

Metropolitan Transportation Authority Defined Benefit Pension Plan

Financial Statements as of and for the
Years Ended December 31, 2016 and 2015,
Supplemental Schedules, and
Independent Auditors' Report

METROPOLITAN TRANSPORTATION AUTHORITY DEFINED BENEFIT PENSION PLAN

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INDEPENDENT AUDITORS' REPORT

To the Board of Managers of Pensions
Metropolitan Transportation Authority Defined Benefit Pension Plan

Report on the Financial Statements

We have audited the accompanying statements of plan net position of the Metropolitan Transportation Authority Defined Benefit Pension Plan (the "Plan") as of December 31, 2016 and 2015, 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 net position as of December 31, 2016 and 2015, and the respective 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 9 and the Schedule of Changes in the Employers' Net Pension Liability and Related Ratios-Schedule I on page 53; Schedule of Employer Contributions-Schedule II on page 54-55; and Schedule of Investment Returns-Schedule III on page 56 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.

Deloitte & Touche LLP

February 22, 2018

METROPOLITAN TRANSPORTATION AUTHORITY DEFINED BENEFIT PENSION PLAN

MANAGEMENT'S DISCUSSION AND ANALYSIS DECEMBER 31, 2016 AND 2015 (UNAUDITED)

This management's discussion and analysis of the Metropolitan Transportation Authority Defined Benefit Pension Plan (the "Plan") financial performance provides an overview of the Plan's financial activities for the years ended December 31, 2016 and 2015. 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 year's activity and results. This discussion and analysis may contain opinions, assumptions, or conclusions by the MTA's 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 10.

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** - present 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.

CONDENSED FINANCIAL INFORMATION AND ANALYSIS

Plan Net Position

December 31, 2016, 2015 and 2014

(Dollars in thousands)

	2016	2015	2014	Increase / Decrease			
				2016-2015		2015-2014	
				\$	%	\$	%
Cash and investments	\$ 3,433,122	\$ 3,096,159	\$ 3,082,790	\$ 336,963	10.9	\$ 13,369	0.4
Receivables and other assets	1,753	2,243	127,137	(490)	(21.8)	(124,894)	(98.2)
Total assets	\$ 3,434,875	\$ 3,098,402	\$ 3,209,927	\$ 336,473	10.9	\$ (111,525)	(3.5)
Due to broker for securities purchased	2,391	18,771	57,978	(16,380)	(87.3)	(39,207)	(67.6)
Other liabilities	12,513	4,854	86,729	7,659	157.8	(81,875)	(94.4)
Total liabilities	14,904	23,625	144,707	(8,721)	(36.9)	(121,082)	(83.7)
Plan net position restricted for pensions	\$ 3,419,971	\$ 3,074,777	\$ 3,065,220	\$ 345,194	11.2	\$ 9,557	0.3

December 31, 2016 versus December 31, 2015

Cash and investments at December 31, 2016 were \$3,433.1 million representing an increase of \$337.0 million or 10.9% from 2015. This increase is a result of investment activity and plan contributions net of benefit payments and expenses during 2016.

Receivables and other assets net of liabilities at December 31, 2016 decreased by \$8.2 million or 215.9% from 2015. The is due primarily to a decrease in interest and dividend receivables in the amount of \$0.5 million, and a decrease in net securities sold at the end of 2015 in the amount of \$16.4 million, offset by an increase in liabilities related to investment management fees of \$2.0 million, administrative expenses of \$0.5 million and amounts due for employer contribution to the Long Island Railroad Additional Plan in the amount of \$6.2 million.

The plan net position held in trust for pension benefits increased by \$345.2 million or 11.2% in 2016 as a result of the changes noted above.

December 31, 2015 versus December 31, 2014

Cash and investments at December 31, 2015 were \$3,096.2 million representing an increase of \$13.4 million or 0.4% from 2014. This increase is a result of investment activity and plan contributions net of benefit payments and expenses during 2015.

Receivables and other assets net of liabilities at December 31, 2015 increased by \$3.8 million or 21.2% from 2014. The is due primarily to a decrease in collateral fund receivable in the amount of \$80.8 million, and a decrease in net securities sold at the end of 2014 in the amount of \$43.9 million, offset by a decrease in forward currency contracts in the amount of \$80.1 million.

The plan net position held in trust for pension benefits increased \$9.6 million or 0.3% in 2015 as a result of the changes noted above.

Changes in Plan Net Position

**December 31, 2016, 2015
and 2014**

(Dollars in thousands)

	2016	2015	2014	Increase / Decrease			
				2016-2015		2015-2014	
				\$	%	\$	%
Additions:							
Net investment income	\$ 247,708	\$ (45,122)	\$ 102,245	\$ 292,830	649.0	\$ (147,367)	(144.1)
Transfers and contributions	310,160	256,213	357,265	53,947	21.1	(101,052)	(28.3)
Total net additions	557,868	211,091	459,510	346,777	164.3	(248,419)	(54.1)
Deductions:							
Benefit payments	209,623	199,572	191,057	\$ 10,051	5.0	\$ 8,515	4.5
Administrative expenses	3,051	1,962	9,600	1,089	55.5	(7,638)	(79.6)
Total deductions	212,674	201,534	200,657	11,140	5.5	877	0.4
Net increase in Plan net position	345,194	9,557	258,853	335,637	3511.9	(249,296)	(96.3)
Plan net position							
restricted for pensions:							
Beginning of year	3,074,777	3,065,220	2,806,367	9,557	0.3	258,853	9.2
End of year	\$ 3,419,971	\$ 3,074,777	\$ 3,065,220	\$ 345,194	11.2	\$ 9,557	0.3

December 31, 2016 versus December 31, 2015

Net investment income increased by \$292.8 million in 2016 due to net investment gains of \$247.7 million in 2016 versus net losses of \$45.1 million experienced in 2015.

Contributions increased by \$53.9 million or 21.1% in 2016 compared to 2015 as required by the Actuarial Determined Contributions (“ADC”) and member contributions from 2015 to 2016.

Benefit payments increased by \$10.1 million or 5.0% over the prior year due to a continuing trend of increases in the number of retirees and cost-of-living adjustments provided to retirees and beneficiaries.

Administrative expenses increased by \$1.1 million, or 55.5% over 2015. This increase is due primarily to expenses charged in 2016 for various services provided to the Plan.

December 31, 2015 versus December 31, 2014

Net investment income decreased by \$147.4 million or 144.1% in 2015 due to net investment losses of \$45.1 million in 2015 versus net gains of \$102.2 million in 2014.

Contributions decreased by \$101.1 million or 28.3% in 2015 compared to 2014 as a result of a decrease in the Actuarial Determined Contributions (“ADC”) from 2014 to 2015.

Benefit payments increased by \$8.5 million or 4.5% over the prior year due to a continuing trend of increases in the number of retirees and cost-of-living adjustments provided to retirees and beneficiaries.

Administrative expenses decreased by \$7.6 million, or 79.6% over 2014. This decrease is due primarily to a reduction in an offshore tax liability investment charge of \$6.0 million, and a reduction in other fees and expenses charged in 2015 for various services provided to the Plan.

Economic Factors

Market Overview and Outlook – 2016

Despite investors entering the year with a myriad of concerns; such as soft economic growth in the United States (“U.S.”) and China, elevated valuations in nearly every market and asset class, and rising geopolitical tensions, performance proved to be robust and resilient across almost all major markets. After a weak 2015 appetite for risk was hearty as equities continued to march ever higher in the U.S., Japan, and Emerging Markets and returns were strong in the riskier corners of fixed income in investment grade, high yield, and emerging markets bonds.

Market performance was framed by a rather benign macro environment, albeit with some transitory complications. In 2015, eyes had 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 in 2015. As the calendar flipped from 2015 to 2016, these concerns dissipated and emerging markets rallied significantly off their 2015 lows. Europe was again in the headlines, this time as Brexit caused momentary anxiety that evaporated within days of the history-making vote. Nonetheless, Europe and the United Kingdom were among the few markets to post negative performance for 2016.

In the U.S., the Federal Reserve held off raising interest rates until December, well off the pace and trajectory forecast by markets heading into 2016. The December raise came weeks after Donald Trump’s election to the Presidency, which fueled a strong equities market push in the 4th quarter behind expectations for regulatory reform, repeal of the Affordable Care Act, and a re-writing of the U.S. Tax Code. How realistic these expectations are will play out in 2017 and 2018 ahead of the mid-term election cycle will remain to be seen.

Macro Themes

- Tepid global growth continuing
- Central Bank policy divergence, U.S. tightening while Europe and Japan eases
- China reforms; turmoil in emerging markets and commodities
- High valuations and increasing leverage

The macro picture was framed by tepid global growth in 2016, with the likelihood that below average economic performance would continue into 2017 and 2018. Developed markets look to remain lukewarm, with Gross Domestic Product (“GDP”) growth struggling to break through the (+3.0%) level globally and perhaps likely to fall short in the U.S., Europe, or Japan in 2017 or 2018 according to both the International Monetary Fund (“IMF”) and World Bank. Inflation remains subdued across the developed markets while currency depreciation in emerging markets have led to spikes in inflation. The U.S. is in an environment where short-term 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. The continued European Central Bank intervention in credit and bond markets may lead to problems down the road. In emerging markets, central banks have moved to increase interest rates in order to tame both inflation and capital outflows. The slower pace of U.S. interest rate increases has continued to result in a U.S. dollar weakening a bit from highs in 2015 and 2016, potentially easing some strain on the U.S. manufacturing and exporting sectors.

Europe continues to be impacted by high levels of public debt, fractious politics and low economic growth. Like emerging markets, a significant portion of Europe’s export engine is tied to Chinese demand and growth. Lower growth in China will place pressures on Europe, in particular net exporters, such as Germany. Debt levels have not yet moderated post-financial crisis and flare-ups in 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 should new rules (Basel III) 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 posted solid returns in 2016 as the impact of capital flows due to the U.S. interest rate increases were much lower than expected. 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 (+7.0%) per year and will face a significant leadership election in late 2017. Russia remains impacted from lower energy prices and economic sanctions. 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 U.S. were strong for the year and were amongst the best performers in 2016. Unlike other regions, the U.S. appears to be on relatively sound footing, with unemployment declining to very low levels and the remaining hangovers from the 2008 financial crisis appearing to fully dissipate. The better economic picture provided the Federal Reserve enough leeway to raise interest rates in December, causing a sell-off in government bond markets.

Equity

- Surprising and solid year for stocks
- Valuations stretched
- Risk Indulging – Small Cap outperformed Large Cap; Cyclical outperformed Defensives;
- Value leads growth on Bank sector performance
- Barring significant developments, equity markets set for another low-return year

Large Cap stocks were strongly positive, with the S&P 500 and Russell 1000 indices posting returns of (+12.0%) and (+12.1%), respectively. Small Cap and Mid Cap indices outperformed large cap. Small Cap, as measured by the Russell 2000 Index, returned (+21.3%). The Russell Mid Cap Index lagged but still managed to post a (+13.8%) return.

Digging deeper, there was significant performance dispersion across the sectors. Cyclical Sectors performed well with Energy (+28.0%), Financials (+22.7%) and Industrials (+20.0%) leading the charge higher. Healthcare (-2.8%), Real Estate (+3.2%), and Consumer Staples (+5.0%) were the lagging sectors. This divergence shows investors’ appetite shifted from 2015, when defensive and yield oriented sectors were the best performing segments of the S&P 500. In 2016, investors shifted towards sectors tied to economic growth (Energy and Industrials) or those that may benefit from deregulation (Financials).

