MOODY'S INVESTORS SERVICE

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New Issue

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Contacts

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

Orlie Prince 212-553-7738
Senior Credit Officer
orlie.prince@moodys.com

Philadelphia Municipal Authority, PA

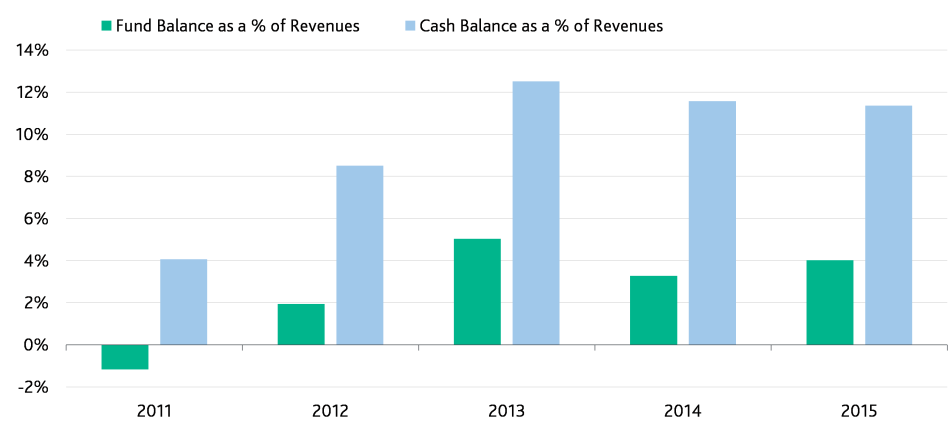
New Issue: Moody's Assigns A2 to Philadelphia Municipal Authority, PA's $83M City Agreement Rev Ref Bonds, Series 2016

Summary Rating Rationale

Moody's Investors Service assigns an A2 rating to the Philadelphia Municipal Authority, PA's $82.72 million City Agreement Revenue Refunding Bonds, Series 2016. Moody's maintains an A2 rating on the authority's outstanding $217 million in service fee debt. The outlook is negative reflecting the negative outlook on the city.

The A2 rating reflects the strong legal structure clearly laid out within the city's home rule charter, bond ordinances, and service fee agreements. As stated in the documents, these service and lease rental payments are legal, valid and binding obligations of the city payable out of current city revenues. While the city does not pledge its full faith and credit and unlimited taxing power, the city covenants to provide for payment in its annual budget and these payments are absolute and unconditional without being subject to any contingencies. For these reasons, we do not differentiate regarding essentiality and render them in the same band of credit quality as an ad valorem pledge.

Exhibit 1
Philadelphia's Reserve Levels Continue to Decline



Source: Moody's Investors Service

Credit Strengths

» Regional economic center with major institutional presence

» Comprehensive long-term financial planning

» Recent trend of improving revenues

Credit Challenges

» Below average socioeconomic characteristics

» Narrow reserve levels

» Exposure to economically sensitive revenue

» Heavy unfunded pension liabilities

» Large debt burden

Rating Outlook

The negative outlook on the bonds reflects the negative outlook on the city.

Factors that Could Lead to an Upgrade

» Improvement of the general credit profile of the City of Philadelphia

Factors that Could Lead to a Downgrade

» Deterioration of the general credit profile of the City of Philadelphia

Key Indicators

Exhibit 2

Philadelphia (City of) PA	2011	2012	2013	2014	2015
Economy/Tax Base					
Total Full Value ($000)	$ 48,996,032	$ 40,316,993	$ 42,813,793	$ 94,513,000	$ 93,738,119
Full Value Per Capita	$ 32,352	$ 26,423	$ 27,861	$ 61,098	$ 60,077
Median Family Income (% of US Median)	71.8%	71.9%	71.6%	71.0%	71.0%
Finances					
Operating Revenue ($000)	$ 3,915,801	$ 3,637,602	$ 3,741,603	$ 3,854,529	$ 4,060,794
Fund Balance as a % of Revenues	-1.2%	1.9%	5.0%	3.3%	4.0%
Cash Balance as a % of Revenues	4.1%	8.5%	12.5%	11.6%	11.4%
Debt/Pensions					
Net Direct Debt ($000)	$ 4,285,598	$ 4,132,800	$ 4,236,900	$ 4,204,600	$ 3,984,200
Net Direct Debt / Operating Revenues (x)	1.1x	1.1x	1.1x	1.1x	1.0x
Net Direct Debt / Full Value (%)	8.7%	10.3%	9.9%	4.4%	4.3%
Moody's - adjusted Net Pension Liability (3-yr average) to Revenues (x)	N/A	1.9x	2.1x	2.1x	2.2x
Moody's - adjusted Net Pension Liability (3-yr average) to Full Value (%)	N/A	17.1%	18.5%	8.7%	9.3%

Source: Moody's Investors Service

Detailed Rating Considerations

Economy and Tax Base: Large Economic Center Expected to Experience Modest Growth in Near-Term

Philadelphia is the economic center of a large, multi-state region, and the tax base has begun to grow after decades of decline. With a population of roughly 1.6 million, Philadelphia is the fifth-largest city in the US by population, and is at the center of the sixth-largest metropolitan area. The city underwent a protracted decline in the post-industrial era, with population falling 26% since 1950. The city's socioeconomic profile is weak: poverty is among the highest of any large US city at 27%, the median family income is equal to 71% of the US median, and unemployment, at 6.9% as of June 2016, was higher than the US rate of 5.1%.

