Manhattan and Bronx Surface Transit Operating Authority Pension Plan

Financial Statements as of and for the
Year Ended December 31, 2020,
Supplemental Schedules, and
Independent Auditors' Report

MANHATTAN AND BRONX SURFACE TRANSIT OPERATING AUTHORITY PENSION PLAN

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INDEPENDENT AUDITORS' REPORT

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

Report on the Financial Statements

We have audited the accompanying statement of fiduciary net position of The Manhattan and Bronx Surface Transit Operating Authority Pension Plan (the "Plan") as of December 31, 2020, and the related statement of changes in fiduciary net position for the year 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 fiduciary net position as of December 31, 2020, and the changes in fiduciary net position for the year 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 8 and the Changes in the Employers' Net Pension Liability and Related Ratios-Schedule I on page 50; Employer Contributions and Notes to Schedule-Schedule II on pages 51–53; and the Investment Returns-Schedule III on page 54 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 8, 2022

This management's discussion and analysis of The Manhattan and Bronx Surface Transit Operating Authority Pension Plan (the "Plan") financial performance provides an overview of the Plan's financial activities for the year ended December 31, 2020. 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 year 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 MTA management that should not be considered a replacement for and is intended to be read in conjunction with the plan's financial statements which begin on page 9.

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 Statement of Fiduciary 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 Statement of Changes in Fiduciary Net Position—** presents the results of activities during the year. All changes affecting the assets and liabilities of the Plan are reflected on an accrual basis when the activity occurred regardless of the timing of the related cash flows. In that regard, changes in the fair values of investments are included in the year's activity as net appreciation (depreciation) in fair value of investments.

- **The Notes to Financial Statements—** provides additional information that is essential to a full understanding of the data provided in the financial statements. The notes present information about the Plan's accounting policies, significant account balances and activities, material risks, obligations, contingencies, and subsequent events, if any.

- **Required Supplementary Information—** as required by the Government Accounting Standards Board ("GASB") includes the Schedule of Changes in the Employer's Net Pension Liability and Related Ratios, Schedule of Employer Contributions, and Schedule of Investment returns.

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

CONDENSED FINANCIAL INFORMATION AND ANALYSIS

FINANCIAL ANALYSIS

Fiduciary Net Position
As of December 31, 2020 and 2019
(Dollars in thousands)

	2020	2019	Amount of Change $	Percentage Change %
Cash and investments	$ 3,281,332	$ 3,268,404	$ 12,928	0.4%
Receivables and other assets	33,997	42,546	(8,549)	(20.1)
Total assets	**$ 3,315,329**	**$ 3,310,950**	**$ 4,379**	**0.1**
Payable for investment securities purchased	4,317	3,425	892	26.0
Other liabilities	8,920	10,795	(1,875)	(17.4)
Total liabilities	**13,237**	**14,220**	**(983)**	**(6.9)**
Net position restricted for pensions	**$ 3,302,092**	**$ 3,296,730**	**$ 5,362**	**0.2%**

December 31, 2020 versus December 31, 2019

Cash and investments at December 31, 2020, were $3,281.3 million, an increase of $12.9 million or 0.4% from 2019. This increase is a result of investment activity in 2020 and plan contributions net of benefit payments and expenses during 2020.

Receivables and other assets less plan liabilities at December 31, 2020 decreased by $7.6 million or 26.7%. The decrease is a result of lower year-end receivables for 2020 compared with 2019 and continued payments on post retirement death benefits and additional members contribution liabilities for Tiers 3 and 4 – 25 year and age 55 retirement programs.

The plan net position restricted for pensions increased by $5.4 million or 0.2% in 2020 as a result of the various changes noted above.

Changes in Fiduciary Net Position
For the Years Ended December 31, 2020 and 2019
(Dollars in thousands)

	2020	2019	Amount of Change $	Percentage Change %
Additions:				
Net investment income	$ 59,341	$ 443,827	$ (384,486)	86.6 %
Transfers and contributions	184,195	229,941	(45,746)	(19.9)
Total net additions	**243,536**	**673,768**	**(430,232)**	**(63.9)**
Deductions:				
Benefit payments	237,930	221,221	$ 16,709	7.6
Administrative expenses	244	219	25	11.4
Total deductions	**238,174**	**221,440**	**16,734**	**7.6**
Net increase	**5,362**	**452,328**	**(446,966)**	**(98.8)**
Net position restricted for pensions:				
Beginning of year	3,296,730	2,844,402	452,328	15.9
End of year	**$ 3,302,092**	**$ 3,296,730**	**$ 5,362**	**0.2%**

December 31, 2020 versus December 31, 2019

Net investment income decreased by $384.5 million in 2020 due to lower net investment gains of $59.3 million in 2020 versus net investment gains of $443.8 million in 2019.

Contributions decreased by $45.7 million or 19.9% in 2020 compared to 2019, as a result of the Actuarial Determined Contributions ("ADC") and member contributions.

Benefit payments increased by $16.7 million or 7.6% over the prior year due to a continuing trend of an increase in the number of retirees and cost-of-living adjustments provided to retirees and beneficiaries.

Administrative expenses increased by $25 thousand or 11.4% compared to 2019. This increase was due to an increase in fees for services provided to the Plan.

Economic Factors

Market Overview and Outlook – 2020

The year 2020 was extraordinary for the global economy. The COVID-19 pandemic disrupted the economy, governments and society. Fundamentally, the global health crisis prompted extreme deterioration in fundamentals, including the biggest quarterly drop in global Gross Domestic Product ("GDP") and the greatest increase in unemployment since the Great Depression. Capital markets realized an unprecedented spike in volatility and collapse in most risk assets, while global populations engaged in more pronounced calls for racial justice and climate change initiatives. The geopolitical landscape was further colored by a contentious United States ("U.S.") election, a resolution to BREXIT, and a more assertive China. By year-end, global central bank's monetary and fiscal stimulus and the approval of multiple Covid-19 vaccines prompted some recovery in economic activity and a significant rally in riskier assets.

Global Central banks remained extremely dovish throughout 2020, with most majors enacting emergency lending and liquidity facilities to support market functioning. Quantitative easing measures pushed government yields in many countries into negative territory. Inflation expectations recovered both in response to the significant monetary stimulus and both the real and anticipated supply chain disruptions as the economy slowly reopened. Fiscal policy was similarly stimulative, as additional spending and forgone revenue rose across both developed and emerging economies.

