

**CREDIT OPINION**

8 July 2016

New Issue

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## Massachusetts Bay Transportation Authority

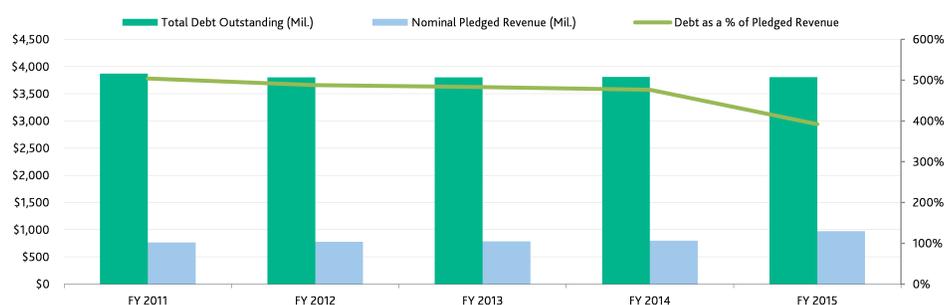
New Issue - Moody's assigns Aa2 to \$225M MBTA Senior Sales Tax Bonds, 2016 Ser. A; outlook stable

**Summary Rating Rationale**

Moody's Investors Service has assigned a Aa2 rating to the Massachusetts Bay Transportation Authority's (MBTA) \$225 million Senior Sales Tax Bonds, 2016 Series A. Concurrently, we maintain Aa2 ratings on the authority's outstanding senior lien sales tax bonds. The new bonds are scheduled to sell in a competitive transaction on July 19.

The Aa2 rating reflects sound coverage of debt service provided by a minimum floor of sales tax revenue guaranteed by the [Commonwealth of Massachusetts](#) (Aa1 stable). The rating also reflects satisfactory bondholder protections and MBTA's recent unwinding of a portion of its swap portfolio.

Exhibit 1

**MBTA Debt Burden Falls Following Significant Pledged Revenue Increase in FY15**


Source: MBTA Financial Statements FY11-FY15; Moody's Investors Service

**Credit Strengths**

- » Pledge of 1% of commonwealth-wide sales tax plus \$160 million annually, with guaranteed sales tax floor that insulates MBTA from sales tax fluctuations
- » Non-impairment covenant by the commonwealth
- » Establishment of a state oversight board resulting in improved management practices and operations

## Credit Challenges

- » High long-term debt burden relative to similarly rated sales tax-backed issuers
- » Operating challenges in recent years that resulted from lower than forecast revenues and led to increasing commonwealth support and one-time actions such as debt restructurings and deficit financings to lower debt service costs for budget relief

## Rating Outlook

The stable outlook reflects our view that despite MBTA's operating pressures, bondholders are protected by the commonwealth-guaranteed sales tax floor. Recent changes to MBTA's oversight and management structure have started to yield efficiencies, improving its strained financial operations.

## Factors that Could Lead to an Upgrade

- » Significant increase in pledged revenues and maintenance at higher coverage levels
- » Stronger bondholder protections, such as a higher additional bonds test

## Factors that Could Lead to a Downgrade

- » Significant additional leveraging of sales tax revenues that leads to lower debt service coverage
- » Continued operating strain, including an inability to reduce structural deficit
- » Economic decline across Massachusetts

## Key Indicators

Exhibit 2

### Massachusetts Bay Transportation Authority

Massachusetts Bay Transportation Authority	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Coverage of Maximum Annual Debt Service (x)	2.1x	2.2x	2.1x	2.1x	2.5x
Total Debt Outstanding (Mil.)	\$3,869	\$3,800	\$3,800	\$3,810	\$3,808
Nominal Pledged Revenue (Mil.)	\$767	\$779	\$787	\$799	\$971
Pledged Revenue Annual Change	0.0%	1.6%	1.0%	1.5%	21.5%
Debt as a % of Pledged Revenue	504.4%	487.8%	482.8%	476.8%	392.3%
Additional Bonds Test (x)	1x	1x	1x	1x	1x

Source: MBTA Financial Statements FY11-FY15; Moody's Investors Service

## Recent Developments

Recent developments are incorporated in the Detailed Rating Considerations.