Fixed Income

The return of an appetite for risk was also evident within the U.S. Fixed Income markets. Treasuries returned (+1.0%) for the year, although this sector was impacted particularly hard in period after the U.S. Election as the Federal Reserve increased interest rate. The 4th quarter return of (-3.8%) was amongst the worst 3 month return in Treasuries in quite some time. Government bonds will likely not provide the safe haven status previously counted on by investors going forward given the Trump Administration’s pledges on spending/stimulus and the populist tone of the campaign. Credit outperformed Treasuries for the year, with (+5.6%), although it too gave back significant performance in the 4th quarter (-3.0%). High yield posted impressive gains, as worries in the Energy sector that significantly impacted the market in 2015 gave way to optimism that defaults would not be nearly as extreme as anticipated. High Yield not only posted a strong return for the year (+17.1%) but unlike other areas of fixed income, was also positive in the 4th quarter (+1.8%). Volatility entered the fixed income

markets significantly in the back half of the year. High Yield held steady in the face of rising interest rates as higher quality and more liquid segments of the market lost value.

International Developed

- Weak year in Developed Markets (U.S. dollar returns)
- Eurozone and United Kingdom slightly negative for the year
- Japan and Far East positive performers
- Equity valuations in developed markets appear relatively cheaper than the U.S.
- Low returns in fixed income in 2016 and expected through 2017

Europe muddled through another year in 2016 and seemed to never quite hit its stride even as growth projections continued to improve. In U.S. dollars, Europe and United Kingdom equities posted negative performance in 2016. Much of the negative performance as due to currency movements, as both the Euro and Sterling depreciated against the U.S. dollar in 2016. Brexit led to a historical decline in the Sterling through the summer and fall and the effects of the decision to leave the European Union may take years to be realized. Unlike the U.S., equity valuations appear a little more attractive in Europe and there may be a likelihood that investors will shift their focus from U.S. to European Equities. In Asia, most developed markets posted positive performance, albeit relatively tepid performance in U.S. dollar terms.

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. Global Treasuries returned (+1.6%) in 2016, although 4th quarter was particularly unkind with a (-8.5%) return. Much of the negative performance can be attributed to market responses to the interest rate increases in the U.S., the relative strength of the U.S. dollar, and the return to risk taking across most markets.

Emerging Markets

- Solid year in Emerging Markets (U.S. dollar returns)
- Major rebound from performance in 2015
- Brazil, Russia, and Thailand posted big years
- Mexico and Turkey worst performers
- Emerging Market Bonds reversed recent performance losses with strong calendar year
- No end in sight for volatility and macro risks remain elevated

Emerging markets posted strong performance as investor appetite for risky assets extended into emerging markets stocks and bonds. The broad emerging markets index returned (+11.2%) for the year. Of the markets tracked by Morgan Stanley Country Index (“MSCI”), Brazil (+66.8%), Russia (+55.5%) and Thailand (+19.6%) posted the strongest gains. China was a notable laggard for the year, with its (+1.1%) gain trailing the broader markets and the majority of its large country peers. Performance of the bond markets of emerging markets was encouraging. Both hard currency and local currency bond posted solid years in performance. Hard currency bonds, which are predominately issued in U.S. dollar, returned (+10.2%) in 2016. Local currency bonds, which are more susceptible to risk-off periods and capital flight, returned (+9.9%) for the year.

Commodities

- Rebounded from one worst years on record for commodities
- Little expectation for a full recovery in commodity prices in the near term

Commodity indices posted positive performance in 2016, with the broad Bloomberg Commodity Index up (+11.8%). Industrial metals (iron ore, zinc, nickel, aluminum, and copper) all posted strong performance for the year. Also reversing recent history with a rebound in performance were oil and natural gas. Precious metals, consistent with a risk-on attitude from investors, lagged the overall commodity market and the other main sectors.

Contact Information

This financial report is designed to provide a general overview of the Metropolitan Transportation Authority Defined Benefit 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, 16th Floor, New York, NY 10004.

METROPOLITAN TRANSPORTATION AUTHORITY DEFINED BENEFIT PENSION PLAN

STATEMENTS OF PLAN NET POSITION AS OF DECEMBER 31, 2016 AND 2015

	2016	2015
ASSETS:		
Cash	\$ 5,436,647	\$ 45,274,024
Investments at fair value (Notes 2 and 3):		
Investments measured at readily determined fair value	579,271,580	654,863,498
Investments measured at net asset value	<u>2,848,413,709</u>	<u>2,396,020,885</u>
Total investments	<u>3,427,685,289</u>	<u>3,050,884,383</u>
Receivables:		
Accrued interest and dividends	1,516,167	1,872,900
Other receivable	<u>236,422</u>	<u>370,247</u>
Total receivables	<u>1,752,589</u>	<u>2,243,147</u>
Total assets	<u>3,434,874,525</u>	<u>3,098,401,554</u>
LIABILITIES:		
Due to broker for securities purchased	2,390,876	18,770,581
Due to broker for investment fee	3,535,137	2,094,181
Due to broker for administrative expenses	181,389	135,439
Due to MTA for administrative expenses	2,457,587	2,157,638
Due to MTA Long Island Railroad Additional Plan - Employer contribution	6,185,474	-
Other liabilities	<u>153,125</u>	<u>467,060</u>
Total liabilities	<u>14,903,588</u>	<u>23,624,899</u>
PLAN NET POSITION RESTRICTED FOR PENSIONS	<u><u>\$ 3,419,970,937</u></u>	<u><u>\$ 3,074,776,655</u></u>

See notes to financial statements.

METROPOLITAN TRANSPORTATION AUTHORITY DEFINED BENEFIT PENSION PLAN

STATEMENTS OF CHANGES IN PLAN NET POSITION FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015

	2016	2015
ADDITIONS:		
Investment income:		
Net realized and unrealized gains or (losses)	\$ 252,282,066	\$ (53,175,371)
Dividends	28,874,289	28,525,943
Interest	<u>5,746,979</u>	<u>6,248,227</u>
Total investment income/(loss)	286,903,334	(18,401,201)
Less:		
Investment expenses	<u>(39,194,640)</u>	<u>(26,720,680)</u>
Net investment income/(loss)	247,708,694	(45,121,881)
Contributions:		
Employer:		
Metro-North Commuter Railroad Company	99,082,552	70,500,320
Long Island Rail Road Company	99,800,000	68,500,000
Metropolitan Transportation Authority Headquarters	31,700,000	30,600,000
MTA Bus Company	44,299,995	45,928,494
Staten Island Rapid Transit Operating Authority	5,885,196	6,164,903
Employee	<u>29,392,213</u>	<u>34,518,682</u>
Total contributions	<u>310,159,956</u>	<u>256,212,399</u>
Total additions	<u>557,868,650</u>	<u>211,090,518</u>
DEDUCTIONS:		
Benefits paid to participants	209,623,034	199,571,600
Administrative expenses	<u>3,051,334</u>	<u>1,962,239</u>
Total deductions	<u>212,674,368</u>	<u>201,533,839</u>
NET INCREASE IN PLAN NET POSITION	<u>345,194,282</u>	<u>9,556,679</u>
PLAN NET POSITION RESTRICTED FOR PENSIONS		
Beginning of year	<u>3,074,776,655</u>	<u>3,065,219,976</u>
End of year	<u>\$ 3,419,970,937</u>	<u>\$ 3,074,776,655</u>

See notes to financial statements.

METROPOLITAN TRANSPORTATION AUTHORITY DEFINED BENEFIT PENSION PLAN

NOTES TO FINANCIAL STATEMENTS AS OF AND FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015

1. PLAN DESCRIPTION

The following brief description of the Metropolitan Transportation Authority (the “Authority”) Defined Benefit Pension Plan (the “Plan”) is provided for general information purposes only. Participants should refer to the Plan document for more complete information.

General — The Plan represents a cost-sharing employer defined benefit pension plan sponsored by the Authority and administered by the Board of Managers of Pensions, covering:

- (a) management employees of the Long Island Rail Road Company (“MTA Long Island Rail Road”) hired after January 1, 1988 not governed by collective bargaining agreements;
- (b) management employees of the Metro-North Commuter Railroad Company (“MTA Metro-North Railroad”) not governed by collective bargaining agreements;
- (c) represented MTA Long Island Rail Road employees hired after January 1, 1988, covered by collective bargaining agreements which provide for participation in the plan effective January 1, 2004;
- (d) certain represented MTA Metro-North Railroad employees covered by collective bargaining agreements which provide for participation in the plan effective on or after January 1, 2004;
- (e) represented and non-represented MTA Long Island Rail Road employees hired prior to January 1, 1988;
- (f) Metropolitan Suburban Bus Authority (“MTA Long Island Bus”) provided public service in Nassau and Queens Counties. The Authority’s Lease and Operating Agreement with Nassau County, dated January 15, 1973, as amended, was terminated effective December 31, 2011. As of January 1, 2012, the MTA Long Island Bus is no longer a member of the MTA Group. Represented and management Metropolitan Suburban Bus Authority (“MTA Long Island Bus”) employees hired prior to January 24, 1983 and any MTA Long Island Bus person employed by the MSBA Employees’ Pension Trust prior to July 29, 1998 under the MSBA Employees’ Pension Plan remained vested employees in the plan;
- (g) represented and management employees of the Staten Island Rapid Transit Operating Authority (“MTA Staten Island Railway”) effective January 1st, 2005;
- (h) certain represented and management employees of MTA Bus Company (“MTA Bus”), including represented and non-represented employees who were formerly employed by Liberty Lines Express, Inc., New York Bus Tours, Inc., Command Bus Company, Green Bus Lines Inc., Jamaica Buses Inc., Triboro Coach Corporation and represented employees formerly employed by Queens Surface Corporation; and
- (i) participants in the MTA Defined Benefit Pension Plan 20 Year Police Retirement program (“MTA Police”).

The Plan contains multiple and distinct benefit structures for MTA Metro-North Railroad and MTA Long Island Rail Road management employees, for MTA Metro-North Railroad and MTA Long Island

Rail Road represented employees, MTA Police, MTA Long Island Bus employees and MTA Staten Island Railway employees. In addition, there are multiple but distinct benefit structures for the employees of MTA Bus which are based on the plans covering those employees prior to their becoming MTA Bus employees. Assets and liabilities are pooled and a single cash contribution amount and annual pension cost is determined. The Plan is designed to satisfy the applicable requirements for governmental plans under Section 401(a) and 501(b) of the Internal Revenue Code. Accordingly, the Plan is tax-exempt and is not subject to the provisions of the Employee Retirement Income Security Act (“ERISA”) of 1974.

Membership of the Plan consisted of the following as of January 1, 2016 and 2015, respectively, the date of the latest actuarial valuations:

	2016	2015
Active Plan Members	17,670	17,156
Retirees and beneficiaries receiving benefits	10,701	11,382
Vested formerly active members not yet receiving benefits	<u>1,439</u>	<u>1,417</u>
Total	<u>29,810</u>	<u>29,955</u>

Funding for the Plan is provided by the Authority, MTA Metro-North Railroad, MTA Long Island Rail Road, MTA Bus and MTA Staten Island Railway which are public benefit corporations that receive a significant portion of their operating and capital financing requirements from New York City, New York State, federal and regional governmental units and from the sale of bonds to the public. Certain funding is made on a discretionary basis. The continuance of funding for the Plan has been, and will continue to be, dependent upon the receipt of adequate funds.

Plan Administration – The Defined Benefit Plan is administered by the Board of Managers of Pensions which comprised of:

- (a) the persons holding the following positions:
 - (j) the Chairman of the MTA;
 - (ii) the MTA Chief Financial Officer;
 - (iii) the MTA Director of Labor Relations; and
 - (iv) the agency head of each participating Employer.