However, the past half-decade has shown more positive trends for the $93.7 billion tax base. The population is growing and getting better-educated, and personal income has increased 21% since 2009. We attribute the city's growth to national demographic trends, as well as the appeal of the city's substantial mix of universities, hospitals, and other employers. Of the 10 biggest employers in the city, eight are either higher education or healthcare entities, most prominently the University of Pennsylvania (Aa1 stable) and the University of Pennsylvania Health System (Aa3 stable). The city is home to about 30 hospitals, including Thomas Jefferson University Hospital and the Children's Hospital of Philadelphia (Aa2 stable).

The city's strong nonprofit sector provides some underlying strength to the economy that is not reflected in tax base valuation or socioeconomic statistics. Approximately 27% of the city's base is exempt from property taxes. An estimated 155,000 college students live in Philadelphia, and about 295,000 people commute into the city daily. The traditional measures of tax base strength understate the city's economic resilience, although persistent poverty and weak income indices remain a challenge. Despite the economic improvement, the tax base will remain challenged to continue growing at the current pace in the long term.

Financial Operations and Reserves: Narrow Reserves Expected to Decline in Near-Term

The city's mix of economically sensitive revenues coupled with continued tax rate declines and projected expenditure growth particularly related to personnel and benefits will remain a challenge in the near-term, as the city already holds general fund reserves well below the level of most peers.

The city's $4.1 billion general fund budget is funded primarily by a wage tax (42% of revenues, including taxes pledged to Pennsylvania Intergovernmental Cooperation Authority bonds), a property tax (15% of revenues), business income and receipts taxes (11%), a real estate transfer tax (6%), and a sales tax (4%). Other than property taxes, the city's tax revenues are susceptible to economic downturns, and have pressured the city's finances in previous recessions. The economic recovery of the past few years has increased tax receipts and helped the city's finances recover: the general fund balance rose from a low of negative 3.5% in 2010 to a six-year high of 7.7% in 2013.

Despite this earlier improvement, General Fund balance has since declined to $155.5 million (3.9% of General Fund revenues) in fiscal 2015, even with tax revenues experiencing a 20% increase over the last five years (2010-2015), well above the 5.3% growth they experienced in the previous five-year period. Despite this significant growth, the city has been unable to fully offset increasing expenditures resulting in the $128.9 million draw on reserves that has occurred over the last two fiscal years. Personnel and benefit costs are one of the primary drivers of this expenditure growth. Over the last five years, the city's pension contribution has grown 85% to $577 million (14% of expenditures) in fiscal 2015. Public safety costs have also risen by 21.9% over the same time period, taking into account any wage increases negotiated through union contracts and overtime costs that have been historically unpredictable.

Based on unaudited figures, the city expects to end fiscal 2016 with an $18.93 million decline in General Fund balance to $148.3 million. While the city had appropriated $70.1 million of fund balance into the budget, positive revenue performance of taxes (except for property tax), helped to mitigate the use of reserves.

The city's fiscal 2017 budget represents a 4.2% increase from the previous year and includes $68.3 million in appropriated fund balance. The budget-to-budget growth reflects increases in personnel-related costs, as well as a $46.2 million for new initiatives established by the mayor that will be paid for by the city's new sweetened beverage tax that goes into effect in January 2017. In addition, the revised fiscal 2017 budget includes a $12 million increase in the city's pension contribution due to underperformance of investments in the prior year compared to the city's above-average rate of return. While the city typically outperforms budget due to conservative budgeting practices, if this appropriation is fully utilized, the city's General Fund balance would decline to $56.9 million or a very weak 1.4% of General Fund revenues.

Going forward, the city's five-year plan shows another draw in fiscal 2018 to $47 million (1.1% of General Fund revenues) before reserves begin to rebound again through fiscal 2021 to $107 million (2.3% of General Fund revenues). The plan shows overall revenue growth of 15% and expenditures at 12.7% over the five year period, compared to 9.3% growth for both in the previous five years. The upcoming rebounding of reserves is attributable to further tax base growth, somewhat offset by a continued reduction in wage and business tax rates. It should also be noted that while the city has the ability to raise property taxes by an unlimited amount, management has chosen to maintain a level rate since fiscal 2011. The result of management's lack of willingness to at least maintain wage and business tax rates, and increase property tax rates, has helped contribute to the continued decline in reserves.

