

Annual Review of MTA Sponsored Pension & Retirement Funds

As of December 31, 2017



**Report to the MTA Finance Committee
May 2018**

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Executive Summary

MTA Sponsored Pension Plans on solid footing

- Complex Plans that are conservatively administered (i.e. ADC, Return Assumption, Amortization)
- MTA Defined Benefit Plan: \$4.2 billion, 71.8% Funded
- LIRR Additional Plan: \$777.2 million, 50.9% Funded
- MaBSTOA: \$2.9 billion, 72.3% Funded
- Combined pension plans assets under management grew 18.7% year over year
- OPEB Trust: \$370.6 million

Strong performance for 2017

- The Plans are designed to perform equal to or better than a traditional 60% Equity / 40% Bond benchmark over time, while demonstrating less volatility (risk)
- For 2017:
 - MTA Defined Benefit Plan, LIRR Additional Plan returned +13.5% (net)
 - MaBSTOA returned +13.5% (net)
 - OPEB Trust returned +14.7% (net)
- Performance driven by asset allocation and investment selection
- Portfolio remains conservatively managed, with 60% less volatility (risk) than the market benchmark

MTA Deferred Compensation Plan (401k/457)

- Ended year at \$6.2 billion in assets and 52,291 active participants
- Year over year assets under management grew 11.8%
- Participation rate (~70%) amongst highest in public plan peer group
- Plan design and investment lineup continually developed to enhance participant experience



Overview – MTA Sponsored and Multi-Employer Plans

Pension Plan	# of Active Members ³	2017 Pension Contributions - Actual (\$ mm)	2018 Pension Cost - Adopted Budget (\$ mm) ^{1,2}	Assets (as of 12/31/17)
MTA Sponsored Defined Benefit Plans				
MTA DB Plan	18,048	\$330	\$335	\$4.2 billion
MaBSTOA	8,594	211	214	2.8 billion
LIRR Additional Plan ⁵	146	76	61	\$777.2 million
Total	26,788	\$617	\$610	\$7.75 billion
MTA Sponsored Defined Contribution Plans				
MTA Deferred Compensation Program (401k & 457)	51,429	\$0	\$0	\$6.2 billion
MNR 401(k)	550	3	3	
TCU/HQ 401(k)	312	<1	<1	
Total	52,291	\$4	\$4	\$6.2 billion
Other Multi Employer Plans				
NYCERS	37,115	\$809	\$824	
NYSLRS	1,123	16	18	
Voluntary Defined Contribution (Tier 6 option)	123	<1	<1	
Railroad Retirement Board (RRB, Tier II expense only) ⁴	N/A	169	170	
Total	N/A	\$994	\$1,012	
Total Pension & Retirement Contributions / Expenses		\$1,615	\$1,626	

Notes:

- 1) The Budget figures are per the 2018 February Financial Plan (February Financial Plan 2017-2020)
- 2) Financial Plan estimates may differ from the Actuarial Certification since Agencies may anticipate hires, terminations and transfers. These changes could occur after the date used by the Actuary to determine the valuation results.
- 3) Number of active members are based on the latest actuarial valuations.
- 4) MNR and LIRR employees are in RRB. MNR employees are participants in either the MTADBPP or the MNR 401 (k) Plan. LIRR employees are enrolled in the MTADBPP with a small closed group in the LIRR Additional Plan.
- 5) Participants in the LIRR Additional Plan also receive part of their retiree benefit from the MTADBPP and are reflected in the MTADBPP as well.

Source: MTA



Market Overview & Outlook

Equity Markets continued to perform well

- Global equity markets continued to push higher, driven by both fundamental and technical factors
- The S&P 500 continued its decade-long winning streak with a 21.8% return, outperforming small cap stocks, as measured by the Russell 2000, at 14.6%
- International markets were strong for the first time in 3 years, with MSCI EAFE returning +25.0%
- Emerging markets had their best performance since 2009, with the MSCI EM Index returning 37.3% for the year

Fixed Income was mixed for the year

- Risky assets outperformed safe assets
- US bond markets were positive for the year, even with the backdrop of rising short term interest rates
- In the US, the Aggregate Bond Index returned 4.2% with Investment Grade Credit outperforming Treasuries and Mortgages
- High Yield continued to perform well as the credit market conditions remained benign, returning 7.5%

