Massachusetts Bay Transportation Authority

Debt Issuance Discussion & Vote

September 2017

Massachusetts Bay
Transportation Authority

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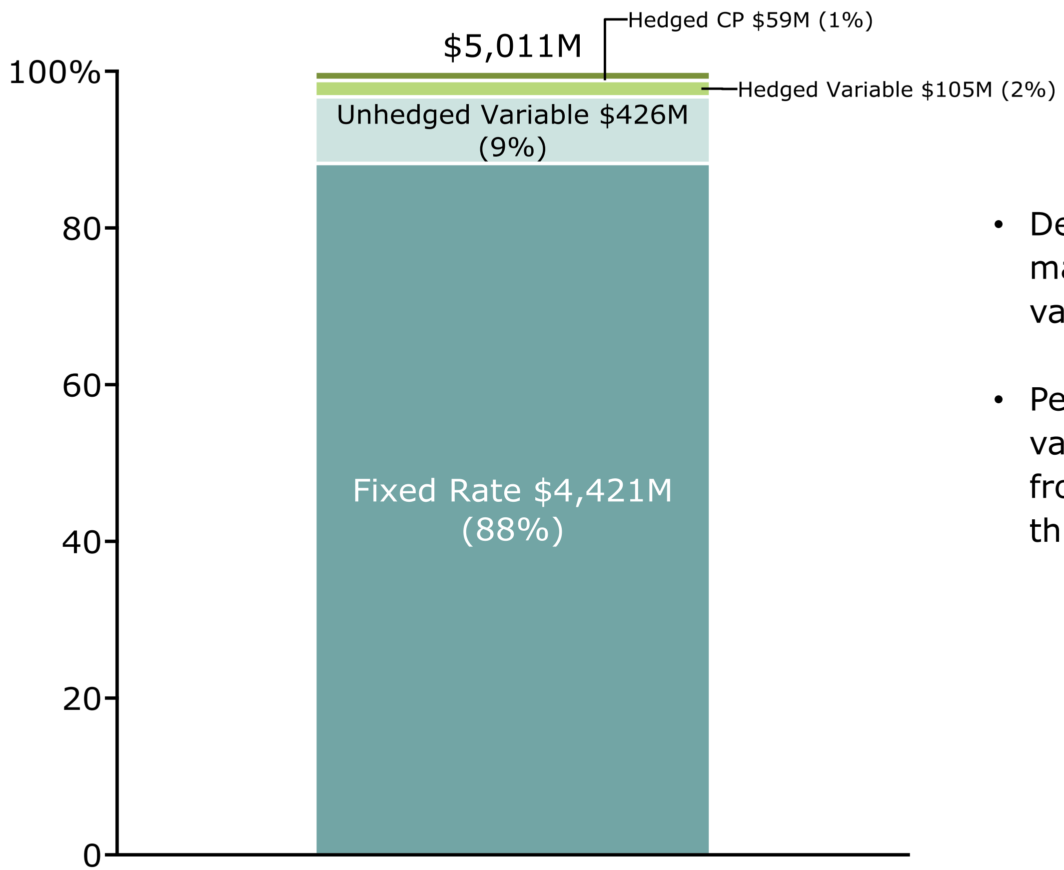
Executive Summary

Existing Debt Profile

MBTA has approximately $5.0 billion in outstanding debt.

Composition of Outstanding Debt (including Commercial Paper) as of July 31, 2017



- Debt policy establishes 20% maximum for unhedged variable rate debt.
- Percentage of unhedged variable rate debt will fall from 9% to 7%, because of this transaction.

Issuance Summary

Debt issuance to provide long-term financing for CIP projects, replenish Commercial Paper capacity and interim finance the PTC project.

Issuance Overview

- MBTA seeks approval to issue the 2017 Sales Tax transactions (outlined below, collectively “2017 Issuances”)
  - $274 million (est.) Sales Tax New Money Bonds
  - $300 million (est.) Sales Tax Bond Anticipation Notes (“BANs”)

Sustainability

- A portion of the issuance will be deemed ‘Sustainable’
  - Highlights the environmental and social impact of MBTA projects

New Money Bonds ($274M)

- Funds $174 million in FY18 and FY19 Capital Costs and $100 million replenishment of Commercial Paper

Bond Anticipation Notes ($300M)

- $382 million interim total funding needs for PTC
- PTC will be funded with BANs ($300 million) and Commercial Paper ($82 million)
- In 2021, MBTA will draw on TIFIA/RRIF loan to take out BANs and Commercial Paper

FMCB Recommendation and MassDOT Board Approval Required

*The not to exceed par amounts are slightly higher than the amounts set forth in the Finance Plan. The amounts in the Finance Plan reflect the amounts expected to be issued in this market. The not to exceed amount provides a “cushion” for the unlikely event that the debt is sold as at a discount, resulting in fewer proceeds being available and therefore a higher principal amount issued.