## Detailed Rating Considerations

### Tax Base and Nature of Pledge

MBTA's senior sales tax bonds are secured by a gross pledge of 1% of the statewide sales tax plus \$160 million annually, along with a subordinate lien on assessment revenues after assessment bond debt service. The pledged sales tax is allocated from the commonwealth's pre-August 1, 2009 5% sales tax. Statewide sales tax revenues generally performed well over the last several years, though statewide sales tax revenues dropped by a substantial 6.2% in fiscal 2009, the largest decline since fiscal 1990 when it dropped by 7.1%. Sales tax projections for fiscal 2017 are 3.2%, reflecting the commonwealth's continued economic growth.

Despite these recent revenue fluctuations, and unlike other sales tax dependent transit systems, the MBTA's sales tax revenue has grown steadily each year as it is protected by a commonwealth-guaranteed minimum floor. This floor, or Base Revenue Amount,

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has grown from \$756 million in fiscal 2008 to \$992.2 million for fiscal 2017. A significant portion of the increase occurred in fiscal 2015 when the Base Revenue Amount was increased by \$160 million, replacing the annual appropriation received in fiscal years 2010 to 2014. The guaranteed minimum has exceeded the amount generated by the dedicated 1% sales tax in each year from fiscal 2002 through fiscal 2016. However, for the first time since the Base Revenue Amount was put in place, the commonwealth projects dedicated sales tax revenues will slightly exceed the floor, with \$995 million in revenues estimated for fiscal 2017.

### Debt Service Coverage and Revenue Metrics

Current projections reflect maximum annual debt service (MADS) coverage of about 2.54 times using the fiscal 2017 floor of \$992.2 million. Coverage incorporates the Build America Bonds (BABs) subsidy using our published method of adding the subsidy to pledged revenues and calculating coverage based on gross debt service without the BABs subsidy. MADS coverage improves to 2.74 times combined debt service when including assessment revenues that are available on a subordinate lien basis after debt service payments on the MBTA's assessment bonds. However, the authority's operations are dependent upon residual sales taxes and assessments after respective debt service payments.

### LIQUIDITY

The pledged revenue stream provides timely and ample liquidity for the payment of debt service. For fiscal 2015, the authority had approximately 67 days cash on hand.

### Debt and Legal Covenants

Commonwealth statute requires that the sales tax revenue be deposited into a special fund held by the state treasurer in trust for bondholders. The statute also includes a covenant by the commonwealth that it will not divert the revenue streams or reduce them below their specified floor amount. Bond counsel has opined that these represent valid contractual pledges that are binding on future legislatures.

Certain security features are somewhat weak relative to other sales tax dependent transit systems, including an additional bonds test (ABT) of 1 times, based on the sales tax floor, and a debt service reserve funded at half of the least of a three-pronged test (10% of proceeds of sales tax bonds, 125% of average annual debt service, and maximum annual debt service).

MBTA's general transportation system (GTS) bonds (also known as prior obligations and rated Aa1 stable) are payable from general system revenues but are ultimately secured by the general obligation guaranty of the commonwealth. MBTA also uses its sales tax receipts to pay the GTS bonds, which have a final maturity in 2030 and a closed lien. In the event of interest rate spikes on GTS variable rate bonds, the sales tax would be exhausted before payment from the commonwealth, resulting in increased strain on the system's operations.

### DEBT STRUCTURE

As of June 1, 2016, MBTA had approximately \$5.2 billion in outstanding debt, including \$4 billion of sales tax, \$720 million assessment, \$206.5 million GTS, and \$304.6 million parking bonds. Of the total debt outstanding \$4.6 billion or 88.3% of MBTA's debt is fixed-rate, with \$609.9 million in variable, including \$61.8 million of commercial paper.