Outlook for 2018

- Remain cautious in deploying capital. Emphasize downside protection and cash/income generation
- Current valuations are high and volatility is returning to most asset classes
- Current market has been supported by liquidity from central banks and substantial leverage in system, expect further volatility as liquidity is removed from the system through higher short-term rates
- International regime shift from cooperation and coordination to competition and confrontation, as evidenced by increasingly hostile environment to free trade (NAFTA, TPP) and tariffs on Chinese imports
- Active management should capitalize on increasing volatility and dispersion



MTA Sponsored Plans – Asset Allocation (12/31/17)

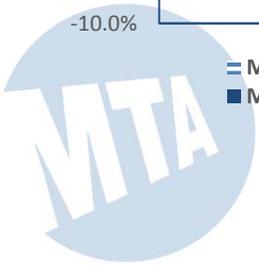
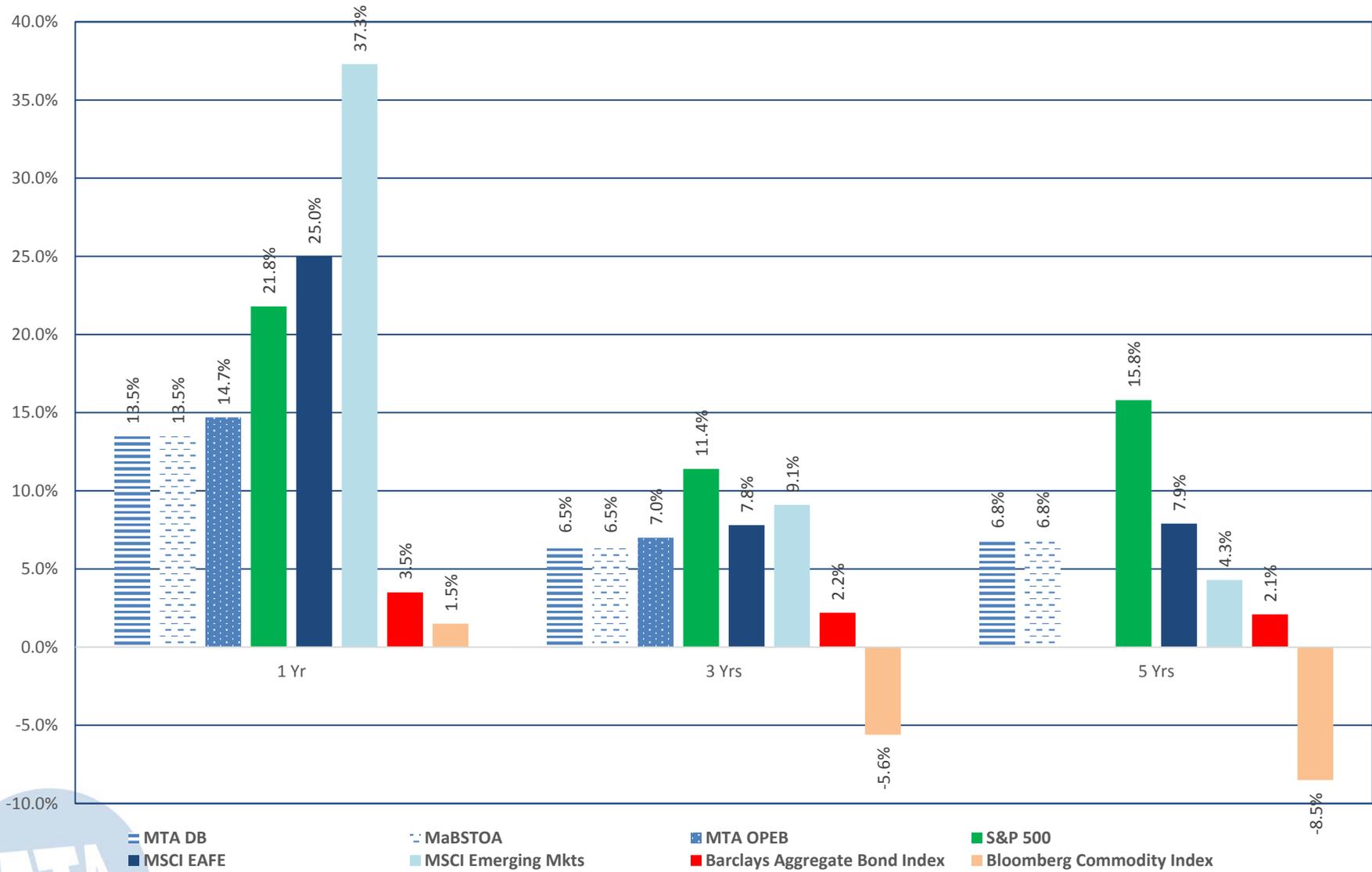
	MTA DB & MaBSTOA Target Allocation	MTA DB Actual	MaBSTOA Actual	MTA OPEB Target Allocation	MTA OPEB Actual
Equities	30.0%	31.8%	31.7%	35.0%	39.1%
<i>Domestic Equity</i>	15.0%	15.2%	14.9%		
<i>Large Cap</i>	10.0%	9.8%	9.6%		
<i>Small Cap</i>	5.0%	5.4%	5.3%		
<i>International Equity</i>	15.0%	16.6%	16.8%		
<i>Developed Markets</i>	12.0%	13.2%	13.3%		
<i>Emerging Markets</i>	3.0%	3.4%	3.5%		
Fixed Income	16.0%	14.9%	14.0%	18.0%	16.4%
Global Asset Allocation*	17.0%	15.6%	15.9%	30.0%	29.0%
Absolute Return	15.0%	12.9%	14.3%	12.0%	9.0%
Real Assets	4.0%	4.4%	4.0%	5.0%	4.2%
Real Estate	5.0%	4.9%	4.5%		
Opportunistic	6.0%	8.7%	9.3%		
Private Equity	7.0%	4.1%	4.5%		
Cash**	0.0%	2.7%	1.7%	0.0%	2.3%