- (b) Designation of Others – Any member of the Board of Managers, serving as such by virtue of holding a position described in (a) of this section, may, by written authorization filed with the Secretary who shall notify the other members of the Board of Managers, designate another individual, not then a member of the Board of Managers, to serve in that member’s stead, in accordance with procedures established with the approval of the Executive Director. Any such authorization may be revoked by the designating member at any time in writing filed in the same manner.

- (c) The Board of Managers shall be the agent for the service of legal process with respect to the Plan. No bond or other security is required in any jurisdiction of the Board of Managers or any member thereof except as required by law.

Pension Benefits — Retirement benefits are paid from the Plan to covered MTA Metro-North Railroad, MTA Staten Island Railway and post—1987 MTA Long Island Rail Road employees as service retirement allowances or early retirement allowances. A participant is eligible for a service retirement allowance upon termination if the participant satisfied both age and service requirement. A participant is eligible for an early retirement allowance upon termination if the participant has attained age 55 and completed at least 10 years of credited service. Terminated participants with 5 or more years of credited service who are eligible for a deferred vested benefit are not eligible to receive a service retirement

allowance or early retirement allowance. Deferred vested benefits are payable on an unreduced basis on the first day of the month following the participant sixty-second birthday. Effective in 2007, members and certain former members who become (or became) employed by another MTA agency which does not participate in the Plan continue to accrue service credit based on such other employment. Upon retirement, the member's vested retirement benefit from the Plan will be calculated on the final average salary of the subsequent MTA agency, if higher. Moreover, the Plan benefit will be reduced by the benefit, if any, payable by the other plan based on such MTA agency employment. Such member's disability and ordinary death benefit will be determined in the same way.

Retirement benefits are paid from the Plan under the MTA 20-Year Police Retirement Program. A participant is eligible for service retirement at the earlier of completing 20 years of credited Police service or attainment of age 62. Terminated participants with five years of credited police service, who are not eligible for retirement, are eligible for a deferred benefit. Deferred vested benefits are payable on the first of the month following the participant's attainment of age 55.

Retirement benefits paid from the Plan to covered represented MTA Bus employees include service retirement allowances or early retirement allowances. Under the programs covering all represented employees at Baisley Park, Eastchester, La Guardia, Spring Creek, and Yonkers Depots and the represented employees at College Point Depot, JFK, Far Rockaway a participant is eligible for a service retirement allowance upon termination if the participant has attained age 65 and completed at least 5 years of credited service or if the participant has attained age 57 and completed at least 20 years of credited service. A participant hired prior to June 2009 from Baisley Park, College Point, and La Guardia Depots is eligible for an early retirement allowance if the participant has attained age 55 and completed 20 years of credited service. Terminated participants with 5 or more years of credited service who are not eligible to receive a service retirement allowance or early retirement allowance are eligible for a deferred vested benefit. Deferred vested benefits are payable on an unreduced basis on or after the participant attains age 65.

At Baisley Park, Far Rockaway, JFK, La Guardia and Spring Creek Depots, a participant who is a non-represented employee is eligible for an early retirement allowance upon termination if the participant has attained age 55 and completed 15 years of service. Terminated participants with five or more years of credited service who are not eligible to receive a service retirement allowance or early retirement allowance are eligible for a deferred vested benefit. Deferred vested benefits are payable on an unreduced basis on or after the participant attains age 62.

The MTA Bus retirement programs covering represented and non-represented employees at Eastchester and Yonkers and covering the represented employees at Baisley Park, College Point, Far Rockaway, JFK, La Guardia and Spring Creek are fixed dollar plans, i.e., the benefits are a product of credited service and a specific dollar amount.

The retirement benefits for certain non-represented employees at Baisley Park, Far Rockaway, JFK, La Guardia and Spring Creek are based on final average salary. Certain active participants may elect to receive the retirement benefit as a single life annuity or in the form of an unreduced 75% joint and survivor benefit.

Pre-1988 MTA Long Island Rail Road participants are eligible for a service retirement allowance upon termination if the participants has either: (a) attained age 65 and completed at least 5 years of credited service, or if an employee on January 1, 1988 completed at least 10 years of credited service, or (b) attained age 50 and has completed at least 20 years of credited service. Terminated participants who were not employees on January 1, 1988 with 5 or more years of credited service are eligible for a deferred vested benefit. Pension benefits payable to age 65, where eligible, are calculated as 2% of the employee's applicable final average earnings for each year of qualifying service up to 25 years plus 1.5% of applicable final average earning of each year of qualifying service in excess of 25 years. For pension benefits payable at and after age 65 regardless of whether benefits commenced before or after the employee attained age 65, benefits are calculated in the same manner as pension benefits payable

prior to age 65 except that the amount so determined is reduced by a percentage of the employee's annuity (not including supplemental annuity) value at age 65 under the Federal Railroad Retirement Act.

The reduction of pension benefits for amounts payable under the Federal Railroad Retirement Act is 50%.

Death and Disability Benefits — In addition to service retirement benefits, participants of the Plan are eligible to receive disability retirement allowances and death benefits. Participants who become disabled may be eligible to receive disability retirement allowances after 10 years of covered MTA Bus service; 10 years of credited service for covered MTA Metro-North Railroad and MTA Long Island Rail Road management and represented employees, covered MTA Staten Island Railway employees and covered MTA police participants.

The disability retirement allowance for covered MTA Metro-North Railroad and MTA Long Island Rail Road management and represented covered MTA Staten Island Railway employees is calculated based on the participant's credited service and final average salary ("FAS") but not less than $\frac{1}{3}$ of FAS. Under the MTA 20 Year Police Retirement Program, a disabled participant may be eligible for one of three forms of disability retirement: (a) ordinary disability which is payable if a participant has 10 years of credited Police service and is calculated based on the participant's credited Police service and FAS but not less than $\frac{1}{3}$ of FAS; (b) performance of duty, which is payable if a participant is disabled in the performance of duty and is $\frac{1}{2}$ of FAS, and (c) accidental disability, which is payable if a participant is disabled as the result of an on-the-job accidental injury and is $\frac{3}{4}$ of FAS subject to an offset of Workers' Compensation benefits. Pursuant to the MTA Bus programs, the disability benefit is the same as the service retirement benefit.

Pre-1988 MTA Long Island Rail Road participants who become disabled after accumulating 10 years of credited service and who meet the requirements as described in the Plan may be eligible to receive a disability benefit. Disability pension benefits are calculated based on the participant's qualified service and a percentage of final average compensation reduced by the full amount of the disability benefit under the Federal Railroad Retirement Act.

Survivorship benefits for pre-1988 MTA Long Island Rail Road participants are paid to the spouse when a survivorship option is elected or when an active participant has not divested their spouse of benefits. The survivorship benefit is payable at the time of death or when the vested participant would have attained an eligible age. The amount payable is in the form of an annuity. A lump sum death benefit no greater than \$5,000 is payable upon death on behalf of a non-vested participant or vested participant whose pension rights were waived.

Death benefits are paid to the participant's beneficiary in the event of the death of a covered MTA Metro-North Railroad, post-1987 MTA Long Island Rail Road or MTA Staten Island Railway employee after completion of one year of credited service. The death benefit payable is calculated based on a multiple of a participant's salary based on years of credited service up to three years and is reduced beginning at age sixty-one. There is also a post-retirement death benefit which, in the 1st year of retirement, is equal to 50% of the pre-retirement death benefit amount, 25% the 2nd year and 10% of the death benefit payable at age 60 for the 3rd and later years. For the Police 20 Year Retirement Program, the death benefit is payable after ninety days of credited MTA Police service, and is equal to three times their salary. For non-Police groups, this death benefit is payable in a lump sum distribution while for Police, the member or the beneficiary can elect to have it paid as an annuity. The MTA Police do not have a post retirement benefit.

In the MSBA Employees' Pension Plan, there are special spousal benefits payable upon the death of a participant who is eligible for an early retirement benefit, or a normal service retirement benefit, or who is a vested participant or vested former participant. To be eligible, the spouse and participant must have been married at least one year at the time of death. Where the participant was eligible for an early service retirement benefit or was a vested participant or former participant, the benefit is a pension equal to 40% of the benefit payable to the participant as if the participant retired on the date of death. Where the participant was eligible for a normal service retirement benefit, the eligible spouse can elect either

the benefit payable as a pension, as described in the prior sentence, or a lump sum payment based on an actuarially determined pension reserve. If there is no eligible spouse for this pension reserve benefit, a benefit is payable to the participant's beneficiary or estate.

Moreover, an accidental death benefit is payable for the death of a participant who is a covered MTA Metro-North Railroad or post-1987 MTA Long Island Rail Road employee, a covered MTA Staten Island Railway employee or a covered MTA Police member and dies as the result of an on-the-job accidental injury. This death benefit is paid as a pension equal to 50% of the participant's salary and is payable to the spouse for life, or, if none, to children until age 18 (or 23, if a student), or if none, to a dependent parent.

For MTA Bus employees, there is varied death benefit coverage under the Plan. For all represented and non-represented MTA Bus employees at Eastchester and Yonkers Depots and represented MTA Bus employees at Baisley Park, College Point, Far Rockaway, JFK, La Guardia and Spring Creek Depots, if a participant dies prior to being eligible for a retirement benefit, the participant's beneficiary may elect to receive a refund of the participant's contributions plus interest.

Moreover, the spouses of the above employees who are vested are entitled to a presumed retirement survivor annuity which is based on a 50% Joint and Survivor annuity. The date as of which such annuity is determined and on which it commences varies among the different programs depending on whether the participants are eligible for retirement and for payment of retirement benefits.

In addition, the spouse of a non-represented MTA Bus employee at Spring Creek, JFK, La Guardia, Baisley Park and Far Rockaway, if such employee is age 55 and has 15 years of service and is a terminated member with a vested benefit which is not yet payable, may elect the presumed retirement survivor annuity or 1/2 the participant's accrued benefit paid monthly and terminating on the 60th payment or the spouse's death. The spouse of a non-represented MTA Bus employee at Yonkers Depot may also receive a pre-retirement survivor annuity from the supplemental plan. If there is no such spouse, the actuarial equivalent of such annuity is payable.

The dependent children of MTA Bus TWU employees of College Point, Baisley Park, and La Guardia hired prior to June 9, 2009 are also entitled to an annuity based on the spouse's pre-retirement survivor annuity (1/2 of the spouse's annuity is payable to each child, but no more than 100% of the spouse's annuity is payable). In addition, the dependent children of retirees who were MTA Bus employees at these Depots are entitled to an annuity based on the presumed retirement survivor's annuity (25% of the spouse's annuity; but no more than 50% of the spouse's annuity is payable).

Retirement benefits establishment and changes for represented employees are collectively bargained and must be ratified by the respective union and the MTA Board. For nonrepresentative employees, retirement benefits establishment and changes are presented to the MTA Board and must be accepted and approved by the MTA Board.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting — The Plan's financial statements are prepared 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. Investment purchases and sales are recorded as of trade date.

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. 82, *Pension Issues: An Amendment of GASB Statements No. 67, No. 68 and No. 73*. GASB Statement No.82 requires the Plans 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. There was no material impact on the Plan’s financial statements as a result of the implementation of GASB 82.

Recent Accounting Pronouncements — Not yet adopted

GASB Statement No.	GASB Accounting Standard	MTA Pension Plan Required Year of Adoption
73	<i>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</i>	2017
84	<i>Fiduciary Activities</i>	2019
85	<i>Omnibus 2017</i>	2018

Use of Estimates — The preparation of the Plan’s financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. Estimates include fair market value of investments, the annual required contribution and the unfunded actuarial accrued liability.

Benefits — Benefits are recorded when paid.

