly raises water and sewer rates to support the increased capital spending and to achieve 1.3x DSC. Rates have risen by around 5% on average over the past decade. Rates are affordable but expected to continue trending higher to fund long-term capital improvements.

ECONOMIC CHARACTERISTICS REMAIN MIXED: The service area is highly diverse and well anchored by a broad and stable economy. However, low income levels and high unaccounted-for water persist, contributing to historically below-average collection rates. However, implementation of automatic meters and other programs have led to improvement in both areas over the past few years.

RATING SENSITIVITIES

INSUFFICIENT RATE RECOVERY: The Stable Outlook reflects Fitch's expectation that consistent rate action will be taken to support planned capital spending. However, if Philadelphia Water Department experiences any difficulty in achieving timely and sufficient rate recovery, financial margins could decline, which would likely prompt negative rating action.

CREDIT PROFILE

LARGE, DIVERSE CUSTOMER BASE

PWD provides water to all of the nearly 1.6 million residents of the city as well as a small wholesale customer that serves accounts in neighboring Montgomery and Delaware Counties. The wastewater service area, which serves greater portions of the surrounding counties, includes a larger population estimated at nearly 2.3 million. The retail customer base is highly diverse, comprising predominantly residential users with the 10 largest customers accounting for just 9.9% of fiscal 2016 total revenue.

Operations are stable and system capacity is robust. Average daily water demand is comfortably below permitted water supply, and capacity at all treatment facilities remains well within existing permit limits. Available water supplies from the Delaware and Schuylkill rivers are sufficient for the foreseeable future.

SOUND FINANCIAL MANAGEMENT, CONSISTENT OPERATING RESULTS

Fitch considers the system's financial operations to be well managed, despite historically narrow DSC levels. Management budgets to meet a 1.3x DSC target, which in some years requires transfers from the department's rate stabilization fund (RSF) to balance lower projected cash flow amounts.

Operating results for fiscal 2016 were in line with prior projections, continuing a consistent trend of satisfactory financial performance. DSC declined slightly to 1.2x from fiscal 2015's 1.3x, leaving the RSF largely unchanged at $205.7 million, or 265 days cash on hand. Fitch's DSC calculation incorporates below-the-line transfers out of the water and sewer fund related to various contractual obligations.

Updated projected financial results provided by PWD's rate consultant show a continued trend of low but stable coverage, and acceptable liquidity levels through fiscal 2022. DSC net of RSF transfers, but including one-time moneys released from the debt service reserve as a result of this refunding, is forecast to remain in the relatively weak range of 1.14x-1.25x in fiscals 2017 and 2018. In fiscals 2019-2022, the city's forecast shows DSC remaining steadily in the range of 1.2x-1.3x (not including RSF transfers). With sizeable long-term capital spending needs and cost recovery expected to remain steady, stronger financial results are not anticipated.

RSF balances are anticipated to decline with a projected ending balance in 2022 of $160 million. While liquidity will fluctuate somewhat over the next few years, Fitch expects PWD to sustain cash at levels generally consistent with the current rating.

Assumptions built into the forecast appear reasonable, although anticipated future rate increases will depend on rate board approval for rates beyond 2018. The rate board's approval of increases for fiscals 2017 and 2018 are viewed positively by Fitch and its role in rate approval is largely viewed to be neutral to the rating at this time. Modest declines in consumption are incorporated into the projections, and no additional growth in customer accounts is assumed.

ENVIRONMENTAL REGULATIONS, R&R DRIVE LARGE CAPITAL PROGRAM

The city continues to operate under a consent order and agreement (COA) that was signed in 2011 with the Pennsylvania Department of Environmental Protection. The COA requires the department to address combined sewer overflows over a 25-year term ending in 2036. Terms of the agreement, including total cost and timeline are considered by Fitch to be generally favorable for the city when compared to alternative, likely more costly strategies.

Typical of most large, older urban utilities facing combined sewer overflow mitigation and long-term renewal and replacement issues, PWD's CIP is substantial. Projected capital spending spanning fiscal years 2018-2023 totals $2.2 billion, or $366 million on average per year, and is over 20% higher than the CIP two years earlier. As only roughly 22% of the current CIP addresses CAO projects, and infrastructure renewal and replacement (R&R) needs are expected to be ongoing, Fitch expects capital spending will further increase over the intermediate term.