Advisors

The PFM Group (Financial Advisor)

Robert Rich	Managing Director
June Matte	Managing Director
Joe DaBreo	Senior Managing Consultant

Mintz, Levin, Cohn, Ferris, Glovsky, and Popeo, P.C. (Bond Counsel)

Meghan Burke	Member
Matt Page	Associate

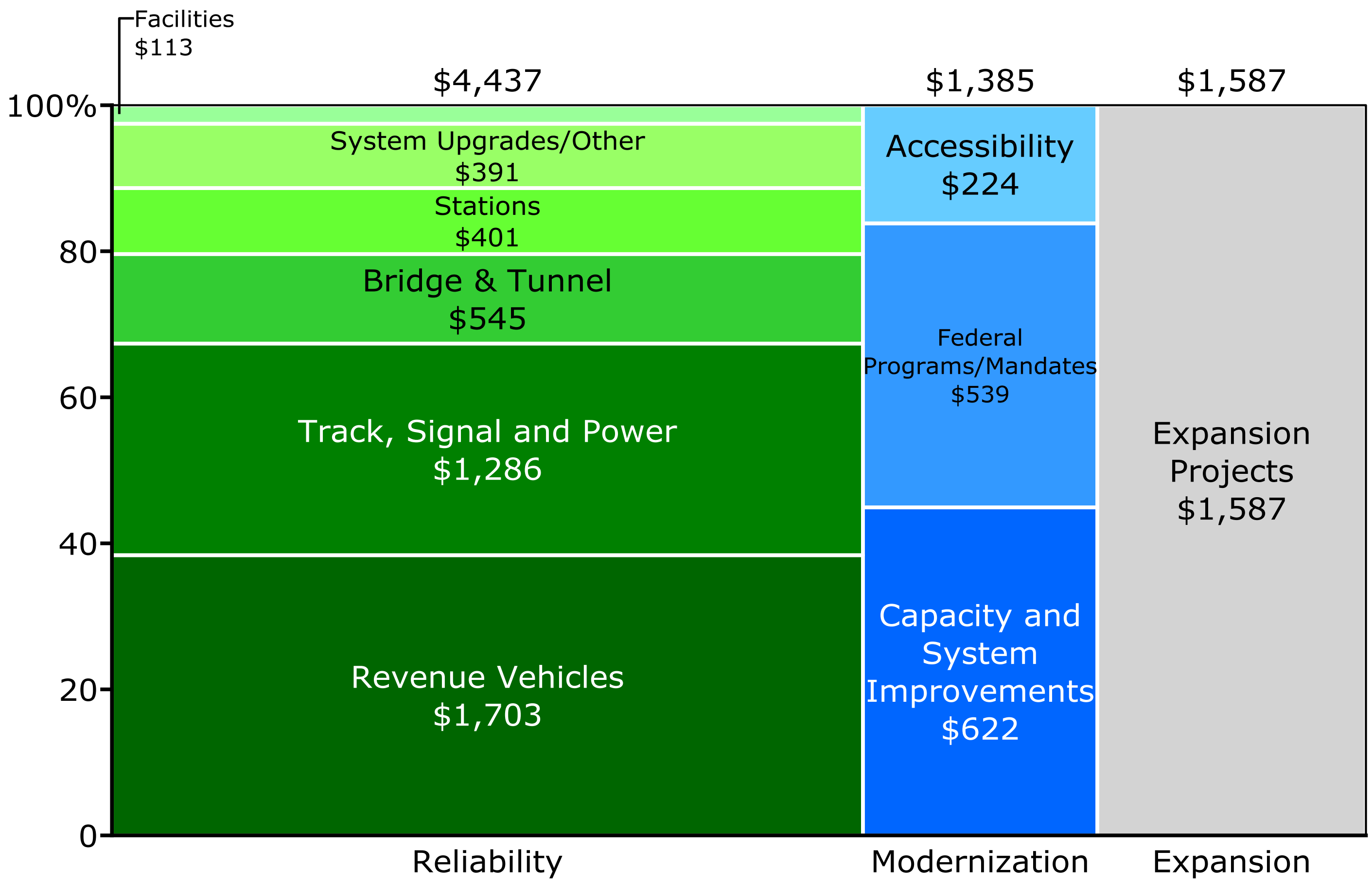
Note: MBTA also engaged the academic community and several investor groups to assist with the Sustainability Bond component of this transaction.

Capital Program & Funding Requirements

CIP Spending

MBTA is focused on improving the reliability of its existing system, meeting federal mandates, modernizing existing assets, and expanding transportation in the Commonwealth.

FY18-22 CIP Spending by Priority ($million)



5 Year Total = $7,410

CIP Funding Sources

Projected funding sources for five-year Capital Investment Program.

Projected sources (in millions)	Final FY 18	Final 5 year Total
Federal sources of funds		
Federal Highway (FHWA) reimbursements	$67.4	$157.1
Federal Transit (FTA) reimbursements (prospective)	$106.4	$1,798.6
Existing FTA reimbursements and grant draws	$168.6	$652.0
FTA Full funding grant agreement (GLX FFGA)	$62.6	$996.1
Other federal funds	$1.3	$4.2
Positive Train Control (PTC) loans	$78.2	$365.0
Subtotal federal sources	**$484.5**	**$3,973.0**
Bond cap	$0.8	$1.2
Accelerated Bridge bonds	$6.4	$10.4
Rail enhancement bonds	$151.5	$1,238.6
Revenue bonds	$135.1	$1,338.7
Metropolitan Highway system (MHS) pay-go	$1.1	$2.4
Gaming funds	$2.3	$2.3
Municipal and local funds (GLX)	$0.0	$75.0
Reimbursable and 3rd parties	$5.0	$8.4
Additional State Assistance*	$150.0	$750.0
Capital maintenance fund	$5.4	$9.5
Subtotal of non federal sources	**$457.6**	**$3,436.6**
Total Sources	**$942.1**	**$7,409.6**

