

# Manhattan and Bronx Surface Transit Operating Authority Pension Plan

Financial Statements as of and for the  
Years Ended December 31, 2015 and 2014,  
Supplemental Schedules, and  
Independent Auditors' Report

# MANHATTAN AND BRONX SURFACE TRANSIT OPERATING AUTHORITY PENSION PLAN

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**Deloitte & Touche LLP**  
30 Rockefeller Plaza  
New York, NY 10112-0015  
USA

Tel: +1 212 492 4000  
Fax: +1 212 489 1687  
[www.deloitte.com](http://www.deloitte.com)

## **INDEPENDENT AUDITORS' REPORT**

To the Participants and Board of Administration of  
The Manhattan and Bronx Surface Transit  
Operating Authority Pension Plan:

### **Report on the Financial Statements**

We have audited the accompanying statements of plan net position of The Manhattan and Bronx Surface Transit Operating Authority Pension Plan (the "Plan") as of December 31, 2015 and 2014, and the related statements of changes in plan net position for the years then ended, and the related notes to the financial statements, which collectively comprise the Plan's basic financial statements as listed in the table of contents.

### **Management's Responsibility for the Financial Statements**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

### **Auditors' Responsibility**

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Plan's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

## **Opinion**

In our opinion, the financial statements referred to above present fairly, in all material respects, the Plan's net position as of December 31, 2015 and 2014, and the changes in Plan net position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

## **Other Matters**

### *Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis on pages 3 through 11 and the Changes in the Employers' Net Pension Liability and Related Ratios-Schedule I on page 35; Employer Contributions and Notes to Schedule -Schedule II on pages 36-37; and the Investment Returns-Schedule III on page 38 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

### *Other Information*

Our audits were conducted for the purpose of forming an opinion on the basic financial statements. The Appendix A—Summary of Principal Plan Provisions on pages 40 through 60 is presented for the purpose of additional analysis and is not a required part of the basic financial statements. This supplementary information is the responsibility of the Plan's management. The Appendix A—Summary of Principal Plan Provisions has not been subjected to the auditing procedures applied in our audits of the basic financial statements and, accordingly, we express no opinion on it.

*Deloitte & Touche LLP*

January 30, 2017

# Manhattan and Bronx Surface Transit Operating Authority Pension Plan

## Management's Discussion and Analysis As of and For the Years Ended December 31, 2015 and 2014

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This management's discussion and analysis of The Manhattan and Bronx Surface Transit Operating Authority Pension Plan (the "Plan") financial performance provides an overview of the Plan's financial activities for the years ended December 31, 2015, 2014, and 2013. It is meant to assist the reader in understanding the Plan's financial statements by providing an overall review of the financial activities during the two years and the effects of significant changes, as well as a comparison with the prior years' activity and results. This discussion and analysis may contain opinions, assumptions, or conclusions by MTA management that should not be considered a replacement for and is intended to be read in conjunction with the plan's financial statements which begin on page 12.

### Overview of Basic Financial Statements

The following discussion and analysis is intended to serve as an introduction to the Plan's financial statements. The basic financial statements are:

- **The Statements of Plan Net Position** — presents the financial position of the Plan at fiscal year end. It provides information about the nature and amounts of resources with present service capacity that the Plan presently controls (assets), consumption of net assets by the Plan that is applicable to a future reporting period (deferred outflow of resources), present obligations to sacrifice resources that the Plan has little or no discretion to avoid (liabilities), and acquisition of net assets by the Plan that is applicable to a future reporting period (deferred inflow of resources) with the difference between assets/deferred outflow of resources and liabilities/deferred inflow of resources being reported as net position. Investments are shown at fair value. All other assets and liabilities are determined on an accrual basis.
- **The Statements of Changes in Plan Net Position**— presents the results of activities during the year. All changes affecting the assets and liabilities of the Plan are reflected on an accrual basis when the activity occurred regardless of the timing of the related cash flows. In that regard, changes in the fair values of investments are included in the year's activity as net appreciation (depreciation) in fair value of investments.
- **The Notes to Financial Statements**— provides additional information that is essential to a full understanding of the data provided in the financial statements. The notes present information about the Plan's accounting policies, significant account balances and activities, material risks, obligations, contingencies, and subsequent events, if any.
- **Required Supplementary Information**— as required by the Government Accounting Standards Board ("GASB") includes the Schedule of Changes in the Employer's Net pension Liability and Related Ratios, Schedule of Employer Contributions, and Schedule of Investment returns.

The accompanying financial statements of the Plan are presented in conformity with accounting principles generally accepted in the United States of America as prescribed by the GASB.

# Manhattan and Bronx Surface Transit Operating Authority Pension Plan

## Management's Discussion and Analysis As of and For the Years Ended December 31, 2015 and 2014

### CONDENSED FINANCIAL INFORMATION AND ANALYSIS

#### FINANCIAL ANALYSIS

##### Plan Net Position As of December 31, 2015, 2014, and 2013 (Dollars in thousands)

	2015	2014	2013	Increase / Decrease			
				2015-2014		2014-2013	
				\$	%	\$	%
Cash and investments	\$ 2,263,535	\$ 2,249,053	\$ 2,072,788	\$ 14,482	0.6%	\$ 176,265	8.5 %
Receivables and other assets	40,789	98,897	41,429	(58,108)	(58.8)%	57,468	138.7 %
<b>Total assets</b>	<b>\$ 2,304,324</b>	<b>\$ 2,347,950</b>	<b>\$ 2,114,217</b>	<b>\$ (43,626)</b>	<b>(1.9)%</b>	<b>\$ 233,733</b>	<b>11.1 %</b>
Payable for investment securities purchased	1,762	55,863	504	(54,101)	(96.8)%	55,359	10983.9 %
Other liabilities	10,247	26,794	19,818	(16,547)	(61.8)%	6,976	35.2 %
<b>Total liabilities</b>	<b>12,009</b>	<b>82,657</b>	<b>20,322</b>	<b>(70,648)</b>	<b>(85.5)%</b>	<b>62,335</b>	<b>306.7 %</b>
<b>Plan net position held in trust for pension benefits</b>	<b>\$ 2,292,315</b>	<b>\$ 2,265,293</b>	<b>\$ 2,093,895</b>	<b>\$ 27,022</b>	<b>1.2%</b>	<b>\$ 171,398</b>	<b>8.2%</b>

#### December 31, 2015 versus December 31, 2014

Cash and investments at December 31, 2015, were \$2,263.5 million, an increase of \$14.5 million or 0.6% from 2014. This increase is the result of investment activity and plan contributions net of benefit payments and expenses.

Receivables and other assets less plan liabilities at December 31, 2015 increased by \$12.5 million or 77.2% from 2014. This increase was due primarily to a decrease of \$58 million in receivables from investments, offset by decreases in payable for investment securities purchased and other liabilities of \$70.6 million in 2015.

The plan net position held in trust for pension benefits increased \$27 million or 1.2% in 2015 as a result of the changes noted above.

# Manhattan and Bronx Surface Transit Operating Authority Pension Plan

## Management's Discussion and Analysis As of and For the Years Ended December 31, 2015 and 2014

### December 31, 2014 versus December 31, 2013

Cash and investments at December 31, 2014, were \$2,249 million, an increase of \$176.3 million or 8.5% from 2014. This increase is the result of investment activity and plan contributions net of benefit payments and expenses.

Receivables and other assets less plan liabilities at December 31, 2014 decreased by \$4.9 million or 23.1% from 2013. This decrease was due primarily to an increase of \$57.5 million in receivables from investments, offset by increases in payable for investment securities purchased and other liabilities of \$62.3 million in 2014.

The plan net position held in trust for pension benefits increased \$171.4 million or 8.2% in 2014 as a result of the changes noted above.

### Changes in Plan Net Position For the Years Ended December 31, 2015, 2014 and 2013 (Dollars in thousands)

	2015	2014	2013	Increase / Decrease			
				2015-2014		2014-2013	
				\$	%	\$	%
<b>Additions:</b>							
Net investment income	\$ (24,163)	\$ 105,084	\$ 177,246	\$ (129,247)	(123.0)%	\$ (72,162)	(40.7)%
Transfers and contributions	231,202	241,834	247,228	(10,632)	(4.4)%	(5,394)	(2.2)%
<b>Total net additions</b>	<b>207,039</b>	<b>346,918</b>	<b>424,474</b>	<b>(139,879)</b>	<b>(40.3)%</b>	<b>(77,556)</b>	<b>(18.3)%</b>
<b>Deductions:</b>							
Benefit payments	179,928	175,447	170,238	\$ 4,481	2.6%	\$ 5,209	3.1 %
Administrative expenses	89	73	105	16	21.9%	(32)	(30.5)%
<b>Total deductions</b>	<b>180,017</b>	<b>175,520</b>	<b>170,343</b>	<b>4,497</b>	<b>2.6%</b>	<b>5,177</b>	<b>3.0 %</b>
<b>Net increase</b>	<b>27,022</b>	<b>171,398</b>	<b>254,131</b>	<b>(144,376)</b>	<b>(84.2)%</b>	<b>(82,733)</b>	<b>(32.6)%</b>
Plan net position held in trust for pension benefits:							
Beginning of year	2,265,293	2,093,895	1,839,764	171,398	8.2%	254,131	13.8 %
<b>End of year</b>	<b>\$ 2,292,315</b>	<b>\$ 2,265,293</b>	<b>\$ 2,093,895</b>	<b>\$ 27,022</b>	<b>1.2%</b>	<b>\$ 171,398</b>	<b>8.2 %</b>

### December 31, 2015 versus December 31, 2014

Net investment income decreased by \$129.2 million or 123% in 2015 due to net investment losses of \$24.2 million in 2015 versus net gains of \$105.1 million in 2014.

Contributions decreased by \$10.6 million or 4.4% in 2015 compared to 2014, as a result of the Actuarial Determined Contributions ("ADC") for 2015.

Benefit payments increased by \$4.5 million or 2.6% over the prior year due to a continuing trend of increase in the number of retirees.

# **Manhattan and Bronx Surface Transit Operating Authority Pension Plan**

## **Management's Discussion and Analysis As of and For the Years Ended December 31, 2015 and 2014**

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Administrative expenses increased by \$.016 million or 21.9% over 2014. This increase was due to an increase in fees for various services provided to the plan.

### December 31, 2014 versus December 31, 2013

Net investment income decreased by \$72.2 million or 40.7% in 2014 due to lower net investment gains in 2014 of \$105.1 million versus net gains of \$177.2 million on 2013.

Contributions decreased by \$5.4 million or 2.2% in 2014 compared to 2013, as a result of the Actuarial Determined Contributions ("ADC") for 2014.

Benefit payments increased by \$5.2 million or 3.1% over the prior year due to a continuing trend of increase in the number of retirees.

Administrative expenses decreased by \$.032 million or 30.5% over 2013. This decrease is due to a reduction in fees for various services provide to the plan.

# Manhattan and Bronx Surface Transit Operating Authority Pension Plan

## Management's Discussion and Analysis As of and For the Years Ended December 31, 2015 and 2014

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### Economic Factors

#### Market Overview and Outlook – 2015

Despite low returns across all major markets and asset classes, 2015 was an eventful year. Market performance was framed by an ever complicated macro environment. Europe was the focus in the first half of the year. Switzerland abandoned its currency peg to the Euro. Greece continued to make headlines with its contested austerity program, posing an existential threat to the European common currency. In the second half, eyes turned toward a weakening Chinese economy, resulting in commodity markets continuing their steep decline and volatility rising across the equity and fixed income markets. Emerging markets, particularly those centered on commodities where demand is tied to Chinese growth, experienced sharp declines for the year.

Weak global growth and low inflation set the stage for divergent central bank monetary policies in developed markets. The year ended with the United States Federal Reserve raising interest rates for the first time in nearly 10 years. The European Central Bank and Bank of Japan took a different path, as they continued their quantitative easing programs in an effort to boost inflation and lagging growth for their economies. Perhaps the story for the year was what played out in China, emerging markets, and the commodity markets. As China's ability to generate the growth expected by the markets became more suspect, the impact was felt across commodity markets. Oil ended the year below \$40/barrel, off its peak of just 18 months ago of \$120/barrel. Similarly, copper, iron ore, nickel and other industrial metals all are touching lows not seen in recent years. Emerging markets, many of which are tied to China's growth by supplying it with the raw materials necessary to fuel the economic engine, sold off as investors pulled their risk capital from the markets. Within this context, there were few places to invest to generate meaningful positive returns, while other areas experienced performance not seen since the Great Financial Crisis.

#### *Macro Themes*

- Weak global growth continuing into 2017
- Central Bank policy divergence, US tightening while Europe and Japan eases
- China weakening; turmoil in emerging markets and commodities
- Volatile currency markets and sovereign debt stress

The macro picture was framed by tepid global growth in 2015, with the likelihood that sub-optimal economic performance would continue into 2016 and 2017. Developed markets look to remain weak, with Gross Domestic Product ("GDP") growth not breaking through the 3% level in the US, Europe, or Japan in 2016 or 2017 according to both the International Monetary Fund ("IMF") and World Bank. Inflation remains non-existent across the developed markets while currency depreciation in emerging markets have led to spikes in inflation. The United States is in an environment where interest rates will likely rise over the next two years; Europe and Japan are in a decidedly different place. Weak demand and low inflation in Europe and Japan have led to further central bank intervention and easing. In emerging markets, central banks have moved to increase interest rates in order to tame both inflation and capital outflows. Ultimately, US interest rate increases will continue to result in a strengthening United States Dollar, potentially impacting the United States manufacturing and exporting sectors and likely restraining the Fed from increasing rates too quickly. Costs of a rising dollar and interest rates may be partially offset by cheaper natural resources and energy costs.