* Global Asset Allocation Managers may invest across various liquid asset classes including stocks, bonds and commodities

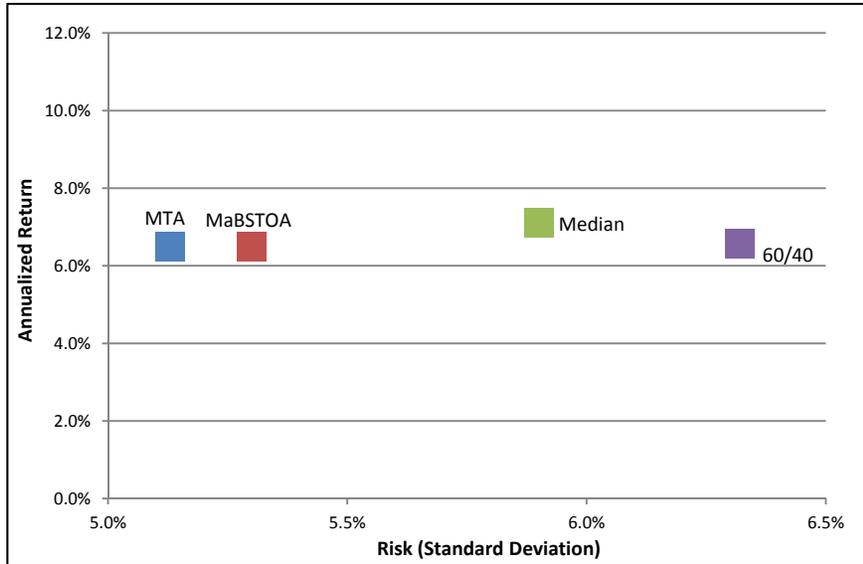
** MTA DB and MaBSTOA utilize an overlay manager (Parametric Clifton) in an effort to ensure that cash remains invested

MTA Sponsored Plans – Returns vs Indices (12/31/17)