Contributions - As a condition of participation in the MTA Defined Benefit Pension Plan (“MTADBPP” or the “Plan”), employers and employees are required to contribute to the Plan. The amount of the employer contributions are determined by the Plan actuaries. Employee contribution rates for represented employees are determined by collective bargaining. Employee contribution rates for non-represented employees are set forth in the Plan document as adopted by the MTA Board. If an employee terminates employment with less than 10 (ten) years of credited service in the Plan, the employee may request a refund of his employee contributions with interest. Upon receipt of this refund of contributions, the employee has no claim on any future benefit from the Plan. Employees with more than 10 years of credited service, except for a small group of MTA Bus participants, cannot withdraw their contributions.

Members of the MTA Police Program who have transferred pursuant to Retirement and Social Security Law Section 343 and have not been employed in the MTA Police Program for 15 years may, upon termination of employment, withdraw member contributions. The withdrawal of such transferred police service member contributions shall not terminate membership and rights in the MTA Police Program attributable to Credited Police Service.

Income - Dividend and interest income are recorded when earned.

Securities - Purchases and sales of securities are recorded on a trade-date basis.

Asset Transfers — No assets were transferred to the MTA Defined Benefit Pension Plan for the years 2016 and 2015 respectively.

Administrative Expenses — Administrative expenses of the Plan are paid for by the Plan.

3. CASH AND INVESTMENTS

Investment Policy – 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, 2016.

Asset Class	Target Allocation (%)	Target Range (%)	Policy Benchmark
Equities	29.0	24-34	
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
Fixed Income	15.0	9-21	Manager Specific
Global Asset Allocation*	20.0	15-33	50% World Equity/ 50% Citigroup WGBI unhedged
Opportunistic Investments	6.0	0-15	Manager Specific
Absolute Return	15.0	10-22	Manager Specific
Real Assets	5.0	0-10	Manager Specific
Real Estate	3.0	0-10	Manager Specific
Private Equity	7.0	0-10	Venture Economics
Total	100.0		

* 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 Manager(s).

- 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, or net asset value, which is determined to be a practical expedient for measuring fair value. 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 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.

Investments measured at readily determined fair value (FV)

	December 31, 2016	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	\$ 223,861,897	\$ 223,861,897	\$ -	\$ -
Separate account small-cap equity funds	152,722,504	152,722,504	-	-
Separate account real estate investment trust	34,455,885	34,455,885	-	-
Total equity investments	411,040,286	411,040,286	-	-
Debt Securities				
Separate account debt funds	168,231,294	-	168,231,294	-
Total debt investments	168,231,294	-	168,231,294	-
Total investments at readily determined FV	\$ 579,271,580	\$ 411,040,286	\$ 168,231,294	\$ -

Investments measured at the net asset value (NAV)

	December 31, 2016	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Equity Securities:				
Commingled large cap equity funds	\$ 99,078,378	\$ -	Daily	None
Commingled international equity funds	392,791,680	-	Daily	None
Commingled emerging market equity funds	102,928,093	-	Daily, monthly	None
Total equity investments measured at the NAV	594,798,151	-		
Debt Securities				
Commingled debt funds	328,325,193	-	Daily, monthly, quarterly	None
Mutual funds	45,969,042	-	Daily	None
Total debt investments measured at the NAV	374,294,235	-		
Absolute return:				
Directional	94,618,677		Monthly	3-60 days
Direct lending	150,768,774	10,370,957	Bi-annually	60 plus days
Distressed securities	34,332,391	-	Not eligible	N/A
Credit long	55,796,444	-	Quarterly	3-30 days
Credit long/short	67,705,519	-	Quarterly	3-60 days
Equity long/short	67,890,858	-	Quarterly	3-60 days
Event driven	85,468,237	1,893,325	Quarterly, Bi-annually	60-120 days
Global macro	84,803,008	-	Monthly	3-30 days
Global tactical asset allocation	205,445,533	-	Daily, monthly	3-30 days
Market neutral	153,918	-	Quarterly	3-60 days
Multistrategy	106,269,008	-	Quarterly	3-60 days
Risk parity	331,438,578	-	Monthly	3-30 days
Structured credit	17,870,896	44,612,530	Not eligible	N/A
Total absolute return measured at the NAV	1,302,561,839	56,876,812		
Private equity - private equity partnerships	216,041,892	183,552,615	Not eligible	N/A
Real assets				
Commingled commodities fund	98,086,640	-	Not eligible	N/A
Commingled real estate funds	102,126,697	-	Not eligible	N/A
Energy	44,762,155	28,024,870	Not eligible	N/A
Infrastructure	13,849,416	18,291,940	Not eligible	N/A
Total real assets measured at the NAV	258,824,908	46,316,810		
Short term investments measured at the NAV	101,892,684	-		
Total investments measured at the NAV	2,848,413,709	\$ 286,746,237		
Total investments at fair value	\$ 3,427,685,289			

Investments measured at readily determined fair value (FV)

	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	\$ 289,802,444	\$ 289,802,444	\$ -	\$ -
Separate account small-cap equity funds	165,170,034	165,170,034	-	-
Total equity investments	454,972,478	454,972,478	-	-
Debt Securities				
Separate account debt funds	199,891,020	-	199,891,020	-
Total debt investments	199,891,020	-	199,891,020	-
Total investments at readily determined FV	\$ 654,863,498	\$ -	\$ 199,891,020	\$ -

Investments measured at the net asset value (NAV)

	December 31, 2015	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Equity Securities:				
Commingled international equity funds	\$ 307,936,422	\$ -	Daily	None
Commingled emerging market equity funds	91,753,658	-	Daily, monthly	None
Total equity investments measured at the NAV	399,690,080	-		
Debt Securities				
Commingled debt funds	281,493,679	-	Daily, monthly, quarterly	None
Total debt investments measured at the NAV	281,493,679	-		
Absolute return:				
Directional	84,710,510	-	Monthly	3-60 days
Direct lending	106,029,965	25,663,011	Bi-annually	60 plus days
Credit long	50,252,481	-	Quarterly	3-30 days
Credit long/short	64,246,718	-	Quarterly	3-60 days
Equity long/short	49,295,498	-	Quarterly	3-60 days
Event driven	114,272,619	1,875,723	Quarterly, Bi-annually	60-120 days
Global macro	81,745,847	-	Monthly	3-30 days
Global tactical asset allocation	261,821,767	-	Daily, monthly	3-30 days
Market neutral	450,313	-	Quarterly	3-60 days
Multistrategy	39,364,728	-	Quarterly	3-60 days
Risk parity	389,682,691	-	Monthly	3-30 days
Total absolute return measured at the NAV	1,241,873,138	27,538,734		
Private equity - private equity partnerships	175,751,452	71,180,490	Not eligible	N/A
Real assets				
Commingled commodities fund	78,772,929	-	Not eligible	N/A
Commingled real estate funds	76,719,180	-	Not eligible	N/A
Energy	29,722,941	48,320,894	Not eligible	N/A
Infrastructure	8,738,908	22,048,777	Not eligible	N/A
Total real assets measured at the NAV	193,953,958	70,369,671		
Short term investments measured at the NAV	103,258,576	-		
Total investments measured at the NAV	2,396,020,884	\$ 169,088,895		
Total investments at fair value	\$ 3,050,884,383			

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, 2016 and 2015 are as follows:

	2016	2015
Investments at fair value as determined by quoted market prices:		
Mellon Dynamic Growth Fund	\$ -	\$ 157,117,663
GAM Unconstrained Bond Fund	174,184,327	161,805,235

Credit Risk — At December 31, 2016 and 2015, the following credit quality rating has been assigned by a nationally recognized rating organization:

Quality Rating	2016 Fair Value	Fixed Income Portfolio	2015 Fair Value	Fixed Income Portfolio
AAA	\$ 57,581,958	7.07 %	\$ 118,263,857	9.58 %
AA	18,097,532	2.22	62,182,061	3.99
A	63,204,420	7.77	73,114,438	7.89
BBB	148,521,367	18.25	181,867,523	12.95
BB	89,104,424	10.95	66,787,768	9.53
B	57,947,199	7.12	67,671,875	6.51
CCC	9,811,835	1.21	7,880,217	2.50
CC	1,515,747	0.19	-	-
C	3,591,894	0.44	-	-
Not Rated	<u>132,234,314</u>	<u>16.24</u>	<u>65,721,828</u>	<u>26.09</u>
Credit risk debt securities	581,610,690	71.46	643,489,567	79.04
U.S. Government bonds	<u>232,311,674</u>	<u>28.54</u>	<u>257,095,359</u>	<u>20.96</u>
Total fixed income securities	813,922,364	<u>100.00 %</u>	900,584,926	<u>100.00 %</u>
Other securities not rated — equity, international funds and foreign corporate bonds	<u>2,613,762,925</u>		<u>2,150,299,457</u>	
Total investments	<u>\$ 3,427,685,289</u>		<u>\$ 3,050,884,383</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	2016		2015	
	Fair Value	Duration	Fair Value	Duration
Chase	\$ 170,836,144	11.54	\$ 199,891,020	11.46
Allianz Structured Alpha Fund	92,480,295	0.25	82,821,466	0.13
Wellington Blended Emerging Market Debt	47,715,659	5.55	67,054,183	5.06
Bridgewater All Weather Fund	96,685,982	9.00	135,533,958	7.87
Wellington Opportunistic Fund	23,202,272	1.91	35,816,535	1.69
Bridgewater Pure Alpha Fund	2,173,603	(3.54)	58,453,158	4.36
Bridgewater Markets Fund	9,137,252	1.40	7,559,768	6.84
GAM Unconstrained Bond Fund	174,184,327	0.25	161,805,236	0.93
Northern Trust William Capital	8,373,508	-	8,278,847	-
Park Square Capital Credit Opportunities Fund	33,504,109	0.54	14,105,020	0.61
Libremax Partners Fund	5,497,688	5.02	-	-
Gramercy Distressed Opportunistic Fund	9,604,596	(0.48)	-	-
Makuria Credit Fund	14,118,452	1.05	-	-
Crescent Capital High Income Fund	28,696,979	2.61	21,493,620	2.64
Fir Tree realization Value Fund	100,318	-	2,498,689	-
Wellington Global Managed Risk Fund	52,669,664	6.70	77,818,919	6.77
Wellington Trust Collective Investment Fund and Diversified Inflation Fund	23,383,855	0.88	10,319,254	7.56
Canyon Value Fund	<u>21,557,661</u>	1.90	<u>17,135,253</u>	2.40
Total fixed income securities	813,922,364		900,584,926	
Portfolio modified duration		4.60		5.47
Investments with no duration reported	<u>\$ 2,613,762,925</u>		<u>\$ 2,150,299,457</u>	
Total investments	<u>\$ 3,427,685,289</u>		<u>\$ 3,050,884,383</u>	

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 Depository 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, 2016 and 2015 are as follows (amounts in U.S. dollars, in thousands):