# Manhattan and Bronx Surface Transit Operating Authority Pension Plan

## Management's Discussion and Analysis As of and For the Years Ended December 31, 2015 and 2014

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Europe continues to be impacted by high levels of public debt and low economic growth. Like many emerging markets, much of Europe's exports are tied to Chinese demand and growth. Lower growth in China will continue to place pressures on Europe, in particular Germany. Debt levels have not yet moderated post-financial crisis and flare-ups in the periphery countries, such as in Greece, Portugal, Italy, and Spain, are likely to continue as growth remains challenged and reforms and austerity lose support. Banks will continue their deleveraging cycle as new rules on risk capital are implemented. In Japan, where banks are in better health; high public debt, low growth, a weakening regional economic picture, and aging demographics will challenge the government in delivering their growth and inflation targets.

Emerging markets have seen their economic performance deteriorate over the past few years, coinciding with both a weaker global growth picture, sovereign debt issues in developed markets, and a collapse in energy and mineral prices. The main emerging markets, Brazil, Russia, India and China, defined as the "BRICs" all face their own challenges. Brazil faces high inflation, high interest rates, low growth and a government beset by allegation of corruption. China, in attempting to shift from being manufacturing-oriented to a consumer-based economy, faces significant pressures to meet its growth target of 7% per year. Russia faces a deteriorating financial condition as lower energy prices and economic sanctions take their toll. Finally, India seems to continually disappoint in liberalizing its economy and implementing the structural reforms necessary to unleash its potential.

### *United States*

Markets in the United States were challenged for the year, but were among the best performers in 2015. Unlike other regions, the United States appears to be on relatively sound footing, with unemployment continuing to decline and the remaining hangovers from the 2008 financial crisis continuing to dissipate. The better economic picture provided the Federal Reserve enough leeway to raise interest rates in December for the first time in nearly ten years. The 25 basis point move is largely symbolic, as the frequency and velocity of future interest rate hikes will be determined by continued improvement in the economy.

### *Equity*

- Worst year for United States Equities since 2008
- Valuations neither cheap nor expensive
- Risk Aversion – Large Cap outperformed Small and Mid Cap. Growth outperformed Value
- Energy and Materials lagged the broader markets significantly
- Health Care and Consumer Sectors relatively strong
- Equity markets set for another low-return year

Large Cap stocks were barely positive, with the S&P 500 and Russell 1000 indices posting returns of +1.4% and +0.9%, respectively. Small Cap and Mid Cap indices underperformed large cap. Small Cap, as measured by the Russell 2000 Index, returned -4.4%. The Russell Mid Cap Index performed better, at -2.4%, but still posting its first negative year since 2008. Digging deeper, there was significant performance dispersion across the sectors. Energy and materials performed remarkably poorly. Large Cap energy stocks fell by 21.1% for the year while Mid Cap energy stocks fell by over 33%. Consumer areas performed reasonably well. Consumer Discretionary (+10.1%), Health Care (+6.9%) and Staples (+6.6%) were the leading performers in the S&P 500. With the potential for a new interest rate regime in the United States, active management may finally start to deliver against passive investment options. Dispersion amongst sectors and stocks, as well as increased volatility from a cloudy global macro picture, should provide active managers an adequate environment to deliver value in relation to their fees.

# Manhattan and Bronx Surface Transit Operating Authority Pension Plan

## Management's Discussion and Analysis As of and For the Years Ended December 31, 2015 and 2014

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### *Fixed Income*

Unlike recent years where fixed income could be counted on to deliver performance in a weak year for equities, bonds disappointed across all asset classes. Treasuries returned 0.84% for the year, with long-dated bonds outperforming shorter-dated bonds. Importantly, Treasuries were among the best performing areas of the bond markets for 2015. And perhaps more significantly, most investors have been both underweight Treasuries and positioned toward the front end of the yield curve, in anticipation of rising interest rates. This shorter-duration strategy hurt investors in 2015 as the 7-10 Year Index outperformed the 1-3 Year Index by 100 bps for the year. The underweight to Treasuries further eroded performance for many investors in their bond portfolios.

- Intermediate Treasuries returned less than 2%
- Investment Grade Credit posted negative returns, driven by BBB-rated
- High Yield markets sold off in second half of the year
- Declining liquidity in corporate bonds due to capital rules on dealer balance sheets
- Fixed income likely to continue to disappoint as interest rates creep higher

Volatility entered the fixed income markets significantly in the back half of the year. High Yield, which had seen strong inflows in recent years, sold off as investors became nervous of rising interest rates, illiquidity, and the impact from the decline in energy prices. Energy issuers comprise roughly 15% of the high yield market and are under significant pressure due to the decline in oil prices. High profile fund closures and liquidations in the fourth quarter added to the volatility in the high yield market. Investment grade was not immune to the volatility either as risk aversion was evident in the corporate bond markets. Lower-rated investment grade, defined as "BBB" by S&P, posted a -1.5% return for the year, underperforming "A" rated bond by nearly 200 bps. Investment in fixed income will remain a challenging class in 2016. Potential interest rate increases should continue to dampen returns for Treasuries and risk-aversion in investment grade and high-yield will likely lead to further volatility. Nimbleness and patient deployment of capital in fixed income could offer opportunities to take advantage of periods of market stress.

### *International Developed*

- Weak year in Developed Markets (United States dollar returns)
- Eurozone, United Kingdom, Australia, Canada all posting negative returns
- Japan, Italy, and Scandinavia only major markets positive for the year
- Equity valuations in developed markets appear relatively cheaper than the US
- Low returns in fixed income in 2015 and expected through 2016

Europe muddled through 2015, never quite able to shake-off a steady procession of crises or concerns, whether the headlines were Greece, sovereign debt levels, weak growth, the viability of the Euro, or the influx of migrants. In United States dollars, all major developed markets posted negative performance in 2015. Banks in Europe continue their deleveraging programs, selling off non-core holdings and impaired assets. Opportunities in Europe will continue to exist in taking advantage of the deleveraging cycle, although the space has become crowded with ever increasing amounts of capital seeking returns. Unlike the US, equity valuations appear a little more attractive in Europe and there may be a likelihood that investors will shift their focus from United States to European Equities. In Asia, most developed markets continue to experience very weak performance in United States dollar terms, with the one exception being Japan. Japan, which has embarked on aggressive policies to pull the country from two decades of

# Manhattan and Bronx Surface Transit Operating Authority

## Pension Plan

### Management's Discussion and Analysis

#### As of and For the Years Ended December 31, 2015 and 2014

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stagnation, returned +9.6% in 2015. Whether the strong relative performance continues is an open question, particularly in light of the developments in China and whether the Yen can continue to depreciate against other currencies.

Fixed income markets in Europe and Japan are largely centered on government bonds, with corporate and asset-backed issuance making up a fraction of the overall markets. European Treasuries returned 1.7% in 2015, and with the latest round of quantitative measures employed by the European Central Bank, returns are likely to be similar in 2016.

#### *Emerging Markets*

- Terrible year in Emerging Markets (United States dollar returns)
- Weighed by capital outflows and commodity sell-off
- Major markets of Indonesia, Brazil, South Africa, Turkey, Malaysia, Thailand at least 20% lower
- Only Hungary and Russia posted positive returns
- Local Currency Bonds significantly down; hard currency bonds modestly positive
- No end in sight for volatility and macro risks remain elevated

Emerging markets posted performance not seen since the financial crisis. The broad emerging markets index declined 14.9% for the year. Only two markets tracked by Morgan Stanley Country Index ("MSCI"), Hungary and Russia, posted positive performance for the year, although Russia was largely a result of performance in the non-energy and basic materials sectors. China, which made significant news through the fall and into winter with the deterioration of its economy and clumsy financial controls implemented to arrest a steep decline in its equity markets, performed better than the broader emerging markets index, falling 7.8% for the year. The worst performance in emerging markets came from Latin America. The Emerging Markets Latin America index ("EMLI") fell by 31.0% in 2015, with the worst performance coming from the commodity-heavy economies of Brazil (-41.4%), Peru (-31.7%), and Columbia (-41.8%).

More troubling may be the performance of the bond markets of emerging markets. In local currency terms, most emerging markets fixed income indices posted positive performance in 2-5% range. In United States dollar terms, the declines in local currency bonds have been staggering. Brazil (-30.1%), South Africa (-28.2%), and Turkey (-20.9%) highlight the impact of currency on performance. Hard currency bonds, generally issued in United States dollars, performed better in 2015, due to the strength of the dollar. The strong performance does not mask the risk due to currency mismatches in the hard currency market and the perennial risk of devaluation, default, and repudiation. Declining currencies, commodity price volatility, high debt levels, and high inflation will likely provide little respite in 2016 for emerging markets.

#### *Commodities*

- One of the worst years on record for commodities
- Slowing China growth, weak global demand, over supply interrelated factors
- Little expectation for a recovery in commodity prices in the near term

Commodities posted amongst the worst performance of any asset class in 2015. The Dow Jones Commodity Index ("DJCI") fell by over 25% in 2015, with the energy components leading the downward spiral in prices. Only Cocoa and Cattle provided any positive returns in the index. The Brent Crude Index ("BCI") fell by 45.7% in 2015; Heating Oil fell by 41.4% and Natural Gas fell by 39.1%. While

# **Manhattan and Bronx Surface Transit Operating Authority Pension Plan**

## **Management's Discussion and Analysis As of and For the Years Ended December 31, 2015 and 2014**

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potentially a benefit to consumers, the collapse in energy prices has negative effects near (United States shale producers) and far (emerging markets sovereign debt and currencies). Industrial metals were also not immune to the sell-off. As China demand for industrial metals has declined, prices for industrial metals declined by 25% in 2015. The volatility in prices, as well as the impairment on company financials, has led to a significant amount of capital raised in the private equity space in seeking to take advantage of the environment. With little reason to believe that a recovery is near, performance will likely broadly disappoint.

### **Contact Information**

This financial report is designed to provide a general overview of the Manhattan and Bronx Surface Transit Operating Authority Pension Plan's finances. Questions concerning any data provided in this report or requests for additional information should be directed to the Comptroller, Metropolitan Transportation Authority, 2 Broadway, 16<sup>th</sup> Floor, New York, NY 10004.

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# MANHATTAN AND BRONX SURFACE TRANSIT OPERATING AUTHORITY PENSION PLAN

## STATEMENTS OF PLAN NET POSITION AS OF DECEMBER 31, 2015 AND 2014 (In thousands)

	<b>2015</b>	<b>2014</b>
<b>ASSETS:</b>		
Cash	\$ 4,884	\$ 2,210
Receivables:		
Investment securities sold	927	58,434
Interest and dividends	1,614	1,703
Employee loans	<u>38,248</u>	<u>38,562</u>
Total receivables	<u>40,789</u>	<u>98,699</u>
Investments (Notes 2 and 3):		
Investments measured at fair value level	524,352	519,532
Investments measured by Net Asset Value	<u>1,734,299</u>	<u>1,727,311</u>
Total investments	<u>2,258,651</u>	<u>2,246,843</u>
Other assets	<u>-</u>	<u>198</u>
Total assets	<u>2,304,324</u>	<u>2,347,950</u>
<b>LIABILITIES:</b>		
Accounts payable	1,357	1,781
Payable for investment securities purchased	1,762	55,863
Accrued benefits payable	1,578	4,384
Accrued post retirement death benefits (PRDB) payable	893	2,186
Accrued 55/25 Additional Members Contribution (AMC) payable	6,419	7,111
Other liabilities	<u>-</u>	<u>11,332</u>
Total liabilities	<u>12,009</u>	<u>82,657</u>
<b>PLAN NET POSITION HELD IN TRUST FOR PENSION BENEFITS</b>	<u><b>\$ 2,292,315</b></u>	<u><b>\$ 2,265,293</b></u>

See notes to financial statements.

# MANHATTAN AND BRONX SURFACE TRANSIT OPERATING AUTHORITY PENSION PLAN

## STATEMENTS OF CHANGES IN PLAN NET POSITION FOR THE YEARS ENDED DECEMBER 31, 2015 AND 2014

(In thousands)

	2015	2014
ADDITIONS:		
Contributions (Note 4):		
Employee contributions	\$ 16,321	\$ 15,460
Employer contributions	<u>214,881</u>	<u>226,374</u>
Total contributions	<u>231,202</u>	<u>241,834</u>
Investment income:		
Interest income	8,071	7,021
Dividend income	18,336	23,144
Net appreciation (depreciation) in fair value of investments	<u>(22,885)</u>	<u>98,325</u>
Total investment income (loss)	3,522	128,490
Less investment expenses	<u>27,685</u>	<u>23,406</u>
Net investment income	<u>(24,163)</u>	<u>105,084</u>
Total additions	<u>207,039</u>	<u>346,918</u>
DEDUCTIONS:		
Benefit payments and withdrawals	179,928	175,447
Administrative expenses	<u>89</u>	<u>73</u>
Total deductions	<u>180,017</u>	<u>175,520</u>
NET INCREASE	<u>27,022</u>	<u>171,398</u>
NET POSITION HELD IN TRUST FOR PENSION BENEFITS:		
Beginning of year	<u>2,265,293</u>	<u>2,093,895</u>
End of year	<u>\$2,292,315</u>	<u>\$2,265,293</u>

See notes to financial statements.

# MANHATTAN AND BRONX SURFACE TRANSIT OPERATING AUTHORITY PENSION PLAN

## NOTES TO FINANCIAL STATEMENTS AS OF AND FOR THE YEARS ENDED DECEMBER 31, 2015 AND 2014

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### 1. PLAN DESCRIPTION

Effective January 1, 1989, the Manhattan and Bronx Surface Transit Operating Authority (MaBSTOA) adopted a defined benefit qualified pension plan known as the MaBSTOA Pension Plan (the “Plan”). Prior to the adoption of the Plan, MaBSTOA pension benefits were funded on a pay-as-you-go basis.

The Plan is a single-employer public employee retirement system (PERS). MaBSTOA employees are specifically excluded from the New York City Employees Retirement System (NYCERS). Effective January 1, 1999, in order to afford managerial and nonrepresented MaBSTOA employees the same pension rights as like title employees in the Transit Authority, membership in the MaBSTOA Plan is optional.

The Board of Administration, established in 1963, determines eligibility of employees and beneficiaries for retirement and death benefits. The Board is composed of five members: two representatives from the Transport Workers Union, Local 100 (TWU) and three employer representatives.

