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CREDIT OPINION
30 March 2021

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Massachusetts Bay Transportation Authority

Update to credit analysis

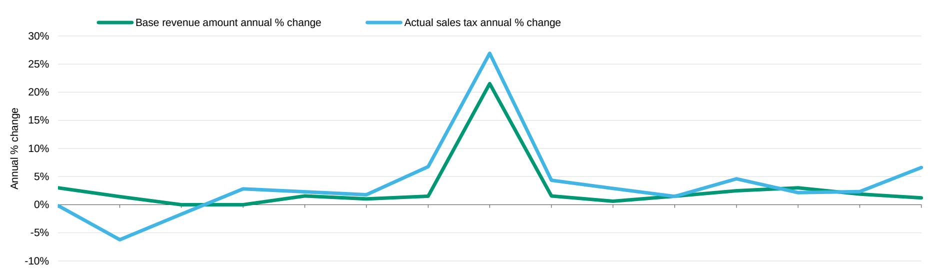
Summary

Massachusetts Bay Transportation Authority (MBTA, senior sales tax rated Aa2 stable) is well positioned to weather this continued difficult environment for mass transit credits as the coronavirus pandemic wears on. MBTA's pledged sales tax revenue cannot decline because of a statutory revenue floor, the Base Revenue Amount (BRA, see Exhibit 1). This credit feature, a strength in regular times, is particularly powerful during economic declines, as experienced acutely in the spring of 2020 amid the state's efforts to curb the spread of the coronavirus.

Nonetheless, as an enterprise, MBTA is reliant on fares: they are nearly one-third of its overall revenue. As with nearly every other mass transit enterprise, MBTA's ridership has declined dramatically as social distancing regulations continue and much of the labor force continues to work at home, but the authority has two key tools to manage through this difficult scenario: 1) healthy liquidity bolstered by over $1 billion in aid from the federal government expected to increase with the latest stimulus bill; and 2) continued strong financial and operational support from the Commonwealth of Massachusetts (Aa1 stable). New long-term bonds will free up capacity in the authority's commercial paper program while still maintaining healthy annual coverage of 2.9 times across both sales tax liens.

Exhibit 1

Statutory revenue floor prevents sales tax revenue from declining during stressed economic environments



*In fiscal year (July 1-June 30) 2015 $160 million was added to the dedicated sales tax amount **Actual sales taxes projected for fiscal 2021 and fiscal 2022 ***BRA reflects statutory authorization
Source: Massachusetts Bay Transportation Authority

Credit strengths

» Pledge of 1% commonwealth-wide sales tax plus $160 million annually, with statutorily guaranteed sales tax floor that insulates MBTA from downward economic fluctuations

» Active state management including establishment of an oversight board has resulted in improved management practices

Credit challenges

» High long-term debt burden relative to similarly rated sales tax-backed issuers

» Sizable long-term capital needs to maintain a state of good repair for existing infrastructure that will result in additional leverage

Rating outlook

The stable outlook reflects our view that despite operating pressures resulting from the large decline in ridership because of the coronavirus pandemic, MBTA bondholders are protected by the commonwealth-guaranteed sales tax floor.

Factors that could lead to an upgrade

» Stronger bondholder protections, such as a higher additional bonds test

» Significant increase in pledged revenue and maintenance at higher coverage levels

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

Factors that could lead to a downgrade

» Significant additional leveraging of sales tax revenue that leads to lower debt service coverage

» Sustained economic decline across Massachusetts

» Reduction in state support or increased operating strain, including an inability to reduce the structural operating deficit

Key indicators

Exhibit 2

Massachusetts Bay Transportation Authority					
Credit background					
Pledged revenues	Gross 1% commonwealth wide sales tax plus $160 million annually from the Commonwealth and net assessment revenues				
Legal structure					
Additional Bonds Test *	1.0x (all liens) from BRA or 1.5/2x from sales taxes for sub/sr liens; 1.5x from residual assmts				
Open or Closed Lien	Open (all liens)				
Debt Service Reserve Fund requirement	Senior: 50% of the 3 prong test Subordinate: None RRIF Loans: None				
Coverage					
MADS coverage**	Sales taxes: 2.7x Sales taxes + net assessment: 2.8x				
Trend analysis					
Fiscal year	**2016**	**2017**	**2018**	**2019**	**2020**
Debt outstanding - all long-term sales tax ($mil)***	$4,024	$3,858	$4,236	$4,416	$5,299
Sales tax revenue - base revenue amount (BRA)($mil)	$986	$992	$1,007	$1,032	$1,063
Sales tax revenue (annual % change in BRA)	1.5%	0.6%	1.5%	2.5%	3.0%
Annual debt service coverage - sales tax revenue (BRA)	2.90	2.40	2.50	2.50	2.40