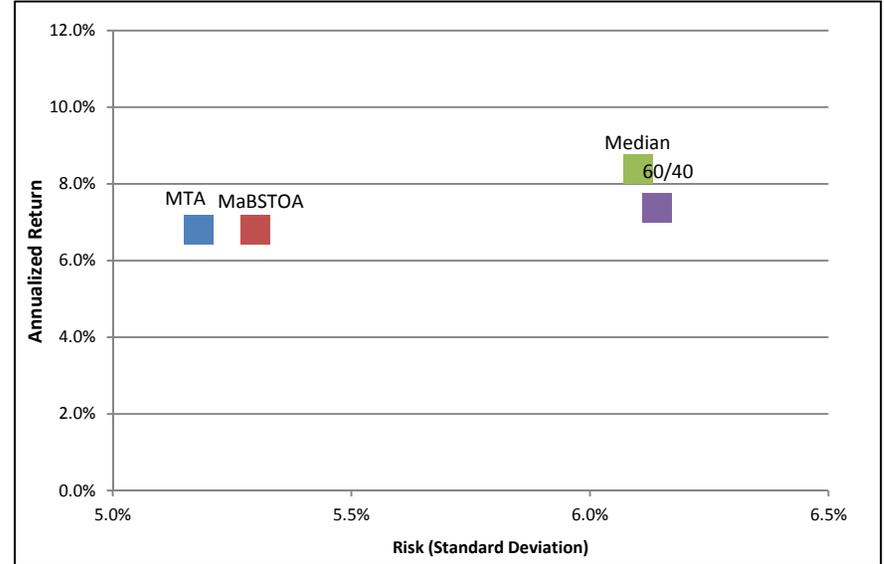


MTA Sponsored Plans – Historical Performance

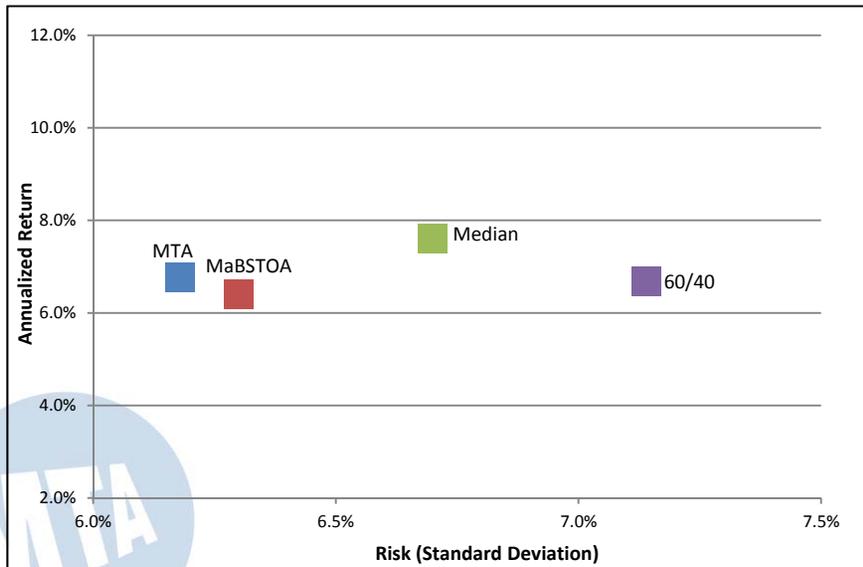
3 Year Risk-Return Chart



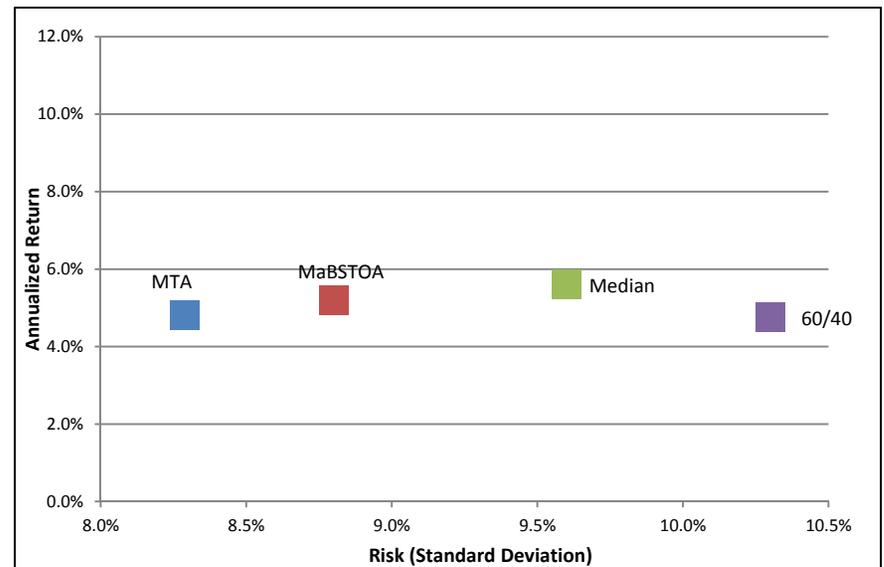
5 Year Risk-Return Chart



7 Year Risk-Return Chart