Global GDP contracted 3.8% in 2020, which was not as bad as initially expected given the subsequent rebound in economic growth later in the year. Global equities realized significant volatility and saw sharp price swings over a historically short period of time, while global yield curves finished the year generally lower than the start of 2020. Commodities largely rallied amid a constrained supply backdrop except for oil, which was deeply impacted by weakness in the transportation sector.

Macro Themes

- Trajectory of the virus and the potential spread of new COVID-19 variants
- Unwind of easy monetary policy
- Potential for a continued rise in inflation
- U.S.-China strategic competition

United States

The U.S. economy recovered from its spring lows by year-end. The unemployment rate dropped to 6.7% from a 14.8% high in April, and real GDP over 2020 stood at -3.5% despite a 33.4% during the second quarter.

U.S. equities were strongly positive, with the S&P 500 and Russell 1000 indices posting returns of (+18.4%) and (+21.0%), respectively. Across market caps, Large Cap, as measured by the S&P 500 (+18.4%), Mid Cap, as measured by the S&P 400 (+13.1%), and Small Cap, as measured by the Russell 2000 (20.0%) all posted double digit returns. Across styles, Growth, as measured by the Russell 1000 (+38.5%) outperformed Value, as measured by the Russell 1000 Value (+2.8%).

U.S. Treasury yields declined sharply in 2020 and the yield curve steepened. The Federal Reserve cut the Federal Funds rate to 0.25% and launched multiple emergency measures support market functioning.

Diversified fixed income returned +7.5% (Bloomberg Barclays U.S. Aggregate), with gains dominated by U.S. Credit at 9.4% (Bloomberg Barclays Credit) and Treasury Inflation Protected Securities at 11% (Bloomberg Barclays TIPS).

International Developed Equity Markets

International developed equity markets posted very strong results in 2020 and lagged behind U.S. equity markets, returning (+7.8%) as measured by the MSCI EAFE. Both Europe and Japanese equities had positive performance in 2020 with MSCI Europe returning (+5.4%) and MSCI Japan returning (+14.5%). Lower returns in Europe were affected by the global pandemic market conditions during 2020 unlike 2019 when Europe returned (+23.7%). The Small Cap portion of international developed markets posted positive but weaker returns in 2020, (+12.3%) compared with 2019, (+24.9%).

Emerging Markets

Emerging markets posted very strong returns in 2020, with performance equaling the U.S. and outperforming international developed markets across equity but lower than both on the debt front. The broad MSCI Emerging Market Index returned (+18.3%) for the year. Emerging markets gained sharply in the last quarter of 2020, buoyed by resolution of the U.S. election and breakthrough vaccine news.

The bond markets of emerging markets performed reasonably well in 2020 compared to their outperformance in 2019. Both hard currency and local currency bonds posted positive returns. Hard currency bonds predominately issued in U.S. Dollars, as represented by the JPMorgan EMBI Global Diversified Index, returned (+5.3%) in 2020. Local currency bonds represented by the JPMorgan GBI-EM Global Diversified Index returned (+2.7%) for the year.

Commodities

The S&P Goldman Sachs Commodity Index (GSCI) fell 23.7%, largely influenced by a 20.9% drop in oil prices, represented by the New York Mercantile Exchange West Texas Index Crude Spot Index. Excluding energy, GSCI was up over 16% supported by price gains in precious metals. Reactions to the COVID-19 pandemic including mobility restrictions, limitations on nonessential travel, and increased working from home greatly reduced U.S. travel and energy demands in 2020 compared with 2019.

Market Outlook

As the global health crisis is brought under control, economic activity is likely to continue to return to pre-pandemic levels. Consensus forecasts for economic growth, earnings and risk assets are mostly favorable, and supported by continued accommodative policies, low interest rates, and asset price appreciation. Growth going forward is likely to be uneven and differentiated between regions and affected by persistent supply disruptions and other challenges in re-opening the economy. Countries with effective pandemic mitigation strategies are expected to fare better overall. The pace of the recovery is dependent on known risks such as the trajectory of the virus and the potential spread of new COVID-19 variants as well as policy errors either in the form of maintaining too much stimulus or too little. The Federal Reserve, European Central Bank, Bank of Japan and Bank of England have all committed to a more flexible approach to rising inflation in the future, suggesting stimulus will remain in place but not necessarily at crisis levels. Some of the heavy lifting will likely continue to be carried by continued global fiscal measures either targeted to specific areas of the economy such as infrastructure or more-broad based in nature via income injections. Unknown risks to the outlook are predominantly geopolitical in nature and possibly related to tensions in the Middle East or between the U.S. and China.

Contact Information

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

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MANHATTAN AND BRONX SURFACE TRANSIT OPERATING AUTHORITY PENSION PLAN

STATEMENT OF FIDUCIARY NET POSITION
AS OF DECEMBER 31, 2020
(In thousands)

		2020
ASSETS:		
Cash	$	8,076
Receivables:		
Investment securities sold		1,902
Interest and dividends		1,351
Employee loans		30,744
Total receivables		33,997
Investments at fair market value (Notes 2 and 3):		
Investments measured at readily determinable fair value		767,782
Investments measured at net asset value		2,505,474
Total investments		3,273,256
Total assets		3,315,329
LIABILITIES:		
Payable for investment securities purchased		4,317
Accrued benefits payable		73
Accrued Post Retirement Death Benefits (PRDB) payable		4,204
Accrued 55/25 Additional Members Contribution (AMC) payable		4,643
Total liabilities		13,237
NET POSITION RESTRICTED FOR PENSIONS	$	3,302,092

See notes to financial statements.

MANHATTAN AND BRONX SURFACE TRANSIT OPERATING AUTHORITY PENSION PLAN

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED DECEMBER 31, 2020
(In thousands)

	2020
ADDITIONS:	
Investment income:	
Interest income	12,481
Dividend income	29,752
Net appreciation in fair value of investments	37,154
Total investment income	79,387
Less investment expenses	20,046
Net investment income	59,341
Contributions (Note 4):	
Employee contributions	$ 24,709
Employer contributions	159,486
Total contributions	184,195
Total additions	243,536
DEDUCTIONS:	
Benefit payments and withdrawals	237,930
Administrative expenses	244
Total deductions	238,174
NET INCREASE IN NET POSITION	5,362
NET POSITION RESTRICTED FOR PENSIONS:	
Beginning of year	3,296,730
End of year	$ 3,302,092

See notes to financial statements.

