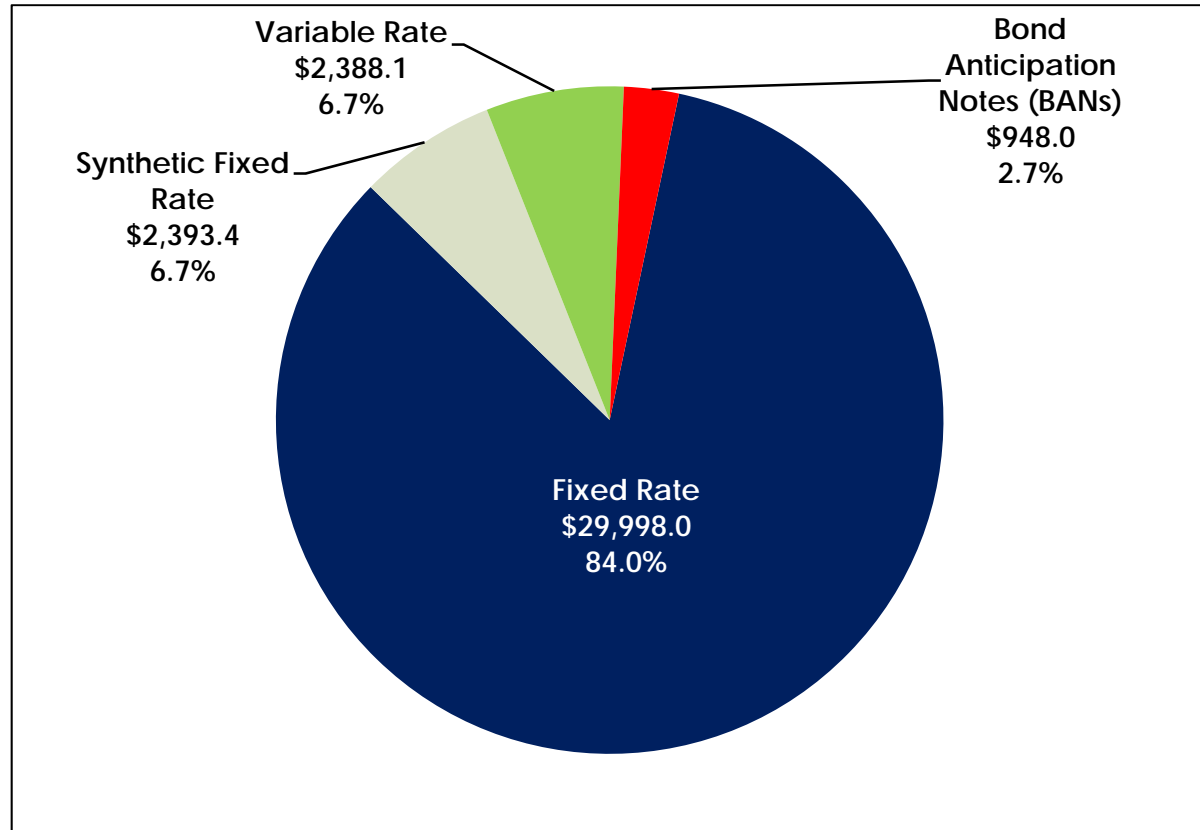


\$35.7 billion of Outstanding Debt

As of 12/31/2016, (\$ in millions)

Updated Slide #1

- Excluding Hudson Rail Yards Trust Obligations, *year to year* change in Outstanding Debt was a decrease of approximately \$189 million
- \$872 million of long-term bonds, excluding State Service Contract Bonds, was retired through normal amortization in 2016
- All-In True Interest Cost (TIC) 3.61%



Notes:

- 1) Fixed rate includes the \$146.5 million draw dated 9/20/2016 on the Railroad Rehabilitation and Improvement Financing Program loan (RRIF Loan)/TRB Series 2015X
- 2) Totals exclude \$145.0 million State Service Contract Bonds, \$308.7 million Special Obligation Bonds, and \$1.057 billion Hudson Rail Yards Trust Obligations
- 3) Fixed Rate TICs calculated as of issuance of Fixed Rate bonds. Floating Rate TICs calculated from inception including fees. Any Unhedged Variable Rate bonds that have been fixed to maturity are carried at the new Fixed Rate TIC. Synthetic Fixed Rate TICs include average swap rates plus current variable rate fees and estimated basis adjustments for life of swap. Synthetic Fixed Rate TICs do not include benefit of any upfront payments received by MTA. Variable Rate TICs include average remarketed rate plus current variable rate fees
- 4) Numbers may not total due to rounding