Membership of the Plan consisted of the following as of January 1, 2015 and 2014, respectively, the date of the latest actuarial valuation:

	<b>2015</b>	<b>2014</b>
Active and inactive members	8,217	7,889
Retirees and beneficiaries currently receiving benefits	5,394	5,245
Vested formerly active members not yet receiving benefits	<u>959</u>	<u>954</u>
Total members	<u>14,570</u>	<u>14,088</u>

The Plan provides retirement as well as death, accident, and disability benefits. The benefits provided by the Plan are generally similar to the benefits provided to participants in NYCERS. Benefits vest after either 5, 10, or 20 years of credited service, depending on the date of employment.

NYCERS has determined that Tier 4 employees are and have been eligible for a post retirement death benefit retroactive to 1986. In June 2012, the Metropolitan Transportation Authority (“MTA”) Board approved an amendment to the MaBSTOA Plan to provide for incorporation of this benefit. As of December 31, 2012, the Plan has estimated that \$6 million is owed to beneficiaries of retirees who were deceased prior to January 1, 2013. As of December 31, 2015, the Plan has paid \$5.7 million in post-retirement benefits and accrued an additional \$1 million based on the updated valuation. The Plan recorded \$0.893 million in liabilities in the Plan’s financial statements as of December 31, 2015 compared to \$4.4 million as of December 31, 2014.

**Funding Policy**—The contribution requirements of Plan members are established and may be amended only by the MaBSTOA Board in accordance with Article 10.01 of the MaBSTOA Plan. MaBSTOA’s funding policy for periodic employer contributions is to provide for actuarially determined amounts that are designed to accumulate sufficient assets to pay benefits when due. It is MaBSTOA’s policy to fund, at a minimum, the current year’s normal pension cost plus amortization of the unfunded actuarial accrued liability.

The MaBSTOA Pension Plan includes the following plans: (i.) the Tier 3 and 4 Basic Age 62 Plan; (ii.) the Tier 6 Age 63 Plan; (iii.) the 55/25 Plan; (iv.) the Tier 4 25 Year Early Retirement Plan; (v.) the

Tier 4 Age 57 Plan, and (vi.) the 2000 amendments which are all under the same terms and conditions as NYCERS.

For employees, the Plan has both contributory and noncontributory requirements depending on the date of entry into service. Employees entering qualifying service on or before July 26, 1976, are non-contributing (Tiers 1 and 2). Certain employees entering qualifying service on or after July 27, 1976, are required to contribute either 2% of their salary plus certain employees pay additional member contribution of 1.85% (Tiers 3 and 4). See Note 4 for 2000 Plan amendments.

In March 2012, pursuant to Chapter 18 of the Laws of 2012, individuals joining NYCERS or the MaBSTOA Pension Plan on or after April 1, 2012 are subject to the provisions of Tier VI. The highlights of Tier VI include:

- Increases in employee contribution rates. The rate varies depending on salary, ranging from 3% to 6% of gross wages. Contributions are made until retirement or separation from service.
- The retirement age increases to 63 and includes early retirement penalties, which reduce pension allowances by 6.5 percent for each year of retirement prior to age 63.
- Vesting after 10 years of credited service; increased from 5 years of credited service under Tier III and Tier IV.
- Adjustments of the Pension Multiplier for calculating pension benefits (excluding Transit Operating Employees): the multiplier will be 1.75% for the first 20 years of service, and 2% starting in the 21st year; for an employee who works 30 years, their pension will be 55% of Final Average Salary (FAS) under Tier VI, instead of 60% percent under Tier IV.
- Adjustments to the Final Average Salary (FAS) Calculation; the computation changed from an average of the final 3 years to an average of the final 5 years. Pensionable overtime will be capped at \$15,000 per year plus an inflation factor.
- Pension buyback in Tier VI will be at a rate of 6% of the wages earned during the period of buyback, plus 5% compounded annually from the date of service until date of payment.

## 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES AND PLAN ASSET MATTERS

**Basis of Accounting**—The Plan is accounted for on the accrual basis of accounting under which deductions are recorded when the liability is incurred and additions are recognized in the accounting period in which they are earned. Benefits and refunds are recognized when due and payable in accordance with the terms of the Plan. Contributions from members are recorded when the employer makes payroll deductions from plan members. Employer contributions are recognized when due in accordance with the terms of the Plan. Additions to the Plan consist of contributions (member and employer) and net investment income.

The accounting and reporting policies of the Plan conform to accounting principles generally accepted in the United States of America (GAAP).

**New Accounting Standards Adopted** – The Plan adopted GASB Statement No. 72, *Fair Value Measurement and Application*. GASB Statement No.72 requires the Plan to use valuation techniques which are appropriate under the circumstances and are either a market approach, a cost approach or income approach. GASB 72 establishes a hierarchy of inputs used to measure fair value consisting of three levels. Level 1 inputs are quoted prices in active markets for identical assets or liabilities. Level 2 inputs are inputs, other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. Level 3 inputs are unobservable inputs, and typically reflect

management's estimates of assumptions that market participants would use in pricing the asset or liability. GASB 72 also contains note disclosure requirements regarding the hierarchy of valuation inputs and valuation techniques that was used for the fair value measurements. There was no material impact on the Plan's financial statements as a result of the implementation of GASB 72. Certain changes were also made to the footnotes to the financial statements including additional disclosures related to the hierarchy of valuation inputs and valuation techniques.

#### **Recent Accounting Pronouncements —**

The Plan has not completed the process of evaluating the impact of GASB Statement No. 73, *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68*. The requirements of GASB Statement No. 73, extend the approach to accounting and financial reporting established in Statement No. 68 to all pensions, with modifications as necessary to reflect that for accounting and financial reporting purposes, any assets accumulated for pensions that are provided through pension plans that are not administered through trusts that meet the criteria specified in Statement No. 68 should not be considered pension plan assets. It also requires that information similar to that required by Statement No. 68 be included in notes to financial statements and required supplementary information by all similarly situated employers and nonemployer contributing entities. This Statement also clarifies the application of certain provisions of Statement Nos. 67 and 68 with regard to the following issues: 1) Information that is required to be presented as notes to the 10-year schedules of required supplementary information about investment-related factors that significantly affect trends in the amounts reported; 2) Accounting and financial reporting for separately financed specific liabilities of individual employers and nonemployer contributing entities for defined benefit pensions; 3) Timing of employer recognition of revenue for the support of nonemployer contributing entities not in a special funding situation. The requirements of this Statement should be applied simultaneously with the provisions of GASB Statement No. 68 and are effective for fiscal years beginning after June 15, 2016.

The Plan has completed the process of evaluating the impact of Statement No. 76, *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments*. The objective of this Statement is to identify—in the context of the current governmental financial reporting environment—the hierarchy of generally accepted accounting principles (GAAP). The “GAAP hierarchy” consists of the sources of accounting principles used to prepare financial statements of state and local governmental entities in conformity with GAAP and the framework for selecting those principles. This Statement reduces the GAAP hierarchy to two categories of authoritative GAAP and addresses the use of authoritative and nonauthoritative literature in the event that the accounting treatment for a transaction or other event is not specified within a source of authoritative GAAP. This Statement supersedes Statement No. 55, *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments*. The Plan has determined that GASB Statement No. 76 had no impact on Plan financial statements.

The Plan has completed the process of evaluating the impact of Statement No. 78, *Pensions Provided Through Certain Multiple-Employer Defined Benefit Pension Plans*. The objective of this Statement is to address a practice issue regarding the scope and applicability of Statement No. 68, *Accounting and Financial Reporting for Pensions*. This issue is associated with pensions provided through certain multiple-employer defined benefit pension plans and to state or local governmental employers whose employees are provided with such pensions. Prior to the issuance of this Statement, the requirements of Statement 68 applied to the financial statements of all state and local governmental employers whose employees are provided with pensions through pension plans that are administered through trusts that meet the criteria in paragraph 4 of that Statement.

This Statement amends the scope and applicability of Statement 68 to exclude pensions provided to employees of state or local governmental employers through a cost-sharing multiple-employer defined

benefit pension plan that: (1) is not a state or local governmental pension plan, (2) is used to provide defined benefit pensions both to employees of state or local governmental employers and to employees of employers that are not state or local governmental employers, and (3) has no predominant state or local governmental employer (either individually or collectively with other state or local governmental employers that provide pensions through the pension plan). This Statement establishes requirements for recognition and measurement of pension expense, expenditures, and liabilities; note disclosures; and required supplementary information for pensions that have the characteristics described above. The requirements of this Statement are effective for financial statements for periods beginning after December 15, 2015. Earlier application is permitted. The Plan has determined that GASB Statement No. 78 had no impact on its financial position.

The Plan has completed the process of evaluating the impact of Statement No. 79, *Certain External Investment Pools and Pool Participants*. This Statement addresses accounting and financial reporting for certain external investment pools and pool participants. Specifically, it establishes criteria for an external investment pool to qualify for making the election to measure all of its investments at amortized cost for financial reporting purposes. An external investment pool qualifies for that reporting if it meets all of the applicable criteria established in this Statement. The specific criteria address (1) how the external investment pool transacts with participants; (2) requirements for portfolio maturity, quality, diversification, and liquidity; and (3) calculation and requirements of a shadow price. Significant noncompliance prevents the external investment pool from measuring all of its investments at amortized cost for financial reporting purposes. Professional judgment is required to determine if instances of noncompliance with the criteria established by this Statement during the reporting period, individually or in the aggregate, were significant.

If an external investment pool does not meet the criteria established by this Statement, that pool should apply the provisions in paragraph 16 of Statement No. 31, *Accounting and Financial Reporting for Certain Investments and for External Investment Pools*, as amended. If an external investment pool meets the criteria in this Statement and measures all of its investments at amortized cost, the pool's participants also should measure their investments in that external investment pool at amortized cost for financial reporting purposes. If an external investment pool does not meet the criteria in this Statement, the pool's participants should measure their investments in that pool at fair value, as provided in paragraph 11 of Statement 31, as amended. This Statement establishes additional note disclosure requirements for qualifying external investment pools that measure all of their investments at amortized cost for financial reporting purposes and for governments that participate in those pools. Those disclosures for both the qualifying external investment pools and their participants include information about any limitations or restrictions on participant withdrawals. The Plan has determined that GASB Statement No. 79 had no impact on the Plan's financial statements.

The Plan has not completed the process of evaluating the impact of Statement No. 82, *Pension Issues: An Amendment of GASB Statements No. 67, No. 68 and No. 73*. The objective of this Statement is to address certain issues that have been raised with respect to Statements No. 67, *Financial Reporting for Pension Plans*, No. 68, *Accounting and Financial Reporting for Pensions*, and Statement No. 73, *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement No. 68, and Amendments to Certain Provisions of GASB Statements Nos. 67 and 68*. Specifically, this Statement addresses issues regarding (1) the presentation of payroll-related measures in required supplementary information, (2) the selection of assumptions and the treatment of deviations from the guidance in an Actuarial Standard of Practice for financial reporting purposes, and (3) the classification of payments made by employers to satisfy employee (plan member) contribution requirements. The requirements of this Statement are effective for reporting periods beginning after June 15, 2016, except for the requirements of this Statement for the selection of assumptions in a circumstance in which an employer's pension liability is measured as of a date other than the employer's most recent fiscal year-end. In that circumstance, the requirements for the selection of assumptions are effective for that employer in the first reporting period in which the measurement date of the pension liability is on or after June 15, 2017.

**Methods Used to Value Investments**—Investments are stated at fair value. Fair value is the amount that the Plan can reasonably expect to receive for an investment in a current sale between a willing buyer and a willing seller, that is, other than a forced or liquidation sale. All investments, with the exception of alternative investments are valued based on closing market prices or broker quotes.

Traded securities are stated at the last reported sales price on a national securities exchange on the last business day of the fiscal year. Securities purchased pursuant to agreements to resell are carried at the contract price, exclusive of interest, at which the securities will be resold. Alternative investments are valued based on the most current net asset values.

Purchases and sales of securities are reflected on the trade date.

Dividend income is recorded on the ex-dividend date. Interest income is recorded as earned on an accrual basis.

**Use of Estimates**—The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires the Authority to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and reported amounts of revenues and expenses during the reporting period. Accordingly, actual results could differ from these estimates.

**Risks and Uncertainties**—The Plan's investments are exposed to various risks, such as interest rate, market, and credit risk. Due to the level of risk associated with certain investment securities and level of uncertainty related to changes in the value of investment securities, it is possible that changes in risks in the near term would materially affect the amounts reported in the Plan's financial statements.

**Derivatives**—The Plan uses a limited amount of derivative financial instruments. The Plan does not hold derivatives for speculative purposes. Where appropriate, investment managers may be given permission to use derivative securities for the following reasons:

- a. Hedging. To the extent that the portfolio is exposed to clearly defined risks and there are derivative contracts that can be used to reduce those risks, the investment managers are permitted to use such derivatives for hedging purposes, including cross-hedging of currency exposures.
- b. Creation of Market Exposures. Investment managers are permitted to use derivatives to replicate the risk/return profile of an asset or asset class provided that the guidelines for the investment manager allow for such exposures to be created with the underlying assets themselves.
- c. Management of Country and Asset Allocation Exposure. Managers charged with tactically changing the exposure of their portfolio to different countries and/or asset classes are permitted to use derivative contracts for these purposes.

Additional uses of derivatives are required to be approved by the Committee prior to implementation and are required to be restricted to those specific managers.

**Income Taxes**—The Plan is designed to satisfy the applicable requirements for governmental plans under Section 401(a) of the Internal Revenue Code. Accordingly, the Plan is tax-exempt and is not subject to the provisions of ERISA. Therefore, income retained by the Plan is not subject to Federal income tax.

### 3. CASH AND INVESTMENTS

**Investment Committee**—The Plan's policy statement is issued for the guidance of fiduciaries, including the members of the Board and investment managers, in the course of investing the assets of

the Trust. The investments of the Trust will be made for the exclusive benefit of the Plan participants and their beneficiaries. Policy guidelines may be amended by the Board upon consideration of the advice and recommendations of the investment professionals.