Foreign Currency Holdings in US \$	December 31, 2016	December 31, 2015
Argentina Peso	\$ 362,716	\$ 464,439
Dollar (Australian)	58,399,692	47,951,037
Bahraini Dinar	357,832	322,774
Bangladesh (Taka)	390,178	289,239
Botswana Pula	94,093	108,989
Brazil Cruzeiro Real	10,503,237	7,316,548
Bulgarian Lev	7,258	4,192
Dollar (Canadian)	26,235,738	30,175,538
Chilean Peso	1,361,561	3,308,584
China (Yuan Renminbi)	10,295,190	9,084,125
Colombian Peso	2,870,124	6,468,225
Croatia Kuna	374,400	301,815
Czech Koruna	2,888,051	(1,303,626)
Krone (Danish)	1,780,401	3,643,732
Egyptian Pound	421,256	576,153
Euro	115,900,253	71,966,317
Ghanaian Cedi	36,380	41,919
Georgian Lari	1,542,950	1,395,379
Dollar (Hong Kong)	14,804,402	4,650,918
Hungary (Forint)	357,449	662,002
Icelandic Krona	416,154	-
Indian Rupee	23,027,624	12,132,464
Indonesia Rupiah	15,132,928	12,592,872
Israeli (Shekel)	933,290	2,031,102
Yen (Japan)	40,601,125	30,966,067
Jordanian Dinar	360,079	347,925
Kazakhstani Tenge	344,735	289,239
Kenyan Shilling	803,767	721,454
Kuwait Dinar	777,182	595,246
Lebanese Pound	110,822	121,564
Malaysian (Ringgit)	3,961,597	4,079,733
Mauritius (Rupee)	706,103	318,582
Mexican New Peso	5,419,146	39,317,139
Morocco Dirham	382,072	306,007
Dollar (New Zealand)	4,190,670	(1,842,208)
Nigerian Naira	668,111	704,686
Krone (Norwegian)	(893,256)	3,036,554
Omanian Rial	375,654	306,007
Pakistani Rupee	2,851,680	2,162,476
Panama Balboa	162,783	125,756
Peru Sol	2,050,691	2,292,807
Philippines Peso	1,558,958	1,630,160
Polish (New Zloty)	1,371,164	2,701,834
Pound (Sterling)	97,919,528	68,456,693
Qatar Riyal	715,133	675,891
Romanian Leu	349,195	1,774,066
Russian Federation Rouble	2,654,950	5,991,158
Saudi Riyal	420,526	331,158
Singapore Dollar	1,259,811	1,304,597
Rand South Africa	5,723,875	4,332,714
South Korean Won	10,671,336	9,286,673
Sri Lankan Rupee	346,188	318,582
Krona (Swedish)	4,488,161	6,716,714
Franc (Swiss)	11,515,667	8,202,309
Thai (Bhat)	5,183,551	4,059,064
Dollar (Taiwan, New)	24,917,199	17,669,773
Tunisian Dinar	135,885	138,332
Turkish Lira	1,342,703	1,329,207
Ukraine Hryvnia	-	54,494
UAE Dirham	1,490,686	1,303,532
Uruguayan Pesos	-	650,764
Vietnam Dong	361,945	301,815
Other	3,293,705	8,754,683
Total	\$ 527,086,284	\$ 444,017,984

Additional Information — The Plan holdings are part of the MTA Master Trust of which the MTA Defined Benefit Plan participates on a percentage basis. The percentage of the Plan ownership for the year ended December 31, 2016 and December 31, 2015 was 83.48% and 82.71% respectively.

	<u>Master Trust</u> <u>Total Plan</u>	<u>MTA Defined</u> <u>Benefit Plan</u>	<u>Master Trust</u> <u>Total Plan</u>	<u>MTA Defined</u> <u>Benefit Plan</u>
	<u>December 31, 2016</u>		<u>December 31, 2015</u>	
Total Investments:				
Investments measured at readily determined fair value	\$ 693,867,813	\$ 579,271,580	\$ 791,775,089	\$ 654,863,498
Investments measured at the NAV	<u>3,411,910,161</u>	<u>2,848,413,709</u>	<u>2,896,954,334</u>	<u>2,396,020,885</u>
Total investments measured at fair value	<u>\$ 4,105,777,974</u>	<u>\$ 3,427,685,289</u>	<u>\$ 3,688,729,423</u>	<u>\$ 3,050,884,383</u>

4. NET PENSION LIABILITY

The components of the net pension liability of the Plan at December 31, 2016 and 2015 were as follows (in thousands):

	<u>December 31,</u> <u>2016</u>	<u>December 31,</u> <u>2015</u>
Total pension liability	\$ 4,761,877	\$ 4,364,946
Fiduciary net position	<u>3,419,971</u>	<u>3,074,777</u>
Net pension liability	<u>1,341,906</u>	<u>1,290,169</u>
Fiduciary net position as a percentage of the total pension liability	71.82%	70.44%

Actuarial Methods and Assumptions

The total pension liability as of December 31, 2016 was determined by an actuarial valuation date of January 1, 2016, that was updated to roll forward the total pension liability to the respective year-end. Actuarial valuations are performed annually as of January 1.

Discount Rate

The discount rate used to measure the total liability as of December 31, 2016 and 2015 was 7.0%. The projection of cash flows used to determine the discount rate assumed that plan contributions will be made in accordance with the Employer funding policy as projected by the Plan's 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 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:

2016

(in thousands)

	1% Decrease 6.00%	Current Discount Rate 7.00%	1% Increase 8.00%
Net pension liability	\$1,936,639	\$1,341,906	\$840,176

2015

(in thousands)

	1% Decrease 6.00%	Current Discount Rate 7.00%	1% Increase 8.00%
Net pension liability	\$1,835,699	\$1,290,169	\$830,112

Additional Important Actuarial Valuation Information

Valuation date	January 1, 2016
Valuation timing	Actuarially determined contributions calculated as of December 31, for the fiscal year and discounted to expected payment dates (July 1 for these projections).
Actuarial cost method	Entry age normal
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 for each group.
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	7.0%
Projected salary increases	Varies by years of employment, and employee group; 3.5% for MTA Bus hourly employees
COLAs	55% of inflation assumption or 1.375%, if applicable
Inflation/Railroad Retirement wage base	2.5%; 3.5%
Valuation date	January 1, 2015
Valuation timing	Actuarially determined contributions calculated as of December 31, for the fiscal year and discounted to expected payment dates (July 1 for these projections).
Actuarial cost method	Entry age normal
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 for each group.
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	7.0%
Projected salary increases	Varies by years of employment, and employee group; 3.0% Growth Wage Increases for TWU MTA Bus hourly employees
COLAs	55% of inflation assumption or 1.375%, if applicable
Inflation/Railroad Retirement wage base	2.5%; 3.5%

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.

2016 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, 2016	\$3,074,776,655	12.00	1.00	\$3,319,712,784
Monthly net external cash flows:				
January	(7,048,513)	12.00	1.00	(7,609,996)
February	6,604,591	11.00	0.92	7,087,122
March	6,604,591	10.00	0.83	7,038,402
April	6,604,591	9.00	0.75	6,995,377
May	8,618,134	8.00	0.67	9,072,260
June	8,678,038	7.00	0.58	9,072,521
July	8,695,234	6.00	0.50	9,034,929
August	8,622,038	5.00	0.42	8,904,109
September	8,622,038	4.00	0.33	8,842,898
October	8,622,038	3.00	0.25	8,788,842
November	8,622,038	2.00	0.17	8,735,117
December	24,240,770	0.36	0.03	24,396,573
Ending Value - December 31, 2016	\$3,419,970,937			\$3,419,970,938
Money-Weighted Rate of Return	7.97%			

2015 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	\$3,065,219,976	12.00	1.00	\$3,028,239,128
Monthly net external cash flows:				
January	(9,289,705)	11.50	0.96	(9,158,428)
February	(7,790,927)	10.50	0.88	(7,689,944)
March	(6,755,827)	9.50	0.79	(6,677,164)
April	(1,193,263)	8.50	0.71	(1,180,769)
May	6,017,761	7.50	0.63	5,961,817
June	8,443,341	6.50	0.54	8,376,016
July	8,993,341	5.50	0.46	8,932,218
August	9,543,341	4.50	0.38	9,489,729
September	9,543,341	3.50	0.29	9,502,399
October	9,543,341	2.50	0.21	9,513,676
November	9,543,341	1.50	0.13	9,524,986
December	18,080,475	0.50	0.04	18,069,756
Ending Value - December 31, 2015	\$3,074,776,655			\$3,074,776,655
Money-Weighted Rate of Return	-1.47%			

Calculation on Long-Term Expected Rate of Return

The best-estimate range for the long-term expected rate of return is determined by adding expected inflation to expected long-term real returns and reflecting expected volatility and correlation. The capital market assumptions are per Milliman's investment consulting practice as of December 31, 2016 and 2015.

SCHEDULE OF LONG TERM EXPECTED RATE OF RETURN FOR 2016

Asset Class	Index	Target Allocation*	Real Rate of Return
US Core Fixed Income	Barclays Aggregate	10.00%	1.67%
US High Yield Bonds	BAML High Yield	8.00%	5.04%
Global Bonds	Citi WGBI	10.00%	0.28%
Emerging Market Bonds	JPM EMBI Plus	3.00%	3.78%
US Large Caps	S&P 500	10.00%	4.80%
US Small Caps	Russell 2000	5.50%	6.06%
Global Equity	MSCI ACWI NR	10.00%	5.49%
Foreign Developed Equity	MSCI EAFE NR	10.00%	6.06%
Emerging Market Equity	MSCI EM NR	3.50%	8.39%
Global REITS	FTSE EPRA/NAREIT Developed	5.00%	5.77%
Private Real Estate Property	NCREIF Property	3.00%	3.64%
Private Equity	Cambridge Private Equity	7.00%	8.99%
Hedge Funds - MultiStrategy	HFRI: Fund Wtd Composite	15.00%	3.45%
Assumed Inflation - Mean			2.50%
Assumed Inflation - Standard Deviation			1.85%
Portfolio Nominal Mean Return			7.03%
Portfolio Standard Deviation			11.54%
Long-Term Expected Rate of Return selected by MTA			7.00%

* Based on March 2014 Investment Policy

SCHEDULE OF LONG TERM EXPECTED RATE OF RETURN FOR 2015

Asset Class	Index	Target Allocation*	Real Rate of Return
US Core Fixed Income	Barclays Aggregate	10.00%	2.11%
US 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%
US Large Caps	S&P 500	10.00%	5.09%
US Small Caps	Russell 2000	5.50%	6.26%
Global Equity	MSCI ACWI NR	10.00%	5.67%
Foreign Developed Equity	MSCI EAFE NR	10.00%	6.06%
Emerging Market Equity	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%
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 selected by MTA			7.00%

* Based on March 2014 Investment Policy

5. CONTRIBUTIONS

Employer contributions are actuarially determined on an annual basis. Amounts recognized as receivables for contributions include only those due pursuant to legal requirements. Employee contributions to the Plan are recognized in the period in which the contributions are due. There are no contributions required under the Metropolitan Suburban Bus Authority Employee's Pension Plan.

The following summarizes the types of employee contributions made to the Plan.

Effective January 1, 1994, covered MTA Metro-North Railroad and MTA Long Island Rail Road non-represented employees are required to contribute to the Plan to the extent that their Railroad Retirement Tier II employee contribution is less than the pre-tax cost of the 3% employee contributions. Effective October 1, 2000, non-represented employee contributions, if any, were eliminated after 10 years of making contributions to the Plan. MTA Metro-North Railroad employees may purchase prior service from January 1, 1983 through December 31, 1993 and MTA Long Island Rail Road employees may purchase prior service from January 1, 1988 through December 31, 1993 by paying the contributions that would have been required of that employee for the years in question, calculated as described in the first sentence, had the Plan been in effect for those years.

Police Officers who became participants of the MTA Police Program prior to January 9, 2010 contribute to that program at various rates. Police Officers who became participants on or after January 9, 2010 but before April 1, 2012 contribute 3% up to the completion of 30 years of service, the maximum amount of service credit allowed. Police Officers who become participants on or after April 1, 2012 contribute 3%, with additional new rates starting April 2013, ranging from 3.5%, 4.5%, 5.75%, to 6%, depending on salary level, for their remaining years of service.

Covered MTA Metro-North Railroad represented employees and MTA Long Island Rail Road represented employees who first became eligible to be Plan participants prior to January 30, 2008 contribute 3% of salary. MTA Staten Island Railway employees contribute 3% of salary except for represented employees hired on or after June 1, 2010 who contribute 4%. MTA Long Island Rail Road represented employees who became participants after January 30, 2008 contribute 4% of salary. For the

MTA Staten Island Railway employees, contributions are not required after the completion of 10 years of credited service. MTA Long Island Rail Road represented employees are required to make the employee contributions for 10 years, or 10 years if hired after certain dates in 2014 as per collective bargaining agreements. Certain Metro-North represented employees, depending on their collective bargaining agreements, are required to make the employee contributions until January 1, 2014, January 1, 2017, June 30, 2017, or the completion of required years of credited service as per the relevant collective bargaining agreements.