Report to the Finance Committee 2016 Year End Review

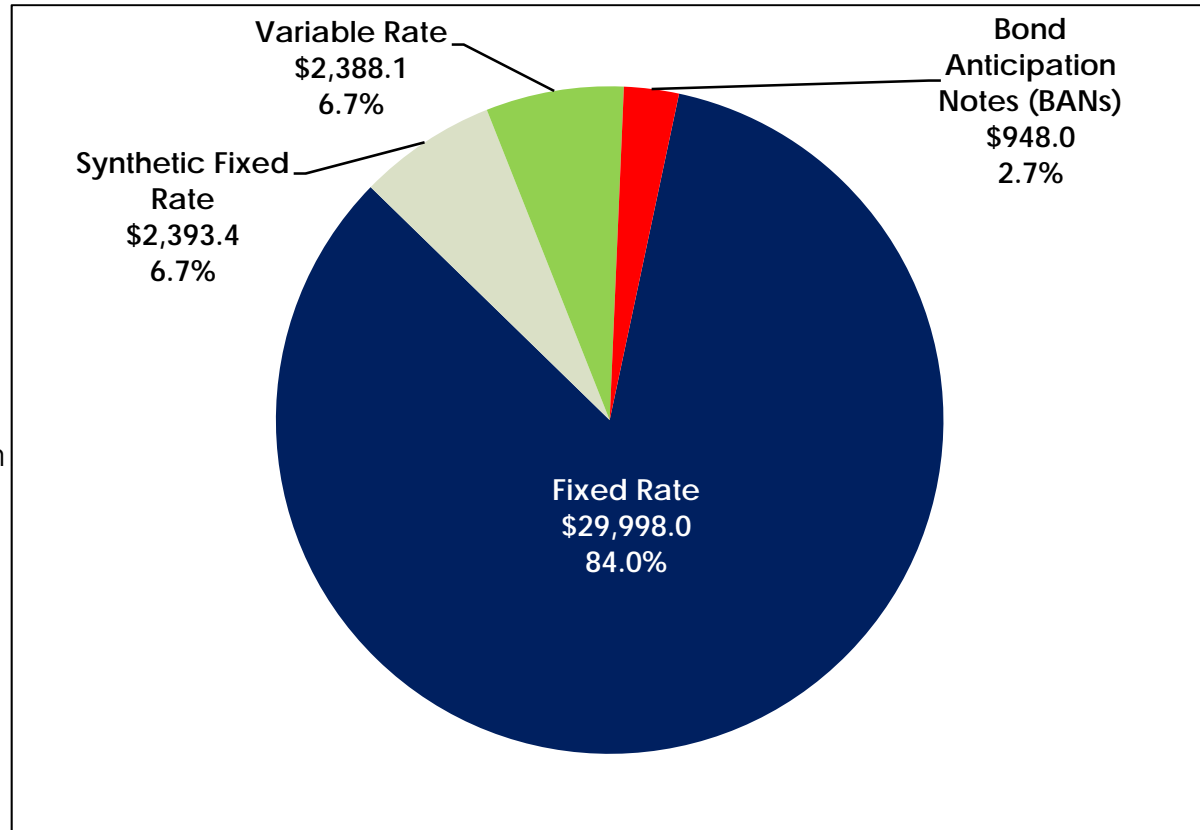
MTA Finance Department
Olga Chernat, Deputy Director
January 23, 2017



\$35.7 billion of Outstanding Debt

As of 12/31/2016
(\$ in millions)

- \$944.7 million of debt was retired through normal amortization in 2016
- Net increase in debt outstanding was \$1.25 billion
- All-In True Interest Cost (TIC) 3.61%



Notes:

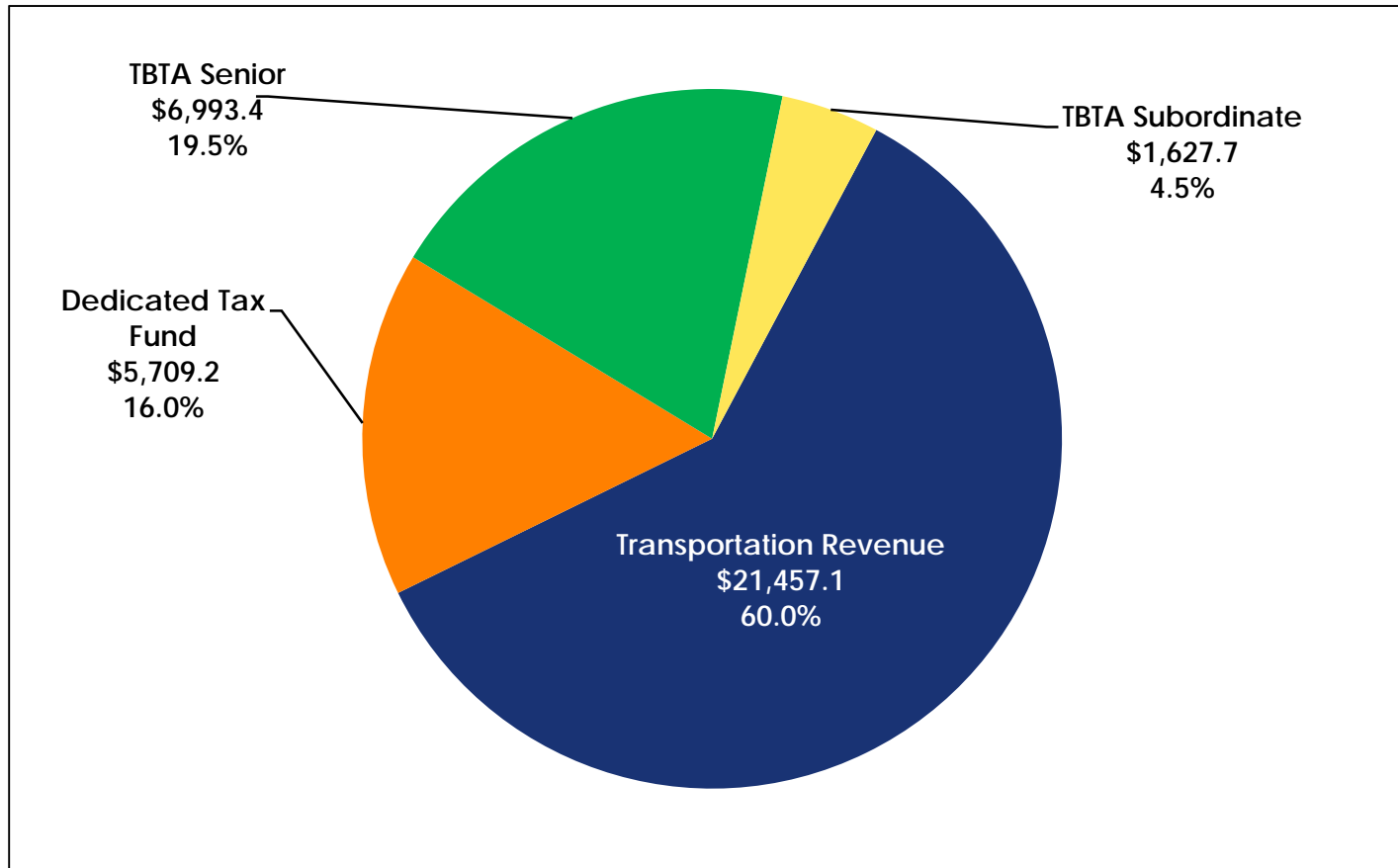
- 1) Fixed rate includes the \$146.5 million draw dated 9/20/2016 on the Railroad Rehabilitation and Improvement Financing Program loan (RRIF Loan)/TRB Series 2015X
- 2) Totals exclude \$145.0 million State Service Contract Bonds, \$308.7 million Special Obligation Bonds, and \$1.057 billion Hudson Rail Yards Trust Obligations
- 3) Fixed Rate TICs calculated as of issuance of Fixed Rate bonds. Floating Rate TICs calculated from inception including fees. Any Unhedged Variable Rate bonds that have been fixed to maturity are carried at the new Fixed Rate TIC. Synthetic Fixed Rate TICs include average swap rates plus current variable rate fees and estimated basis adjustments for life of swap. Synthetic Fixed Rate TICs do not include benefit of any upfront payments received by MTA. Variable Rate TICs include average remarketed rate plus current variable rate fees
- 4) Numbers may not total due to rounding