10 Year Risk-Return Chart



Note: Returns are Net of fees and periods are ending 12/31/17

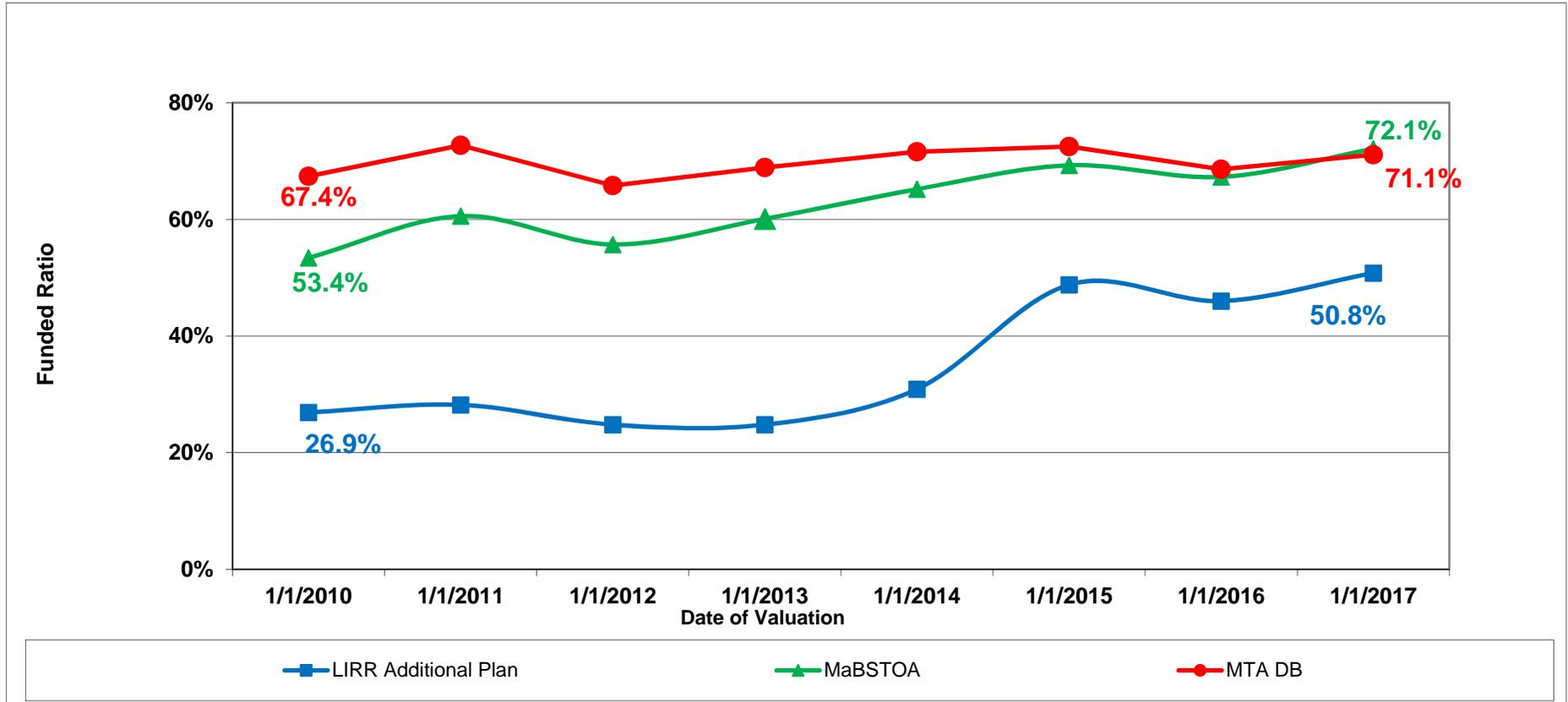
Note: 60/40 represents 60% Equities (MSCI All Country World Index) and 40% Fixed Income (BC Aggregate Index)