*Two different ABT tests must be met; see Debt and Legal Covenants section for more detail

**Reflects post-Series 2021AB coverage, including full draw down of federal loans

***Reflects all sales tax debt (GTS, senior and sub liens, CP) outstanding plus full amount of authorized RRIF loan

Source: MBTA, Moody's Investors Service

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 and into the northern portion of Rhode Island (Aa2 stable). 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.

Detailed credit considerations

Tax base and nature of the 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 local government assessment revenue after assessment bond debt service. The pledged sales tax is allocated from the commonwealth's pre-August 1, 2009 5% sales tax.

Sales tax collections have generally performed well over the last several years (see Exhibit 1 on page 1), but the authority is completely insulated from declines in actual collections. Per state statute, MBTA's sales tax revenue is protected by a commonwealth-guaranteed minimum annual amount. The floor, the BRA, increases at CPI or the sales tax growth rate capped at 3% for the preceding year annually and cannot decline. The growth rate for fiscal 2022 was certified in March 2020, bringing the BRA to nearly $1.1 billion, resulting in a five year annual growth rate of 2%.

The floor provides protection against annual fluctuations in an otherwise economically sensitive revenue stream, a unique attribute for MBTA and a key bondholder protection. For example, when actual collections declined by nearly 8.0% peak-to-trough during the Great Recession MBTA's sale tax revenue was a constant $767 million and did not decline (see Exhibit 1).

Debt service coverage and revenue metrics

Current projections reflect maximum annual debt service (MADS) coverage on the senior and subordinate lien bonds of 2.7 using the fiscal 2022 dedicated sales tax amount of $1.17 billion, and debt service of $437 million (including general transportation system bonds, senior and subordinate lien sales tax debt and current debt service on the RRIF program). MADS coverage improves to 2.8 times of combined debt service when including assessment revenue that is available on a subordinate basis after debt service payments on the MBTA's assessment bonds. Assuming no growth in the base revenue amount, and including future planned issuances and draws on the RRIF loan tranches, debt service coverage will remain above 2 times.

Liquidity

The pledged revenue provides timely and ample liquidity for the payment of debt service. As of March 1, 2020 MBTA reports $608.1 million in cash, representing 97 days' of expenses. The authority has additional sources of liquidity it can tap, if necessary. After the current issuance it will have access to $250 million via its commercial paper program, with liquidity support provided by an agreement with TD Bank, N.A. (A1 (cr)/P-1 (cr)) that expires December 10, 2021. In addition, MBTA has a $50 million revolving credit facility with UBS AG (Aa2 long term counterparty risk rating).

MBTA received $827.7 million through the federal CARES Act, which aids in covering fiscal 2021 expenses. The stimulus funds can be used to pay for operating costs, make up for lost revenue and pay for coronavirus-related expenditures. An additional $301 million in stimulus funding is expected by the end of March, as well as further stimulus money from the most recent federal bill, which appropriated $30 billion for the transit sector nationally.

Debt and legal covenants

As of fiscal 2020, MBTA had a total of $5.1 billion of debt outstanding, as well as $851.2 million in total loan authorization under the RRIF program, split into three tranches. Of the total revenue bonds, $304 million was associated with parking revenue bonds, which are being refunded onto the authority's subordinate sales tax lien with the Series 2021A-1, A-2 and B bonds.

MBTA has a robust capital improvement program spanning the next 10 years with funding sources including bonds, funds from the state and federal government and reimbursable funds. The state recently passed a broad commonwealth transportation bill, which includes $4.92 billion for MBTA bonds and will be incorporated into the authority's CIP through 2026. The authority's future debt plans include $590 million in bonds and commercial paper issued in fiscal years 2022-2026, and $500 million annually from 2027-2031.