Debt by Resolution

As of 12/31/2016

(\$ in millions)



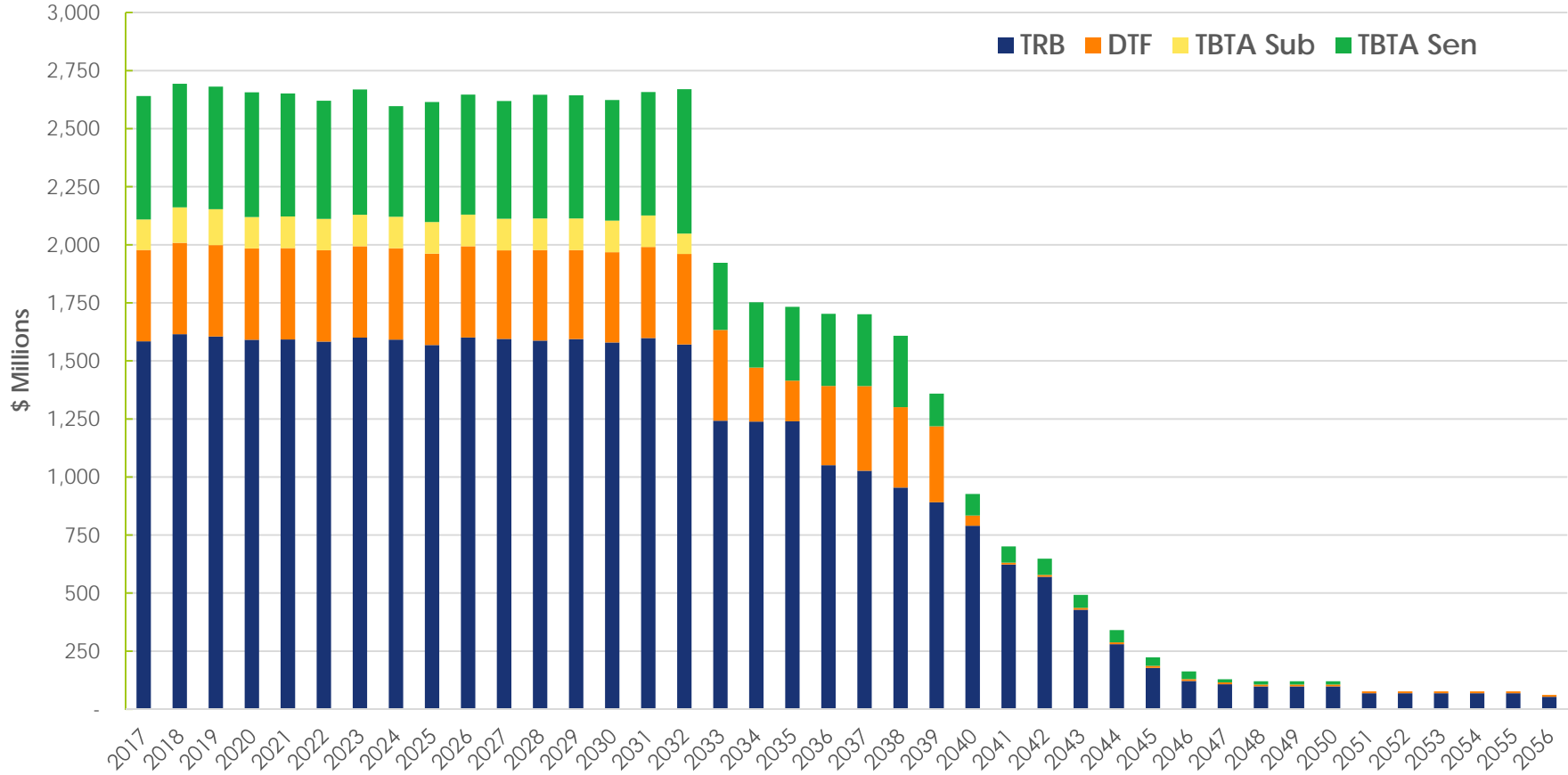
Notes:

- 1) As of December 31, 2016
- 2) Transportation Revenue includes \$248 million Transportation Revenue BANS and reflects the \$146.5 million draw dated 9/20/2016 on the Railroad Rehabilitation and Improvement Financing Program loan (RRIF Loan)/TRB Series 2015X
- 3) Dedicated Tax Fund bonds include \$700 million in DTF BANS
- 4) Totals exclude \$145.0 million State Service Contract Bonds, \$308.7 million Special Obligation Bonds, and \$1.057 billion Hudson Rail Yards Trust Obligations



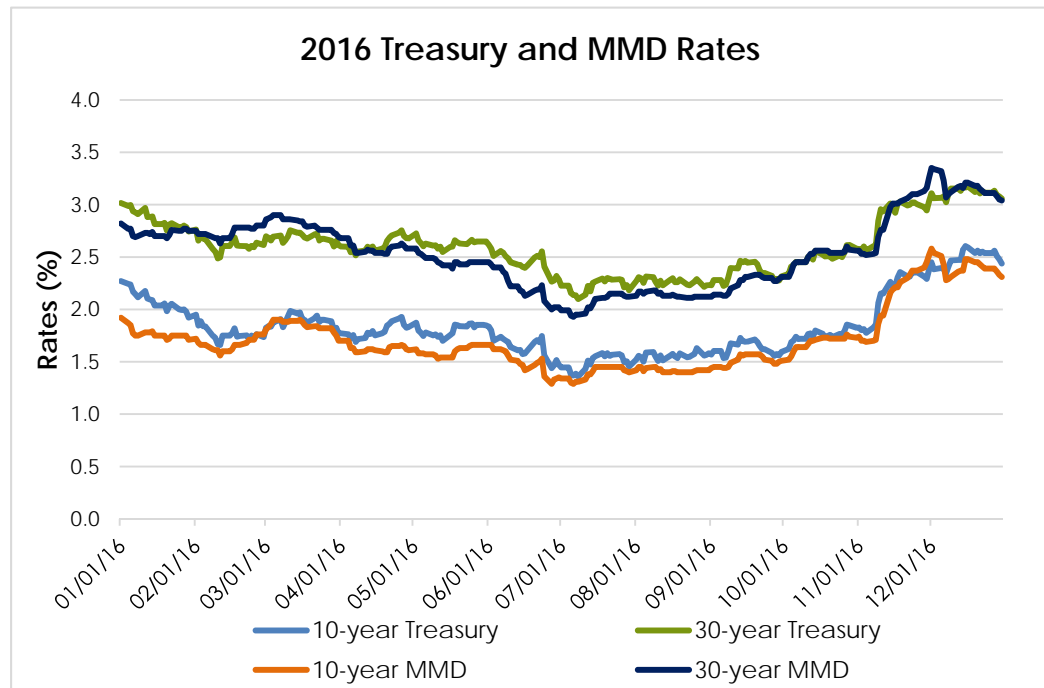
Debt Service on Outstanding Bonds by Credit

As of 12/31/2016



2016 Market Recap

- The volume of long-term municipal bonds issued in 2016 was up 11.8% from 2015, to a record high since 2010, of \$444.8 billion, driven largely by refundings
- The Fed rate increase at the end of the year, along with speculation on what action President-elect Donald Trump will take concerning tax rates and other economic policies, resulted in higher US Treasury rates at the end of the year
- Municipal yields increased substantially after lows in June and July
- Inflows to municipal bond funds through early October 2016, followed by consecutive weeks of outflows since the Presidential election, also contributed to volatility in tax-exempt rates



2016 Rates	Low	Average	High
10-year MMD	1.29%	1.71%	2.58%
10-year Treasury	1.36%	1.84%	2.61%
30-year MMD	1.93%	2.54%	3.35%
30-year Treasury	2.10%	2.60%	3.18%



Sources: Bloomberg, The Bond Buyer, SIFMA, and Thompson Reuters as of December 31, 2016