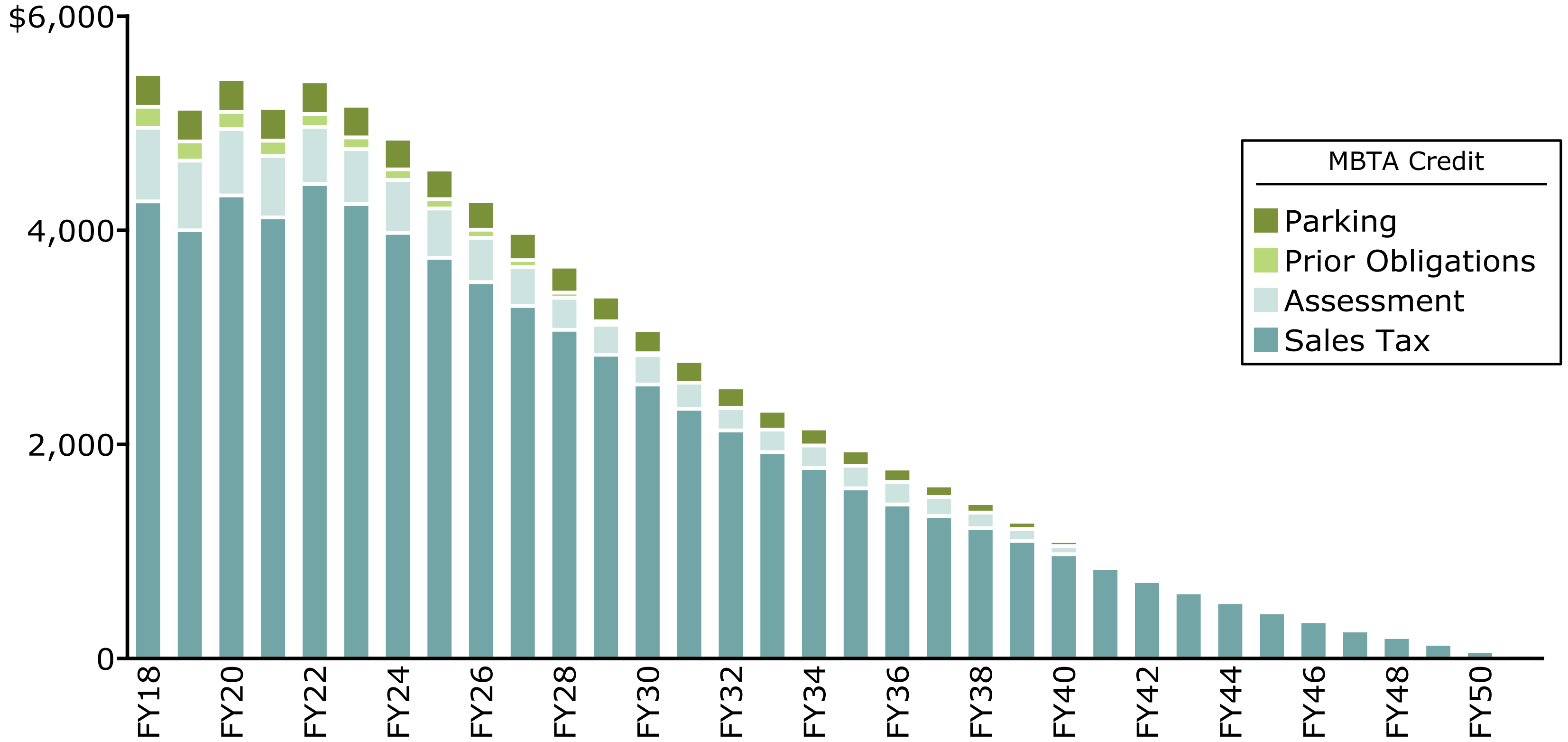
Revenue Bonds funds are a significant CIP funding source

- MBTA focus on capital delivery produced a 5-year CIP that is 13.9% larger than the CIP from a year prior.
- An ambitious capital program is required to address the MBTA's state-of-good-repair backlog.
- Despite the increase in expected revenue bond issuance, the MBTA is scheduled to pay down approximately $1.3 billion in existing principal over the next five years.
- In this issuance, the MBTA will be borrowing $174 million for FY18 Capital Projects and $300 million for PTC.

Principal Amortization

Increased CIP borrowing is offset by principal amortization.

Outstanding Principal ($ millions)