1. PLAN DESCRIPTION

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

As of January 1, 2020, The Plan is a multi-employer public employee retirement system. The Plan now have employees who are on MTA HQ's payroll. MaBSTOA and MTAHQ employees are specifically excluded from participating in the New York City Employees' Retirement System (NYCERS). Effective January 1, 1999, in order to afford managerial and non-represented MaBSTOA employees the same pension rights as like title employees in the Transit Authority, membership in the MaBSTOA Plan is optional.

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

Membership of the Plan consisted of the following as of January 1, 2020, the date of the latest actuarial valuation:

	2020
Active and inactive members	8,795
Retirees and beneficiaries currently receiving benefits	5,944
Vested formerly active members not yet receiving benefits	1,040
Total members	15,779

The Plan provides retirement, death, accident and disability benefits. The benefits provided by the Plan are generally similar to the benefits provided to participants in NYCERS. A participant may receive a vested benefit in accordance with the requirements of his or her Tier.

NYCERS has determined that Tier 4 employees are and have been eligible for a post retirement death benefit retroactive to members who retired no earlier than 1986. In June 2012, the Metropolitan Transportation Authority ("MTA") Board approved an amendment to the MaBSTOA Plan to provide for incorporation of this benefit. As of December 31, 2012, the Plan had estimated that $6 million is owed to beneficiaries of retirees who were deceased prior to January 1, 2013. As of December 31, 2020, the Plan has paid $15.4 million in post-retirement benefits and accrued an additional $4.2 million based on the updated valuation.

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

The MaBSTOA Pension Plan includes the following retirement programs: (i) Tier 1 Age 50 and 20 Year, Age 55 and 1/100; (ii) Tier 2 Age 55 and 25 Year, Tier 2 Age 55 and 1/100; (iii) Tier 3 and Tier 4 Age 62 and 5 Year; (iv) Tier 6 Age 63 and 10 Year; (v) Tier 4 and Tier 6 25 Year and Age 55; (vi) Tier 4 25 Year Early Retirement; (vii) Tier 4 Age 57 and 5 Year, and (viii) the Year 2000 amendments, which are all under the same terms and conditions as NYCERS.

The Plan may require mandatory employee contributions, depending on the date of entry into service. Employees entering qualifying service on or before July 26, 1976, are non-contributing (Tiers 1 and 2). Prior to adoption of Tier 6, operating employees entering qualifying service on or after July 27, 1976, are required to contribute 2% of their salary and non-operating employees pay 3% of their salary for a 10-year period plus an additional member contribution of 1.85% of their salary. See Note 4 for 2000 Plan amendments.

Individuals joining the MaBSTOA Pension Plan on or after April 1, 2012 are members of Tier 6. Highlights of Tier 6 include:

- Increases in employee contribution rates. The rate varies depending on salary, ranging from 3% to 6% of gross wages. Contributions are made until retirement or separation from service.

- The retirement age is 63 and includes early retirement penalties, which reduce pension allowances by 6.5 percent for each year of retirement prior to age 63 (excluding Transit Operating Employees).

- Vesting after 10 years of credited service; increased from 5 years of credited service under Tier 3 and Tier 4.

- Changes to the pension multiplier for calculating pension benefits (excluding Transit Operating Employees) for participants who retire with greater than 20 years of credited service is 35% of FAS for the first 20 years of credited service plus 2% times FAS for each year of credited service in excess of 20.

- Adjustments to the Final Average Salary (FAS) calculation changed from an average of the final 3 years to an average of the final 5 years. Pensionable overtime capped at $15,000 per year plus an inflation factor ($16,779 for 2019 and $17,067 for 2020).

- Pension buyback in Tier 6 at a rate of 6% of the wages earned during the period of buyback, plus 5% compounded annually from the date of service until date of payment.

SUMMARY OF PRINCIPAL PLAN PROVISIONS ELIGIBILITY AND BENEFITS

All Tiers

1. Type of Plan	The Plan is a contributory, defined benefit plan. Contributions are not required for Tier 1 and Tier 2 members and vary for other members. Details can be found in the following sections.
2. Effective Date of Plan Qualification	January 1, 1989.
3. Compensation	The wages earned by the employee. Compensation is limited by Section 401(a)(17) of the Code. This limit is \$280,000 for 2019 and \$285,000 for 2020.
4. Credited Service	Credited Service is credited full-time employment from date of hire.

5. Pensioner Supplementations

(a) 1998 Supplement	Eligibility: Date of retirement is prior to 1993 for all disability pensioners and other pensioners who have attained (or will attain) age 62 or who have attained (or will attain) age 55 and have been retired for at least 10 years. Benefit: Commencing with the payment for the month of September 1998, the cost-of-living adjustment is applied to the first \$13,500 of the maximum retirement allowance, computed without option modification. If not eligible by September 1998, payment will commence first of the month following eligibility.
(b) 1999 Supplement	Eligibility: Date of retirement is prior to 1994 for all disability pensioners and other pensioners who have attained (or will attain) age 62 or who have attained (or will attain) age 55 and have been retired for at least 10 years. Benefit: Commencing with the payment for the month of September 1999, the cost-of-living adjustment is applied to the first \$14,000 of the maximum retirement allowance, computed without option modification. If not eligible by September 1999, payment will commence first of the month following eligibility.

(c) 2000 Supplement

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

(i) All disability pensioners who have been retired for at least 5 years,

(ii) Other pensioners who have attained (or will attain) age 62 and have been retired for at least 5 years,

(iii) Other pensioners who have attained (or will attain) age 55 and have been retired for at least 10 years and

(iv) All recipients of an accidental death benefit who have been in receipt of payments for at least 5 years.

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

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

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

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

Eligibility: One of the following conditions is met:

(i) All disability pensioners who have been retired for at least 5 years,

(ii) Other pensioners who have attained (or will attain) age 62 and have been retired for at least 5 years,

(iii) Other pensioners who have attained (or will attain) age 55 and have been retired for at least 10 years and

(iv) All recipients of an accidental death benefit who have been in receipt of payments for at least 5 years.