In order to have a reasonable probability of achieving the target return at an acceptable risk level, the Board has adopted the asset allocation policy outlined below. The actual asset allocation will be reviewed on, at least, a quarterly basis and will be readjusted when an asset class weighting is outside its target range. The following was the MTA Defined Benefit Pension Plan Board adopted asset allocation policy as at December 31, 2015.

<b>Asset Class</b>	<b>Target Allocation (%)</b>	<b>Target Range (%)</b>	<b>Policy Benchmark</b>
<b>Equities</b>	<b>29.0</b>	<b>24-34</b>	
Domestic Large Cap	10.0	5-15	S&P 500
Domestic Small Cap	5.5	2-10	Russell 2000
International Developed Markets Equities	10.0	5-15	MSCI EAFE
Emerging Markets Equities	3.5	2-6	MSCI Emerging Markets
<b>Fixed Income</b>	<b>15.0</b>	<b>9-21</b>	Manager Specific
<b>Global Asset Allocation*</b>	<b>20.0</b>	<b>15-33</b>	50% World Equity/ 50% Citigroup WGBI unhedged
<b>Opportunistic Investments</b>	<b>6.0</b>	<b>0-15</b>	Manager Specific
<b>Absolute Return</b>	<b>15.0</b>	<b>10-22</b>	Manager Specific
<b>Real Assets</b>	<b>5.0</b>	<b>0-10</b>	Manager Specific
<b>Real Estate</b>	<b>3.0</b>	<b>0-10</b>	Manager Specific
<b>Private Equity</b>	<b>7.0</b>	<b>0-10</b>	Manager Specific
<b>Total</b>	<b>100.0</b>		

\* The Global Asset Allocation managers will invest across numerous liquid asset classes including: stocks, bonds, commodities, TIPS and REITs.

**Investment Objective** — The investment objective of the funds is to achieve consistent positive real returns and to maximize long-term total return within prudent levels of risk through a combination of income and capital appreciation.

**Investment Guidelines** — The Board of Pension Managers executes investment management agreements with professional investment management firms to manage the assets of the Plan. The fund managers must adhere to guidelines that have been established to limit exposure to risk.

All Securities managers shall be registered advisors under the Investment Advisors Act of 1940.

The overall capital structure targets and permissible ranges for eligible asset classes of the Trust are detailed within the Investment Policy Statement. Full discretion, within the parameters of the guidelines described herein and in any individual investment policy associated with that allocation, is granted to the investment managers regarding the asset allocation, the selection of securities, and the timing of transactions. It is anticipated that the majority of investment managers will be funded through commingled funds, however, in some cases (likely equity and fixed income mandates) separate account vehicles may be utilized. For separate accounts, individual manager guidelines and/or exemptions are specified in each approved investment management agreement (IMA). Should there be conflicts, the individual manager guidelines set forth in the IMA supersede the general guidelines in the Investment Policy Statement. For commingled funds, investment guidelines and/or exemptions are specified in such

vehicle's offering documents. Should there be conflicts, the individual vehicle's investment guidelines supersede the general guidelines in the Investment Policy Statement.

Individual investment manager benchmarks and performance requirements are specified within the Investment Policy Statement. Performance of the Trust will be evaluated on a regular basis. Evaluation will include the degree to which performance results meet the goals and objectives as herewith set forth. Toward that end, the following standards will be used in evaluating investment performance:

1. The compliance of each investment manager with the guidelines as expressed herein, and
2. The extent to which the total rate of return performance of the Trust achieves or exceeds the targeted goals.

### **Fixed Income Investment Managers**

- Domestic fixed income investments are permitted, subject to the guidelines reflected in Investment Policy Statement. Yankee bonds, which are dollar denominated foreign securities, may be held by each domestic manager in proportions which each manager shall deem appropriate.
- International fixed income securities are permitted, subject to the guidelines reflected in Investment Policy Statement. Generally defined, the Citigroup World Government Bond Index represents the opportunity set for international developed markets. The J.P. Morgan Emerging Markets Bond Index-Global represents the opportunity set for international emerging markets denominated in USD. The J.P. Morgan GBI-EM Global Diversified Index represents the opportunity set for international emerging markets denominated in local currency. These index references are guidelines and do not prohibit investment in securities outside those indexes.
- Investment managers are responsible for making an independent analysis of the credit worthiness of securities and their suitability as investments regardless of the classifications provided by rating agencies.
- The average duration (interest rate sensitivity) of an actively managed fixed income portfolio shall range within two years of the benchmark's duration.
- For domestic fixed income portfolios, individual manager account for the securities of an individual issuer, excepting the U.S. government and U.S. government agencies, shall not constitute more than 5% at market at any time.
- For international bond portfolios, individual manager account for the securities of any non-governmental issuer shall not constitute more than 5% at market at any time.

### **Equity Investment Managers**

- Domestic equity investments are permitted, subject to the guidelines. American Depository Receipts (ADRs), which are dollar denominated foreign securities traded on the domestic U.S. stock exchanges (e.g., Reuters, Nestle, Sony) may be held by each domestic stock manager in proportions which each manager shall deem appropriate.
- International equities are permitted, subject to the guidelines. Generally defined, the Morgan Stanley EAFE (Europe, Australasia and the Far East) Index represents the opportunity set for international developed markets. The Morgan Stanley Emerging Markets Free Index represents the opportunity set for international emerging markets. These index references are guidelines and do not prohibit investment in securities outside those indexes.

- The equity specialists may vary equity commitment from 90% to 100% of assets under management.
- Individual manager account may hold no more than 8% at market or 1.5x the manager's benchmark weight (whichever is greater) of any single company's stock.

### **Overlay Managers**

- For a variety of reasons, the investment program may carry large amounts of cash throughout the year. In order to achieve the actuarial assumed returns on the total investment program, the Board may retain a futures overlay manager. The overlay manager shall use exchange traded futures contracts to expose the cash to the long-term target asset allocation.
- In addition, the overlay manager may be utilized for the following:
  - a) Expose un-invested assets of domestic and international equity investment managers to their respective equity benchmarks through the use of futures contracts,
  - b) Assist the Board in rebalancing, transitions, and/or gaining exposure to approved asset classes,
  - c) Provide the market (or "beta") exposures in a portable alpha program.
  - d) The overlay manager shall ensure that all futures positions are fully collateralized and the manager is prohibited from leveraging any portion of the portfolio.

### **Alternative Investments Managers**

**Alternative investments are broadly categorized into the following categories:**

- Opportunistic
- Real assets
- Real estate
- Absolute return
- Private equity

Common features of alternative investments are limited liquidity, the use of derivatives, leverage and shorting, lower regulatory oversight, limited transparency, and high fees. Compensating for these risks, these investments offer the potential of diversification and/or higher rates of return over time

### **Derivatives Policy**

Where appropriate, investment managers may use derivative securities for the following reasons:

- Hedging. To the extent that the portfolio is exposed to clearly defined risks and there are derivative contracts that can be used to reduce those risks, the investment managers are permitted to use such derivatives for hedging purposes, including cross-hedging of currency exposures.
- Creation of Market Exposures. Investment managers are permitted to use derivatives to replicate the risk/return profile of an asset or asset class provided that the guidelines for the investment manager allow for such exposures to be created with the underlying assets themselves.
- Management of Country and Asset Allocation Exposure. Investment managers charged with tactically changing the exposure of their portfolio to different countries and/or asset classes are permitted to use derivative contracts for these purposes.
- Additional uses of derivatives shall be approved by the Board or set forth in the individual investment guidelines or the offering documents prior to implementation and shall be restricted to those specific investment managers.

### **Ineligible Investments (Separately Managed Accounts)**

Unless specifically approved by the Board or set forth in the individual investment guidelines, certain securities, strategies and investments are ineligible for inclusion within separately managed accounts. Among these are:

- Privately-placed or other non-marketable debt, except securities issued under Rule 144a,
- Lettered, legend or other so-called restricted stock,
- Commodities
- Short sales, and,
- Direct investments in private placements, real estate, oil and gas and venture capital, or funds comprised thereof.

### **Exceptions:**

The Board of Managers, in recognition of the benefits of commingled funds as investment vehicles (i.e., the ability to diversify more extensively than in a small, direct investment account and the lower costs which can be associated with these funds) may, from time to time, allow investment in such funds. The Board recognizes that it cannot give specific policy directives to a fund whose policies are already established; therefore, the Board is relying on the investment consultant to assess and monitor the investment policies of any funds used by the Plan to ascertain whether they are appropriate.

**Investment Valuation and Income Recognition** — Investments are presented at fair value based on information provided by JP Morgan Chase (the “trustee”), New England Pension Consultant (“NEPC”), and the investment managers.. The fair value of investments is based on published market prices and quotations from major investment brokers at current exchange rates, as available. Many factors are considered in arriving at that value. Corporate debt securities are valued based on yields currently available on comparable securities of issuers with similar credit ratings. All investments are registered, with securities held by the Plan’s trustee, in the name of the Plan. Gains and losses on investments that were sold during the year are included in in the statement of plan net position.

**Risks and Uncertainties** — The Plan’s investment are exposed to various risks, such as interest rate, market, and credit risk. Due to the level of risk associated with certain investment securities and level of uncertainty related to changes in the value of investment securities, it is possible that changes in risks in the near term would materially affect the amounts reported in the Plan’s financial statements.

The financial markets, both domestically and internationally, have demonstrated significant volatility on a daily basis, which affects the valuation of investments. The Plan utilizes asset allocation strategies that are intended to optimize investment returns over time in accordance with investment objectives and with acceptable levels of risk.

In year 2015, the MaBSTOA Pension Plan adopted GASB Statement No. 72 (“GASB 72”), *Fair Value Measurement and Application*. GASB 72 was issued to address accounting and financial reporting issues related to fair value measurements.

Investments measured by fair value level

	December 31, 2015	Quoted Price in Active Markets for Identical Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3
Equity Securities:				
Separate account large-cap equity funds	\$ 233,730,250	233,730,250	-	-
Separate account small-cap equity funds	112,521,684	112,521,684	-	-
Total equity investments	346,251,934	346,251,934	-	-
Debt Securities				
Separate account debt funds	178,100,326	-	178,100,326	-
Total debt investments	178,100,326	-	178,100,326	-
Total investments by fair value level	\$ 524,352,260	-	178,100,326	-

Investments measured at the net asset value (NAV)

	December 31, 2015	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Equity Securities:				
Comingled international equity funds	\$ 191,633,568	\$ -	Daily	None
Comingled emerging market equity funds	78,259,008	-	Daily, monthly	None
Total equity investments measured at the NAV	269,892,576	-		
Debt Securities				
Comingled debt funds	157,718,640	-	Daily, monthly, quarterly	None
Total debt investments measured at the NAV	157,718,640	-		
Absolute return:				
Directional	75,442,971	-	Monthly	3-60 days
Direct lending	81,226,075	20,685,570	Bi-annually	60 plus days
Credit long	32,478,393	-	Quarterly	3-30 days
Credit long/short	48,558,309	-	Quarterly	3-60 days
Equity long/short	18,545,495	-	Quarterly	3-60 days
Event driven	67,624,501	2,093,427	Quarterly, Bi-annually	60-120 days
Global macro	85,169,414	-	Monthly	3-30 days
Global tactical asset allocation	203,808,645	-	Daily, monthly	3-30 days
Market neutral	326,315	-	Quarterly	3-60 days
Multistrategy	19,978,907	-	Quarterly	3-60 days
Risk parity	279,343,628	-	Monthly	3-30 days
Total absolute return measured at the NAV	912,502,653	22,778,997		
Private equity - private equity partnerships	136,463,123	54,599,911	Not eligible	N/A
Real assets				
Comingled commodities fund	43,822,896	-	Not eligible	N/A
Comingled real estate funds	80,268,283	-	Not eligible	N/A
Energy	23,749,949	38,029,950	Not eligible	N/A
Infrastructure	6,117,124	15,433,863	Not eligible	N/A
Total real assets measured at the NAV	153,958,252	53,463,813		
Short term investments measured at the NAV	103,763,871	-		
Total investments measured at the NAV	1,734,299,115	\$ 130,842,721		
Total investments measured at fair value	\$ 2,258,651,375			

**Investments measured by fair value level**

	<b>December 31, 2014</b>	<b>Quoted Price in Active Markets for Identical Assets Level 1</b>	<b>Significant Other Observable Inputs Level 2</b>	<b>Significant Unobservable Inputs Level 3</b>
Equity Securities:				
Separate account large-cap equity funds	\$ 231,018,280	231,018,280	-	-
Separate account small-cap equity funds	125,681,389	125,681,389	-	-
<b>Total equity investments</b>	<b>356,699,669</b>	<b>356,699,669</b>	<b>-</b>	<b>-</b>
Debt Securities				
Separate account debt funds	162,831,801	-	162,831,801	-
<b>Total debt investments</b>	<b>162,831,801</b>	<b>-</b>	<b>162,831,801</b>	<b>-</b>
<b>Total investments by fair value level</b>	<b>\$ 519,531,470</b>	<b>-</b>	<b>162,831,801</b>	<b>-</b>