Legal security

A relatively small $141.6 million of MBTA's debt consists of general transportation system (GTS) bonds (also known as prior obligations and rated Aa1 stable), which are payable from general system revenue 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 before senior and subordinated sales tax debt service.

Most of MBTA's debt consists of senior and subordinate lien sales tax bonds. The subordinated sales tax bonds and BANs are secured by a second claim, before transit operations but after senior 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 revenue that are paid by cities and towns located in the authority's territory, after assessment bond and senior lien sales tax debt service. The pledge is enhanced by the statutory BRA, providing a guaranteed floor on sales tax amounts pledged to the MBTA. The BRA cannot decrease and grows at the lesser of CPI or the sales tax growth rate, capped at 3%.

For all sales tax bonds, 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.

MBTA may issue additional bonds, both on parity with senior lien sales tax debt or subordinate lien sales tax debt. The test includes a 1.5 times coverage requirement from the dedicated sales tax revenue (2 times for the senior lien), or 1.0 times coverage from the base revenue amount, and 1.5 times coverage on outstanding assessment lien bonds when including residual sales taxes available after payment of sales tax lien bonds.

Bondholders of the senior lien debt also benefit from 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). The ABT for the subordinate lien does not require a debt service reserve fund, and there is not a reserve fund associated with the 2021A-1, 2021A-2 and 2021B bonds.

MBTA entered into an agreement with the US Department of Transportation (USDOT) for two loans to fund its Positive Train Control project. The loans were refinanced in July 2020 under the RRIF program and consist of three tranches (Positive Train Control/PTC, Automatic Train Control/ATC and Fiber Resiliency) totaling $851.2 million. The funds can be drawn down up until three months after achieving substantial completion of the project, and can be used to repay the authority's outstanding bond anticipation notes (BANs) and to 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.

Debt structure

Most of MBTA's debt is fixed rate, and matures over the long term. As of fiscal 2020, approximately 11.2% of the debt is in variable rate mode, including the full commercial paper authorization of $250 million.

Exhibit 3

MBTA Debt Outstanding Overview

Credit	Rating	Priority of Payment	Pledge		FY20 Debt (in $ 000)
GTS/Prior Obligations*	Aa1/STA	Super senior	General system revenues but paid w/ sales taxes; ultimately secured by the GO guaranty of CW	$	141,585
Senior Sales Tax	Aa2/STA	1st	Gross 1% statewide sales tax, with collection floor, plus $160M annually; sub lien on net assessment revenues	$	3,170,280
RRIF**	Aa2/STA	3rd to 1st via springing lien	Gross 1% statewide sales tax, with collection floor, plus $160M annually; sub lien on net assessment revenues	$	851,150
Subordianted Sales Tax Bonds	Aa3/STA	2nd	Gross 1% statewide sales tax, with collection floor, plus $160M annually; sub lien on net assessment revenues; sub to senior lien	$	614,865
Subordianted Sales Tax BANs	Aa3/STA	2nd	Gross 1% statewide sales tax, with collection floor, plus $160M annually; sub lien on net assessment revenues; sub to senior lien	$	271,095
Assessment Revenue	Aa1/STA	N/A	GO of 175 communities, paid directly from local aid flowing from Mass; sub lien on net sales tax revenues	$	619,195
Parking Revenue***	A1/STA	N/A	Gross pledge of system-wide parking revenues	$	304,585
Commercial Paper****	P-1	1st	Liquidity facility funds can be used to pay principal and interest; interest on the notes may be repaid with sales taxes, a payment that is on parity with senior lien sales tax bonds	$	250,000
Total				**$**	**6,222,755**

*If debt service is not appropriated in budget, then GTS debt service must be paid out of gross sales tax reviews prior to senior sales tax debt

**Debt outstanding reflects full amount of program, not draws

***Parking revenue bonds are being refunded onto the subordinate sales tax lien in 2021

****Commercial paper program reflects full amount authorized; current amount outstanding will be $0 post issuance

Source: MBTA, Moody's Investors Service

Debt-related derivatives

The authority's Series 2000A-1 and 2000A-2 variable rate demand GTS bonds have liquidity support from a standby bond purchase agreement provided by Barclays Bank PLC (A1 (cr)/P-1 (cr)), with the facility expiring in September 2022. The 2018 Subseries A-1 and A-2 bonds have a standby bond purchase agreement with State Street Bank and Trust Company (Aa2 (cr)/P-1 (cr) that expires July 2, 2023.