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

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

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

6. Normal and Optional Forms of Payment

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

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

7. Maximum Benefit

Maximum benefits payable conforms to those legislated by the Tax Reform Act of 1986. For 2019, the maximum benefit is $225,000 and for 2020 it is $230,000.

8. Changes in Plan Provisions Since Prior Valuation

On July 22, 2020, the MTA Board adopted temporary COVID-19 Accidental Death Benefits, providing eligible surviving beneficiaries with the option to elect a pension in lieu of an ordinary death benefit.

I. Tier 1 Employees

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

(d) Accidental Death Benefits	Eligibility: Death caused by on-the-job accident. World Trade Center Presumption may apply if certain criteria are met. Benefit: The benefit equals 50% of Final Compensation.
(e) Ordinary Disability Benefits	Eligibility: Completion of 10 years of credited service. Benefit: The benefit equals the greater of the Service Retirement percentages described (a) above or 25% multiplied by Final Compensation. If eligible for a service retirement benefit, the greater of this benefit and the Service Retirement benefit is payable.
(f) Accidental Disability Benefits	Eligibility: Disability caused by on-the-job accident. World Trade Center Presumption may apply if certain criteria are met. Benefit: The benefit equals 75% of the Final Compensation reduced by 100% of any worker's compensation payments. If eligible for a service retirement benefit, the greater of this benefit and the Service Retirement benefit is payable.
4. Member Contributions	None
5. Changes in Plan Provisions Since Prior Valuation	None

II. Tier 2 Employees

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

	(f) Ordinary Disability Benefits	Eligibility: Completion of 10 years of credited service Benefit: The benefit equals the greater of the Service Retirement percentage calculated in (a) above and 25% multiplied by Final 5-Year Average Compensation. If eligible for an Early or Service Retirement benefit, the greater of this benefit and the Early or Service Retirement benefit is payable.
	(g) Accidental Disability Benefits	Eligibility: Disability caused by on-the-job accident. World Trade Center Presumption may apply if certain criteria are met. Benefit: The benefit equals 75% of the Final 5-Year Average Compensation reduced by any worker's compensation payments. If eligible for an Early or Service Retirement benefit, the greater of this benefit and the Early or Service Retirement benefit is payable.
4.	Member Contributions	None
5.	Changes in Plan Provisions Since Prior Valuation	None

III. Tier 3 and Tier 4—Basic Age

62 & 5 Year Retirement Program

1. Eligibility — Non-operating Members hired prior to June 28, 1995, who have not elected the 55 & 25 Plan. Members hired on or after July 27, 1976, and before September 1, 1983, are in Tier 3. Members hired on or after September 1, 1983, are in Tier 4.

2. Final Average Compensation — Highest average earnings during any three consecutive calendar-year~~s~~ periods, or the final 36 months immediately preceding the member's retirement date. Earnings used in the calculation cannot exceed 110% of the average of the two preceding years.

3. Benefits

   (a) Service Retirement — Eligibility: Attainment of age 62 and completion of at least 5 years of credited service.

   Benefit: If at least 20 years of credited service is completed, the benefit equals 2.0% of Final Average Compensation for first 30 years of credited service plus 1.5% of Final Average Compensation for years of credited service in excess of 30. If completed less than 20 years of credited service, the benefit equals 1-2/3% of Final Average Compensation multiplied by years of credited service.

   (b) Early Retirement — Eligibility: Attainment of age 55 and completion of at least 5 years of credited service.

   Benefit: The benefit equals the Service Retirement benefit reduced by 6% for each of the first two years prior to age 62, and by 3% for years prior to age 60.

(c) Termination Benefits	(i)	Refund of Contributions Eligibility: Completion of less than 10 years of Credited Service. Benefit: The benefit equals a refund of the member's contributions accumulated with interest at a rate of 5.0%.
	(ii)	Vested Benefit Eligibility: Completion of at least 5 years of credited service. Benefit: The benefit equals the Service Retirement benefit with compensation and service calculated as of the date of termination. The benefit is deferred until age 62. A vested participant with less than 10 years of credited service may elect to receive the benefit in (i) above in lieu of this benefit. If a member with at least 10 years of credited service dies before commencing benefits, 50% of the ordinary death benefit (below) is payable. All accumulated regular contributions with interest are payable.
(d) Ordinary Death Benefits		Eligibility: all members. Pre-retirement Death Benefit: The benefit equals a lump sum of annual salary times completed years of credited service up to 3 years of service. After age 60, the benefit is reduced 5% per year, to a maximum reduction of 50%. Accumulated regular member contributions with interest. Post-retirement Death Benefit: Upon retirement, the pre-retirement benefit shall be reduced by 50% and reduced an additional 25% after completion of one year of retirement. After completion of two years of retirement, the benefit equals 10% of the pre-retirement benefit in force at age 60. Spouse Benefit (Tier 3 only) Eligibility: Vested and spouse is beneficiary. Benefit: In lieu of the ordinary death benefit above, the spouse may elect 1/3 of the ordinary death benefit plus an annuity of 1.0% of Final Average Compensation per year of credited service, payable for life, or until remarriage. If the surviving spouse is more than 10 years younger, the annuity is actuarially reduced. The total of all payments will at least equal the amount of the full lump sum benefit.

(e) Accidental Death Benefits	Eligibility: Death caused by on-the-job accident. World Trade Center Presumption may apply if certain criteria are met. Benefit: The benefit equals 50% of compensation paid to eligible beneficiary as defined by priority: (i) Spouse, until remarriage (ii) Children, to age 25 (iii) Dependent parents (iv) Any other dependent survivors, to age 21. Total of all payments will at least equal the amount of the full ordinary death lump sum benefit
(f) Ordinary and Accidental Disability Benefits	Eligibility: Completion of 10 years of credited service for ordinary. No minimum years of credited service required for accidental. Benefit: The benefit equals the greater of 1-2/3% of Final Average Compensation per year of credited service and 1/3 of Final Average Compensation. If eligible for a Service Retirement benefit, the greater of this benefit and the Service Retirement benefit is payable.
4. Member Contributions	Regular contribution rate of 3.0%. Regular contributions cease at the later of October 1, 2000, or the later of 10 years of membership or 10 years of credited service
5. Changes in Plan Provisions Since Prior Valuation	None

IV. Tier 3 and Tier 4—25 Year and Age 55 Retirement Programs

1. Eligibility

All operating members hired prior to April 1, 2012 and non-operating members hired prior to July 26, 1994, who elected this program. Members hired on or after July 27, 1976, and before September 1, 1983, are in Tier 3. Members hired on or after September 1, 1983 and before April 1, 2012 are in Tier 4.