**Investments measured at the net asset value (NAV)**

	<b>December 31, 2014</b>	<b>Unfunded Commitments</b>	<b>Redemption Frequency</b>	<b>Redemption Notice Period</b>
Equity Securities:				
Comingled international equity funds	\$ 188,058,933	\$ -	Daily	None
Comingled emerging market equity funds	87,820,036	-	Daily, monthly	None
<b>Total equity investments measured at the NAV</b>	<b>275,878,969</b>	<b>-</b>		
Debt Securities				
Comingled debt funds	166,873,129	-	Daily, monthly, quarterly	None
<b>Total debt investments measured at the NAV</b>	<b>166,873,129</b>	<b>-</b>		
Absolute return:				
Directional	97,356,375	-	Monthly	3-60 days
Direct lending	57,734,022	26,958,508	Bi-annually	60 plus days
Credit long	35,810,786	-	Quarterly	3-30 days
Equity long/short	17,089,289	-	Quarterly	3-60 days
Event driven	93,320,097	2,187,419	Quarterly, Bi-annually	60-120 days
Global macro	82,422,643	-	Monthly	3-30 days
Global tactical asset allocation	204,853,980	-	Daily, monthly	3-30 days
Market neutral	1,113,502	-	Quarterly	3-60 days
Multistrategy	58,502,640	-	Quarterly	3-60 days
Risk parity	303,576,428	-	Monthly	3-30 days
<b>Total absolute return measured at the NAV</b>	<b>951,779,762</b>	<b>29,145,927</b>		
Private equity - private equity partnerships	119,743,156	70,317,942	Not eligible	N/A
Real assets				
Comingled commodities fund	49,118,846	-	Not eligible	N/A
Comingled real estate funds	68,241,325	-	Not eligible	N/A
Energy	19,619,406	47,986,178	Not eligible	N/A
<b>Total real assets measured at the NAV</b>	<b>136,979,577</b>	<b>47,986,178</b>		
Short term investments measured at the NAV	76,056,594	-		
<b>Total investments measured at the NAV</b>	<b>1,727,311,187</b>	<b>\$ 147,450,047</b>		
<b>Total investments measured at fair value</b>	<b>\$ 2,246,842,657</b>			

**Concentration of Credit Risk** – Individual investments held by the Plan that represents 5.0% or more of the Plan’s net assets available for benefits at December 31, 2015 and 2014 are as follows:

	<b>2015</b>	<b>2014</b>
Investments at fair value as determined by quoted market prices:		
Bridgewater All Weather Fund	\$ 119,786,492	\$ 143,468,130
PIMCO All Asset Fund	-	118,160,989

**Credit Risk** — At December 31, 2015 and 2014, the following credit quality rating has been assigned by a nationally recognized rating organization:

<b>Quality Rating</b>	<b>2015 Fair Value</b>	<b>Percentage of Fixed Income Portfolio</b>	<b>2014 Fair Value</b>	<b>Percentage of Fixed Income Portfolio</b>
AAA	\$ 87,622,789	12.20 %	\$ 101,668,175	12.22 %
AA	36,024,253	5.02	47,591,477	5.72
A	45,960,297	6.40	80,522,794	9.68
BBB	169,644,600	23.63	137,917,874	16.57
BB	52,544,773	7.32	88,108,754	10.59
B	31,853,323	4.43	53,337,709	6.41
CCC	4,970,616	0.68	18,660,448	2.24
Not Rated	<u>42,637,192</u>	<u>5.94</u>	<u>75,112,512</u>	<u>9.03</u>
Credit risk debt securities	471,257,843	65.62	602,919,743	72.46
U.S. Government bonds	<u>246,821,098</u>	<u>34.38</u>	<u>229,127,537</u>	<u>27.54</u>
Total fixed income securities	718,078,941	<u>100.00 %</u>	832,047,280	<u>100.00 %</u>
Other securities not rated — equity, international funds and foreign corporate bonds	<u>1,540,572,434</u>		<u>1,414,795,377</u>	
Total investments	<u>\$ 2,258,651,375</u>		<u>\$ 2,246,842,657</u>	

**Interest Rate Risk Exceptions** — Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of the investment. Duration is a measure of interest rate risk. The greater the duration of a bond or portfolio of bonds, the greater its price volatility will be in response to a change in interest rate risk and vice versa. Duration is an indicator of bond price’s sensitivity to 100 basis point change in interest rates.

Investment Fund	2015		2014	
	Fair Value	Duration	Fair Value	Duration
Chase	\$ 178,100,326	11.46	\$ 162,831,800	4.24
Pimco	-	-	118,160,989	2.77
Wellington Emerging Debt	50,038,235	5.06	65,274,831	4.22
Allianz Structured Alpha Fund	95,184,350	0.13	95,185,328	0.25
GAM Unconstrained Bond Fund	66,632,867	0.93	-	-
Bridgewater All Weather Fund	119,786,492	7.87	143,468,130	9.37
Wellington Opportunistic	24,882,085	1.69	25,314,353	4.66
Bridgewater Pure Alpha	68,987,225	4.36	61,075,178	(0.84)
Northern Trust William Capital	10,006,812	-	10,005,607	-
Park Square Capital Credit Opportunities	11,594,616	0.61	7,713,235	0.33
Crescent Capital High Income Fund	16,941,461	2.64	38,397,082	2.21
Fir Tree Value Realization Fund	1,237,589	-	2,841,408	-
Wellington Global Managed Fund	60,508,536	6.77	79,031,187	-
Wellington Trust Collective Investment Fund and Diversified Inflation Fund	5,740,799	7.56	3,880,389	5.71
Canyon Value	8,437,548	2.40	18,867,763	2.60
Total fixed income securities	718,078,941		832,047,280	
Portfolio modified duration		5.82		3.44
Investments with no duration reported	\$ 1,540,572,434		\$ 1,414,795,377	
Total investments	\$ 2,258,651,375		\$ 2,246,842,657	

**Foreign Currency Risk** — Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit. Each investment manager, through the purchase of units in a commingled investment trust fund or international equity mutual fund establishes investments in international equities. The Plan also holds investments in American Depositary Receipts (“ADRs”) which are not included in the below schedule since they are denominated in U.S. dollars and accounted for at fair market value.

In addition, the Plan has investments in foreign stocks and/or bonds denominated in foreign currencies. The Plan’s foreign currency exposures as of December 31, 2015 and 2014 are as follows (amounts in U.S. dollars, in thousands):

<b>Foreign Currency Holdings in US \$</b>	<b>December 31, 2015</b>	<b>December 31, 2014</b>
Argentina Peso	\$ 356,060	\$ -
Dollar (Australian)	36,638,334	4,385,371
Bahraini Dinar	266,989	-
Bangladesh (Taka)	239,250	513,360
Botswana Pula	90,152	93,180
Brazil Cruzeiro Real	4,680,235	15,183,193
Bulgarian Lev	3,467	6,867
Dollar (Canadian)	22,397,864	5,380,374
Chilean Peso	3,334,238	2,011,903
China (Yuan Renminbi)	7,865,310	5,483,913
Colombian Peso	5,006,485	7,713,366
Croatia Kuna	249,652	487,611
Czech Koruna	(1,735,533)	674,115
Krone (Danish)	2,568,644	122,877
Egyptian Pound	476,692	981,985
Euro	60,258,522	58,743,271
Georgian Lari	1,276,382	-
Ghanaian Cedi	34,674	39,224
Dollar (Hong Kong)	4,071,871	6,132,699
Hungary (Forint)	(96,208)	(83,733)
Indian Rupee	9,489,781	7,864,889
Indonesia Rupiah	9,665,947	10,538,570
Israeli (Shekel)	1,230,939	2,166,140
Yen (Japan)	26,799,654	(10,175,082)
Jordanian Dinar	287,794	482,156
Kazakhstani Tenge	239,250	-
Kenyan Shilling	631,670	509,328
Kuwait Dinar	492,370	1,153,014
Lebanese Pound	100,554	-
Malaysian (Ringgit)	3,344,436	7,490,810
Mauritius (Rupee)	263,522	709,133
Mexican New Peso	23,349,282	7,110,278
Morocco Dirham	253,120	465,463
Dollar (New Zealand)	(2,158,637)	2,953,707
Nigerian Naira	617,800	437,867
Krone (Norwegian)	505,295	(2,672,689)
Omani Rial	253,120	417,776
Pakistani Rupee	1,950,170	513,780
Panamanian Balboa	104,022	-
Peru Sol	1,993,211	2,175,246
Philippines Peso	1,329,935	1,718,619
Polish (New Zloty)	1,653,189	4,511,544
Pound (Sterling)	51,632,941	11,702,840
Qatar Riyal	556,324	852,157
Romanian Leu	1,347,620	1,505,789
Russian Federation Rouble	5,086,596	6,048,408
Saudi Riyal	273,924	-
Singapore Dollar	809,776	2,529,395
Rand South Africa	2,801,380	8,720,178
South Korean Won	7,504,005	8,398,304
Sri Lankan Rupee	263,522	463,066
Krona (Swedish)	4,013,303	(2,151,398)
Franc (Swiss)	7,645,046	(782,199)
Thai (Bhat)	3,438,066	3,545,137
Dollar (Taiwan, New)	15,665,679	6,631,941
Tunisian Dinar	114,424	84,157
Turkish Lira	913,173	9,129,860
Ukrainian Hryvnia	45,076	-
UAE Dirham	1,138,385	700,217
Uruguayan Pesos	433,945	548,152
Vietnamese Dong	249,652	-
Other	8,968,309	(19,019,977)
<b>Total</b>	<b>\$ 343,280,650</b>	<b>\$ 185,146,152</b>

#### 4. CONTRIBUTIONS

The financial objective of the Plan is to fund, on an actuarial basis, the retirement and death benefits for eligible MaBSTOA employees and beneficiaries. MaBSTOA contributions to the fund are made annually. Contributions to MaBSTOA require the approval of the MaBSTOA Board.

Employer contributions amounted to \$214.9 million and \$226.4 million for the years ended December 31, 2015 and 2014, respectively. Employee contributions amounted to \$16.3 million and \$15.5 million for the years ended December 31, 2015 and 2014, respectively. Contributions made by employees are accounted for in separate accounts maintained for each employee. Annually, these accounts are credited with interest at 5%. Effective April 1, 1990, MaBSTOA began to deduct employee contributions as pretax contributions under Section 414H of the Internal Revenue Code.

Pursuant to Section 7.03 of the MaBSTOA Plan, active plan members are permitted to borrow up to 75% of their contributions with interest. Their total contributions and interest remain intact and interest continues to accrue on the full balance. The participant's accumulated contribution account is used as collateral against the loan. The Plan granted \$16.8 million and \$16.9 million in loans to members during 2015 and 2014, respectively. Loan repayments by members amounted to \$15.1 million and \$16.1 million in 2015 and 2014, respectively.

Upon termination of employment before retirement, certain participants are entitled to refunds of their own contributions including accumulated interest less any loans outstanding.

#### 5. NET PENSION LIABILITY

The components of the net pension liability of the Plan at December 31, 2015 and 2014 were as follows (in thousands):

	<b>December 31, 2015</b>	<b>December 31, 2014</b>
Total pension liability	\$ 3,391,989	\$ 3,331,464
Fiduciary net position	<u>2,292,315</u>	<u>2,265,293</u>
Net pension liability	<u>\$ 1,099,674</u>	<u>\$ 1,066,171</u>
Fiduciary net position as a percentage of the total pension liability	67.58 %	68.00 %
Covered payroll	\$ 685,999	\$ 671,633
Net pension liability as a percentage of covered payroll	160.30 %	158.74 %

**Actuarial Methods and Assumptions**—The total pension liability as of December 31, 2015 was determined by an actuarial valuation date of January 1, 2015, that was updated to roll forward the total pension liability to the respective year-end. Actuarial valuations are performed annually as of January 1.

Additional information of the latest actuarial valuation follows:

Valuation date	January 1, 2015
Actuarial cost method	Frozen initial liability (FIL) <sup>(1)</sup>
Amortization method	For FIL bases, period specified in current valuation report. Future gains/ losses are amortized through the calculation of the normal cost in accordance with FIL cost method amortized based on expected working lifetime, weighted by salary, of the projected population
Actuarial asset valuation method	Actuarial value equals market value less unrecognized gains/losses over a 5-year period. Gains/losses are based on market value of assets
Mortality	Based on experience of all MTA members reflecting mortality improvement on a generational basis using Scale AA
Actuarial Assumptions:	
Investment rate of return	7.00%, net of investment related expenses
Projected salary increases	In general, merit and promotion increases plus assumed general wage increases of 3.5% to 15.0% for operating employees and 4.0% to 7.0% for nonoperating employees per year, depending on years of service
Overtime	Except for managerial employees, 8.5% of base salary for operating employees and 2.0% of base salary for nonoperating employees, with different assumptions used in the year before retirement
Cost-of-living adjustments	1.375% per annum
Inflation	2.50% per annum

<sup>(1)</sup> Under this actuarial method, the initial liability has been established by the Entry Age Actuarial Cost Method for determining changes in the Unfunded Actuarial Accrued Liability (UAAL) due to plan provision and assumption changes.

Until the inception of the new Tier 6 provisions in 2012, amendments enacted by State legislation in 2000 reflected the most significant changes to the plan and are summarized as follows:

For operating employees (Chapter 10 of the Laws of 2000):

- All operating employees are automatically included in the 2000 55/25 plan.
- Elimination of the 2.3% additional employees' contributions applicable to members of the 55/25 plan.
- Reduction in the Tier 3 and 4 employee contribution rate from 3.0% to 2.0%.

For managerial and nonoperating employees (Chapter 126 of the Laws of 2000):

- Vesting under the Age 57 plan required only five years of service versus ten.
- As of October 1, 2000, regular Tier 3 and 4 employee contributions ceased after the completion of ten years of service.

For retired members (Chapter 125 of the Laws of 2000):

- Automatic cost-of-living adjustments (COLAs). The COLAs apply to retired members as follows:

<b>Retirees at Least age</b>	<b>Retired or Receiving Benefits for at Least</b>
62	5 years
55	10
Disabled retirees	5
Accidental death beneficiaries	5

- Initial COLA payable September 30, 2000, based on the first \$18,000 of the maximum retirement allowance.
- Thereafter, annual COLAs of 50% of the increase in the consumer price index (CPI), but not less than 1% or more than 3%, of the first \$18,000 of maximum retirement allowance will be payable.

The benefit enhancements, as well as the automatic COLA for retirees, were reflected in the actuarial valuation beginning with the January 1, 2000, valuation.

The Plan adopted several amendments during 2002 as a result of state legislation. Amendments included changes to the definition of active service for Tier 1 and Tier 2 members, extension of the phase in period from five years to ten years for funding liabilities created by Chapter 125 of the Laws of 2000 and increased accidental disability benefits for Tier 3 and Tier 4 members.