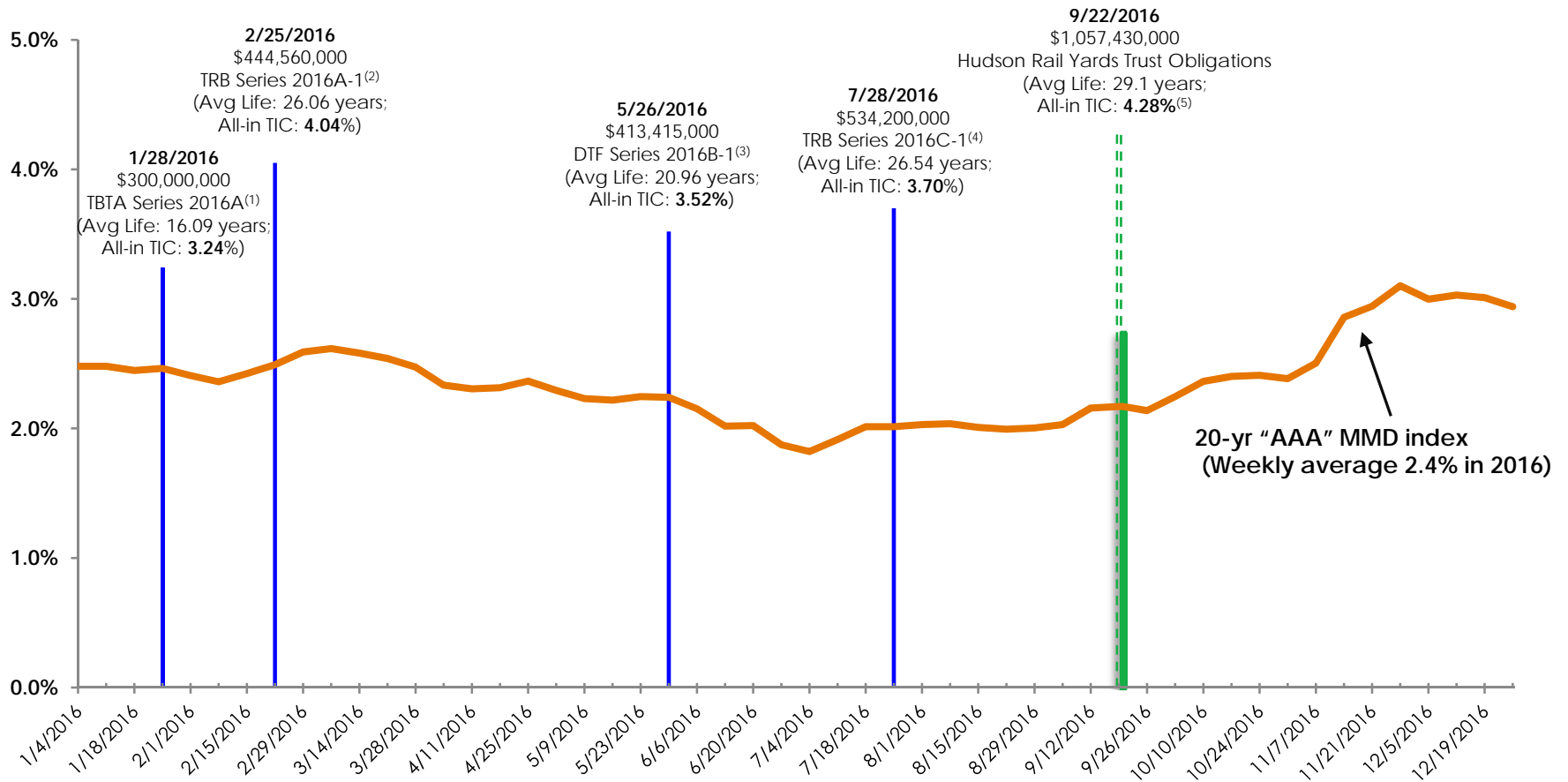
2016 Transactions Summary - \$ 7.76 billion

- **\$2.3 billion New Money borrowing**
 - \$797 million fixed rate bonds
 - \$1.4 billion bond anticipation notes (BANS)
 - \$146 million RRIF loan withdrawal
- **\$1.95 billion long-term fixed rate bonds to retire BANS**
- **\$2.98 billion Refunding bonds achieve Present Value savings of \$560.9 million, or 16.6% of par refunded**
- **\$484.2 million Remarketing of Tendered Obligations**
 - \$43.5 million remarketed as fixed rate bonds
 - \$290.7 million remarketed as FRNs
 - \$150.0 million remarketed as variable rate debt with bank support in weekly mode
- **Total bond financed capital investments of \$2.43 billion**



Note: Numbers may not total due to rounding

2016 MTA Long-Term Bond Issuances



Notes:

- 1) TBTA Series 2016A included \$241.2 million in refunding bonds, not reflected here
- 2) TRB Series 2016A included \$338.0 million in refunding bonds, not reflected here
- 3) DTF Series 2016B included \$174.9 million in refunding bonds, not reflected here
- 4) TRB Series 2016C included \$329.7 million in refunding bonds, not reflected here
- 5) Hudson Rail Yard Trust Obligations, all-in TIC of **4.28%** assumes that no fee purchase options are exercised through maturity. If all of the fee purchase options are exercised within 10 years, the all-in TIC would be **2.74%** and the average life would be 5.4 years



2016 Remarketing Transaction Results

<u>Bond Series</u>	<u>Par Amount</u>	<u>Mode</u>	<u>FRN Rate/TIC</u>	<u>FRN Reset Date/Bank Liquidity Expiration/Maturity</u>
DTF 2002B-1	150,000,000	Weekly	NA	3/22/2021
DTF 2008B-3b	43,460,000	Fixed	2.72%	11/15/2030
TBTA 2005B-4a	108,800,000	FRN	67% of LIBOR+70bp	2/1/2021
TRB 2002G-1h	56,890,000	FRN	67% of LIBOR+82bp	2/1/2022
TRB 2012A-2	50,000,000	FRN	SIFMA+58bp	6/1/2019
TRB 2012G-3	75,000,000	FRN	67% of LIBOR+70bp	2/1/2020
	<u>484,150,000</u>			