Covered MTA Bus represented employees and certain non-represented employees are required to contribute a fixed dollar amount, which varies, by Depot. Currently, non-represented employees at certain Depots, contribute \$21.50 per week. Non-represented employees at Eastchester hired prior to 2007 contribute \$25 per week. Represented employees at Baisley Park, College Point, Eastchester, Far Rockaway, JFK, LaGuardia and Yonkers Depots contribute \$29.06 per week; Spring Creek represented employees contribute \$32.00 per week. Certain limited number of represented employees promoted prior to the resolution of a bargaining impasse continue to participate in the plan that was in effect before their promotion. Certain MTA Bus non-represented employees who are formerly employed by the private bus companies (Jamaica, Green, Triboro and Command) at Baisley Park, Far Rockaway, JFK, LaGuardia and Spring Creek Depots who are in the pension program covering only such employees make no contributions to the program.

MTA Bus is required to make significant annual contributions to the MTA Plan on a current basis. Pursuant to the January 1, 2016 and January 1, 2015 actuarial valuations for the MTA Plan, which included amounts for actuarial assets and liabilities relating to both active and retired members for most portions of the former private plans (excepting, for example, members of the Transport Workers Union — New York City Private Bus Lines Pension Trust who were working on school bus routes which did not become part of MTA Bus service), MTA Bus recorded pension expense equal to the valuation annual required contribution of \$44.3 and \$45.9 for the calendar years ended December 31, 2016 and 2015, respectively. Both of these employer contributions were paid to the MTA Plan in their respective years.

6. ACTUARIAL METHODS AND ASSUMPTIONS

A. Actuarial Valuation Method

The Frozen Initial Liability method was used for determining normal costs and the unfunded actuarial accrued liability. Entry Age Normal method is used for determining changes in the unfunded actuarial accrued liability due to plan provision and assumption changes. The Normal Cost equals the present value of future employer normal contributions divided by the average future working lifetime factor. This factor equals the present value of future compensation or service divided by current compensation or the member count (less certain retirements), depending if benefits are pay-related, and weighted by the present value of benefits.

B. Asset Valuation Method

The Asset Valuation method smooths gains and losses over a 5-year period. The formula for the asset valuation method is as follows:

$$\text{Actuarial Value of Assets} = MV_t - .8UR_1 - .6UR_2 - .4UR_3 - .2UR_4$$

Where

MV_t = Market Value of assets as of the valuation date.

UR_n = Unexpected return during the n^{th} year preceding the valuation date. The unexpected return for a year equals the total investment return minus the total expected return. The total expected return equals the market value of assets at the beginning of the year plus the weighted net cash flow during the year multiplied by the expected rate of return.

The resulting value cannot be less than 80% or greater than 120% of the market value of assets.

C. Actuarial Assumptions Universal to all Groups

Interest — 7.00% per annum, compounded annually.

Railroad Retirement Wage Base — 3.50% per year.

Consumer Price Index — 2.50% per year.

Provision for Expenses — Estimated administrative expenses are added to the normal cost. Administrative expenses are based on the average of the prior three year's reported administrative expenses and are assumed payable in the middle of the plan year.

Mortality — Preretirement and postretirement healthy annuitant rates are projected on a generational basis using Scale AA, as recommended by the Society of Actuaries Retirement Plans Experience Committee.

Preretirement — RP-2000 Employee Mortality Table for Males and Females with Blue collar adjustments.

Postretirement Healthy Lives — 95% of RP-2000 Healthy Annuitant mortality table for males with Blue Collar adjustments and 116% of the rates from the RP-2000 Healthy Annuitant mortality table for females.

Postretirement Disabled Lives — 75% of the rates from the RP-2000 Disabled Annuitant mortality table for males and females. At age 85 and later for males and age 77 and later for females, the disability rates are set to the male and female healthy rates, respectively.

Participant Data — Retirement status and benefits based on information provided in JP Morgan file as of the valuation date. For inactive participants, offsets for Railroad Retirement benefits are estimated and assumed to occur at age 62 unless disabled or it appears offset has occurred. Benefits, net of any Railroad Retirement benefits, are estimated for vested members who terminated during the past year if not provided by the Authority.

Retroactive Wage Adjustments - Based on calculations completed by the MTA, adjustments to benefits were determined based on year of retirement: 2% for retirements prior to 2013, 5% for 2013 retirements, 8% for 2014 retirements and 11% for 2015 retirements. These adjustments were applied to liabilities of Metro-North and Long Island Rail Road represented members provided by the MTA who received a retroactive wage adjustment. Additional liabilities equal to the accumulated amount of estimated retroactive payments as of the valuation date were also included.

D. Changes in Actuarial Assumptions Universal to all Groups

The assumed increase in the railroad retirement wage base was set to 1% higher than the assumed rate of inflation or 3.5%

E. Actuarial Assumptions — MTA Defined Benefit Pension Plan — Management

Salary Scale — Salaries are assumed to increase in accordance with the following schedule:

Years of Service	Rate of Increase
0	6.00 %
1	5.00
2	4.25
3	4.00
4+	3.50

Termination — Withdrawal rates vary by years of service and sex. Illustrative rates are shown below:

Years of Service	Male	Female
0 - 1	5.00 %	7.50 %
2 - 3	3.25	4.00
4	2.50	4.00
5 - 9	2.25	3.50
10 - 19	1.50	3.00
20+	1.00	1.50

Retirement — Rates vary by age and type of retirement. Illustrative rates are shown below:

A. For Management employees hired prior to January 31, 2008.

Age	Reduced Early Retirement	Unreduced Early Retirement
55	5.00 %	10.00 %
56	5.00	7.50
57	5.00	5.00
58	5.00	5.00
59	5.00	5.00

B. For Management employees hired on or after January 31, 2008.

Age	Reduced Early Retirement	Unreduced Early Retirement
55	3.00 %	10.00 %
56	3.00	7.50
57	3.00	5.00
58	3.00	5.00
59	3.00	5.00
60	3.00	30.00
61	3.00	30.00

C. For all management employees.

Normal Retirement:

- 5% per year if members has fewer than 10 years of service
- 15% per year if members has 10 but fewer than 20 years of service
- 30% per year if member has 20 or more years of service

Disability — Rates vary by age, sex and type of disability beginning at benefit eligibility. Illustrative rates are shown below:

Age	Ordinary		Accidental		Age	Ordinary		Accidental	
	M	F	M	F		M	F	M	F
20	0.015 %	0.020 %	0.010 %	0.005 %	45	0.176 %	0.147 %	0.039 %	0.010 %
25	0.020	0.020	0.010	0.005	50	0.240	0.221	0.044	0.010
30	0.024	0.024	0.015	0.005	55	0.245	0.245	0.049	0.010
35	0.039	0.029	0.024	0.005	60	0.245	0.245	0.049	0.010
40	0.103	0.069	0.034	0.010	64	0.245	0.245	0.049	0.010

Marriage — 85% of members are assumed to be married with wives 3 years younger than their husbands.

Employee Contributions — No employee contributions have been anticipated for future years.

Changes in Actuarial Assumptions — None.

F. Actuarial Assumptions — MTA Defined Benefit Pension Plan — Metro-North Represented Employees

Salary Scale — Salaries are assumed to increase in accordance with the following schedule:

Years of Service	Rate of Increase
0	3.25 %
1	10.50
2	10.00
3	9.75
4	9.25
5	14.75
6+	3.25

Overtime - Members hired on or prior to New Participant Date are assumed to earn overtime equal to 25% of their rate of pay for years when they are retirement eligible and for members on after New Participant Date are assumed to earn overtime equal to 20% of their rate of pay for years when they are retirement eligible. Otherwise, members are assumed to earn overtime equal to 18% of their rate of pay.

Termination — Withdrawal rates vary by years of service. Illustrative rates are shown below:

Years of Service	Termination Rate
0	3.50 %
1	3.25
2 - 3	2.50
4 - 9	2.25
10 - 19	1.50
20+	1.00

Retirement — Rates vary by age and type of retirement. Illustrative rates are shown below:

A. For represented employees hired prior on or prior to New Participant Date:

Age	Reduced Early Retirement	Unreduced Early Retirement
55	4.50 %	10.00 %
56	4.00	7.50
57	3.00	5.00
58	3.00	5.00
59	3.50	5.00

B. For represented employees hired after new Participant Date:

Age	Reduced Early Retirement	Unreduced Early Retirement
55	3.00 %	10.00 %
56	3.00	7.50
57	3.00	5.00
58	3.00	5.00
59	3.00	5.00
60	3.00	30.00
61	3.00	30.00

Unreduced early retirement is not available to non-ACRE represented employees hired after New Participant Date. C. For all represented employees.

Normal Retirement:

- 5% per year if members has fewer than 10 years of service
- 15% per year if members has 10 but fewer than 20 years of service
- 30% per year if member has 20 or more years of service

Disability — Rates vary by age, sex and type of disability beginning at benefit eligibility. Illustrative rates are shown below:

Age	Ordinary		Accidental		Age	Ordinary		Accidental	
	M	F	M	F		M	F	M	F
20	0.17 %	0.25 %	0.01 %	0.01 %	45	0.27 %	0.41 %	0.06 %	0.01 %
25	0.17	0.25	0.01	0.01	50	0.50	0.75	0.06	0.01
30	0.17	0.25	0.02	0.01	55	0.95	1.43	0.07	0.01
35	0.18	0.27	0.03	0.01	60	1.93	2.90	0.07	0.01
40	0.20	0.31	0.05	0.01	64	1.93	2.90	0.07	0.01

Marriage — 80% of members are assumed to be married with wives 3 years younger than their husbands.

Changes in Actuarial Assumptions — Reduced early retirement rates have been added for non-ACRE represented employees. This group was previously not eligible for early retirement benefits.

G. Actuarial Assumptions — MTA Defined Benefit Pension Plan — Long Island Rail Road Represented Employees

Salary Scale — Salaries are assumed to increase in accordance with the following schedule:

Years of Service	Rate of Increase
0	3.25 %
1	10.50
2	10.00
3	9.75
4	9.25
5	14.75
6+	3.25

Overtime - Members hired prior to January 31, 2008 are assumed to earn overtime equal to 30% of their pay for years when they are retirement eligible. Otherwise, members are assumed to earn overtime equal to 20% of their rate of pay.

Termination — Withdrawal rates vary by years of service. Illustrative rates are shown below:

Years of Service	Termination Rate
0	4.25 %
1 - 4	2.75
5 - 9	2.25
10+	1.25

Retirement — Rates vary by age and type of retirement. Illustrative rates are shown below:

A. For represented employees hired prior to January 31, 2008:

Age	Reduced Early Retirement	Unreduced Early Retirement
55	4.50 %	10.00 %
56	4.00	7.50
57	3.00	5.00
58	3.00	5.00
59	3.50	5.00

B. For represented employees hired on or after January 31, 2008:

Age	Reduced Early Retirement	Unreduced Early Retirement
55	3.00 %	10.00 %
56	3.00	7.50
57	3.00	5.00
58	3.00	5.00
59	3.00	5.00
60	3.00	30.00
61	3.00	30.00

C. For all other represented employees.

Normal Retirement:

- 5% per year if members has fewer than 10 years of service
- 15% per year if members has 10 but fewer than 20 years of service
- 30% per year if member has 20 or more years of service

Disability — Rates vary by age, sex and type of disability beginning at benefit eligibility. Illustrative rates are shown below:

Age	Ordinary		Accidental		Age	Ordinary		Accidental	
	M	F	M	F		M	F	M	F
20	0.17 %	0.25 %	0.01 %	0.01 %	45	0.27 %	0.41 %	0.06 %	0.01 %
25	0.17	0.25	0.01	0.01	50	0.50	0.75	0.06	0.01
30	0.17	0.25	0.02	0.01	55	0.95	1.43	0.07	0.01
35	0.18	0.27	0.03	0.01	60	1.93	2.90	0.07	0.01
40	0.20	0.31	0.05	0.01	64	1.93	2.90	0.07	0.01

Marriage — 80% of members are assumed to be married with wives 3 years younger than their husbands.