The Plan also adopted the legislative provisions of Chapter 379, which allow current and former members of the Transport Workers Union, Local 100 and Transit Supervisors Organization, Local 106, with an accumulated balance of additional member contributions (AMC) made in accordance with the MaBSTOA 55/25 Plan enacted in 1994, to apply for a refund of such contributions. AMC refunds amounted to approximately \$692 thousand and \$424 thousand as of December 31, 2015 and 2014, respectively.

At January 1, 2016 and 2015, actuarial assets were available to fund 67.3% and 69.3%, respectively, of the actuarial accrued liability (UAAL) when measured using the Entry Age Normal Cost Method and the market value of assets.

## Calculation on Money-Weighted Rate of Return

The money-weighted rate of return considers the changing amounts actually invested during a period and weights the amount of pension plan investments by the proportion of time they are available to earn a return during that period. External cash flows are determined on a monthly basis and are assumed to occur at the middle of each month. External cash inflows are netted with external cash outflows, resulting in a net external cash flow in each month.

### Schedule of Calculations of Money-Weighted Rate of Return

	Net External Cash Flows	Periods Invested	Period Weight	Net External Cash Flows With Interest
Beginning Value - January 1, 2015	\$2,265,293,331	12.00	1.00	\$2,241,439,352
Monthly net external cash flows:				
January	4,487,720	11.50	0.96	4,442,344
February	4,487,720	10.50	0.88	4,446,107
March	4,487,720	9.50	0.79	4,450,345
April	4,487,720	8.50	0.71	4,454,116
May	4,487,720	7.50	0.63	4,457,890
June	4,487,720	6.50	0.54	4,462,139
July	8,968,720	5.50	0.46	8,925,152
August	5,144,720	4.50	0.38	5,124,066
September	5,144,720	3.50	0.29	5,128,950
October	5,144,720	2.50	0.21	5,133,295
November	5,144,720	1.50	0.13	5,137,644
December	(5,287,934)	0.50	0.04	-5,285,696
Ending Value - December 31, 2015	\$2,292,315,704			\$2,292,315,704
Money-Weighted Rate of Return				-1.05%

**Expected Rate of Return on Investments**—The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target allocation and best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of the December 31, 2015 actuarial valuation are summarized in the following table:

<b>Asset Class</b>	<b>Index</b>	<b>Target Allocation</b>	<b>Long-Term Expected Real Rate of Return</b>
U.S. Core Fixed Income	Barclays Aggregate	10.00 %	2.11 %
U.S. High Yield Bonds	BAML High Yield	8.00 %	4.32 %
Global Bonds	Citi WGBI	10.00 %	0.82 %
Emerging Market Bonds	JPM EMBI Plus	3.00 %	5.17 %
U.S. Large Cap	S&P 500	10.00 %	5.09 %
U.S. Small Cap	Russell 2000	5.50 %	6.26 %
Global Equities	MSCI ACWI NR	10.00 %	5.67 %
Foreign Developed Equities	MSCI EAFE NR	10.00 %	6.06 %
Emerging Market Equities	MSCI EM NR	3.50 %	8.21 %
GLOBAL REITS	FTSE EPRA/NAREIT Developed	5.00 %	5.98 %
Private Real Estate Property	NCREIF Property	3.00 %	3.84 %
Private Equity	Cambridge Private Equity	7.00 %	9.17 %
Hedge Funds - MultiStrategy	HFRI Fund Wtd Composite	15.00 %	4.20 %
<b>Total</b>			
Assumed Inflation—Mean			2.50 %
Assumed Inflation—Standard Deviation			1.89 %
Portfolio Arithmetic Mean Return			7.31 %
Portfolio Standard Deviation			11.67 %
Long-Term Expected Rate of Return			7.00 %

**Discount Rate**—The discount rate used to measure the total liability as of December 31, 2015 and 2014 was 7.0%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that the Plans' contributions will be made in accordance with the statutory contributions determined by the Actuary. Based on those assumptions, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments of current and inactive plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

**Sensitivity of the Net Pension Liability to Changes in the Discount Rate**—The following presents the net pension liability of the Plan, calculated using the discount rate of 7.00 percent; as well as what the Plan's net pension would be if it were calculated using a discount rate that is 1-percentage point lower (6.00 percent) or 1-percentage point higher (8.00 percent) than the current rate for years 2015 and 2014 respectively:

<b>2015 (in thousands)</b>	<b>1% Decrease 6.00%</b>	<b>Current Discount Rate 7.00%</b>	<b>1% Increase 8.00%</b>
Net pension liability	<u>\$1,480,961</u>	<u>\$1,099,673</u>	<u>\$ 775,092</u>
<b>2014 (in thousands)</b>	<b>1% Decrease 6.00%</b>	<b>Current Discount Rate 7.00%</b>	<b>1% Increase 8.00%</b>
Net pension liability	<u>\$1,448,685</u>	<u>\$1,066,171</u>	<u>\$ 740,824</u>

**6. CUSTODIAL AND OTHER PROFESSIONAL SERVICES**

JP Morgan Chase Bank is custodian of plan assets with the exception of Mellon asset management investments in which Mellon Bank N.A. is the custodian. JP Morgan Chase also provides cash receipt and cash disbursement services to the Plan. New England Pension Consultants reviews the Plan's portfolio, the investment policies as stipulated by the Investment Committee and the performance of the Investment Managers. New England Pension Consultants also provides audit services for the Plan's equity portfolios. Actuarial services were provided to the Plan by Milliman Inc.

**7. SUBSEQUENT EVENTS**

A Subsequent events have been evaluated through January 30, 2017.

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**REQUIRED SUPPLEMENTARY INFORMATION  
(UNAUDITED)**

**MANHATTAN AND BRONX SURFACE TRANSIT  
OPERATING AUTHORITY PENSION PLAN**

**REQUIRED SUPPLEMENTARY INFORMATION  
SCHEDULE OF CHANGES IN THE EMPLOYERS' NET PENSION LIABILITY AND RELATED RATIOS  
(in millions)**

	2015	2014
Total pension liability:		
Service cost	\$ 77	\$ 72
Interest	232	224
Changes of benefit terms	-	-
Differences between expected and actual experience	(69)	(2)
Changes of assumptions	-	-
Benefit payments and withdrawals	<u>(180)</u>	<u>(175)</u>
Net change in total pension liability	60	119
Total pension liability—beginning	<u>3,331</u>	<u>3,212</u>
Total pension liability—ending (a)	<u>3,391</u>	<u>3,331</u>
Plan fiduciary net position:		
Employer contributions	215	226
Member contributions	16	15
Net investment income	(24)	105
Benefit payments and withdrawals	(180)	(175)
Administrative expenses	-	-
Other	<u>-</u>	<u>-</u>
Net change in plan fiduciary net position	27	171
Plan fiduciary net position—beginning	<u>2,265</u>	<u>2,094</u>
Plan fiduciary net position—ending (b)	<u>2,292</u>	<u>2,265</u>
Employer's net pension liability—ending (a)-(b)	<u>\$ 1,099</u>	<u>\$ 1,066</u>
Plan fiduciary net position as a percentage of the total pension liability	<u>67.58 %</u>	<u>68.00 %</u>
Covered-employee payroll	<u>686</u>	<u>672</u>
Employer's net pension liability as a percentage of covered-employee payroll	<u>160.30 %</u>	<u>158.74 %</u>

Note: Information for periods prior to 2014 was not readily available.

## MANHATTAN AND BRONX SURFACE TRANSIT OPERATING AUTHORITY PENSION PLAN

### REQUIRED SUPPLEMENTARY INFORMATION SCHEDULE OF EMPLOYER CONTRIBUTIONS (in thousands)

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Fiscal Year Ending December 31,	Actuarially Determined Contribution	Actual Employer Contribution	Contribution Deficiency/ (Excess)	Covered- Employee Payroll	Contributions as a Percentage of Covered-Employee Payroll
2015	\$214,881	\$214,881	\$	\$685,999	31.32 %
2014	226,374	226,374		671,633	33.70
2013	234,474	234,474		582,081	40.28
2012	228,918	228,918		575,989	39.74
2011	186,454	186,454		579,696	32.16
2010	200,633	200,633		591,073	33.94
2009	204,274	204,274		569,383	35.88
2008	201,919	201,919		562,241	35.91
2007	179,228	179,228		519,680	34.49
2006	159,638	259,638	(100,000)	498,039	52.13

# OPERATING AUTHORITY PENSION PLAN

## REQUIRED SUPPLEMENTARY INFORMATION SCHEDULE OF EMPLOYER CONTRIBUTIONS

Note to Schedule II:

The more significant actuarial assumptions and methods used in the calculation of employer contributions to the Plan for the years ended December 31, 2015 and 2014, are as follows:

Valuation Dates	January 1, 2015	January 1, 2014
Actuarial cost method	Frozen initial liability (FIL) (1)	Frozen initial liability (FIL) (1)
Amortization method	For FIL bases, period specified in current valuation report. Future gains/losses are amortized through the calculation of the normal cost in accordance with the FIL cost method amortized based on expected working lifetime, weighted by salary, of the projected population	For FIL bases, period specified in current valuation report. Future gains/losses are amortized through the calculation of the normal cost in accordance with the FIL cost method amortized based on expected working lifetime, weighted by salary, of the projected population
Actuarial asset valuation method	Actuarial value equals market value less unrecognized gains/losses over a 5-year period. Gains/losses are based on market value of assets	Actuarial value equals market value less unrecognized gains/losses over a 5-year period. Gains/losses are based on market value of assets
Interest rate	Net rate of 7.0% for 2015, per annum, net of investment expenses	Net rate of 7.0% for 2014, per annum, net of investment expenses
Inflation	2.5% per annum	2.50% per annum
Deaths after retirement	Tables based on recent experience	Tables based on recent experience
Separations other than for normal retirement	Tables based on recent experience	Tables based on recent experience
Rates of normal retirement	Tables based on recent experience. Rates vary by age, years of service at retirement and Tier/Plan. All members are assumed to retire by age 80	Tables based on recent experience. Rates vary by age, years of service at retirement and Tier/Plan. All members are assumed to retire by age 80
Salary increases	In general, merit and promotion increases plus assumed general wage increases of 3.5% to 15.0% for operating employees and 4.0% to 7.0% for nonoperating employees per year, depending on years of service	In general, merit and promotion increases plus assumed general wage increases of 3.5% to 15.0% for operating employees and 4.0% to 7.0% for nonoperating employees per year, depending on years of service
Overtime	Except for managerial employees, 8.5% of base salary for operating employees and 2.0% of base salary for nonoperating employees, with different assumptions used in the year before retirement. For Tier 6 members, all overtime was assumed to be less than overtime cap	Except for managerial employees, 8.5% of base salary for operating employees and 2.0% of base salary for nonoperating employees, with different assumptions used in the year before retirement. For Tier 6 members, all overtime was assumed to be less than overtime cap
Cost-of-living adjustments	1.375% per annum (2)	1.375% per annum (2)
Provision for expenses	An average of the prior two years' administrative charges added to the normal cost	An average of the prior two years' administrative charges added to the normal cost

(1) Under this actuarial method, the initial liability has been established by the Entry Age Actuarial Cost Method for determining changes in the Unfunded Actuarial Accrued Liability (UAAL) due to plan provision and assumption changes.

(2) Assumes a long-term consumer price inflation assumption of 2.5% per annum, compounded annually.

(continued)

**MANHATTAN AND BRONX SURFACE TRANSIT  
OPERATING AUTHORITY PENSION PLAN****REQUIRED SUPPLEMENTARY INFORMATION  
SCHEDULE OF INVESTMENT RETURNS**

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The money-weighted rate of return considers the changing amounts actually invested during a period and weights the amount of pension plan investments by the proportion of time they are available to earn a return during that period. The following table displays the annual money-weighted rate of return calculated net of investment expense for the Plan for:

<b>Fiscal Year Ended December 31</b>	<b>Annual Money-Weighted Rate of Return</b>
2015	(1.05)%
2014	4.95

Note: Information for periods prior to 2014 was not readily available.

**SUPPLEMENTARY INFORMATION  
(UNAUDITED)**

## MANHATTAN AND BRONX SURFACE TRANSIT OPERATING AUTHORITY PENSION PLAN

### SUMMARY OF PRINCIPAL PLAN PROVISIONS

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#### All Tiers

1. Type of Plan
 

The Plan is a contributory, defined benefit plan. Contributions are not required for Tier I and Tier II members and vary for other members. Details can be found in the following sections.
2. Effective Date of Plan Qualification
 

January 1, 1989; latest amendment was adopted during 2012 to adopt Tier 6 and to clarify the death benefit payable upon retirement for operating members.
3. Compensation
 

The wages earned by the employee. Compensation is limited by Section 401(a)(17) of the Code. This limit is \$265,000 for 2015.
4. Credited Service
 

Credited Service is credited full-time employment from date of hire.
5. Pensioner Supplementations
  - (a) 1998 Supplement
 

Eligibility: Date of retirement is prior to 1993 for all disability pensioners and other pensioners who have attained (or will attain) age 62 or who have attained (or will attain) age 55 and have been retired for at least 10 years.

Benefit: Commencing with the payment for the month of September 1998, the cost-of-living adjustment is applied to the first \$13,500 of the maximum retirement allowance, computed without option modification. If not eligible by September 1998, payment will commence first of the month following eligibility.
  - (b) 1999 Supplement
 

Eligibility: Date of retirement is prior to 1994 for all disability pensioners and other pensioners who have attained (or will attain) age 62 or who have attained (or will attain) age 55 and have been retired for at least 10 years.

Benefit: Commencing with the payment for the month of September 1999, the cost-of-living adjustment is applied to the first \$14,000 of the maximum retirement allowance, computed without option modification. If not eligible by September 1999, payment will commence first of the month following eligibility.