Notes:

- 1) During 2016, SIFMA averaged 0.421%; 1-month LIBOR averaged 0.496%; only most recent remarketing reflected for subseries
- 2) Subseries DTF 2008B-3b was remarketed as fixed rate bonds with all-in TIC of 2.72%



Advantages of BAN Issuance Financing Strategy

- **BAN Program initiated in 2015, continued in 2016**
 - BAN transactions typically ranging from \$500 million to \$700 million in size
 - Sold competitively via Grant Street bidding platform
 - Minimum bid size of \$10 million, with increments of \$5 million, to facilitate wider participation
 - Bids awarded based on lowest TIC offered
 - Low cost short-term financing

- **\$1.4 billion of BANs issued in 2016; weighted average life of 0.7 years**

- **Provides transparency into the assets being financed with long-term bonds**

- **Better match of assets and related debt liability**
 - When retiring BANs, MTA seeks to structure long term bonds to match useful lives of the BAN-financed projects



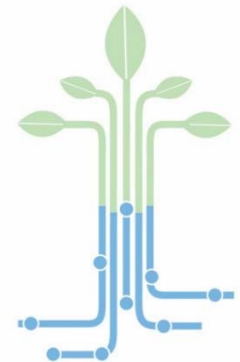
2016 Competitive Bid Results – BAN Transactions

BAN Series	Par Amount	Bid Winners	All-in TIC	Average Life	Final Maturity
TRB 2016A	\$340,000,000	Goldman Sachs	0.61%	7.2 months	2/1/2017
	\$120,000,000	Wells Fargo			
	\$100,000,000	JP Morgan			
	\$60,000,000	Bank of America Merrill Lynch			
	\$25,000,000	RBC Capital Markets			
	\$25,000,000	Jefferies			
	\$20,000,000	Citi			
	\$10,000,000	PNC			
DTF 2016A	\$200,000,000	JP Morgan	0.63%	9.6 months	6/1/2017
	\$150,000,000	Wells Fargo			
	\$100,000,000	Morgan Stanley			
	\$75,000,000	PNC			
	\$50,000,000	Bank of America Merrill Lynch			
	\$50,000,000	Goldman Sachs			
	\$30,000,000	RBC Capital Markets			
	\$20,000,000	Citi			
	\$20,000,000	FTN			
	\$5,000,000	Jefferies			



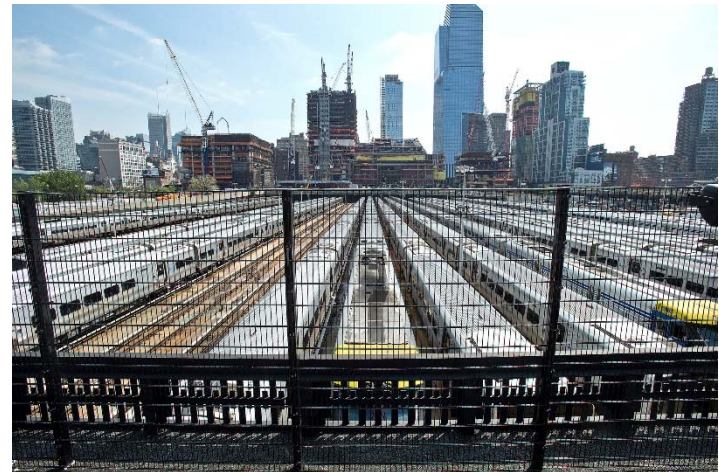
Green Bonds – Climate Bond Certified

- **MTA's inaugural issuance of green bonds was first Climate Bond Certification in the U.S.**
- **Certified under the Climate Bond Initiative's (CBI) Climate Bonds Standards using the Low Carbon Transport criteria**
 - The Low Carbon Transport criteria sets out what transportation projects are applicable for certification; projects are determined eligible if they are compatible with an emission trajectory that limits global temperature rise to 2° C
- **Voluntary, independent verification (Sustainalytics) to demonstrate the capital investment meets CBI standards**
- **\$11.3 billion spent on 2010-2014 capital projects and conform to the CBI's Low Carbon Transport criteria**
 - Two issuances to date, TRB 2016A (\$782.5 million) and DTF 2016B (\$588.3 million)
 - MTA expects to continue issuing additional certified Climate Bonds
- **MTA's transportation network benefits the environment**
 - On net basis, prevents approximately 17 million metric tons of greenhouse gas emission annually
 - MTA's network outperforms single occupancy vehicles, even including indirect emissions



Hudson Rail Yards Trust Obligations

- **Unique opportunity to reap benefit from Hudson Rail Yard assets and low interest rates**
- **Monetizing 99-year ground leases on Eastern Rail Yards (ERY) and Western Rail Yards (WRY)**
 - Fulfilled HRY contribution previously programmed into the Capital Program
 - Diversified financing with another highly-rated credit
 - With new 34th Street/Hudson Yards station for the 7 Line, example of transit-oriented development
 - Solid triple net Ground Leases executed in 2013 and 2014; all ground rent and fee purchase payments applied to repayment of Obligations
- **Pricing results – strong investor response**
 - Obligations were offered with 5% coupons providing final yields of 1.875% in 2046, 2.375% in 2051 and 2.625% in 2056
 - Expanded, diverse group of institutional investors, including investors that are not typically buying other MTA credits
 - Energetic interest, with more than \$3 billion in orders