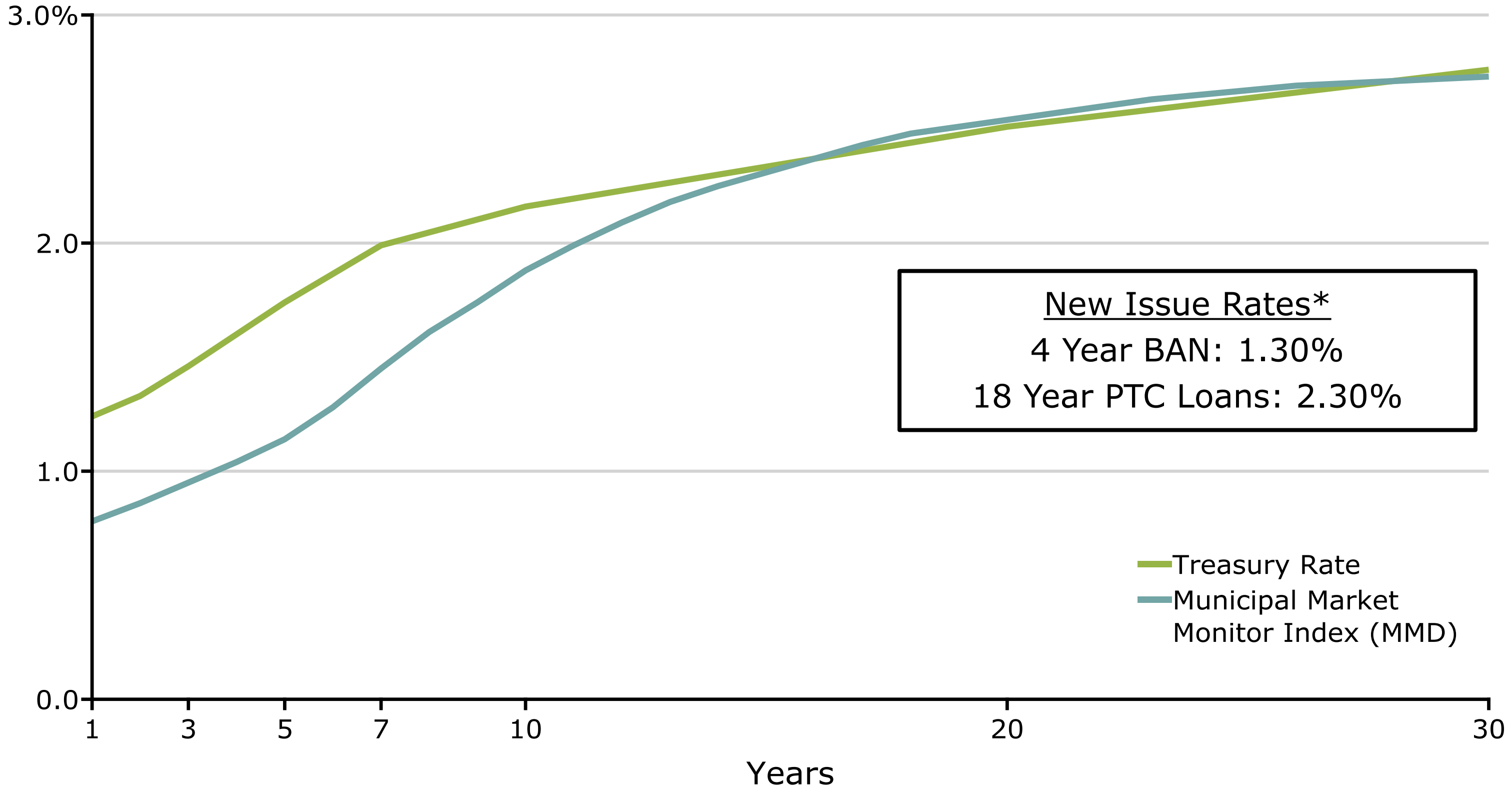


Balances are as of the beginning of period.

Includes TIFIA/RRIF loans and new issues in FY18, FY19, FY21.

Current Borrowing Rates & Assumptions

Debt will be issued at rates derived from Treasury and MMD curves, at varying maturities.



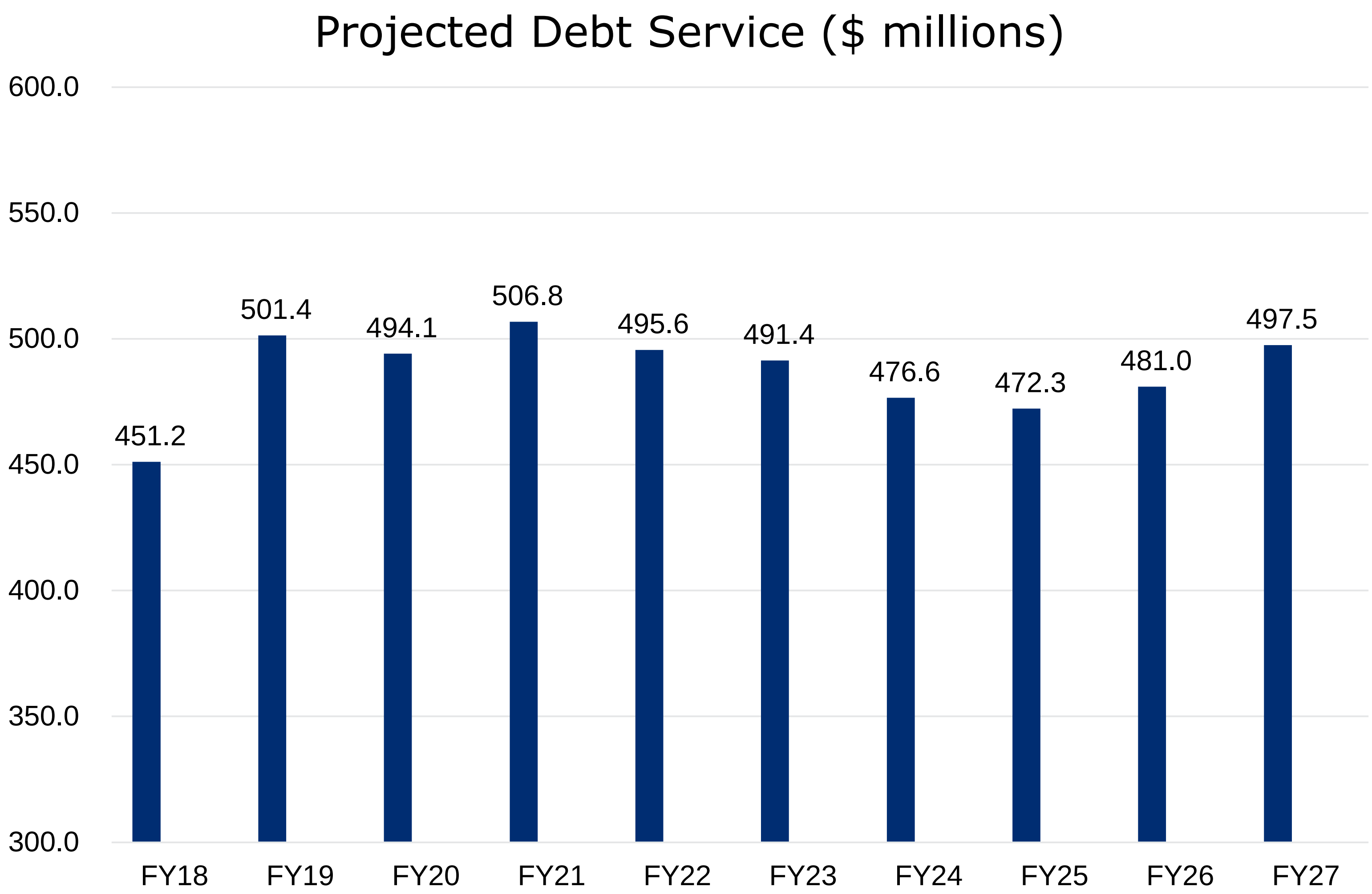
Other Key MBTA Rates		
SIFMA (1 week)	Commercial Paper (2 Month)	LIBOR (3 Month)
0.78%	0.87%	1.32%

