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New Issue

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# Massachusetts Bay Transportation Authority

## New Issue - Moody's assigns initial Aa2 to MBTA Subordinated Sales Tax Bonds 2017 B-1, B-2 (PTC Project Loans)

### Summary Rating Rationale

Moody's Investors Service has assigned a Aa2 rating to the Massachusetts Bay Transportation Authority's (MBTA) $382 million Subordinated Sales Tax Bonds, 2017 Series B-1 and B-2 (PTC Project TIFIA and RRIF Loans). The outlook for the MBTA is stable.

The Aa2 rating reflects the springing lien for each loan that, should a bankruptcy related event occur, makes the bonds on parity with senior lien debt. Absent the springing lien, debt service on the loans is paid after senior and subordinated second lien (Aa3) debt service from MBTA's 1% gross sales tax revenue. MBTA's Aa2 senior lien rating reflects the 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, MBTA's manageable, yet growing, long-term liabilities and its ongoing efforts to improve operations.

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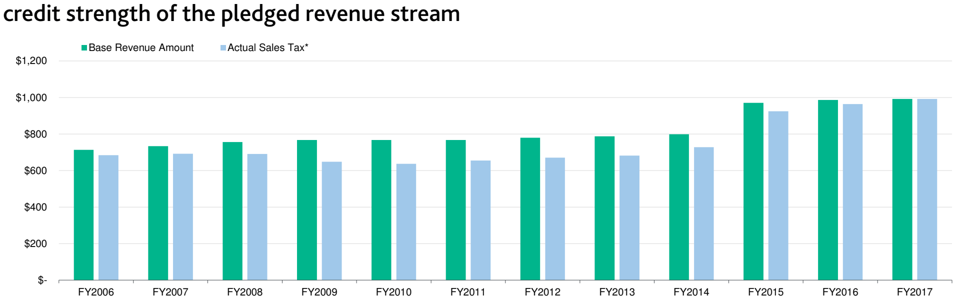
Exhibit 2
**Base revenue amount has exceeded actual pledged revenues since 2006, highlighting the key credit strength of the pledged revenue stream**




*Source: MBTA FY12-FY16 CAFRs; Moody's Investors Service*

## Credit Strengths

- » Springing lien on subordinated pledge of 1% of commonwealth-wide sales tax plus $160 million annually, with guaranteed sales tax floor that insulates MBTA from sales tax fluctuations
- » 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
- » Sizeable long-term capital needs to maintain a state of good repair for existing infrastructure

## 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
- » Continued operational improvement, including reduction of annual structural operating deficit, progress towards reducing capital backlog and/or evidence of ongoing state support

## Factors that Could Lead to a Downgrade

- » Significant additional leveraging of sales tax revenues that leads to lower debt service coverage
- » Economic decline across Massachusetts
- » Operating strain, including an inability to reduce structural deficit, growing capital needs and/or reduced state support

## Key Indicators

Exhibit 3

| Massachusetts Bay Transportation Authority | FY 2012 | FY 2013 | FY 2014 | FY 2015 | FY 2016 |
|---|---|---|---|---|---|
| Coverage of Maximum Annual Debt Service (x) | 2.2x | 2.1x | 2.1x | 2.5x | 2.5x |
| Total Debt Outstanding (Mil.) | 3,961 | 3,802 | 3,728 | 3,837 | 4,024 |
| Pledged Revenue (Mil.) | 779 | 790 | 799 | 971 | 986 |
| Net Coverage (x) | 4.1 | 4.0 | 3.3 | 3.4 | 3.9 |
| Additional Bonds Test (x) | 2.0x | 2.0x | 2.0x | 2.0x | 2.0x |

*Table reflects senior sales tax data only
*Source: MBTA FY12-FY16 CAFRs; 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 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. Sales tax revenue grew by 2.6% in fiscal 2017 over previous year's collections, highlighting the state's continued economic growth. The state's population grew by 3.8% since 2010, while its unemployment rate (3.65%) continues to be one of the lowest in the country. Per capita income is the second highest in the nation at 131.4% of the national average.

Despite some 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, has grown from $756 million in fiscal 2008 to $1.0 billion for fiscal 2018. 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 2017. The floor provides protection against annual fluctuations in an otherwise economically sensitive revenue stream, a key protection for creditors.

### Debt Service Coverage and Revenue Metrics

Current projections reflect maximum annual debt service (MADS) coverage on the senior lien of about 2.4 times using the fiscal 2018 floor of $1.0 billion. Assuming a springing lien, MADS coverage remains 2.4 times as MADS occurs in 2020, three years before the loans would start amortizing. MADS coverage across all liens (senior, subordinated and PTC loan) falls to 2.0 times assuming future issuances in 2019 and 2021 but still holding revenues flat at the 2018 base revenue amount. Coverage across all liens improves when including assessment revenues that are available on a subordinate lien basis after debt service payments on the MBTA's Aa1-rated assessment bonds. While available for debt service, the authority's operations are dependent on 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 2016, the authority had approximately 47 days cash on hand.

### Debt and Legal Covenants

MBTA has entered into an agreement with the US Department of Transportation to take out two loans to fund its Positive Train Control project. The TIFIA loan, which could be sized up to $162 million, and the RRIF loan, sized up to $220 million, can be accessed upon substantial completion of the PTC project and used to repay the authority's outstanding BANs, as well as fund other construction costs.