2016 Rating Agency Stable Ratings and Outlooks

- **Year-round, regular communications and updates**
 - Briefings and materials on MTA's Financial Plans (Feb, July, November)
 - Capital Program updates
 - Annual Combined Continuing Disclosure Filings
 - Assist with information requests for annual credit reviews

- **Fall 2016: MTA met with Fitch to discuss their methodology regarding Transportation Revenue Bonds, continued effort to recognize TRB strength in the Fitch rating**

Credit	Moody's	S&P	Fitch	Kroll
Transportation Revenue	A1 Stable	AA- Stable	A Stable	AA+ Stable
Dedicated Tax Fund	NAF*	AA Stable	AA Stable	NAF*
TBTA – General Resolution	Aa3 Stable	AA- Stable	AA- Stable	AA Stable
TBTA – Subordinate Resolution	A1 Stable	A+ Stable	A+ Stable	AA- Stable



* NAF – Not applied for

2016 Investor and Green Market Outreach



- **Year-round:** investors may reach MTA Finance staff directly via email and phone
- **February 2016:** MTA Finance launched the @MTABonds Twitter page for additional investor outreach via social media; and launched revamped MTA Investor website, making information and resources readily available and more user friendly
- **March 2016:** MTA Finance met for 1:1 institutional investor interested in green bonds
- **March 24, 2016:** MTA Finance Director makes keynote remarks at Municipal Forum of New York Luncheon, discussing MTA's green bonds
- **April 15 – 16, 2016:** MTA Finance presented at the J.P. Morgan Public Finance Transportation & Utility Conference and hosted 1:1 meetings with institutional investors
- **September 8, 2016:** MTA Finance and Senior Manager, Goldman Sachs, hosted an Investor Tour and Conference highlighting the Hudson Rail Yards Trust Obligations transaction
- **September 2016:** MTA Finance met with international investors interested in the U.S. municipal market
- **September 23, 2016:** MTA Finance presented at the Bank of America Merrill Lynch 2016 New York Municipal Investor Conference
- **October 25, 2016:** MTA Finance participated on a panel in Environmental Finance 2016 Green Bonds America Conference
- **December 1, 2016:** MTA Finance participated in Green Municipal Bonds Cost Reduction Working Group



2017 Financing Quarterly Calendar

(\$ in millions)

Purpose	Q1	Q2	Q3	Q4	Total
New Money ⁽¹⁾	\$1,000	\$700	\$500	\$400	\$2,600
BAN Takeout ⁽²⁾	550	350	1,400	-	2,300
Remarketing ⁽³⁾	100	250	-	510	860
Refunding ⁽⁴⁾	903	-	150	-	1,053
Total	\$2,553	\$1,300	\$2,050	\$910	\$6,813

All information in the 2017 Financing Quarterly Calendar is preliminary and subject to change

Notes:

- 1) Bond issuance for approved Capital Programs, including the 2015-2019 Capital Program; new money obligations may be issued as bonds or BANs
- 2) Assume taxable BANs will be paid down by RRIF Loan proceeds on hand
- 3) FRNs and VRDBs with mandatory put dates or liquidity facility expiration dates in 2017, except the Q1 reoffering of \$100 million TRB 2002D-2a
- 4) Fixed rate TRB bonds callable in 2017 and \$903 million advance and current refunding, TBTA Series 2017B, in Q1



Appendix

- 1) Bond Financed Capital Investments in 2016
- 2) 2016 Debt Issuance and Remarketing Activity
- 3) 2016 Cost of Issuance Summary

Bond Financed Capital Investments in 2016

- **MTA financed \$2.43 billion in capital expenditures from bond proceeds in 2016**
- **Capital Construction (\$742.6 million)⁽¹⁾**
 - East Side Access (\$317.1 million)
 - Second Avenue Subway (\$372.2 million)
- **New York City Transit/SIR/MTA Bus (\$793.4 million)**
 - \$60 million for Line Equipment and Line Structures
 - \$393 million for Passenger Stations
 - \$168 million for Signals and Communications, including \$47 million for Help Points
 - \$36 million for Shops and Yards
 - \$38 million for Depot Rehab, Reconstruction and Improvements
- **Commuter Railroads (\$512.0 million)**
 - LIRR (\$319.6 million, including Positive Train Control, Annual Track Program, and M9 Rolling Stock procurement)
 - MNR (\$192.4 million, including Positive Train Control, Harmon Shop improvements, and program administration)
- **Bridges and Tunnels (\$371.3 million)⁽²⁾**
 - \$116 million for Verrazano-Narrows Bridge Upper Level Suspended Span, Tolls Booths and Structural Painting
 - \$103 million for RFK Bridge Deck Replacement, Ramps and Painting
 - \$36 million for Queens Midtown Tunnel Wall and Ceiling repair, Ventilation and Open Road Tolling initiative

Notes:

- 1) Includes Lower Manhattan Projects, Security and Administration
- 2) Does not reflect expenditures on projects related to Superstorm Sandy