*Future long-term issuance assumes rate of 3.75%, which exceeds both 30 year MMD and Treasury Rates

Rates as of August 28, 2017

Projected Debt Service – Operating Budget Impact

MBTA debt service is paid for using operating dollars. Debt service includes both principal and interest. Principal amortization for this issuance is unlikely to begin prior to FY23.



Positive Train Control Project

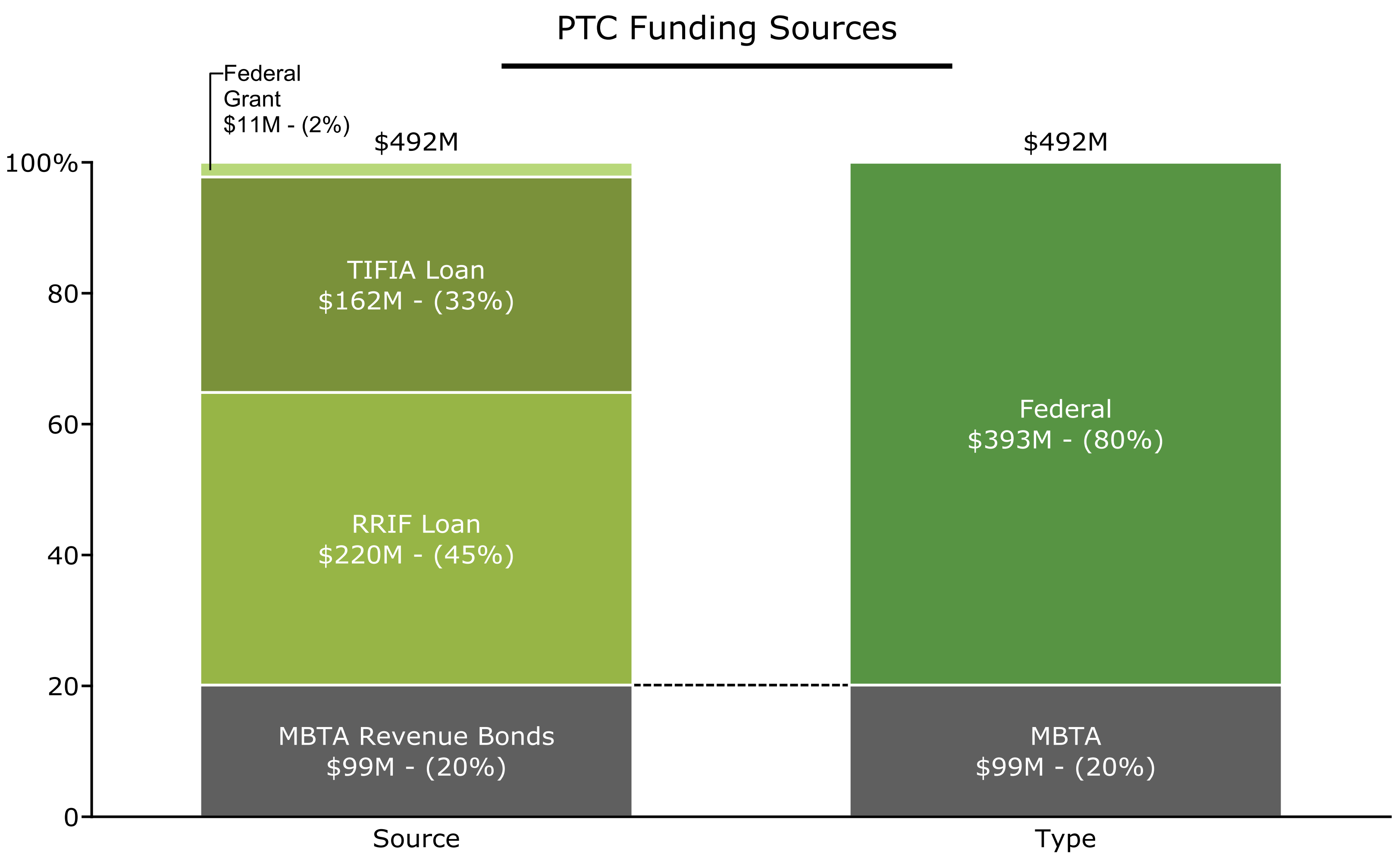
MBTA will interim finance the project itself then draw on TIFIA and RRIF loans within one year of substantial completion of the PTC project.