The MBTA is party to two swap agreements with JPMorgan Chase Bank, N.A. (Aa1 (cr)/P-1 (cr)) for a total notional amount of $99.4 million. The bond issues associated with the swaps were refunded to fixed rate so the authority has applied the agreements to other outstanding, unhedged variable rate debt. The two agreements result in MBTA receiving a SIFMA-based rate and are set to expire March 1, 2022 and July 1, 2030. All of the 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 sizable and growing, but fall below debt service in the priority of payment waterfall. Based on our adjustments, fiscal 2019 adjusted net pension liability reached 133% of gross revenue. Employer contributions are manageable, with the fiscal 2019 contribution of $100.7 million at 4.9% of gross revenue, but below our estimated tread water contribution of $111.9 million. MBTA's other post-employment benefits (OPEB) liability reached $2.5 billion in 2018, with the authority's fiscal 2019 employer contribution at $144.7 million or 6.4% of its total operating expenses.

ESG considerations

Environmental

The US mass transit sector overall has low exposure to environmental risks because mass transit is an energy-efficient mode of transportation that will see increased ridership as governmental policies and public preference shift from carbon inefficient travel. However, exposure to natural disasters and climate change is somewhat more elevated as mass transit and commuter rail issuers rely on infrastructure that is susceptible to storm damage. The MBTA service area, concentrated in Boston (Aaa stable) and the coastal county of Suffolk located along the Atlantic Ocean, has above-average flood exposure. According to data from Moody's affiliate Four Twenty Seven, exposure of MBTA's primary service area to hurricane risk and water stress are in the second highest category. Four Twenty Seven's data measure relative projected change of five climate factors: heat stress, water stress, floods, hurricanes and sea level rise. When the individual counties' exposures are weighted by ridership, Suffolk County ranks 139 out of 3,190 counties, indicating a high concentration of ridership is more exposed to the economic impact its climate risks such as property damage, emergency response costs and interruption to business that reduces fare revenue or tax receipts.

Risk of flooding during periods of extreme precipitation, wind or storm surge is high, as experienced during Superstorm Sandy in 2012 and is likely to increase over the long term. Boston's mayor has pledged to spend $30 million annually to combat rising waters, while the MBTA has already completed capital projects to prevent certain underground stations from chronic flooding problems when high tides and elevated rainfall occur. The state is also providing assistance. Recognizing that it has above-average climate risks, the commonwealth is leading climate change preparedness, resiliency and mitigation efforts for itself and its local governments. The state is conducting vulnerability preparedness planning with its municipalities and last year the governor introduced legislation to fund investment in resiliency infrastructure with $100 million in new, annual revenue from a deed excise tax. Like most US transit systems, MBTA's exposure to environmental shocks is also partially moderated by the availability of private insurance and federal disaster recovery assistance.

Social

The mass transit sector is moderately exposed to social risks given its labor intensive and customer-oriented operations. MBTA in particular is also exposed to affordable housing issues, which could stymie future economic growth in the region, as well as strong collective bargaining units, which can drive spending pressures. Massachusetts' population continues to grow, but at rates that lag the US.

The rapid and widening spread of the coronavirus outbreak, deteriorating global economic outlook, falling oil prices and asset price declines are creating a severe and extensive credit shock across many sectors, regions and markets. The combined credit effects of these developments are unprecedented. We regard the coronavirus outbreak as a social risk under our ESG framework, given the substantial implications for public health and safety. Future ridership trends are in question for mass transit operations across the country as workplaces may be reconsidering office arrangements and/or previous riders shift to personal car transportation options to guard against infection.

Governance

Governance considerations are a key determinant of credit quality for all issuers. MBTA benefits from strong support from the Commonwealth of Massachusetts, both financial and operational, that has resulted in key credit metric improvements in recent years. After severe weather led to systemwide 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, 2020, which has been extended to June 2021. The governor's proposed budget contemplates a new and separate MBTA board be established.

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 to the eleven member MassDOT board, which includes three members of the FMCB.

REPORT NUMBER 1274697

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