DEBT BURDEN TO RISE

Prior to this 2017 issuance, PWD has roughly $2 billion of mostly fixed-rate long-term revenue bonds and $220 million in Pennsylvania Infrastructure Investment Authority (PENNVEST) loans outstanding. The utility's ratio of debt to net plant totaled 88% in fiscal 2016 and is just above Fitch's rating category median of 76%.

Debt to funds available for debt service (FADS) was 7.5x as compared to the Fitch rating category median of 9.1x. Debt per customer, which includes an approximation of the number of retail customers served through wholesale contract, remains below the median for 'A' category at approximately $1,549 in 2016. However, Fitch expects all debt metrics to rise over time.

PWD relies heavily on long-term debt as a funding source, primarily the result of narrow DSC margins that yield modest amounts of excess cash flow. Approximately 83% of project costs over the next six years will be financed with debt with annual bond issuances projected to average roughly $316 million annually through 2023.

With long-term capital needs escalating, Fitch anticipates the amount of future debt will continue to outpace the rate of amortization of bonds outstanding, leading to a steady rise in leverage over time. Fitch believes the continued escalation in the size of the CIP coupled with a strategy of funding capital costs almost entirely with long-term debt could further pressure financial margins.

CONSISTENT RATE ACTION

Financial margins have remained consistent as a result of regular annual rate action. The five-member rate board, established in 2014 with members appointed by the mayor and approved by the city council, has full rate-setting authority. In 2016, the rate board approved 5.1% and 4.5% increases for fiscals 2017 and 2018, respectively. Management reports that the rate approval process with the new rate board was timely and smooth.

The city expects to begin the process for the next rate approval later this year with the expectation for new rates to be adopted by the start of fiscal 2019. Fitch believes PWD's ability to continue to enact needed rate increases to support planned capital spending is unchanged under the new process.

ECONOMIC IMPORTANCE OFFSETS WEAK SOCIOECONOMIC INDICATORS

Philadelphia's large population, sound economic underpinnings and distinct role as the economic driver for the broader metropolitan statistical area ensure the continued stability of PWD's service area. Weak income levels persist, as the city's 26.7% poverty rate remains nearly twice the national rate and median household income approximates just 70% of state and national averages. Consequently, PWD's accounts receivable balances and annual write-offs are consistently high relative to most utilities.

Contact:

Primary Analyst
Andrew DeStefano
Director
+1-212-908-0284
Fitch Ratings, Inc.
33 Whitehall Street
New York, NY 10004

Secondary Analyst
Doug Scott
Managing Director
+1-512-215-3725

Committee Chairperson
Kathy Masterson
Senior Director
+1-512-215-3730

Media Relations: Alyssa Castelli, New York, Tel: +1 (212) 908 0540, Email: alyssa.castelli@fitchratings.com.

Additional information is available on www.fitchratings.com

Applicable Criteria
Revenue-Supported Rating Criteria — Effective June 16, 2014 to June 5, 2017 (pub. 16 Jun 2014)
https://www.fitchratings.com/site/re/750012
U.S. Water and Sewer Revenue Bond Rating Criteria (pub. 30 Nov 2016)
https://www.fitchratings.com/site/re/890402

S&P Global
Ratings

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Summary:
Philadelphia; Joint Criteria; Water/Sewer

Primary Credit Analyst:
Erin Boeke Burke, New York 212-438-1515; Erin.Boeke-Burke@spglobal.com

Secondary Contact:
Scott D Garrigan, New York (1) 312-233-7014; scott.garrigan@spglobal.com

Table Of Contents

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Summary:

Philadelphia; Joint Criteria; Water/Sewer

Credit Profile		
US$145.435 mil wtr and wastewtr rev rfdg bnds ser 2017B due 11/01/2031		
Long Term Rating	A+/Stable	New
Philadelphia wtr & wastewtr (BAM)		
Unenhanced Rating	A+(SPUR)/Stable	Affirmed
Philadelphia wtr (BAM) (SECMKT)		
Unenhanced Rating	A+(SPUR)/Stable	Affirmed
Philadelphia wtr & swr		
Unenhanced Rating	A+(SPUR)/Stable	Affirmed
Long Term Rating	A+/Stable	Affirmed
Philadelphia wtr & wastewtr		
Unenhanced Rating	A+(SPUR)/Stable	Affirmed
Philadelphia wtr & wastewtr VRDB - 1997B		
Unenhanced Rating	A+(SPUR)/Stable	Affirmed
Long Term Rating	AA+/A-1+	Affirmed

Many issues are enhanced by bond insurance.