2. Final Average Compensation

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

3. Benefits

(a) Service Retirement

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

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

(b) Termination Benefits

(i) Refund of Contributions

Eligibility: Less than 10 years of credited service.

Benefit: The benefit equals a refund of the basic member's accumulated contributions. All contributions are refunded with interest at a rate of 5.0% also payable.

(ii) Vested Benefit

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

Benefit: The benefit equals the Service Retirement benefit with compensation and service calculated as of the date of termination. The benefit is deferred until age 62 if credited service is less than 25 years, else the benefit is deferred until age 55 for operating employees only. For non-operating employees the benefit is payable at age 62 with less than 25 years or if both age and service has not been fulfilled. A vested participant with less than 10 years of credited service may elect to receive the benefit in (i) above in lieu of this benefit. If a member with at least 10 years of credited service dies before commencing benefits, 50% of the salary-related ordinary death benefit (below) plus accumulated regular contributions with interest and one-half of accumulated additional member contributions with interest are payable.

(c) Ordinary Death Benefits

Eligibility: All members.

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

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

Spouse Benefit (Tier 3 only)

Eligibility: Vested and spouse is beneficiary.

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

(d) Accidental Death Benefits	Eligibility: Death caused by on-the-job accident. World Trade Center Presumption may apply if certain criteria are met. Benefit: The benefit equals 50% of compensation paid to eligible beneficiary as defined by priority: (i) Spouse, until remarriage (ii) Children, to age 25 (iii) Dependent parents (iv) Any other dependent survivors, to age 21. Total of all payments will at least equal the amount of the full ordinary death lump sum benefit.
(e) Ordinary and Accidental Disability Benefits	Eligibility: Completion of 10 years of credited service for ordinary. No minimum years of credited service requirement for accidental. Benefit: The benefit equals the greater of 1-2/3% of Final Average Compensation per year of credited service and 1/3 of Final Average Compensation. If eligible for a Service Retirement benefit, the greater of this benefit and the Service Retirement benefit is payable. For non-operating employees, a refund of one-half of the member's additional contributions accumulated plus interest at a rate of 5.0% is also payable.
4. Member Contributions	Operating Employees: Regular contribution rate of 2.0%. Additional 55/25 contributions were made through 2000. These contributions may be refunded effective November 2007 for TWU Local 100 and April 2008 for TSO Local 106. Non-operating Employees: Regular contribution rate of 3.0%. Regular contributions cease at the later of October 1, 2000 or after the later of 10 years of membership or 10 years of credited service. Additional contribution rates were 4.35%, 2.85% and 1.85%, of which 1.85% ceases after 30 years of credited service.
5. Changes in Plan Provisions Since Prior Valuation	None

V. Tier 4—Age 57 & 5 Year

Retirement Program

1. Eligibility

Non-operating members hired on or after June 28, 1995 and prior to April 1, 2012. Members hired on or after September 1, 1983 and before April 1, 2012 are in Tier 4.

2. Final Average Compensation

Highest average earnings during any three consecutive calendar-year~~s~~ periods, or the final 36 months immediately preceding the member's retirement date. Earnings used in the calculation cannot exceed 110% of the average of the two preceding years.

3. Benefits

(a) Service Retirement

Eligibility: Attainment of age 57 and completion of at least 5 years of credited service.

Benefit: If less than 20 years of credited service are completed, the benefit equals 1.67% of Final Average Compensation multiplied by years of credited service. If between 20 and 30 years of credited service are completed, the benefit equals 2% of Final Average Compensation multiplied by years credited service. If more than 30 years are completed, 2% of Final Average Compensation multiplied by years of credited service plus 1.5% of Final Average Compensation multiplied by years of credited service in excess of 30. For non-operating employees who have attained age 62, a refund of one-half of the member's additional contributions accumulated plus interest at a rate of 5.0% is also payable.

(b) Termination Benefits

(i) Refund of Contributions

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

Benefit: The benefit equals a refund of the member's basic accumulated contributions and 50% of additional member contributions plus interest at a rate of 5.0%.

(ii) Vested Benefit

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

Benefit: The benefit equals the Service Retirement benefit with compensation and service calculated as of the date of termination. The benefit is deferred until age 57. A vested participant with less than 10 years of credited service may elect to receive the benefit in (i) above in lieu of this benefit. If a member with at least 10 years of credited service dies before commencing benefits, 50% of the salary-related ordinary death benefit (below) is payable. All accumulated regular contributions with interest and one-half of accumulated additional member contributions with interest are payable.

(c) Ordinary Death Benefits	Eligibility: All members Pre-retirement Death Benefit: The benefit equals a lump sum of annual salary times completed years of credited service up to 3 years of service. After age 60, the benefit is reduced 5% per year, to a maximum reduction of 50%. Accumulated regular member contributions with interest and one-half of accumulated additional member contributions with interest are also payable. Post-retirement Death Benefit: Upon retirement, the pre-retirement benefit shall be reduced by 50% and reduced an additional 25% after completion of one year of retirement. After completion of two years of retirement, the benefit equals 10% of the pre-retirement benefit in force at age 60.
(d) Accidental Death Benefits	Eligibility: Death caused by on-the-job accident. World Trade Center Presumption may apply if certain criteria are met. Benefit: The benefit equals 50% of final 1-year compensation paid to eligible beneficiary as defined by priority: (i) Spouse, until remarriage (ii) Children, to age 25 (iii) Dependent parents (iv) Any other dependent survivors, to age 21. Total of all payments will at least equal the amount of the full ordinary death lump sum benefit.
(e) Ordinary and Accidental Disability Benefits	Eligibility: Completion of 10 years of credited service for ordinary. No minimum years of credited service requirement for accidental. Benefit: The benefit equals the greater of 1-2/3% of Final Average Compensation per year of credited service and 1/3 of Final Average Compensation. If eligible for Service Retirement benefit, the greater of this benefit and the Service Retirement benefit is payable. For non-operating employees, a refund of one-half of the member's additional contributions accumulated at a rate of 5.0% is also payable.
4. Member Contributions	Regular contribution rate of 3.0%. Regular contributions cease at the later of October 1, 2000, or after the later of 10 years of membership or 10 years of credited service. Additional contribution rates were 4.35%, 2.85% and 1.85% of which 1.85%, ceases after 30 years of credited service.
5. Changes in Plan Provisions Since Prior Valuation	None