In addition, while the five-year plan does include $328 million in additional labor costs for the majority of union contracts that expire in June 2017 (more than in previous plans), this estimate could be higher depending on the outcome of upcoming contract negotiations. Furthermore, the plan also includes a $5 million increase over the city's required pension contribution for fiscal 2018 through fiscal 2021. While this additional amount does provide for a buffer against underperforming investment returns, the potential for this variance to be greater than budget is possible as evident by the $12 million increase seen in fiscal 2017.

The city also maintains a close relationship with Philadelphia School District (Ba3 stable). The school district is not able to collect their own property taxes, rather the city implements a separate levy for the school district (currently 0.77%), along with providing additional funds such as the $120 million in annual sales tax revenues and $58 million from the implementation of a new cigarette tax (both beginning in fiscal 2015). Overall, the city's annual funding to the district has increased 171% between fiscal 2011 and projected fiscal 2016 estimates to $104.2 million. The five-year plan only projects a slight increase in funding to $105.7 million through fiscal 2021. Under state act 46 of 1998, the city cannot reduce the rate of any local tax dedicated to the district or grants received by the district, limiting the city's financial flexibility.

Furthermore, the district continues to remain financially distressed, as it struggles to provide educational services on parity with the growing number of charter schools in the area. In addition, the struggling school district could deter potential population growth, particularly in relation to families with young children.

Overall, the current fund balance levels are well below those of most cities and are projected to decline again in fiscal 2017 and 2018. These declining reserve levels remain a key risk in light of the city's economically sensitive revenue base, continued reduction in tax rates, and expenditure growth that will continue to outpace revenues in the near-term. While we expect the city to outperform its projections, as it has historically, we believe reserve levels will still remain weak overall. Going forward, we will continue to monitor the city's ability to achieve structural balance and build reserves to more modest levels. Any inability to at least meet fiscal 2016 projections or any additional declines in reserves could result in negative credit pressure.

LIQUIDITY

The city's liquidity at the end of fiscal 2015 (year ended 6/30/2015) was solid at 9.5% of revenues. The intra-year low point in cash (net of cash flow notes) is usually March, due to a large pension payment. In 2016, the projected net cash low was roughly $154 million, which is about 3.8% of revenues. This marks a substantial improvement from five years ago, when net cash balances were frequently negative.

The city issued Tax and Revenue Anticipation Notes at the beginning of the fiscal year. The city's reliance on TRANs has declined significantly as its cash balances have improved; the 2017 TRAN issuance of $175 million (4.4% of revenues) is well below the 2009 issuance of $350 million (9.7% of revenues).

Debt and Pensions: Heavy Debt and Pension Liabilities; Moderate Variable Rate Exposure

The city's debt and pension liabilities are heavy and will remain a drag on its credit profile for the long term. The city's tax-supported debt totals roughly $3.9 billion, equal to 4.1% of full value, climbing to 7.6% when overlapping debts are included, well above the state and national averages. The city's high debt burden reflects its dual city and county responsibilities, special efforts to promote economic development, the PICA deficit bonds ($266 million), and $1.3 billion in pension obligation bonds. Debt will remain heavy as it amortizes slowly (52.1% of principal is scheduled to be repaid in 10 years), and the city has material capital reinvestment needs that will be largely funded by debt.

DEBT STRUCTURE

The city has moderate variable rate exposure representing approximately 5% of its total debt obligations. The city's Series 2009B variable rate bonds are supported by a letter of credit (LOC) from Barclays Bank PLC (A2 negative) that expires in May 2019.

The city also has exposure to variable rate debt through the Philadelphia Authority for Industrial Development's (PAID) Series 2007B bonds. Liquidity is provided by LOCs from two providers, TD Bank, N.A. (Aa1 stable) for $72.4 million, and PNC Bank, N.A. (A2 stable) for $44.6 million. The PNC LOC expires in May 2017, while the TD Bank LOC expires in May 2019.

DEBT-RELATED DERIVATIVES

In conjunction with the Series 2009B variable rate issuance, the city is party to a fixed payer swap with Royal Bank of Canada (Aa3 negative) for a notional amount of $100 million. As for the PAID variable rate bonds, the city has entered into two fixed payer interest rate swaps, one with JPMorgan Chase Bank NA (Aa3 stable) for a notional amount of $87.8 million and one with Merrill Lynch Capital Services, Inc. (MLCS) for a notional amount of $29.2 million. In the case of all three of its fixed payer swaps, the city (either directly or through PAID) makes semi-annual payments based on a fixed rate and the counterparties make monthly payments based on the SIFMA Municipal Swap Index.