The loans benefit from a number of legal protections, the most notable being the springing lien that puts debt service for the loans on parity with senior lien debt upon the occurrence of a bankruptcy related event. Bankruptcy related events include MBTA missing two consecutive loan repayment dates, MBTA's insolvency or it being placed under the control of a receiver. The loans also benefit from other standard covenants, including a 1.0 additional bonds test, based on the sales tax floor, but lack a debt service reserve fund.

Commonwealth statute requires sales tax revenue to 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.

**DEBT STRUCTURE**

As of September 1, 2017, MBTA had approximately $5.8 billion in outstanding debt, nearly $4.2 billion of sales tax senior, subordinated second lien and bond anticipation notes. The authority also has $688.1 million in assessment bonds outstanding, $196.8 million of prior obligation GTS debt, and $304.6 million parking bonds. Of the total debt outstanding, 14% or $812 million is in variable rate mode or subject to roll over risk, including commercial paper and bond anticipation notes. The BANs will mature in December 2021, with proceeds being used to finance initial costs associated with the authority's Positive Train Control program.

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. Should the authority fail to appropriate for debt service, then GTS debt service is paid prior to senior, subordinated and PTC loan sales tax debt service.

The MBTA has liquidity facilities outstanding for its two Series 2001A VRDO debt. 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 Toyko-Mitsubishi UFJ, Ltd (A1(cr)/P-1(cr)), with both facilities expiring in September 2018. The authority privately placed its $232.1 million Series 2008A-1 and 2008A-2 bonds via a direct loan agreement executed in March 2017. The Series 2010A senior sales tax bonds, with $80 million of principal outstanding, remain in windows mode with no liquidity facility support. A six month notice requirement of a failed remarketing provides sufficient time to restructure or issue refunding bonds.

MBTA currently has $67.3 million of commercial paper outstanding. The $100 million Series A commercial paper is supported by US Bank, N.A. (Aa2(cr)/P-1(cr)) and currently has $29.8 million in principal outstanding. The $100 million Series B commercial paper is supported by Sumitomo Mitsui Banking Corporation (A1(cr)/P-1(cr)) with $37.5 million outstanding. The $50 million Series C commercial paper is supported by the TD Bank, N.A. (Aa3(cr)/P-1(cr)) with no outstanding principal. 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's pension obligations are sizeable and growing, but fall below debt service in the priority of payment waterfall. According to Moody's adjustments, fiscal 2016 adjusted net pension liability reached 110% of gross revenues. Employer contributions are manageable, with the fiscal 2016 contribution of $81.5 million at 4.1% of gross revenues and slightly below our estimated treadwater contribution of $85.5 million. MBTA's other post-employment benefits (OPEB) contribution in 2015 was $49.8 million, or 3.0% of its operating budget.

## 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 was initially delegated authority over the system through June 30, 2018. The time frame was recently extended to June 30, 2020 to help with the transition to a new General Manager who begins in September 2017. The board term was extended to also help with continued efforts to streamline operations and implement significant new capital projects, such as Positive Train Control.

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.

Operations have improved in recent years, with the new management team and board reducing the annual operating deficit from a high of $261.0 million in fiscal 2014 to an estimated $50.1 million in fiscal 2017. The reductions have largely been attributable to streamlining employment costs and savings result in additional revenues being available for capital. Going forward, management is focused on continuing to reduce the annual operating deficit and using the savings to fund its estimated $7.0 billion backlog of good repair.

## Legal Security

The subordinated sales tax bonds for the PTC loans are secured by a third claim, before transit operations but after senior and second lien debt, 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 are also cross-collateralized with a subordinated lien on assessment revenues that are paid by cities and towns located in the authority's territory, after assessment bond and senior lien sales tax debt service.

Should a bankruptcy related event occur, debt service on the PTC loan bonds will spring to parity with the outstanding senior lien sales tax bonds. Bankruptcy related events include the authority missing two consecutive loan repayment dates, insolvency of the authority or the authority being placed under the control of a receiver.

The pledge is enhanced by a statutorily set Base Revenue Amount (BRA), providing a guaranteed floor on sales tax amounts pledged to the MBTA. The BRA cannot decrease and grows at the lesser of 3% or the sales tax growth rate.

## Use of Proceeds

Should the loan options be exercised, proceeds will be used to pay for expenses associated with the authority's Positive Train Control project. The authority is installing GPS-based safety technology to improve railway operations. Interim financing will be provided by proceeds from the earlier BAN issuance, along with a $138.8 million draw on commercial paper. The total project cost is estimated at $516 million, with the remaining and reimbursement funding coming from the loans and/or future MBTA revenue bonds, along with a modest $11.0 million in federal grant money.

## 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 July 2017. Please see the Rating Methodologies page on www.moodys.com for a copy of this methodology.

## Ratings

Exhibit 4

### Massachusetts Bay Transportation Authority

| Issue | Rating |
|---|---|
| Subordinated Sales Tax Bonds 2017 Series B-1 (PTC Project TIFIA Loan) | Aa2 |
| Rating Type | Underlying LT |
| Sale Amount | $162,000,000 |
| Expected Sale Date | 11/13/2017 |
| Rating Description | Special Tax: Sales |
| Subordinated Sales Tax Bonds 2017 Series B-2 (PTC Project RRIF Loan) | Aa2 |
| Rating Type | Underlying LT |
| Sale Amount | $220,000,000 |
| Expected Sale Date | 11/13/2017 |
| Rating Description | Special Tax: Sales |

*Source: Moody's Investors Service*

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## CLIENT SERVICES

| | |
|---|---|
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