Rationale

S&P Global Ratings assigned its 'A+' long-term rating to Philadelphia's series 2017B water and wastewater revenue refunding bonds, affirmed its 'A+' long-term ratings and underlying ratings (SPURs) on the city's existing water and wastewater revenue bonds, and also affirmed its 'AA+/A-1+' rating on Philadelphia 's series 1997B bonds, which are jointly secured by the city and the letter of credit (LOC) provider TD Bank N.A. Except for when applying joint criteria, in which case the outlook is not meaningful, the outlook on the bonds is stable.

The city will use the series 2017 bond proceeds to refund the existing 2007B bonds and advance refund the series 2010C and series 2012 bonds.

The 'A+' rating is based on the following characteristics:

- A very strong enterprise risk profile generally reflecting a broad and diverse service base and rates we view as affordable;
- A very strong financial risk profile primarily supported by a large available rate stabilization fund and debt service coverage (DSC) that exceeds covenanted minimum levels; and
- "Strong" operational and financial management assessments (OMA, FMA), reflecting robust policies and procedures that are well-embedded.

We view as credit weaknesses the following:

- Income levels for Philadelphia city and county that are measurably weaker than surrounding areas, and
- A sizable capital improvement plan (CIP) combined with an already high debt-to-capitalization ratio.

Securing debt service are net revenues of the water and sewer fund, which includes (net of operating expenses) rates and charges of the system, transfers from the rate stabilization fund, and interest earnings. Rates must be set to generate revenues and charges plus transfers from the rate stabilization fund that represent at least 1.2x annual debt service on senior revenue bonds and 1.0x coverage when including all subordinate debt (if outstanding, which currently they are not) and certain other transfers. The city can issue additional debt as long as it is complying with the rate covenant at the time of issuance and net revenue projections are sufficient to provide for rate covenant compliance for the two fiscal years following the debt issuance. As long as Assured Guaranty Municipal Corp. (AGM; formerly FSA) insures any of the city's 2005A, 2005B, and a portion of the 2010A bonds, it requires that the city maintain net system revenues (excluding transfers from the rate stabilization fund) totaling at least 90% of operating requirements (90% test). This provides additional bondholder protection, in our view, since this effectively limits how much the system can rely on draws from the rate stabilization fund. This provision also applies to the additional bonds test.

Philadelphia's combined water and sewer system is highly leveraged and the $2.2 billion 2018-2023 CIP is likely to require significant additional debt funding. However, since the city entered into a 25-year consent order and agreement with the Pennsylvania Department of Environmental Protection in 2011, a good portion of the CIP projects are now definable. As debt is layered in, we would expect that annual debt service costs would also steadily increase as additional debt is issued. We expect that management will continue to raise rates, as it has in the past, to fund these additional costs, as well as cash-funded capital costs and general operating expenses. Total debt has consistently represented no less than about two-thirds of capitalization, which we consider high. Given the large CIP, we do not expect this to change materially over time.

Only about 4% of the city's water and sewer revenue debt outstanding at the end of the 2016 fiscal year is variable rate, and just 3% remains unhedged after taking into account a floating-to-fixed interest rate swap related to the city's 2005B bonds (notional amount of $18.2 million); these bonds have been purchased by Bank of America pursuant to a variable-rate securities agreement that expires at bond maturity in 2018 and payable at 68.5% of LIBOR. The swap counterparty is Citigroup Inc. Under the swap, the city receives the 2005B bond rate or 68.5% of LIBOR and pays a fixed rate of 4.53%. The additional termination event for the counterparty and city are the same: if the ratings fall below 'A-'. As long as AGM insures the city's swap payments, no termination event based on the city's water and wastewater rating can occur as long as we rate AGM at least 'A'. Counterparty risk is somewhat elevated because we rate Citigroup 'BBB+/Stable'. The city maintains the option of terminating the swap as the rating is below the trigger; according to management, there are no current plans to change counterparties or terminate the swap.

Enterprise and financial risk profiles

Philadelphia's water and wastewater systems provide service to roughly 1.6 million people in the city with wholesale service providing services to additional residents outside city boundaries. The systems predominantly serve retail residential customers in the city, but also serve 11 surrounding townships and utility authorities on a wholesale basis.