VI. Tier 6—25 and
Age 55 Retirement Program

1. Eligibility	All operating members hired on or after April 1, 2012.
2. Final Average	Highest average pensionable earnings over five consecutive years. Pensionable earnings exclude any overtime earnings, defined as compensation paid at a rate greater than the standard rate, in excess of the overtime cap. The overtime cap is indexed annually and is $16,048 for 2017. Pensionable earnings also exclude wages in excess of the annual salary paid to the Governor of New York, lump sum payments for sick leave, accumulated vacation and other credits for time not worked, termination pay and any additional compensation paid in anticipation of retirement. Pensionable earnings in a year cannot exceed 110% of the average of the four preceding years.
3. Benefits	
(a) Service Retirement	Eligibility: Attainment of age 55 and completion of at least 25 years of credited service, or attainment of age 63 and completion of at least 10 years of credited service. Benefit: If completed at least 25 years of credited service, the benefit equals 2.0% of Final Average Salary for the first 30 years of credited service plus 1.5% of Final Average Salary for years of credited service in excess of 30. If completed less than 20 years of credited service, 1.67% of Final Average Salary multiplied by years of credited service. If completed between 20 to 25 of credited service, 35% of Final Average Salary for first 20 years of credited service, plus 2% of Final Average Salary for years of credited service in excess of 20.

(b) Termination Benefits

(i) Refund of Contributions

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

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

(ii) Vested Benefit

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

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

(c) Ordinary Death Benefits

Eligibility: All members

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

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

(d) Accidental Death Benefits

Eligibility: Death caused by on-the-job accident. World Trade Center Presumption may apply if certain criteria are met.

Benefit: The benefit equals 50% of wages earned during last year of service or annual wage rate if less than one year of service, paid to eligible beneficiary as defined by priority:

(i) Spouse, until remarriage

(ii) Children, to age 25

(iii) Dependent parents

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

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

(e) Ordinary and Accidental Disability Benefits

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

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

4. Member Contributions

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

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

5. Changes in Plan Provisions Since Prior Valuation

None

VII. Tier 6—Age 63 and 10 Year Retirement Program

1. Eligibility

   All non-operating members hired on or after April 1, 2012.

2. Final Average Compensation

   Highest average pensionable earnings over five consecutive years. Pensionable earnings exclude any overtime earnings, defined as compensation paid at a rate greater than the standard rate, in excess of the overtime cap. The overtime cap is indexed annually and is $17,067 for 2020. Pensionable earnings also exclude wages in excess of the annual salary paid to the Governor of New York, lump sum payments for sick leave, accumulated vacation and other credits for time not worked, termination pay and any additional compensation paid in anticipation of retirement. Pensionable earnings in a year cannot exceed 110% of the average of the four preceding years.

3. Benefits

   (a) Service Retirement

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

   Benefit: If completed less than 20 years of credited service, the benefit equals 1.67%% of Final Average Salary multiplied by years of credited service. If completed at least 20 years of credited service, 35% of Final Average Salary for the first 20 years of credited service, plus 2% of Final Average Salary times each year of credited service in excess of 20.

   (b) Early Retirement

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

   Benefit: The benefit equals the Service Retirement benefit reduced by 6.5% for each year prior to age 63.

(c) Termination Benefits	(i) Refund of Contributions Eligibility: Completion of less than 10 years of credited service. Benefit: The benefit equals a refund of the member's contributions accumulated plus interest at a rate of 5.0%. (ii) Vested Benefit Eligibility: Completion of at least 10 years of credited service. Benefit: The benefit equals the Service Retirement benefit with compensation and service calculated as of the date of termination. The benefit is deferred until age 63. If a member with at least 10 years of credited service dies before commencing benefits, 50% of the salary-related ordinary death benefit (below) plus accumulated regular contributions with interest are payable.
(d) Ordinary Death Benefits	Eligibility: All members Pre-retirement Death Benefit: The benefit equals a lump sum of annual salary times the completed years of credited service up to 3 years of service. After age 60, the benefit is reduced 5% per year, to a maximum reduction of 50%. Accumulated regular member contributions with interest and one-half of accumulated additional member contributions with interest are also payable. Post-retirement Death Benefit: Upon retirement, the pre-retirement benefit shall be reduced by 50% and reduced an additional 25% after completion of one year of retirement. After completion of two years of retirement, the benefit equals 10% of the pre-retirement benefit in force at age 60.
(e) Accidental Death Benefits	Eligibility: Death caused by on-the-job accident. World Trade Center Presumption may apply if certain criteria are met. Benefit: The benefit equals 50% of wages participant earned during last year of service or annual wage rate if less than one year of service, paid to eligible beneficiary as defined by priority: (i) Spouse, until remarriage (ii) Children, to age 25 (iii) Dependent parents (iv) Any other dependent survivors, to age 21. Total of all payments will at least equal the amount of the full ordinary death lump sum benefit.

(f) Ordinary and Accidental Disability Benefits

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

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

4. Member Contributions

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

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

5. Changes in Plan Provisions Since Prior Valuation

None

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES AND PLAN ASSET MATTERS

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

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

New Accounting Standards Adopted – The Plan did not adopt any new GASB Statement in 2020. However, the Plan did update the required year of adoption for GASB Statement No. 92. Refer to Accounting Standards Issued but Not Yet Adopted below for further details.

Accounting Standards Issued but Not Yet Adopted

GASB has issued the following pronouncements that may affect the future financial position, results of operations, or financial presentation of the Plan upon implementation. The Plan has not yet evaluated the effect of implementation of these standards.

GASB Statement No.	GASB Accounting Standard	MaBSTOA Pension Plan Required Year of Adoption
92	*Omnibus 2020*	2022

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

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

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

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

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

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

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

3. CASH AND INVESTMENTS

Investment Committee—The Plan's policy statement is issued for the guidance of fiduciaries, including the members of the Board and investment managers, in the course of investing the assets of the Trust. The investments of the Trust will be made for the exclusive benefit of the Plan participants and their beneficiaries. Policy guidelines may be amended by the Board upon consideration of the advice and recommendations of the investment professionals.