MTA Sponsored Plans – Investment Rate Return Assumptions

	Investment Rate (net of fees)						
	2012	2013	2014	2015	2016	2017	2018
Pension Plan							
LIRR - Additional Plan	8.0%	7.5%	7.0%	7.0%	7.0%	7.0%	7.0%
MaBSTOA	8.0%	7.5%	7.0%	7.0%	7.0%	7.0%	7.0%
MTA DB Plan	8.0%	7.5%	7.0%	7.0%	7.0%	7.0%	7.0%
NYSLERS				7.5%	7.5%	7.0%	7.0%
NYCERS				7.0%	7.0%	7.0%	7.0%



MTA Sponsored Plans – Funding Status



	1/1/2010	1/1/2011	1/1/2012	1/1/2013	1/1/2014	1/1/2015	1/1/2016	1/1/2017
LIRR Additional Plan	26.9	28.2	24.8	24.8	30.9	48.8	46.0	50.8
MaBSTOA	53.4	60.6	55.7	60.1	65.2	69.3	67.3	72.1
MTA DB	67.4	72.7	65.8	68.9	71.6	72.5	68.6	71.1



Source: Milliman USA

MTA Sponsored Plans – MWBE Participation

As of December 31, 2017

Executive Summary

Combined Plans

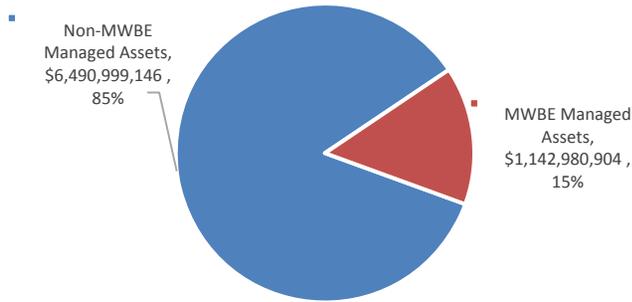
- Total assets managed by MWBEs: \$1.1 billion; or 15% of total assets
- Majority of assets are in traditional asset classes
- Traditional assets managed by MWBEs: \$1.1 billion; or 21% of traditional assets
 - MWBE firms manage
 - 51% of US Equities
 - 27% of Non-US Equities
 - 9% of Fixed Income
- Second MWBE investment in alternative investments closed in 2nd quarter
 - Robust pipeline of potential investments in hedge funds and private credit
- Continue to actively source new relationships and investment managers
 - Engaged with investment consultants, industry groups, custodians, and brokers
 - Held over 70 meetings with MWBE investment firms in 2017



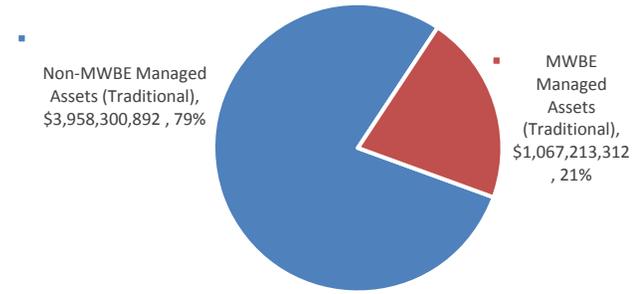
MTA Sponsored Plans – MWBE Participation