- MBTA has approached the Build America Bureau for direct loans under both the TIFIA and RRIF credit assistance programs to finance a portion of the PTC Project. These programs offer several possible benefits to the MBTA:
  - Preserves debt capacity
  - Efficient funding source
  - Minimal carrying costs
  - Ratings preservation
  - Flexible debt structure

- Since the TIFIA and RRIF draw schedules are flexible, and the loans can be prepaid without penalty at any time, the MBTA achieves a lower cost of funds by interim financing.
  - If executed on August 28:
    - Anticipated BAN rate would be 1.30% p.a.
    - Anticipated PTC loan rate would be 2.30% p.a.

PTC Funding

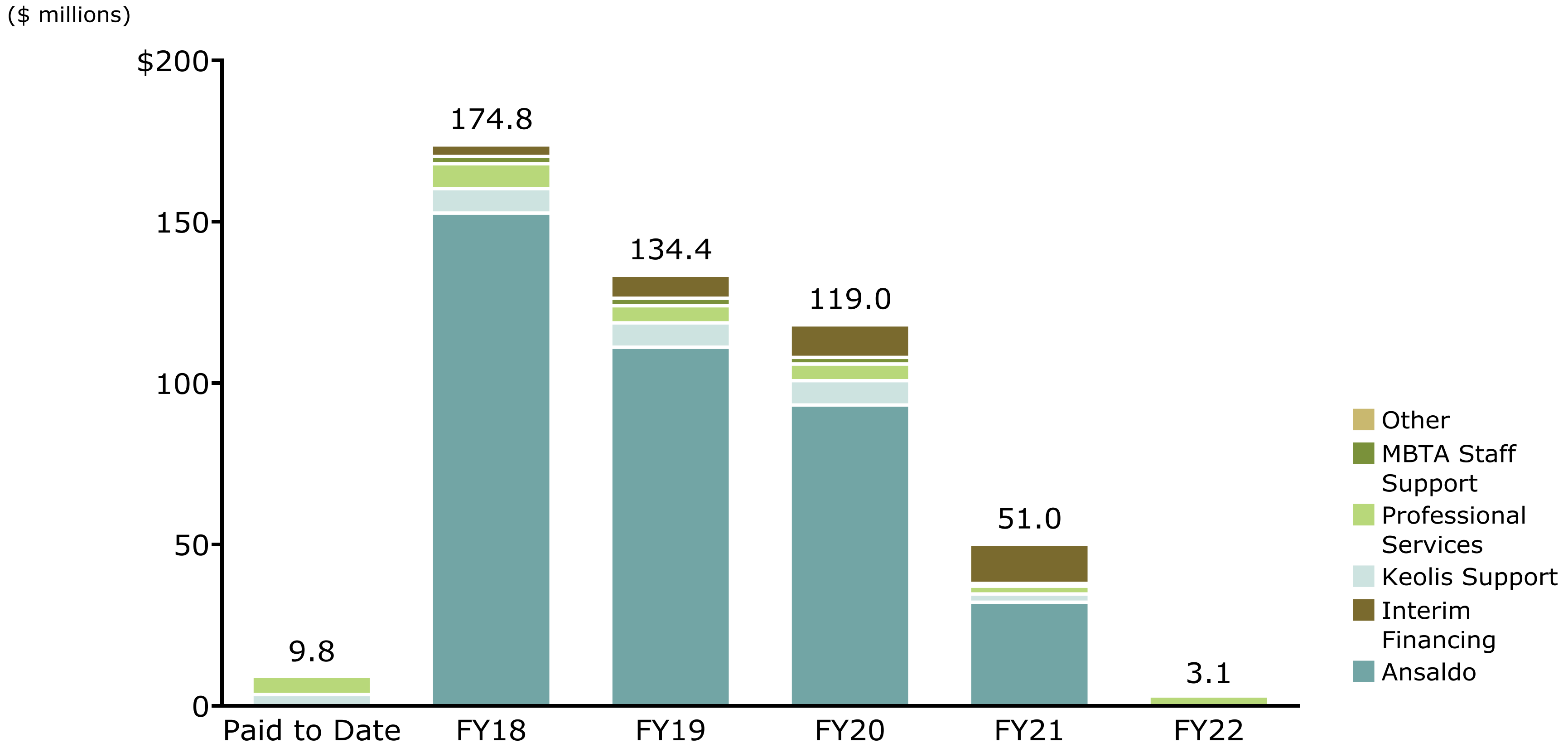
The estimated project cost of implementing the PTC system is $492 million. Financing is comprised of TIFIA, RRIF, Federal Grants, and MBTA contributions.



*MBTA is exploring opportunities to reduce the cost of the PTC Project or to otherwise adjust the timeline and budget for delivery of the PTC Project. Any adjustment to the budget would be pro rata, as among the Federal and MBTA funding sources.

PTC Cost Schedule

MBTA is scheduled to make meaningful payments to Ansaldo and other partners in FY18 and FY19. $300M of BANs issuance will cover these costs.



Commercial Paper Program

MBTA has utilized its Commercial Paper facilities for inexpensive short-term financing leading up to this debt issuance.

- The MBTA has a robust Commercial Paper program (S&P A-1+, Moody's P-1).