In addition, the city has two fixed payer swaps associated with the Series 2014A bonds issued through PAID. One is with JP Morgan Chase for a notional amount of $88 million, while the other is with MLCS with a notional amount of $29.3 million. The issuer makes semi-annual payments based on a fixed rate and the counterparties make monthly payments based on 70% of the one-month LIBOR.

The city is also a party to a basis swap, through PAID, with MLCS for a notional amount of $193.5 million. Under the swap, the city makes payments based on SIFMA and receives payments based on 67% of one-month LIBOR plus 20 basis points.

In the case of all of the swaps, regularly scheduled payments are General Fund obligations of the city. Early termination is optional for the city only. Termination events include either the city or the counterparty's rating falling below Baa3. Any termination payment by the city would be subordinate to the general obligation debt service payments. The total value of the swaps was approximately negative $133.6 million as of August 2016.

PENSIONS AND OPEB

The city 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 has 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 years, the city had to revise its fiscal 2017 contribution by an additional $12 million.

The city's minimum municipal obligation (MMO) for the plan was $556 million (13.5% of operating expenditures), of which the city contributed $577.2 million (14% of operating revenues) in fiscal 2015. While the MMO is expected to increase 12.1% through fiscal 2021, the five-year plan includes a continued overfunding of this requirement (since fiscal 2012), as the city commits a portion of their sales tax revenues to fund pensions. The estimates also include the $12 million increase in MMO for fiscal 2017 due to poor investment performance, as well as a $5 million increase above the MMO in each year thereafter to act as a buffer if the rate of return on investment isn't achieved. The plan had $4.6 billion of assets and $10.7 billion of liabilities as of the 2015 actuarial valuation, for a funded ratio of 44.1%.

The city's adjusted net pension liability (three-year average), under Moody's methodology for adjusting reported pension data, is $8.7 billion, or an above average 2.2 times Operating Fund revenues, as of 2015. Moody's uses the adjusted net pension liability to improve comparability of reported pension liabilities. The adjustments are not intended to replace the county's reported liability information, but to improve comparability with other rated entities.

The city also provides Other Post-Employment Benefits (OPEB) to employees. The ARC for the city's OPEB totaled $132.1 million (3.2% of operating expenditures), to which the city contributed $95.3 million (2.3% of operating expenditures) in fiscal 2015. Fixed costs including annual pension, OPEB and debt service expenditures summed to an above average 27.7% of fiscal 2015 expenditures.

Management and Governance

The city is under oversight from the state-appointed Pennsylvania Intergovernmental Cooperation Authority (PICA), which continues to monitor and try to help stabilize the city's financial operations. PICA requires an approved five-year plan that is updated annually. The plan includes five-year projections which are usually conservative in nature and show solid budgeting practices.

Pennsylvania cities have an institutional framework score of "Aa," or strong. Revenues are moderately predictable; although property taxes are typically the largest revenue source, many cities also rely on economically sensitive revenues such as income taxes. Cities have a very high, unlimited authority to increase property tax rates. Expenditures, which primarily consist of personnel, are moderately predictable as cities have been challenged to forecast labor costs accurately. Organized labor has a strong presence in the state, and labor laws give bargaining groups significant leeway to seek arbitration, resulting in a moderate expenditure-reduction ability.

Legal Security

The Series 2016 bonds are secured by the City of Philadelphia's unconditional obligation to make debt service payments from the General Fund under a service agreement with the authority. While this pledge is not a direct general obligation of the city, we see the "absolute and unconditional" nature of the agreement to be of equivalent credit quality to the city's general obligation pledge. We therefore rate these bonds on parity with the city's General Obligation bonds.

Use of Proceeds

Proceeds from the Series 2016 Bonds will be used to refund portions of the authority's outstanding Series 2009 Bonds (Juvenile Justice Center Project) for an expected net present value savings of 21.9% of refunded principal.

Obligor Profile

Philadelphia is the fifth-largest city in the US, with a population over 1.6 million. The city has a General Fund budget of $4.1 billion, and $3.9 billion of tax-supported debt outstanding.

Methodology

The principal methodology used in this rating was Lease, Appropriation, Moral Obligation and Comparable Debt of US State and Local Governments published in July 2016. Please see the Rating Methodologies page on www.moodys.com for a copy of this methodology.

Ratings

Exhibit 3

Philadelphia (City of) PA

Issue	Rating
City Agreement Revenue Refunding Bonds, Series 2016	A2
Rating Type	Underlying LT
Sale Amount	$82,720,000
Expected Sale Date	12/07/2016
Rating Description	Lease Rental: Appropriation

Source: Moody's Investors Service

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Contacts

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

Orlie Prince 212-553-7738
Senior Credit Officer
orlie.prince@moodys.com

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

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