As of December 31, 2017

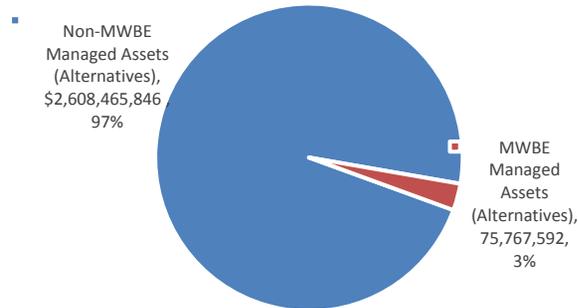
Combined Plans - Total Assets



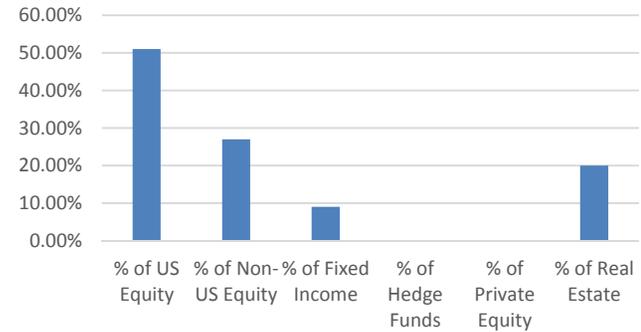
Combined Plans - Traditional Investments



Combined Plans- Alternative Investments



MWBE Managed Assets by Asset Class



Appendix



MTA Sponsored Retirement Plans

MTA Defined Benefit Pension Plan LIRR Plan for Additional Plan Pension Board of Managers

MEMBER

Chairman of the MTA

MTA Labor Relations
MTA Chief Financial Officer
Metro North
Long Island Railroad
SIRTOA
MTA Bus
Long Island Bus
TWU Representative

DESIGNEE

Margaret Connor
Chair of Pension Board of Managers
Abigail Sole
Douglas Johnson
James McGovern
Michael Reilly
Kevin McKenna
Roy Grey-Stewart
Patrick McCoy
Peter Roscone

MTA TITLE

Sr. Dir. of Human Resources and
Retirement Programs
Labor Counsel
Director of Management & Budget
Controller, MNR
Controller, LIRR
MTA Consultant
Director of Finance, MTA Bus
Director, MTA Finance

MTA Chief Investment Officer
Investment Advisor
Actuary
Trustee

Sean Crawford
NEPC, LLC
Milliman, USA
J P Morgan Chase



MTA Sponsored Retirement Plans

MaBSTOA Pension Plan Investment Committee

MEMBER

Chairman of Employer's (MaBSTOA) Board
MTA Chief Financial Officer
President of Transit Authority
TWU Local 100 (2 representatives)

DESIGNEE

Margaret Connor
Kevin McKenna
William Vazoulas
James Whalen
Richard Davis

MTA TITLE

Sr. Dir. of Human Resources and
Retirement Programs
MTA Consultant
Controller, NYCT

MTA Chief Investment Officer
Investment Advisor
Actuary
Trustee

Sean Crawford
NEPC, LLC
Milliman, USA
J P Morgan Chase



MTA Sponsored Retirement Plans

MTA Deferred Compensation Programs (401 K and 457) Deferred Compensation Committee

<u>MEMBER</u>	<u>DESIGNEE</u>	<u>MTA TITLE</u>
Chairman of the MTA	Margaret Connor, Chair	Sr. Dir. of Human Resources and Retirement Programs
MTA Labor Relations	Abigail Sole	Labor Counsel
MTA Chief Financial Officer	Frances Chou	Assistant Director, MTA Budget
NYCT, President	James Masella	AVP, NYCT Employee Benefits
TBTA, President	Vacant	
Metro North	James McGovern	Controller, MNR
Long Island Railroad	Michael Reilly	Controller, LIRR
MTA Bus	Roy Grey-Stewart	Director of Finance, MTA Bus
	MTA Chief Investment Officer	Sean Crawford
	Investment Advisor	Mercer
	Recordkeeper	Prudential



MTA Sponsored Retirement Plans

MTA Retiree Welfare Benefits Plan (OPEB) Board of Managers

MEMBER

Chairman of the MTA
MTA Chief Financial Officer
MTA Labor Relations

DESIGNEE

Robert Foran, Chair of OPEB
Josiane Codio
Margaret Connor

MTA TITLE

Chief Financial Officer
Director, MTA Treasury
Sr. Dir. of Human Resources and
Retirement Programs