	Total Facility	**Current Drawdown**	**Available Liquidity**	**Credit Facility Provider**	**Expiration Date**
Series A	$100,000,000	$79,775,000	$20,225,000	US Bank	12/10/18
Series B	$100,000,000	$87,525,000	$12,475,000	Sumitomo	12/10/18
Series C	$50,000,000	0	$50,000,000	Toronto Dominion	12/10/18

- The MBTA should have a Commercial Paper backstop of $75 million to $100 million.
- Since the MBTA has drawn down facilities to these levels over FY17 and FY18, it is time to replenish Commercial Paper capacity for future needs.

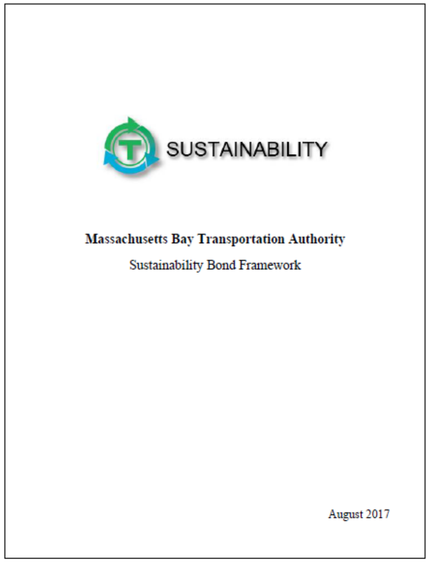
Sustainable Bond Issuance

Sustainable Issuance

This is the first tax-exempt Sustainability Bond issued in the United States.

MBTA's Sustainability Bond Issuance is consistent with the Sustainability Bond Principles ("SBP") established by the International Capital Market Association and incorporates guidance from various investor groups and the academic community.

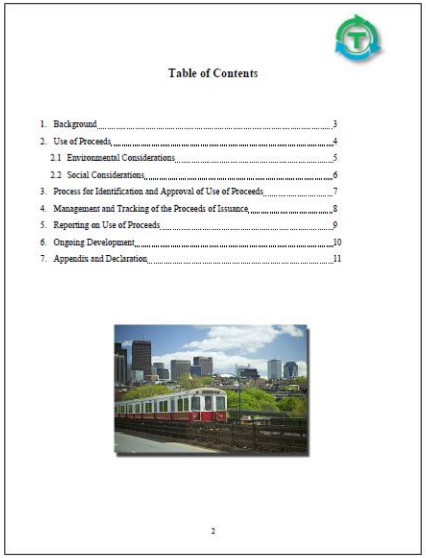
- Proceeds from Sustainability Bonds fund projects which have distinct social and/or environmental benefits.
- MBTA formed a Sustainability Committee and drafted a Bond Framework which addresses: Use of Proceeds, Process for Project Evaluation and Selection, Management of Proceeds, Reporting.
- Sustainability Bond Framework incorporates feedback from MBTA departments as well as guidance from investor groups and the academic community.


SUSTAINABILITY

Massachusetts Bay Transportation Authority

Sustainability Bond Framework

August 2017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Sustainable Issuance (cont.)

This is the first tax-exempt Sustainability Bond issued in the United States.

- Approximately $118,000,000 of the Sales Tax Bonds and the full $300,000,000 of Sales Tax Bond Anticipation Notes have been identified as supporting sustainable projects.
- Sustainable project list includes:

Project	Benefits
LoNo and New Flyer Bus Procurement	Pollution Prevention, Capacity Growth, Accessibility
Government Station Improvements	Climate Resiliency, Capacity Growth, Accessibility
Orange Line Traction Power Upgrade	Energy Efficiency, Capacity Growth
Elevator Program	Accessibility, Workplace Conditions
Positive Train Control	Passenger and Employee Safety