2016 Debt Issuance and Remarketing Activity

<u>Settlement Date</u>	<u>Credit</u>	<u>Subseries</u>	<u>Amount</u>	<u>Structure</u>	<u>Senior Manager/Special Co-Seniors</u>	<u>Purpose</u>	<u>Assignment Basis</u>
1/28/2016	TBTA	2016A	\$ 300,000,000	Fixed	Citigroup/Academy/Cabrera	New Money	Rotation
3/30/2016	TRB	2016A BANs	700,000,000	BAN	Competitive BAN	New Money	N/A
6/28/2016	DTF	2016A BANs	700,000,000	BAN	Competitive BAN	New Money	N/A
9/20/2016	TRB	2015X (RRIF Loan)	146,472,065	Fixed	N/A	New Money	N/A
9/22/2016	HRY	2016A	496,992,100	Fixed	Goldman	New Money	Merit
Subtotal New Money Bonds and BANs			2,343,464,165				
2/25/2016	TRB	2016A-1	444,560,000	Fixed	Ramirez/Drexel/Stern Brothers	BAN Takeout	Rotation
5/26/2016	DTF	2016B-1	413,415,000	Fixed	BAML/Drexel/Loop/Morgan Stanley/Siebert	BAN Takeout	Rotation
7/28/2016	TRB	2016C-1	534,200,000	Fixed	Wells Fargo/Drexel/Estrada/Rice Financial and BNY Mellon	BAN Takeout	Rotation
9/22/2016	HRY	2016A	560,437,900	Fixed	Goldman	BAN Takeout	Merit
Subtotal BAN Takeout Bonds			1,952,612,900				
1/28/2016	TBTA	2016A	241,240,000	Fixed	Citigroup/Academy/Cabrera	Refunding	Rotation
2/25/2016	TRB	2016A-2	337,960,000	Fixed	Ramirez/Drexel/Stern Brothers	Refunding	Rotation
3/10/2016	DTF	2016A	579,955,000	Fixed	Wells Fargo/BAML/Goldman	Refunding	Merit
5/26/2016	DTF	2016B-2	174,890,000	Fixed	BAML/Drexel/Loop/Morgan Stanley/Siebert	Refunding	Rotation
6/30/2016	TRB	2016B	673,990,000	Fixed	Morgan Stanley/Siebert/Academy/Stern Brothers	Refunding	Rotation
7/28/2016	TRB	2016C-2	329,660,000	Fixed	Wells Fargo/Drexel/Estrada/Rice Financial and BNY Mellon	Refunding	Rotation
10/26/2016	TRB	2016D	645,655,000	Fixed	Jefferies	Refunding	Rotation
Subtotal Refunding			2,983,350,000				
3/23/2016	DTF	2002B-1	150,000,000	Weekly VRDB	MUFG	Remarketing	Merit
5/15/2016	TRB	2012A-2	50,000,000	FRN	Competitive - Bid Winner Jefferies	Remarketing	Competitive
10/3/2016	DTF	2008B-3b	43,460,000	Fixed	Jefferies/Cabrera/Drexel	Remarketing	Merit
11/1/2016	TBTA	2005B-4a	108,800,000	FRN	Competitive - Bid Winner RBC	Remarketing	Competitive
11/1/2016	TRB	2002G-1h	56,890,000	FRN	Competitive - Bid Winner JP Morgan	Remarketing	Competitive
11/1/2016	TRB	2012G-3	75,000,000	FRN	Competitive - Bid Winner PNC	Remarketing	Competitive
Subtotal Remarketing			484,150,000				
Total 2016 Transactions			\$ 7,763,577,065				



2016 Cost of Issuance Summary

	New Money	BAN Takeout	Refunding	Remarketing	Total
NYS Bond Issuance Fee ⁽¹⁾	\$2,499,008	\$11,596,856	-	N/A	\$14,095,865
Underwriter's Discount ⁽²⁾	2,857,538	8,554,127	13,360,036	738,529	25,510,230
Bond Counsel	519,599	771,126	575,437	436,483	2,302,644
Disclosure Counsel	285,098	430,984	548,082	197,685	1,461,850
Financial Advisor Fee	105,000	229,667	365,333	-	700,000
Swap Advisor Fee	-	-	-	-	-
Rating Agency Fees	543,808	650,116	961,151	43,000	2,198,075
LOC Counsel	-	-	-	-	-
Bond Insurance	-	-	-	-	-
Accounting Fees ⁽³⁾	-	-	-	-	-
Trustee	34,738	25,317	31,045	10,000	101,100
Printing and Distribution	41,921	11,094	30,804	10,006	93,826
Miscellaneous ⁽⁴⁾	213,701	185,897	43,938	-	443,536
Total⁽⁵⁾	\$7,100,412	\$22,455,185	\$15,915,827	\$1,435,702	\$46,907,126

Notes:

- 1) NYS Bond issuance fee (BIC) of \$8.40 per \$1,000 issued is charged for new money bonds and refunding bond transactions, but not on bond anticipations notes (new money proceeds) or remarketing transactions; BIC fees in 2016 were waived by NYS DOB on all MTA refunding transactions
- 2) Underwriter's Discount includes fees paid to Underwriters, Underwriter's Counsel, and other expenses
- 3) Accounting fees on MTA/TBTA bond issues were eliminated beginning 1/1/2016
- 4) Miscellaneous includes: Independent Engineer, Verification Agent, TM3 wire fees, and MTA Counsel fees related to Hudson Yards Securitization
- 5) Earnings for M/WBE and SDVOB (% of total compensation, underwriters discount net of expenses) for State Fiscal Year 2016-17 will be reported to the Board in April 2017