The MBTA has two liquidity facilities outstanding for its VRDO debt: Series 2008A-1 and 2008A-2 bonds are supported by [J.P. Morgan Chase Bank, N.A.](#) (counterparty risk assessment Aa2 (cr)/P-1(cr)), with the facility expiring in March 2017. The authority's Series 2000A-1 GTS bonds are supported by [Barclays Bank PLC](#) (A1(cr)/P-1(cr)) and its Series 2001A-2 GTS bonds are supported by the [Bank of Tokyo-Mitsubishi UFJ, Ltd](#) (A1(cr)/P-1(cr)), with both facilities expiring in September 2018.

The \$100 million Series A commercial paper is supported by [US Bank, N.A.](#) (Aa2(cr)/P-1(cr)); the \$100 million Series B commercial paper is supported by [Sumitomo Mitsui Banking Corporation](#) (A1(cr)/P-1(cr)); and the \$50 million Series C commercial paper is supported by the [TD Bank, N.A.](#) (Aa2(cr)/P-1(cr)). All commercial paper liquidity facilities are set to expire on December 10, 2018.

### DEBT-RELATED DERIVATIVES

In May 2016 the board voted to terminate a portion of MBTA's outstanding swap portfolio, reducing the outstanding notional amount from \$603.8 million to \$166.4 million. All of the remaining interest rate derivatives require MBTA to pay a fixed interest rate and receive a variable interest rate. MBTA would be subject to termination payments on the swaps although the rating level for termination, which is A3, is well below the current rating.

## PENSIONS AND OPEB

MBTA has four defined benefit public employee retirement plans: the MBTA Retirement Plan, the MBTA Police Association Plan, the MBTA Deferred Compensation Plan, and the MBTA Qualified Deferred Compensation Plan. As of the most recent valuation date, the aggregated funded ratio for all plans was 63.3% and the Unfunded Actuarial Accrued Liability (UAAL) totaled \$962.1 million. MBTA's 2015 pension contribution was \$78.7 million, a manageable 4.7% of its operating budget. MBTA's other post-employment benefits (OPEB) contribution in 2015 was \$49.8 million, or 3.0% of its operating budget.

Pensions and OPEB are not a major factor in Moody's special tax methodology.

## Management and Governance

After severe weather led to system-wide failures in the winter of 2015, the governor appointed a special panel to review the management and financial condition of the MBTA, which resulted in the establishment of a Fiscal and Management Control Board (FMCB). The five-member FMCB has been delegated authority over the system through at least June 30, 2018 but not beyond June 30, 2020. In addition to delegating most powers and authority to the FMCB, the authorizing legislation also mandated that the rights of MBTA bondholders shall not be altered or impaired by the board. Upon dissolution, oversight of the authority will revert back to the eleven member MassDOT board, which includes three members of the FMCB.

## Legal Security

The senior sales tax bonds are secured by a first claim, before transit operations, on 1% of statewide sales tax allocated from the Commonwealth of Massachusetts' existing sales tax (currently 6.25%), plus an additional \$160 million annually. The bonds also have a subordinate lien on assessment revenues that are paid by cities and towns located in the authority's territory after assessment bond debt service. Additional security is provided by a Base Revenue Amount (BRA) providing a guaranteed floor on sales tax amounts pledged to the MBTA.

## Use of Proceeds

Proceeds of the refunding bonds will be used for debt service savings.

## Obligor Profile

The MBTA is the oldest and fifth largest transit system in the country, providing transportation service through subway, trackless trolley, trolley, bus and commuter rail service throughout the eastern portion of Massachusetts. There are approximately 1.3 million passenger trips on average per business day and MBTA operates over 38 miles of rapid transit rail routes. Service is also provided by streetcars and light rail vehicles on 26 miles of additional rail routes.

## Methodology

The principal methodology used in this rating was US Public Finance Special Tax Methodology published in January 2014. Please see the Ratings Methodologies page on [www.moodys.com](http://www.moodys.com) for a copy of this methodology.

## Ratings

Exhibit 3

### Massachusetts Bay Transportation Authority

Issue	Rating
Senior Sales Tax Bonds, 2016 Series A	Aa2
Rating Type	Underlying LT
Sale Amount	\$225,000,000
Expected Sale Date	07/19/2016
Rating Description	Special Tax: Sales

Source: Moody's Investors Service

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