Financing Overview

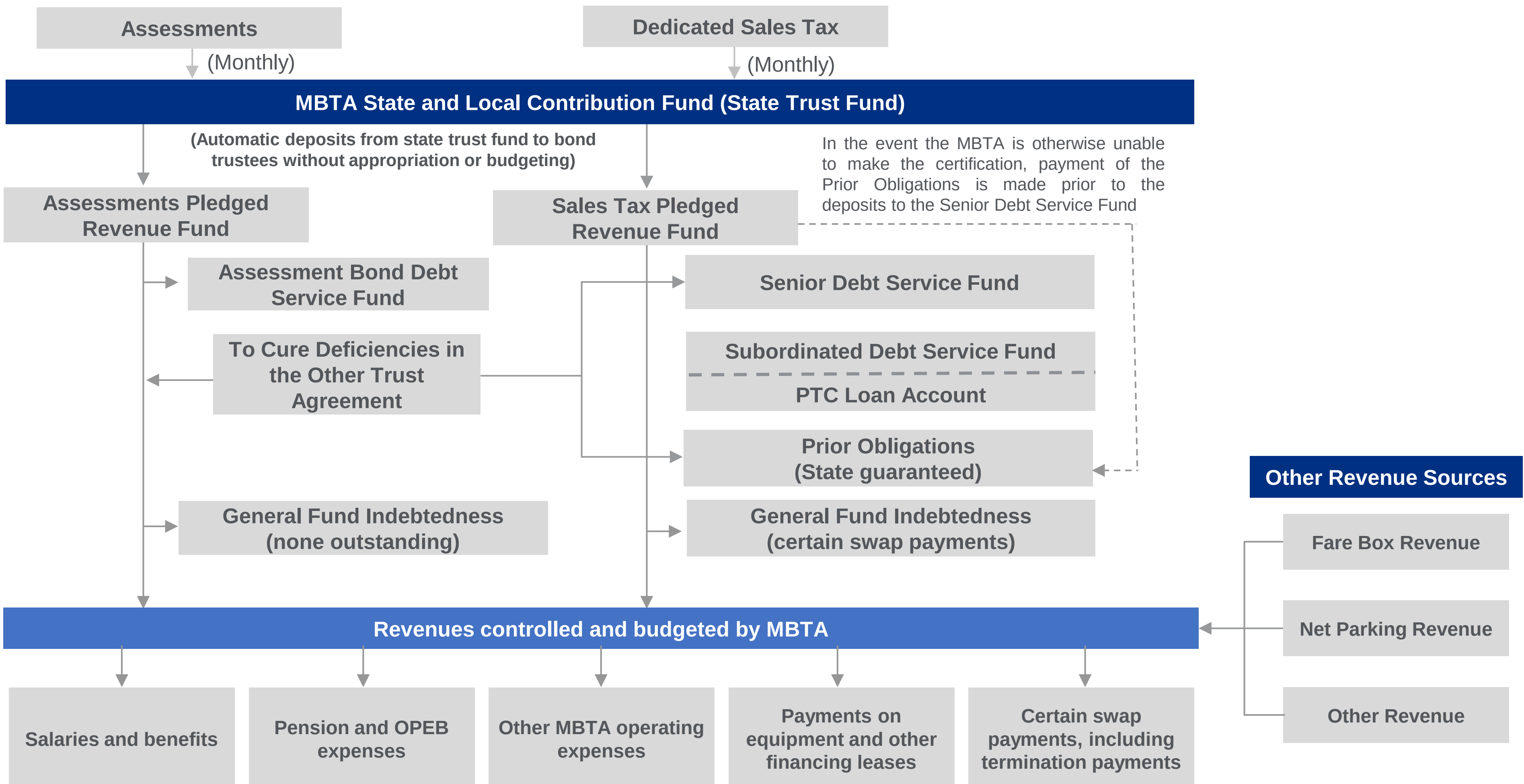
Financing Overview

MBTA will utilize the subordinated sales tax lien for the first time.

- Ratings Agencies view the new subordinate lien as a strong credit.
  - S&P assigned a AA rating, which is the <u>same</u> as the senior lien.
  - Moody’s assigned a rating of Aa3, one notch below the senior lien.
- Under the new subordinated lien:
  - New credit, established under the existing Sales Tax Trust Agreement but not yet utilized.
  - Investors will recognize that fundamental credit strengths are identical to the Senior Lien:
    - Protected by BRA which cannot go down
    - Coverage tests are shared with the Senior Lien
- <u>DSRF is not required on the subordinate lien.</u>
  - DSRF is considered less important for highly rated issuers like the MBTA who score “very strong” on Economic Strength and Debt Service Coverage metrics and have minimal likelihood of revenue disruption.
- Coverage on the Sales Tax credit remains strong and in compliance with the Debt Policy / Enabling Act
  - 2.48x Maximum Annual Debt Service coverage*
- All bonds mature well before the 40 year maximum allowed in the Debt Policy / Enabling Act
  - New Money Bonds amortize between 2023 and 2046
  - BANs mature in 2021 (take out funded with TIFIA and RRIF loans)

MBTA System Flow-of-Funds

Dedicated Sales Tax and Assessment debt service payments are made before monies are available to pay for operations of the system.



Method of Sale

Bonds will be issued through a competitive sale. This method was utilized last summer and MBTA debt was met with strong investor demand.

In compliance with the Debt Policy, MBTA and PFM have set forth factors to support a competitive sale.

- In a competitive sale, bidding is open to all underwriting firms which generates competitive pressure to lower interest rates.
- Bonds have a straightforward structure that lends itself well to competitive bidding.
- Competitive sales are best utilized with known and highly rated credits and during periods stable markets.
  - MBTA bonds are highly rated with the Sales Tax Bonds in the Aa3/AA category.
  - There is significant investor demand for bonds, as bond funds continue to receive inflows of capital and must put the money to work.
  - This provides an opportunity for bankers not in the MBTA underwriters pool to compete for bonds.
  - Interest rates remain below historical averages.

Tentative Issuance Timeline

MBTA expects to price bonds through a competitive bid on September 26 with transaction closing the week of October 9.

Date	Event
Monday, August 21	Rating Agency Calls (Completed)
Monday September 11	Joint Board Presentation and Vote
Tuesday, September 12	Marketing Period Begins
Tuesday, September 19	Investor Lunch
Tuesday, September 26	Pricing Date
Week of October 9	Closing Date

Board Requirements and Vote Language

Recommend and Approve Proposed Debt Issuance

Please reference the vote language in the board package, provided by Mintz Levin. Note these obligations have not changed.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
FISCAL AND MANAGEMENT CONTROL BOARD

The votes provide for the FMCB to recommend the MassDOT Board approve and the MassDOT Board to approve:

- The Finance Plan which includes direction to sell the bonds and notes via competitive bid process, as recommended by and justified in the memorandum of the financial advisor.
- The issuance of bonds in a combined maximum principal amount not to exceed $290 million*. The bonds will be used to fund a portion of the Authority's CIP.
- The issuance of bond anticipation in a maximum principal amount not to exceed $315 million*. Final approval of such take-out bonds will be prior to the issuance of the bonds in 2021.
- The agreements under which the bonds and notes are issued and secured, the offering documents and other related documents.
- The Sustainability Bond Framework and authorization that such portion of the authorized bonds that advance environmental and social benefits be issued as "Sustainable." The bonds will be issued as two separate subseries to distinguish those that satisfy the Sustainability Bond Framework conditions.

VOTED: That the preceding vote shall take effect upon passage.