In order to have a reasonable probability of achieving the target return at an acceptable risk level, the Board has adopted the asset allocation policy outlined below. The actual asset allocation will be reviewed on, at least, a quarterly basis and will be readjusted when an asset class weighting is outside its target range. The following was the MaBSTOA Pension Plan Board adopted asset allocation policy as at December 31, 2020.

Asset Class	Target Allocation (%)	Target Range (%)	Policy Benchark
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 Plan is to achieve the actuarial return target with an appropriate risk position.

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.

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; therefore, the Board, with assistance of the investment advisor, will assess and monitor the investments 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. All investments are registered, with securities held by the Plan's trustee, in the name of the Plan. Gains and losses on investments that were sold during the year are included in in the statement of fiduciary net position.

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

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.

Impact of COVID-19 — In March 2020, the World Health Organization classified the COVID-19 outbreak as a pandemic. As a result, global financial markets have experienced, and may continue to experience, significant volatility resulting from the spread of COVID-19. The values of the Plan's individual investments have and will fluctuate in response to changing market conditions and therefore, the amount of losses that will be recognized in subsequent periods, if any, cannot be determined. The extent of the impact of COVID-19 on the Plan's net assets available for benefits and contributions will depend on future developments, including the duration and continued spread of the outbreak. The full impact of the COVID-19 outbreak continues to evolve as of the date of this report.

Investments measured at readily determined fair value (FV)
(In thousands)

	December 31, 2020	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	$ 142,778	$ 142,778	$ -	$ -
Separate account small-cap equity funds	197,480	197,480	-	-
Separate account real estate investment trust funds	29,862	29,862	-	-
Total equity investments	370,120	370,120	-	
Debt Securities				-
Mutual funds	140,806	140,806		
Separate account debt funds	256,856	-	256,856	-
Total debt investments	397,662	140,806	256,856	-
Total investments at readily determined FV	$ 767,782	$ 510,926	$ 256,856	$ -

Investments measured at the net asset value (NAV)
(In thousands)

	December 31, 2020	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Equity Securities:				
Commingled large cap equity funds	$ 276,348	$ -	Daily	None
Commingled international equity funds	476,923	-	Daily	None
Commingled emerging market equity funds	146,592	-	Daily, monthly	None
Total equity investments measured at the NAV	899,863	-		
Debt Securities				
Commingled debt funds	160,861	-	Daily, monthly, quarterly	None
Total debt investments measured at the NAV	160,861	-		
Absolute return:				
Direct lending	157,382	18,220	Bi-annually	60 plus days
Distressed securities	32,838	-	Not eligible	N/A
Credit long	36,812	-	Quarterly	3-30 days
Credit long/short	55,802	-	Quarterly	3-60 days
Equity long/short	37,466	-	Quarterly	3-60 days
Event driven	54,187	2,094	Quarterly, Bi-annually	60-120 days
Global tactical asset allocation	66,868	-	Daily, monthly	3-30 days
Multistrategy	31,415	-	Quarterly	3-60 days
Risk parity	253,446	-	Monthly	3-30 days
Total absolute return measured at the NAV	726,216	20,314		
Private equity - private equity partnerships	284,949	107,298	Not eligible	N/A
Real assets				N/A
Commingled commodities fund	60,881	-	Not eligible	N/A
Commingled real estate funds	84,682	-	Not eligible	N/A
Energy	78,202	28,600	Not eligible	N/A
Infrastructure	14,328	3,082	Not eligible	N/A
Total real assets measured at the NAV	238,093	31,682		
Short term investments measured at the NAV	195,492	-		
Total investments measured at the NAV	2,505,474	$ 159,294		
Total investments at fair value	$ 3,273,256			

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, 2020 is as follows:

(In thousands)		**2020**
Investments at fair value as determined by quoted market prices:		
Johnston International	$	223,273
Robert W. Baird and Company		218,211
JPM - Short Term Investment Fund		167,415

Credit Risk — At December 31, 2020, the following credit quality rating has been assigned by a nationally recognized rating organization:

(In thousands) **Quality Rating**		**2020 Fair Value**	**Percentage of Fixed Income Portfolio**
AAA	$	20,684	8.40 %
AA		51,001	20.70
A		22,836	9.27
BBB		79,337	32.21
BB		4,505	1.83
B		716	0.29
CCC		1,147	0.47
Not Rated		28,566	11.60
Credit risk debt securities		208,792	87.01
U.S. Government bonds		37,549	15.24
Total fixed income securities		246,341	100.00 %
Other securities not rated — equity, international funds and foreign corporate bonds		3,026,915	
Total investments	$	3,273,256	

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 sensitivity to 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. Modified duration is an indicator of bond price's sensitivity to a parallel 100 basis point change in interest rates.

Investment Fund (In Thousands)		2020 Fair Value	Duration
Chase	$	246,341	6.15
Total fixed income securities		246,341	
Portfolio modified duration			6.15
Investments with no duration reported	$	3,026,915	
Total investments	$	3,273,256	

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. Some of the Plan's investment managers will have foreign currency exposure through holdings of foreign securities, currency derivatives or private investments whose revenue will be non-USD based. The Plan also holds investments in American Depository Receipts ("ADRs") which are denominated in U.S. dollars and accounted for at fair market value.

The Plan did not have any foreign currency exposures as of December 31, 2020.

4. CONTRIBUTIONS

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

Employer contributions amounted to $159.5 million for the year ended December 31, 2020. Employee contributions amounted to $24.7 million for the year ended December 31, 2020. Contributions made by employees are accounted for in separate accounts maintained for each employee. Annually, these accounts are credited with interest at 5%. Effective April 1, 1990, MaBSTOA began to deduct employee contributions as pretax contributions under Section 414(h) of the Internal Revenue Code.

Pursuant to Section 7.03 of the MaBSTOA Plan, active plan members are permitted to borrow up to 75% of their contributions with interest. In addition, the maximum allowable outstanding loan amount for a vested employee cannot exceed 50% of the present value of the Accrued Vested Benefit (AVB) less the highest outstanding balances of any pension loan (s) within the previous one-year period from the day a new loan is issued. Their total contributions and interest remain intact and interest continues to accrue on the full balance. The participant's accumulated contribution account is used as collateral against the loan. The Plan granted $7.3 million in loans to members during 2020. Loan repayments by members amounted to $12.2 million in 2020.