Changes in Actuarial Assumptions - None.

H. Actuarial Assumptions — MTA 20-Year Police Retirement Program

Salary Scale — Salary increases vary by years of Police Service. Illustrative rates are shown below.

Years of Service	Rate of Increase
1	12.5 %
2	14.5
3 – 4	15.5
5	39.5
6 – 9	3.5
10	4.5
11 – 14	3.5
15	5.5
16 – 19	3.5
20	4.5
21 – 24	3.5
25	4.5
26+	3.5

Overtime - Members are assumed to earn overtime equal to 30% of their rate of pay. Overtime for those hired on and after January 9, 2010 is limited to 15% of their rate of pay.

Termination — Withdrawal rates vary by length of service. Illustrative rates are shown below:

Years of Service	Termination Rate
0	6.50 %
1	2.50
2 – 4	2.00
5	0.50
6 – 9	0.35
10+	0.30

Retirement — Rates vary by year of eligibility. Illustrative rates are shown below:

Years of Eligibility	Retirement Rate
1	17.00 %
2	12.00
3 – 9	10.00
10+	50.00

Retirement rates at ages 62 and above are 100% regardless of year of eligibility.

Disability — Rates vary by age and type of disability beginning at benefit eligibility. Illustrative rates are shown below:

Age	Ordinary	Accidental	Age	Ordinary	Accidental
20	0.043 %	0.095 %	45	0.256 %	0.500 %
25	0.043	0.095	50	0.559	0.527
30	0.062	0.095	55	0.819	0.539
35	0.096	0.115	60	0.896	0.544
40	0.138	0.316			

Cost of Living Expenses — assumed to be 1.375% per annum, compounded annually.

Marriage — 85% of members are assumed to be married with wives 3 years younger than their husbands.

Changes in Actuarial Assumptions — None

I. Actuarial Assumptions — MSBA Employees Pension Plan

Salary Scale — Rates of pay are assumed to increase at a rate of 3.50% per annum.

Overtime – Members are assumed to earn overtime equal to the following percentage of their rates of pay:

Years of Service	Rate
25 years of service	17.00 %
25 to 29 years of service	20.00
30 or more years of service	23.00

Termination — Withdrawal rates vary by years of service and sex. Illustrative rates are shown below:

Years of Service	Male	Female
0 - 1	5.00 %	7.50 %
2 - 3	3.25	4.00
4	2.50	4.00
5 - 9	2.25	3.50
10 - 19	1.50	3.00
20+	1.00	1.50

Retirement — Rates vary by age and type of retirement. Illustrative rates are shown below:

Age	Reduced Early Retirement	Unreduced Early Retirement
55	4.50 %	10.00 %
56	4.00	7.50
57	3.00	5.00
58	3.00	5.00
59	3.50	5.00

For all other represented employees.

Normal Retirement:

- 5% per year if members has fewer than 10 years of service
- 15% per year if members has 10 but fewer than 20 years of service
- 30% per year if member has 20 or more years of service

Disability — Rates vary by age and type of disability beginning at benefit eligibility. Illustrative rates are shown below:

Age	Ordinary		Accidental		Age	Ordinary		Accidental	
	M	F	M	F		M	F	M	F
20	0.015 %	0.020 %	0.010 %	0.005 %	45	0.176 %	0.147 %	0.039 %	0.010 %
25	0.020	0.020	0.010	0.005	50	0.240	0.221	0.044	0.010
30	0.024	0.024	0.015	0.005	55	0.245	0.245	0.049	0.010
35	0.039	0.029	0.024	0.005	60	0.245	0.245	0.049	0.010
40	0.103	0.069	0.034	0.010	64	0.245	0.245	0.049	0.010

Marriage — 85% of members are assumed to be married with wives 3 years younger than their husbands.

Changes in Actuarial Assumptions - None.

J. Actuarial Assumptions — MTA Defined Benefit Plan — SIRTOA

Salary Scale — Salary increases vary by years of service. Illustrative rates are shown below.

Years of Service	Rate
0	10.00 %
1	9.50
2	9.25
3	9.00
4	8.75
5	6.00
6+	3.25

Overtime — Hourly employees are assumed to earn overtime equal to 7.50% of their rate of pay.

Termination — Withdrawal rates vary length of service. Illustrative rates are shown below:

Year of Service	Termination Rate
0	9.00 %
1 - 3	5.50
4 - 9	3.50
10 - 19	1.40
20+	0.50

Retirement — Rates vary by age and type of retirement. Illustrative rates are shown below:

Age	Reduced Early* Retirement	Normal Retirement	
		First Year Eligible	After First Eligibility
55	3.00 %	30.00 %	20.00 %
56	3.00	30.00	20.00
57	3.00	30.00	20.00
58	3.00	30.00	20.00
59	3.00	30.00	20.00
60	3.00	30.00	20.00
61	3.00	30.00	20.00

*Applies only to members of United Transportation Union and management employees.

For ages 62 to 80:

- 5% per year if members has fewer than 10 years of service
- 15% per year if members has 10 but fewer than 20 years of service
- 30% per year if member has 20 or more years of service

Disability — Rates vary by age, sex and type of disability. Illustrative rates are shown below:

Age	Ordinary	Accidental	Age	Ordinary	Accidental
20	0.15 %	0.03 %	45	0.44 %	0.05 %
25	0.17	0.03	50	0.54	0.06
30	0.19	0.03	55	0.61	0.07
35	0.24	0.03	60	0.81	0.08
40	0.33	0.04			

Marriage — 80% of members are assumed to be married with wives 3 years younger than their husbands.

Participant Data — Benefits were estimated for vested members...

Benefits Not Valued — Accidental death benefits.

Changes in Actuarial Assumptions — Rates of early retirement are included for TCU and ATDA represented employees. **K. Actuarial Assumptions — LIRR Pension Plan**

Salary Scale — Rates of pay are assumed to increase at a rate of 3.0% per annum.

Overtime/Unused Vacation Pay — Earnings in each year increased by 65% for represented employees to account for overtime and by 20% in the year prior to assumed retirement and by 10% in the year prior to termination (other than retirement) for non-represented employees to account for unused vacation pay.

Termination — Withdrawal rates vary by age. Illustrative rates are shown below:

Age	Rate	Age	Rate
20	2.12 %	45	0.96 %
25	1.64	50	0.80
30	1.44	55	0.60
35	1.36	60	0.00
40	1.16		

Retirement — Assumed retirement rate varies by year of eligibility.

Eligibility Period	Rate of Retirement
First Year	40 %
Years 2–4	33
Years 5	37
Years 6–7	35
Years 8–9	33
Years 10–15	55
Years 16 and above	100

Terminated vested participants are assumed to retire upon first eligibility, or attained age if later.

Marriage — 80% of members are assumed to be married with wives 3 years younger than their husbands.

Interest on Employee Contributions — Assumed to be 3.5% per year for future years.

Tier 1 Railroad Offset — The Tier 1 Railroad offset, which is designed similar to a Social Security Benefit, was estimated by assuming that an individual would continue to earn compensation at the level in effect at his date of termination until his eligibility for Railroad Benefits and further increased by 2% per year from the date of termination to age 65.

Benefits Not Valued — Disability benefits since the majority of active plan participants are at or near retirement eligibility.

Changes in Actuarial Assumptions — None.

L. Actuarial Assumptions — MTA Defined Benefit Pension Plan – Former New York Bus Service Employees

Termination — Withdrawal rates vary by years of service. Illustrative rates are shown below:

Year of Service	Termination Rate
0	17.50 %
1	4.75
2 - 9	2.75
10+	2.25

Retirement — Rates vary by age. Illustrative rates are shown below

For represented TWU and TSO members:

Age	Years of Service at Retirement		
	<u>≤5</u>	<u>5-10</u>	<u>10+</u>
57-64	N/A	N/A	30 %
65-79	0 %	5 %	30 %
80 +	100 %	100 %	100 %

For all other members:

All members are assumed to retire at their Normal Retirement Age of 62.

Disability — Rates vary by age. Illustrative rates are shown below:

Age	Rate	Age	Rate
20	0.03 %	45	0.27 %
25	0.04	50	0.48
30	0.08	55	0.87
35	0.11	60	1.30
40	0.16		

Marriage — 80% of members are assumed to be married with wives 3 years younger than their husbands.

Interest on Employee Contributions — Future years assumed to be 3.5% per year.

Benefits Not Valued — The \$2,500 post-retirement death benefit for represented TWU members is not valued since premiums are paid outside of the Plan trust.

Changes in Actuarial Assumptions — None.

M. Actuarial Assumptions — MTA Defined Benefit Pension Plan — Former Queens Surface, Triboro and Jamaica Represented Employees

Termination — Withdrawal rates vary by years of service. Illustrative rates are shown below:

Year of Service	Termination Rate
0	17.50 %
1	4.75
2 - 9	2.75
10+	2.25

Retirement — Rates vary by age. Illustrative rates are shown below:

For represented TWU and TSO members:

Age	Years of Service at Retirement		
	<u>≤5</u>	<u>5-10</u>	<u>10+</u>
57-64	N/A	N/A	30 %
65-79	0 %	5 %	30 %
80 +	100 %	100 %	100 %

For all other members:

Age	Retirement Rate
55–56	10 %
57	20
58–60	15
61	20
62–63	45
64	40
65	100

Disability — Rates vary by age. Illustrative rates are shown below:

Age	Rate	Age	Rate
20	0.03 %	45	0.27 %
25	0.04	50	0.48
30	0.08	55	0.87
35	0.11	60	1.30
40	0.16		

Disability rates cease upon attainment of unreduced retirement eligibility for members not represented by TWU or TSO.

Marriage — 80% of members are assumed to be married with wives 3 years younger than their husbands.

Interest on Employee Contributions — Future years assumed to be 3.5% per year.

Benefits Not Valued — The \$2,500 post-retirement death benefit for represented TWU members is not valued since premiums are paid outside of the plan trust.

The \$10,000 post-retirement death benefit for all other members is not valued since premiums are paid outside of the plan trust.

The accidental death and dismemberment benefit for members who are not represented by TWU or TSO is not valued as the costs are expected to be de minimis.

Changes in Actuarial Assumptions — None.

N. Actuarial Assumptions — MTA Defined Benefit Pension Plan — Former Liberty Lines Bus Employees

Termination — Withdrawal rates vary by years of service. Illustrative rates are shown below:

Year of Service	Termination Rate
0	17.50 %
1	4.75
2 - 9	2.75
10+	2.25

Retirement — Rates vary by age. Illustrative rates are shown below:

For represented TWU and TSO members:

Age	Years of Service at Retirement		
	<5	5-10	10+
57-64	N/A	N/A	30 %
65-79	0 %	5 %	30 %
80 +	100 %	100 %	100 %

For all other members:

Age	Retirement Rate
60-61	7.5 %
62	40.0
63-64	20.0
65	100.0

Disability — Rates vary by age. Illustrative rates are shown below:

Age	Rate	Age	Rate
20	0.03 %	45	0.27 %
25	0.04	50	0.48
30	0.08	55	0.87
35	0.11	60	1.30
40	0.16		

Marriage — 80% of members are assumed to be married with wives 3 years younger than their husbands.