The number of retail accounts has remained relatively stable since 2001 and currently totals about 480,000 for the water system and 545,000 for the wastewater system, which includes about 50,000 stormwater-only accounts. The water department customer base, in which the city is the leading user, remains stable and diverse: The 10 leading retail customers accounted for about 10% of total revenue in fiscal 2016. Water withdrawal and wastewater treatment capacities are 680 million gallons per day (mgd) and 522 mgd, respectively. We consider water capacity adequate, given average use of less than half that; sewer average use is about 90% of capacity, but the city is actively working on enhancing treatment capacity.

Because the service base spans both Philadelphia and suburban areas, the demographic profile takes into account a wide range of socioeconomic scales. The city's unemployment rate has historically been above the national average, and was 6.2% for May 2017, as reported by the U.S. Bureau of Labor Statistics. In our opinion, income indicators for both the city and county are just adequate, with median household effective buying income (MHHEBI) at 73% of national levels; meanwhile, we consider combined metropolitan area median household incomes good at 114% of the national average. Portions of Bucks, Delaware, and Montgomery counties are part of the service base, which all have stronger median household income levels.

We view rates as affordable despite county poverty rates and city income levels that do not compare well with national averages. As part of our criteria application, we benchmark rate affordability against Philadelphia County's income levels and its poverty rates, which was last reported at about 26% by the U.S. Department of Agriculture. But rate increases have generally been regular and consistent. Since 2006, management has generally been raising rates by about 4%-7%, including the last 4.5% increase effective July 1, 2017. Management estimates that the average monthly combined bill currently totals $74.06 for 600 cubic feet of use. Due to the size of the capital plan and the customer profile, affordability will be pressured in the coming years; however, the department is introducing a Tiered Assistance Program, which may help alleviate these pressures for low-income residents.

Despite generally stable financial performance, the city does rely on periodic draws on its rate stabilization fund (RSF) to support operations. In the last three fiscal years, it drew $1.6 million from its RSF in 2016, but deposited an aggregate of $44.4 million during fiscal years 2014 and 2015. Management's latest available financial projections show the water department continuing to rely periodically on RSF draws to meet its minimum coverage requirements, but the projections do not indicate the balance dropping below $149 million.

As reported on an unaudited basis, the system has been able to meet its 1.2x target for debt service coverage. Management can reach this target by making a transfer into or out of its RSF, but the city also remains in compliance with the 90% test, as indicated above. On an audited basis, DSC has also generally remained at or above this 1.2x figure, and we calculate DSC for the fiscal year ended June 30, 2016, at 1.2x without RSF support. We base our calculation on net audited operating revenues backing out depreciation and including miscellaneous non-operating revenues and expenses, and debt service on all revenue bonds and Pennvest loans. While operating transfers out for cost reimbursement to other departments is subtracted from net available for debt service, we do not count rate stabilization transfers in either revenues available or an operating expense.

Unrestricted cash levels, including the RSF balance, at the end of each fiscal year also demonstrate stable financial performance, in our view. The combined unrestricted and RSF balances have typically represented 225-275 days' operations (between about $225 million to $290 million). The bond ordinance also stipulates that amounts on deposit in the water department's RSF, capital fund, and residual fund (totaling $551 million at 2016 fiscal year-end) can all can be loaned to the revenue fund to pay operating expenses or even debt service because the revenue fund is included as pledged security for the revenue bonds.

We view both the operational and financial management policies for the water department as strong and well-embedded. The city has a full asset management program that helps inform its CIP project prioritization, good communication to ratepayers, related especially to implementation of its long-term control plan, green infrastructure projects, and rate plans; consistent rate adjustments through an independent rate board; and generally overall strong financial management practices applied to all its financial operations.

Outlook

The stable outlook reflects our opinion that the water department should be able to continue meeting or exceeding its financial projections as long as it keeps making consistent rate adjustments and controlling its overall costs in a fashion consistent with or better than what the projections indicate. The outlook is also supported by the large service base, which adds both geographic and socio-economic diversity to the department's rate base.

Upside scenario

If the city's actual financial performance significantly exceeds current projections, we could raise the rating. However, we view this scenario as fairly remote, given the city's large amount of capital and debt needs, which we believe will keep future financial performance at levels in line with historical trends.

Downside scenario

If financial metrics deteriorate, or a significant amount of additional capital spending is added to the city's CIP, we could lower the rating or revise the outlook to negative.