MTA Chief Investment Officer
Investment Advisor
Actuary
Trustee

Sean Crawford
NEPC, LLC
Milliman, USA
J P Morgan Chase



MTA Defined Benefit Plan – Investment Managers

Asset Class	Investment Manager	Asset Class	Investment Manager
Large Cap Equity	Independent Franchise Partners*	Opportunistic Investments	Carlyle
	Lazard		Crescent
Small Cap Equity	Rhumblin*	Global Asset Allocation	Entrust
	Atlanta Capital		Gramercy
International Equity	Earnest Partners*	Private Equity	MC Seamax
	Blackrock		Orchard Landmark
Emerging Market Equity	Johnston*	Real Estate	Orchard Taiga
	Sanderson		Park Square
Fixed Income	Eaton Vance	Overlay	Perella Weinberg
	Lazard		PIMCO
Absolute Return	Advent*	Cash	Riverstone
	Baird		Bridgewater
Real Assets	GAM	Real Estate	Mellon
	SSgA		Wellington
Real Assets	Vanguard	Real Estate	PIMCO
	Wellington		Wellington
Real Assets	Allianz	Real Estate	AEA
	BeaconLight		Apollo
Real Assets	Bridgewater	Real Estate	Brookfield
	Canyon		Crescent
Real Assets	LibreMax	Real Estate	Gamut
	Makuria		Goldman Sachs
Real Assets	Passport	Real Estate	JFL Equity Partners
	Senator		Lexington
Real Assets	Arclight	Real Estate	Lightyear Capital
	EIG		Newbury Equity Partners
Real Assets	NGP	Real Estate	One Rock*
	Rhumblin*		Pantheon
Real Assets	Wellington	Real Estate	JP Morgan Real Estate
	Wellington		Siguler Guff
Real Assets	Wellington	Real Estate	Clifton Parametric
	Wellington		Williams Capital*
Real Assets	Wellington	Real Estate	JP Morgan

*MWBE
Investment
Manager



MaBSTOA Defined Benefit Plan – Investment Managers

Asset Class	Investment Manager	Asset Class	Investment Manager
Large Cap Equity	Independent Franchise Partners*	Opportunistic Investments	Carlyle
	Lazard		Crescent
Small Cap Equity	Rhumblin*	Global Asset Allocation	Entrust
	Times Square		Gramercy
International Equity	Pzena	Private Equity	MC Seamax
	Blackrock		Orchard Landmark
Emerging Market Equity	Johnston*	Real Estate	Park Square
	Sanderson		Perella Weinberg
Fixed Income	Eaton Vance	Overlay	PIMCO
	Lazard		Riverstone
Absolute Return	Advent*	Cash	Bridgewater
	Baird		Mellon
Real Assets	GAM	Williams Capital*	PIMCO
	SSgA		Wellington
Real Assets	Vanguard	JP Morgan	Wellington
	Wellington		

*MWBE
Investment
Manager



MTA OPEB– Investment Managers

Asset Class	Investment Manager	Asset Class	Investment Manager
Global Equity	Artisan Hexavest Walter Scott	Global Asset Allocation	Bridgewater PIMCO Wellington
Fixed Income	Baird GAM Wellington	Absolute Return	Allianz Bridgewater
		Real Assets	Wellington



MTA Defined Contribution Plan – Investment Managers

Asset Class	Investment Manager		Asset Allocation Funds
	Active	Passive	
Stable Value	Galliard		MTA Income
			MTA 2015
Fixed Income	Loomis Sayles	SSgA	MTA 2020
	TCW		MTA 2025
	Wellington		MTA 2030
			MTA 2035
Large Cap Equity	T Rowe Price	Vanguard	MTA 2040
	Jennison		MTA 2045
			MTA 2050
Small Cap Equity	AllianceBernstein	SSgA	MTA 2055
	Dimensional		MTA 2060
	Jackson Square		
	Pzena		
International Equity	William Blair	SSgA	
	Mondrian		
Real Assets		SSgA	