Interest on Employee Contributions — Future years assumed to be 3.5% per year.

Benefits Not Valued — The \$2,500 post-retirement death benefit for represented TWU members is not valued since premiums are paid outside of the plan trust.

Changes in Actuarial Assumptions — None.

O. Actuarial Assumptions- MTA Defined Benefit Pension Plan – Former Liberty Lines Bus Non-Represented MTA Bus employees

Salary Scale — Salaries are assumed to increase in accordance with the following schedule:

Years of Service	Rate
0	6.00 %
1	5.00
2	4.25
3	4.00
4+	3.50

Termination — Withdrawal rates vary by years of service. Illustrative rates are shown below:

Year of Service	Termination Rate
0	17.50 %
1	4.75
2 - 9	2.75
10+	2.25

Retirement — All members are assumed to retire at their Normal Retirement Age of 62.

Disability — Rates vary by age. Illustrative rates are shown below:

Age	Rate	Age	Rate
20	0.03 %	45	0.27 %
25	0.04	50	0.48
30	0.08	55	0.87
35	0.11	60	1.30
40	0.16		

Form of Payment — All members are assumed to elect the lump sum payment option. Lump sums valued using the current (2015) lump sum mortality table published by the IRS and the 4.5% assumed interest rate.

Marriage — 80% of members are assumed to be married with wives 3 years younger than their husbands.

Changes in Actuarial Assumptions — None.

P. Actuarial Assumptions — MTA Defined Benefit Pension Plan — Former Command Bus Represented Employees

Termination — Withdrawal rates vary by years of service. Illustrative rates are shown below:

Year of Service	Termination Rate
0	17.50 %
1	4.75
2 - 9	2.75
10+	2.25

Retirement — Rates vary by age. Illustrative rates are shown below:

For represented ATU and TSO members:

Age	Years of Service at Retirement		
	<5	5-10	10+
57-64	N/A	N/A	30 %
65-79	0 %	5 %	30 %
80 +	100 %	100 %	100 %

For all other members:

Age	Retirement Rate	Age	Retirement Rate
50-52	5 %	59	34 %
53-54	10	60	35
55	30	61	36
56	31	62-64	40
57	32	65	100
58	33		

Disability — Rates vary by age. Illustrative rates are shown below:

Age	Rate	Age	Rate
20	0.03 %	45	0.27 %
25	0.04	50	0.48
30	0.08	55	0.87
35	0.11	60	1.30
40	0.16		

Disability rates cease upon attainment of unreduced retirement eligibility.

Marriage — 80% of male members are assumed to be married with wives 3 years younger than their husbands.

Interest on Employee Contributions — Future years assumed to be 3.5% per year.

Benefits Not Valued — The \$2,500 post-retirement death benefit for represented ATU members is not valued since premiums are paid outside of the plan trust.

Changes in Actuarial Assumptions: The marriage assumption was updated to be consistent with other MTA Bus agencies.

Q. Actuarial Assumptions — MTA Defined Benefit Pension Plan — Former Green Bus Represented Employees

Termination — Withdrawal rates vary by Years of Service. Illustrative rates are shown below:

Year of Service	Termination Rate
0	17.50 %
1	4.75
2 - 9	2.75
10+	2.25

Retirement — Rates vary by age. Illustrative rates are shown below:

For represented ATU and TSO members:

Age	Years of Service at Retirement		
	<5	5-10	10+
57-64	N/A	N/A	30 %
65-79	0 %	5 %	30 %
80 +	100 %	100 %	100 %

For all other members:

Age	Rate of Retirement
55-59	5 %
60-61	10
62	100

Disability — Rates vary by age. Illustrative rates are shown below:

Age	Rate	Age	Rate
20	0.03 %	45	0.27 %
25	0.04	50	0.48
30	0.08	55	0.87
35	0.11	60	1.30
40	0.16		

Marriage — 80% of male members are assumed to be married with wives 3 years younger than their husbands.

Interest on Employee Contributions: Future years assumed to be 3.5% per year.

Benefits Not Valued — The \$2,500 post-retirement death benefit for represented ATU members is not valued since premiums are paid outside of the plan trust.

Changes in Actuarial Assumptions: The marriage assumption was updated to be consistent with other MTA Bus agencies.

R. Actuarial Assumptions — MTA Defined Benefit Pension Plan — Certain Non-Represented Employees of Alliance Companies

Salary Scale — Salaries are assumed to increase in accordance with the following schedule:

Years of Service	Rate of Increase
0	6.00 %
1	5.00
2	4.25
3	4.00
4+	3.50

Termination — Withdrawal rates vary by years. Illustrative rates are shown below:

Year of Service	Termination Rate
0	17.50 %
1	4.75
2 - 9	2.75
10+	2.25

Retirement — Rates vary by age. Illustrative rates are shown below:

Age	Retirement Rate
55–56	6 %
57–58	8
59	9
60–61	13
62	25
63–64	15
65	100

Disability — Rates vary by age. Illustrative rates are shown below:

Age	Rate	Age	Rate
20	0.03 %	45	0.27 %
25	0.04	50	0.48
30	0.08	55	0.87
35	0.11	60	1.30
40	0.16		

Marriage — 80% of members are assumed to be married with wives 3 years younger than their husbands.

Changes in Actuarial Assumptions — The marriage assumption was updated to be consistent with other MTA BUS agencies.

7. CUSTODIAL AND OTHER PROFESSIONAL SERVICES

JP Morgan Chase Bank is the custodian and trustee 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. NEPC reviews the Plan's portfolio, the investment policies as stipulated by the Investment Committee and the performance of the Investment Managers. NEPC also provides audit services for the Plan's equity portfolios. Actuarial services were provided to the Plan by Milliman Inc.

8. SUBSEQUENT EVENTS

Subsequent Management has s evaluated subsequent events for the Plan through February 22, 2018, the date the financial statements were available to be issued, and has concluded that there are no recognized or non-recognized subsequent events for the financial statement adjustment or disclosure.

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**METROPOLITAN TRANSPORTATION AUTHORITY
DEFINED BENEFIT PENSION PLAN**

REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)

SCHEDULE OF CHANGES IN THE EMPLOYERS' NET PENSION LIABILITY AND RELATED RATIOS

(in thousands)

	2016	2015	2014
Total pension liability:			
Service cost	\$ 138,215	124,354	121,079
Interest	308,009	288,820	274,411
Changes of benefit terms	73,521	6,230	-
Differences between expected and actual experience	86,809	121,556	2,322
Changes of assumptions	-	(76,180)	-
Benefit payments and withdrawals	(209,623)	(199,572)	(191,057)
Net change in total pension liability	396,931	265,208	206,755
Total pension liability – beginning	4,364,946	4,099,738	3,892,983
Total pension liability – ending (a)	4,761,877	4,364,946	4,099,738
Plan fiduciary net position:			
Employer contributions	280,768	221,694	331,259
Member contributions	29,392	34,519	26,006
Net investment income	247,708	(45,122)	102,245
Benefit payments and withdrawals	(209,623)	(199,572)	(191,057)
Administrative expenses & Transfer to investments	(3,051)	(1,962)	(9,600)
Net change in plan fiduciary net position	345,194	9,557	258,853
Plan fiduciary net position – beginning	3,074,777	3,065,220	2,806,367
Plan fiduciary net position – ending (b)	3,419,971	3,074,777	3,065,220
Employer's net pension liability – ending (a)-(b)	\$ 1,341,906	1,290,169	1,034,518
Plan fiduciary net position as a percentage of the total pension liability	71.82%	70.44%	74.77%
Covered-employee payroll	\$ 1,724,219	1,603,924	1,544,050
Employer's net pension liability as a percentage of covered-employee payroll	77.83%	80.44%	67.00%

In accordance with GASB No. 67, paragraph 50, such information was not readily available for periods prior to 2014.

**METROPOLITAN TRANSPORTATION AUTHORITY
DEFINED BENEFIT PENSION PLAN**

**REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)
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 are as follows:

Valuation Dates	January 1, 2016	January 1, 2015	January 1, 2014
Actuarial cost method	Frozen initial liability (FIL) (1)	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 each group	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 each group	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 each group
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.	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 2016, per annum, net of investment expenses	Net rate of 7.0% for 2015, per annum, net of investment expenses	Net rate of 7.0% for 2015, per annum, net of investment expenses
Inflation	2.5% per annum	2.5% per annum	2.5% per annum
Railroad retirement wage base	3.5% per year	3.0% per year	3.0% per year
Mortality	Based on experience of all MTA members reflecting mortality improvement on a generational basis using Scale AA	Based on experience of all MTA members reflecting mortality improvement on a generational basis using Scale AA	Based on experience of all MTA members reflecting mortality improvement on a generational basis using Scale AA
Separations other than for normal retirement	Tables based on recent experience	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.	Tables based on recent experience. Rates vary by age, years of service at retirement and Tier/Plan.	Tables based on recent experience. Rates vary by age, years of service at retirement and Tier/Plan.
Salary increases	Varies by years of employment, and employee group; 3.0% General Wage Increases ("GWI") for TWU MTA Bus hourly employees	Varies by years of employment, and employee group; 3.5% for MTA Bus hourly employees	Varies by years of employment, and employee group; 3.5% for MTA Bus hourly employees
Overtime	Tables based on recent experience	Tables based on recent experience	Tables based on recent experience
Cost-of-living adjustments	1.375% per annum (2)	1.375% per annum (2)	1.375% per annum (2)
Provision for expenses	An average of the prior three years' administrative charges added to the normal cost	An average of the prior three years' administrative charges added to the normal cost	An average of the prior three 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.

**METROPOLITAN TRANSPORTATION AUTHORITY
DEFINED BENEFIT PENSION PLAN**

SCHEDULE II

**Required Supplementary Information (Unaudited)
Schedule of Employer Contributions
(in thousands)**

Fiscal Year Ending December 31	Actuarially Determined Contribution	Actual Employer Contribution	Contribution Deficiency (Excess)	Covered Payroll	Contribution as a % of covered Payroll
2007	\$ 81,700	\$ 81,700	\$ -	\$ -	N/A
2008	107,759	107,759	-	-	N/A
2009	146,171	146,171	-	-	N/A
2010	155,318	155,318	-	-	N/A
2011	166,188	166,188	-	-	N/A
2012	212,397	212,397	-	-	N/A
2013	242,980	242,980	-	-	N/A
2014	271,523	331,259	(59,736) *	1,544,050	21.45%
2015	273,730	221,694	52,036	1,603,924	13.82%
2016	290,415	280,768	9,647	1,724,219	16.28%

* Excess for 2014 reflects a prepaid contribution toward the 2015 Actuarially Determined Contribution.

In accordance with GASB No. 67, paragraph 50, such information was not readily available for periods prior to 2014.

**METROPOLITAN TRANSPORTATION AUTHORITY
DEFINED BENEFIT PENSION PLAN**

SCHEDULE III

**Required Supplementary Information (Unaudited)
Schedule of Investment Returns**

The following table displays annual money-weighted rate of return, net of investment expense.

Fiscal Year Ending December 31	Net Money-Weighted Rate of Return
2007	N/A
2008	N/A
2009	N/A
2010	N/A
2011	N/A
2012	N/A
2013	N/A
2014	3.58%
2015	-1.47%
2016	7.97%

In accordance with GASB No. 67, paragraph 50, such information was not readily available for periods prior to 2014.

Calculation on Long-Term Expected Rate of Return

The best-estimate range for the long-term expected rate of return is determined by adding expected inflation to expected long-term real returns and reflecting expected volatility and correlation. The capital market assumptions are per Milliman's investment consulting practice as of December 31, 2016.