## All Tiers

### (c) 2000 Supplement

Eligibility: Date of retirement is prior to 1997 and one of the following conditions is met:

- (i) All disability pensioners who have been retired for at least 5 years,
- (ii) Other pensioners who have attained (or will attain) age 62 and have been retired for at least 5 years,
- (iii) Other pensioners who have attained (or will attain) age 55 and have been retired for at least 10 years and
- (iv) All recipients of an accidental death benefit who have been in receipt of payments for at least 5 years.

Benefit: Commencing with the payment for the month of September 2000, the cost-of-living adjustment is applied to the first \$18,000 of the maximum retirement allowance, computed without option modification. The cost-of-living adjustment is equal to the change in the CPI-U measured from year of retirement through 1997 multiplied by 50% (greater percentages exist if date of retirement is prior to 1968). If not eligible by September 2000, payment will commence first of the month following eligibility.

Surviving Spouse Eligibility: The surviving spouse of a deceased retired member who chose any joint and survivor option.

Surviving Spouse Benefit: Commencing with the payment for the month of September 2000, the benefit is equal to 50% of the 2000 supplementation which the pensioner would be receiving if living.

## All Tiers

### (d) Automatic Cost-of-Living Adjustment (COLA)

Eligibility: One of the following conditions is met:

- (i) All disability pensioners who have been retired for at least 5 years,
- (ii) Other pensioners who have attained (or will attain) age 62 and have been retired for at least 5 years,
- (iii) Other pensioners who have attained (or will attain) age 55 and have been retired for at least 10 years and
- (iv) All recipients of an accidental death benefit who have been in receipt of payments for at least 5 years.

Benefit: Commencing with the payment for the month of September 2001 and continuing each September thereafter, the COLA is applied to the first \$18,000 of the maximum retirement allowance, computed without option modification plus any prior COLAs or supplementations. The cost-of-living adjustment is equal to the change in the CPI-U for the year ending March 31 multiplied by 50%. The resulting percentage is then rounded up to the next higher 0.1% and shall not exceed 3.0% nor be less than 1.0%. If not eligible by September 2001 or each September thereafter, payment will commence first of the month following eligibility.

Surviving Spouse Eligibility: The surviving spouse of a deceased retired member who chose any joint and survivor option.

Surviving Spouse Benefit: The benefit is equal to 50% of the automatic COLA benefit which the pensioner would be receiving if living and commence in the month following the death of the deceased member.

### 6. Normal and Optional Forms of Payment

The basic benefits described in the following sections are payable in the form of a life annuity. Other options are 100% and 50% contingent annuities with and without a popup feature, 5-year and 10-year certain and life annuities, and single life annuities with an insurance feature.

Benefits payable under the optional forms are actuarially adjusted to reflect the anticipated longer payment stream.

### 7. Maximum Benefit

Maximum benefits payable conform to those legislated by the Tax Reform Act of 1986. For 2015, the maximum benefit is \$210,000.

### 8. Changes in Plan Provisions Since Prior Valuation

There have been no changes in plan provisions since the prior valuation.

## I. Tier 1 Employees

1. Eligibility  
Members hired before July 1, 1973.
2. Pensionable Compensation
  - (a) Compensation  
Greater of earned or earnable salary during the year prior to retirement.
  - (b) Final Compensation  
Highest average earnings over five consecutive years.
  - (c) Compensation Limit  
If hired after June 17, 1971, earnings in a year are limited to 120% of the preceding year.
3. Benefits
  - (a) Service Retirement  
Eligibility: Attainment of age 50 and completion of 20 years of credited service.  
Benefit:  
1.5% for service before March 1, 1962, plus  
2.0% for service from March 1, 1962 to June 30, 1970, plus  
2.5% for service after June 30, 1970  
The accumulated percentage above, up to a maximum of 50%, is multiplied by the member's Compensation. Once the accumulated percentage reaches 50%, the percentage for each further year of service reverts back to 1.5%. The percentage in excess of 50% is multiplied by the Final Compensation.
  - (b) Termination Benefits  
Eligibility: Completion of 20 years of credited service.  
Benefit: The Service Retirement Benefit with compensation and service calculated as of the date of termination. The benefit is deferred until age 50.
  - (c) Ordinary Death Benefits  
Active Members  
Eligibility: Completion of 6 months of credited service, but the benefit described below requires completion of 20 years of credited service.  
Benefit: A lump sum equal to the present value of the retirement benefit under the Return of Reserve option.  
Terminated Vested Members  
If a member dies before age 50, a lump sum equal to the present value of the retirement benefit under the Return of Reserve option is payable (Death Gamble).

**I. Tier 1 Employees**

- |   |   |
|---|---|
| (d) Accidental Death Benefits                       | Eligibility: Duty-related death.<br>Benefit: The benefit equals 50% of Final Compensation.  |
| (e) Ordinary Disability Benefits                    | Eligibility: Completion of 10 years of credited service.<br>Benefit: The benefit equals the greater of the Service Retirement percentages described (a) above or 25% multiplied by Final Compensation. If eligible for a service retirement benefit, the greater of this benefit and the Service Retirement benefit is payable. |
| (f) Accidental Disability Benefits                  | Eligibility: Duty-related accident.<br>Benefit: The benefit equals 75% of the Final Compensation reduced by 100% of any worker's compensation payments. If eligible for a service retirement benefit, the greater of this benefit and the Service Retirement benefit is payable.  |
| 4. Member Contributions                             | None  |
| 5. Changes in Plan Provisions Since Prior Valuation | None  |

## II. Tier 2 Employees

1. Eligibility Members hired on or after July 1, 1973, and before July 27, 1976.
2. Final Average Compensation
  - (a) Final 3-Year Average Compensation: Highest average earnings over three consecutive years.
  - (b) Final 5-Year Average Compensation: Highest average earnings over five consecutive years.
  - (c) Compensation Limit: Earnings in a year cannot exceed 120% of the average of the two preceding years.
3. Benefits
  - (a) Service Retirement  
Eligibility: Attainment of age 55 and completion of 25 years of credited service.  
Benefit: The benefit equals 50% of Final 3-Year Average Compensation for the first 20 years of credited service, plus 1.5% of Final 5-Year Average Compensation per year of credited service in excess of 20 years.
  - (b) Early Retirement  
Eligibility: Attainment of age 50 and completion of 20 years of credited service.  
Benefit: Determined in the same manner as the Service Retirement benefit but no greater than 2.0% of the Final 3-Year Average Compensation per year of credited service.
  - (c) Termination Benefits  
Eligibility: Completion of 20 years of credited service.  
Benefit: The benefit equals the Early Retirement benefit, with compensation and service calculated as of the date of termination. The benefit is deferred until age 50. If a member dies before age 50, 50% of the ordinary death benefit (below) is payable.
  - (d) Ordinary Death Benefit  
Eligibility: Completion of 90 days of credited service.  
Benefit: The benefit equals a lump sum equal to 3 times salary, raised to the next multiple of \$1,000.
  - (e) Accidental Death Benefit  
Eligibility: Duty-related death.  
Benefit: The benefit equals 50% of the Final 5-Year Average Compensation.

## II. Tier 2 Employees

- |   |  |
|---|--|
| (f) Ordinary Disability Benefits                    | Eligibility: Completion of 10 years of credited service<br>Benefit: The benefit equals the greater of the Service Retirement percentage calculated in (a) above and 25% multiplied by Final 5-Year Average Compensation. If eligible for an Early or Service Retirement benefit, the greater of this benefit and the Early or Service Retirement benefit is payable. |
| (g) Accidental Disability Benefits                  | Eligibility: Duty-related accident.<br>Benefit: The benefit equals 75% of the Final 5-Year Average Compensation reduced by any worker's compensation payments. If eligible for an Early or Service Retirement benefit, the greater of this benefit and the Early or Service Retirement benefit is payable.   |
| 4. Member Contributions                             | None   |
| 5. Changes in Plan Provisions Since Prior Valuation | None   |

## Tier III/IV—Basic 62 & 5 Plan

1. Eligibility  
Non-operating Members hired prior to June 28, 1995, who have not elected the 55 & 25 Plan. Members hired on or after July 27, 1976, and before September 1, 1983, are in Tier III. Members hired on or after September 1, 1983, are in Tier IV.
2. Final Average Compensation  
Highest average earnings during any three consecutive calendar-years periods, or the final 36 months immediately preceding the member's retirement date. Earnings used in the calculation ~~a year~~ cannot exceed 110% of the average of the two preceding years.
3. Benefits
  - (a) Service Retirement  
Eligibility: Attainment of age 62 and completion of at least 5 years of credited service.  
Benefit: If at least 20 years of credited service is completed, the benefit equals 2.0% of Final Average Compensation for first 30 years of credited service plus 1.5% of Final Average Compensation for years of credited service in excess of 30. If completed less than 20 years of credited service, the benefit equals 1-2/3% of Final Average Compensation multiplied by years of credited service.
  - (b) Early Retirement  
Eligibility: Attainment of age 55 and completion of at least 5 years of credited service.  
Benefit: The benefit equals the Service Retirement benefit reduced by 6% for each of the first two years prior to age 62, and by 3% for years prior to age 60.
  - (c) Termination Benefits
    - (i) Refund of Contributions  
Eligibility: Completion of less than 5 years of Credited Service.  
Benefit: The benefit equals a refund of the member's contributions accumulated with interest at a rate of 5.0%.
    - (ii) Vested Benefit  
Eligibility: Completion of at least 5 years of credited service.  
Benefit: The benefit equals the Service Retirement benefit with compensation and service calculated as of the date of termination. The benefit is deferred until age 62. A vested participant with less than 10 years of credited service may elect to receive the benefit in (i) above in lieu of this benefit. If a member with at least 10 years of credited service dies before commencing benefits, 50% of the ordinary death benefit (below) is payable. All accumulated regular contributions with interest are payable.

**Tier III/IV—Basic 62 & 5 Plan**

(d) Ordinary Death Benefits

Eligibility: all members.

Pre-retirement Benefit: The benefit equals a lump sum of annual salary times the lesser of completed years of credited service and 3. After age 60, the benefit is reduced 5% per year, to a maximum reduction of 50%. Accumulated regular member contributions with interest and one-half of accumulated additional member contributions with interest are also payable.

Post-retirement Benefit: Upon retirement the pre-retirement benefit shall be reduced by 50% and reduced an additional 25% after completion of one year of retirement. After completion of two years of retirement, the benefit equals 10% of the pre-retirement benefit in force at age 60.

Spouse Benefit (Tier III only)

Eligibility: Vested and spouse is beneficiary.

Benefit: In lieu of the ordinary death benefit above, the spouse may elect 1/3 of the ordinary death benefit plus an annuity of 1.0% of Final Average Compensation per year of credited service, payable for life, or until remarriage. If the surviving spouse is more than 10 years younger, the annuity is actuarially reduced. The total of all payments will at least equal the amount of the full lump sum benefit.

(e) Accidental Death Benefits

Eligibility: Duty-related death.

Benefit: The benefit equals 50% of compensation paid to eligible beneficiary as defined by priority:

- (i) Spouse, until remarriage
- (ii) Children, to age 25
- (iii) Dependent parents
- (iv) Any other dependent survivors, to age 21.

Total of all payments will at least equal the amount of the full ordinary death lump sum benefit.

**Tier III/IV—Basic 62 & 5 Plan**

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|---|--|
| (f) Ordinary and Accidental Disability Benefits     | Eligibility: Completion of 10 years of credited service for ordinary. No service required for accidental.  |
|   | Benefit: The benefit equals the greater of 1-2/3% of Final Average Compensation per year of credited service and 1/3 of Final Average Compensation. If eligible for a Service Retirement benefit, the greater of this benefit and the Service Retirement benefit is payable. |
| 4. Member Contributions                             | Regular contribution rate of 3.0%. Regular contributions cease at the later of October 1, 2000, or the later of 10 years of membership or 10 years of credited service.  |
| 5. Changes in Plan Provisions Since Prior Valuation | None   |

## Tier III/IV—55 & 25 Programs

1. Eligibility

All operating members hired prior to April 1, 2012 and non-operating members hired prior to July 26, 1994, who elected this program. Members hired on or after July 27, 1976, and before September 1, 1983, are in Tier III. Members hired on or after September 1, 1983 and before April 1, 2012 are in Tier IV.
2. Final Average Compensation

Highest average earnings during any three consecutive calendar-years periods, or the final 36 months immediately preceding the member's retirement date. Earnings used in the calculation cannot exceed 110% of the average of the two preceding years.
3. Benefits
  - (a) Service Retirement

Eligibility: Attainment of age 55 and completion of at least 25 years of credited service, or attainment of age 62 and completion of at least 5 years of credited service.

Benefit: If at least 25 years of credited service (or age 62 with at least 20 years of credited service) is completed, the benefit equals 2.0% of Final Average Compensation for the first 30 years of credited service plus 1.5% of Final Average Compensation for years of credited service in excess of 30. If completed less than 25 years of credited service (or less than age 62 with 20 years of credited service), the benefit equals 1-2/3% of Final Average Compensation multiplied by years of credited service. For non-operating employees who have attained age 62, a refund of one-half of the member's additional contributions accumulated at a rate of 5.0% is also payable.
  - (b) Termination Benefits
    - (i) Refund of Contributions

Eligibility: Completion of less than 5 years of credited service.

Benefit: The benefit equals a refund of the basic member's accumulated contributions. Non-operating can also obtain 50% of additional member contribution. All contributions are refunded with interest at a rate of 5.0% also payable.

## Tier III/IV—55 & 25 Programs

### (ii) Vested Benefit

Eligibility: Completion of at least 5 years of credited service.

Benefit: The benefit equals the Service Retirement benefit with compensation and service calculated as of the date of termination. The benefit is deferred until age 62 if credited service is less than 25 years, else the benefit is deferred until age 55. A vested participant with less than 10 years of credited service may elect to receive the benefit in (i) above in lieu of this benefit. If a member with at least 10 years of credited service dies before commencing benefits, 50% of the salary-related ordinary death benefit (below) plus accumulated regular contributions with interest and one-half of accumulated additional member contributions with interest are payable.

### (c) Ordinary Death Benefits

Eligibility: All members.

Pre-retirement Benefit: A maximum ~~The~~ benefit equals to a lump sum of three times annual salary for members with 3 or more years of credited service. The benefit payment is less if fewer than 3 years of credited service. After age 60, the benefit is reduced 5% per year, to a maximum reduction of 50%. Accumulated regular member contributions with interest and one-half of accumulated additional member contributions with interest are also payable.

Post-retirement Benefit: Upon retirement the pre-retirement benefit shall be reduced by 50% and reduced an additional 25% after completion of one year of retirement. After completion of two years of retirement, the benefit equals 10% of the pre-retirement benefit in force at age 60.

#### Spouse Benefit (Tier III only)

Eligibility: Vested and spouse is beneficiary.

Benefit: In lieu of the ordinary death benefit above, the spouse may elect 1/3 of the ordinary death benefit plus an annuity of 1.0% of Final Average Compensation per year of credited service, payable for life, or until remarriage. If the surviving spouse is more than 10 years younger, the annuity is actuarially reduced. The total of all payments will at least equal the amount of the full lump sum benefit.

**Tier III/IV—55 & 25 Programs**

- (d) Accidental Death Benefits      Eligibility: Duty-related death.  
Benefit: The benefit equals 50% of compensation paid to eligible beneficiary as defined by priority:  
(i) Spouse, until remarriage  
(ii) Children, to age 25  
(iii) Dependent parents  
(iv) Any other dependent survivors, to age 21.  
Total of all payments will at least equal the amount of the full ordinary death lump sum benefit.
- (e) Ordinary and Accidental Disability Benefits      Eligibility: Completion of 10 years of credited service for ordinary. No service requirement for accidental.  
Benefit: The benefit equals the greater of 1-2/3% of Final Average Compensation per year of credited service and 1/3 of Final Average Compensation. If eligible for a Service Retirement benefit, the greater of this benefit and the Service Retirement benefit is payable. For non-operating employees, a refund of one-half of the member's additional contributions accumulated plus interest at a rate of 5.0% is also payable.
4. Member Contributions      Operating Employees: Regular contribution rate of 2.0%. Additional 55/25 contributions were made through 2000. These contributions may be refunded effective November, 2007 for TWU Local 100 and April, 2008 for TSO Local 106.  
Non-operating Employees: Regular contribution rate of 3.0%. Regular contributions cease at the later of October 1, 2000 or after the later of 10 years of membership or 10 years of credited service. Additional contribution rate of 1.85%, which ceases after 30 years of credited service.
5. Changes in Plan Provisions Since Prior Valuation      None

## Tier IV—57 & 5 Plan

1. Eligibility  
Non-operating members hired on or after June 28, 1995 and prior to April 1, 2012. Members hired on or after September 1, 1983 and before April 1, 2012 are in Tier IV.
2. Final Average Compensation  
Highest average earnings during any three consecutive calendar-years periods, or the final 36 months immediately preceding the member's retirement date. Earnings used in the calculation cannot exceed 110% of the average of the two preceding years.
3. Benefits
  - (a) Service Retirement  
Eligibility: Attainment of age 57 and completion of at least 5 years of credited service.  
Benefit: If at least 20 years of credited service are completed, the benefit equals 2.0% of Final Average Compensation for the first 30 years of credited service plus 1.5% of Final Average Compensation for years of credited service in excess of 30. If less than 20 years of credited service are completed, the benefit equals 1-2/3% of Final Average Compensation multiplied by years of credited service. For non-operating employees who have attained age 62, a refund of one-half of the member's additional contributions accumulated plus interest at a rate of 5.0% is also payable.
  - (b) Termination Benefits
    - (i) Refund of Contributions  
Eligibility: Completion of less than 5 years of credited service.  
Benefit: The benefit equals a refund of the member's contributions accumulated plus interest at a rate of 5.0%.
    - (ii) Vested Benefit  
Eligibility: Completion of at least 5 years of credited service.  
Benefit: The benefit equals the Service Retirement benefit with compensation and service calculated as of the date of termination. The benefit is deferred until age 57. A vested participant with less than 10 years of credited service may elect to receive the benefit in (i) above in lieu of this benefit. If a member with at least 10 years of credited service dies before commencing benefits, 50% of the salary-related ordinary death benefit (below) is payable. All accumulated regular contributions with interest and one-half of accumulated additional member contributions with interest are payable.

## Tier IV—57 & 5 Plan

- (c) Ordinary Death Benefits
- Eligibility: All members
- Pre-retirement Benefit: A maximum ~~The~~ benefit equals to a lump sum of three times annual salary for members with 3 or more years of credited service. The benefit payment is less if fewer than 3 years of credited service. After age 60, the benefit is reduced 5% per year, to a maximum reduction of 50%. Accumulated regular member contributions with interest and one-half of accumulated additional member contributions with interest are also payable.
- Post-retirement Benefit: Upon retirement the pre-retirement benefit shall be reduced by 50% and reduced an additional 25% after completion of one year of retirement. After completion of two years of retirement, the benefit equals 10% of the pre-retirement benefit in force at age 60.
- (d) Accidental Death Benefits
- Eligibility: Duty-related death.
- Benefit: The benefit equals 50% of final 1-year compensation paid to eligible beneficiary as defined by priority:
- (i) Spouse, until remarriage
  - (ii) Children, to age 25
  - (iii) Dependent parents
  - (iv) Any other dependent survivors, to age 21.
- Total of all payments will at least equal the amount of the full ordinary death lump sum benefit.
- (e) Ordinary and Accidental Disability Benefits
- Eligibility: Completion of 10 years of credited service for ordinary. No service requirement for accidental.
- Benefit: The benefit equals the greater of 1-2/3% of Final Average Compensation per year of credited service and 1/3 of Final Average Compensation. If eligible for Service Retirement benefit, the greater of this benefit and the Service Retirement benefit is payable. For non-operating employees, a refund of one-half of the member's additional contributions accumulated at a rate of 5.0% is also payable.
4. Member Contributions
- Regular contribution rate of 3.0%. Regular contributions cease at the later of October 1, 2000, or after the later of 10 years of membership or 10 years of credited service. Additional contribution rate of 1.85%, which ceases after 30 years of credited service.
5. Changes in Plan Provisions Since Prior Valuation
- None

## Tier VI—55 & 25 Special Plan

1. Eligibility 

All operating members hired on or after April 1, 2012.
2. Final Average Compensation 

Highest average pensionable earnings over five consecutive years. Pensionable earnings exclude any overtime earnings, defined as compensation paid at a rate greater than the standard rate, in excess of the overtime cap. The overtime cap is indexed annually and is \$15,490 for 2015. Pensionable earnings also exclude wages in excess of the annual salary paid to the Governor of New York, lump sum payments for sick leave, accumulated vacation and other credits for time not worked, termination pay and any additional compensation paid in anticipation of retirement. Pensionable earnings in a year cannot exceed 110% of the average of the four preceding years.
3. Benefits
  - (a) Service Retirement 

Eligibility: Attainment of age 55 and completion of at least 25 years of credited service, or attainment of age 63 and completion of at least 10 years of credited service.

Benefit: If completed at least 25 years of credited service, the benefit equals 2.0% of Final Average Compensation for the first 30 years of credited service plus 1.5% of Final Average Compensation for years of credited service in excess of 30. If completed at least 20 years, but less than 25 years of credited service, 35% of Final Average Compensation plus 2% of Final Average Compensation for years of credited service in excess of 20. If completed less than 20 years of credited service, the benefit equals 1-2/3% of Final Average Compensation multiplied by years of credited service.
  - (b) Termination Benefits
    - (i) Refund of Contributions 

Eligibility: Completion of less than 10 years of credited service.

Benefit: The benefit equals a refund of the member's contributions accumulated plus interest at a rate of 5.0%.
    - (ii) Vested Benefit 

Eligibility: Completion of at least 10 years of credited service.

Benefit: The benefit equals the Service Retirement benefit with compensation and service calculated as of the date of termination. The benefit is deferred until age 63 if credited service is less than 25 years, else the benefit is deferred until age 55. If a member with at least 10 years of credited service dies before commencing benefits, 50% of the salary-related ordinary death benefit (below) plus accumulated regular contributions with interest are payable.

**Tier VI—55 & 25 Special Plan**

(c) Ordinary Death Benefits

Eligibility: All members

Pre-retirement Benefit: The benefit equals a lump sum of annual salary times the lesser of completed years of credited service and 3. After age 60, the benefit is reduced 5% per year, to a maximum reduction of 50%. Accumulated regular member contributions with interest and one-half of accumulated additional member contributions with interest are also payable.

Post-retirement Benefit: Upon retirement the pre-retirement benefit shall be reduced by 50% and reduced an additional 25% after completion of one year of retirement. After completion of two years of retirement, the benefit equals 10% of the pre-retirement benefit in force at age 60.

(d) Accidental Death Benefits

Eligibility: Duty-related death.

Benefit: The benefit equals 50% of compensation paid to eligible beneficiary as defined by priority:

(i) Spouse, until remarriage

(ii) Children, to age 25

(iii) Dependent parents

(iv) Any other dependent survivors, to age 21.

Total of all payments will at least equal the amount of the full ordinary death lump sum benefit.

(e) Ordinary and Accidental Disability Benefits

Eligibility: Completion of 10 years of credited service for ordinary. No service requirement for accidental.

Benefit: The benefit equals the greater of 1-2/3% of Final Average Compensation per year of credited service and 1/3 of Final Average Compensation. If eligible for a Service Retirement benefit, the greater of this benefit and the Service Retirement benefit is payable.

**Tier VI—55 & 25 Special Plan**

4. Member Contributions

Regular contribution rate varies based on gross wages earned during two plan years (April 1 to March 31) prior to applicable plan year based on following table. For first three years, a projection of annual wages will be used. The rate for the plan year ending March 31, 2013 for all Tier 6 employees is 2%.

Annual Wages Earned During Plan Year	Contribution Rate
Up to \$45,000	3.00%
\$45,001–\$55,000	3.50%
\$55,001–\$75,000	4.50%
\$75,001–\$100,000	5.75%
Greater than \$100,000	6.00%

5. Changes in Plan Provisions Since Prior Valuation

None

## **Tier VI—Basic 63 and 10 Plan**

1. Eligibility 

All non-operating members hired on or after April 1, 2012.
2. Final Average Compensation 

Highest average pensionable earnings over five consecutive years. Pensionable earnings exclude any overtime earnings, defined as compensation paid at a rate greater than the standard rate, in excess of the overtime cap. The overtime cap is indexed annually and is \$15,490 for 2015. Pensionable earnings also exclude wages in excess of the annual salary paid to the Governor of New York, lump sum payments for sick leave, accumulated vacation and other credits for time not worked, termination pay and any additional compensation paid in anticipation of retirement. Pensionable earnings in a year cannot exceed 110% of the average of the four preceding years.
3. Benefits
  - (a) Service Retirement 

Eligibility: Attainment of age 63 and completion of at least 10 years of credited service.

Benefit: If completed at least 20 years of credited service, 35% of Final Average Compensation plus 2% of Final Average Compensation for years of credited service in excess of 20. If completed less than 20 years of credited service, the benefit equals 1-2/3% of Final Average Compensation multiplied by years of credited service.
  - (b) Early Retirement 

Eligibility: Attainment of age 55 and completion of at least 10 years of credited service.

Benefit: The benefit equals the Service Retirement benefit reduced by 6.5% for each year prior to age 63.
  - (c) Termination Benefits
    - (i) Refund of Contributions 

Eligibility: Completion of less than 10 years of credited service.

Benefit: The benefit equals a refund of the member's contributions accumulated plus interest at a rate of 5.0%.
    - (ii) Vested Benefit 

Eligibility: Completion of at least 10 years of credited service.

Benefit: The benefit equals the Service Retirement benefit with compensation and service calculated as of the date of termination. The benefit is deferred until age 63. If a member with at least 10 years of credited service dies before commencing benefits, 50% of the salary-related ordinary death benefit (below) plus accumulated regular contributions with interest are payable.

**Tier VI—Basic 63 and 10 Plan**

(d) Ordinary Death Benefits

Eligibility: All members

Pre-retirement Benefit: A maximum ~~The~~ benefit equals to a lump sum of three times annual salary for members with 3 or more years of credited service. The benefit payment is less if fewer than 3 years of credited service. After age 60, the benefit is reduced 5% per year, to a maximum reduction of 50%. Accumulated regular member contributions with interest and one-half of accumulated additional member contributions with interest are also payable.

Post-retirement Benefit: Upon retirement the pre-retirement benefit shall be reduced by 50% and reduced an additional 25% after completion of one year of retirement. After completion of two years of retirement, the benefit equals 10% of the pre-retirement benefit in force at age 60.

(e) Accidental Death Benefits

Eligibility: Duty-related death.

Benefit: The benefit equals 50% of compensation paid to eligible beneficiary as defined by priority:

- (i) Spouse, until remarriage
- (ii) Children, to age 25
- (iii) Dependent parents
- (iv) Any other dependent survivors, to age 21.

Total of all payments will at least equal the amount of the full ordinary death lump sum benefit.

(f) Ordinary and Accidental Disability Benefits

Eligibility: Completion of 10 years of credited service for ordinary. No service requirement for accidental.

Benefit: The benefit equals the greater of 1-2/3% of Final Average Compensation per year of credited service and 1/3 of Final Average Compensation. If eligible for Service Retirement benefit, the greater of this benefit and the Service Retirement benefit is payable.

**Tier VI—Basic 63 and 10 Plan**

4. Member Contributions

Regular contribution rate varies based on gross wages earned during two plan years (April 1 to March 31) prior to applicable plan year based on following table. For first three years, a projection of annual wages will be used. The rate for the plan year ending March 31, 2013 for all Tier 6 employees is 3%.

Annual Wages Earned During Plan Year	Contribution Rate
Up to \$45,000	3.00%
\$45,001–\$55,000	3.50%
\$55,001–\$75,000	4.50%
\$75,001–\$100,000	5.75%
Greater than \$100,000	6.00%

5. Changes in Plan Provisions Since Prior Valuation

None