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

5. NET PENSION LIABILITY

The components of the net pension liability of the Plan at December 31, 2020 was as follows (in thousands):

	December 31, 2020
Total pension liability	$ 4,246,386
Fiduciary net position	3,302,092
Net pension liability	$ 944,294
Fiduciary net position as a percentage of the total pension liability	77.76 %

Actuarial Methods and Assumptions—The total pension liability as of December 31, 2020 was determined by an actuarial valuation date of January 1, 2020, that was updated to roll forward the total pension liability to year-end. Actuarial valuations are performed annually as of January 1.

Additional information of the latest actuarial valuation follows:

Valuation date	January 1, 2020
Actuarial cost method	Frozen initial liability (FIL) (1)
Amortization method	For FIL bases, 15 years for Fresh Start base as of January 1, 2020. Future gains/ losses are amortized through the calculation of the normal cost in accordance with FIL cost method amortized based on expected working lifetime, weighted by salary, of the projected population
Actuarial asset valuation method	Actuarial value equals market value less unrecognized gains/losses over a 5-year period. Gains/losses are based on market value of assets
Mortality	Based on experience of all MTA members reflecting mortality improvement on a generational basis using Scale AA
Actuarial Assumptions:	
Investment rate of return	6.50%, net of investment related expenses
Projected salary increases	Reflecting general wage, merit and promotion increases of 3.5% to 4.0% per year for operating and nonoperating employees, respectively. Larger increases are assumed in the first 5 years of a member's career.
Overtime	Except for managerial employees, 8.5% of base salary for operating employees and 2.0% of base salary for nonoperating employees, with different assumptions used in the year before retirement
Cost-of-living adjustments	60% of inflation assumption or 1.35% per annum, if applicable
Inflation	2.25% per annum

(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.

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

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

- All operating employees are automatically included in the 2000 55/25 plan.

- Elimination of the 2.3% additional employees' contributions applicable to members of the 55/25 plan.

- Reduction in the Tier 3 and 4 employee contribution rate from 3.0% to 2.0%.

For managerial and non-operating employees (Chapter 126 of the Laws of 2000):

- Vesting under the Age 57 plan required only five years of service versus ten.

- As of October 1, 2000, regular Tier 3 and 4 employee contributions ceased after the completion of ten years of service.

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

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

Retirees at Least age	**Retired or Receiving Benefits for at Least**
62	5 years
55	10
Disabled retirees	5
Accidental death beneficiaries	5

- Initial COLA payable September 30, 2000, based on the first $18,000 of the maximum retirement allowance.

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

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

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

The Plan also adopted the legislative provisions of Chapter 379, which allow current and former members of the Transport Workers Union, Local 100 and Transit Supervisors Organization, Local 106, with an accumulated balance of additional member contributions (AMC) made in accordance with the MaBSTOA 55/25 Plan enacted in 1994, to apply for a refund of such contributions. The MaBSTOA Board additionally adopted legislative provisions of Chapter 428 of 2016, which provided eligible members a refund of the employee Additional Member Contributions made in the Tier 4 Age 57 and 5 Year Program and the Tier 4 Age 25 and Year 55 Early Retirement Program. AMC refunds amounted to approximately $472 thousand for the year ended December 31, 2020.

At December 31, 2020, assets were available to fund 77.8%, of the unfunded actuarial accrued liability (UAAL) when measured using the Entry Age Normal Cost Method per GASB 67 and the market value of assets.

Calculation on Money-Weighted Rate of Return

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

Schedule of Calculations of Money-Weighted Rate of Return

(In thousands)	Net External Cash Flows	Periods Invested	Period Weight	Net External Cash Flows With Interest
Beginning Value - January 1, 2020	$3,300,268	12.00	1.00	$3,356,294
Monthly net external cash flows:				
January	(136)	11.50	0.96	(138)
February	(136)	10.50	0.88	(138)
March	(136)	9.50	0.79	(138)
April	(136)	8.50	0.71	(137)
May	(136)	7.50	0.63	(137)
June	(136)	6.50	0.54	(137)
July	(136)	5.50	0.46	(137)
August	(17,789)	4.50	0.38	(17,903)
September	(8,533)	3.50	0.29	(8,575)
October	(8,533)	2.50	0.21	(8,564)
November	(8,533)	1.50	0.13	(8,552)
December	(9,639)	0.50	0.04	(9,646)
Ending Value - December 31, 2020				$3,302,092
Money-Weighted Rate of Return	1.70%			

Expected Rate of Return on Investments—The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target allocation and best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of the December 31, 2020 actuarial valuations are summarized in the following table:

SCHEDULE OF LONG TERM EXPECTED RATE OF RETURN FOR 2020

Asset Class	Index	Target Allocation	Long-Term Expected Real Rate of Return
US Core Fixed Income	Barclays Aggregate	9.00%	0.78%
US Long Bonds	Barclays Long Term Government/Credit	1.00%	1.82%
US Bank/Leveraged Loans	Credit Suisse Leveraged Loan	7.00%	2.73%
US Inflation-Indexed Bonds	Barclays US TIPS	2.00%	-0.07%
US High Yield Bonds	BAML High Yield	4.00%	3.84%
Emerging Market Bonds	JPM EMBI Plus	2.00%	4.19%
US Large Caps	S&P 500	12.00%	3.93%
US Small Caps	Russell 2000	6.00%	5.11%
Foreign Developed Equity	MSCI EAFE NR	12.00%	5.74%
Emerging Market Equity	MSCI EM NR	5.00%	7.53%
Global REITS	FTSE EPRA/NAREIT Developed	1.00%	5.65%
Private Real Estate Property	NCREIF Property	4.00%	3.85%
Private Equity	Cambridge Private Equity	9.00%	9.02%
Commodities	Commodity	1.00%	2.26%
Hedge Funds - MultiStrategy	HFRI: Fund Wtd Composite	16.00%	2.99%
Hedge Funds - Event Driven	HFRI Event Driven	6.00%	3.16%
Hedge Funds - Equity Hedge	HFRI Equity Driven	3.00%	3.42%
Total		100.00 %	
Assumed Inflation - Mean			2.25%
Assumed Inflation - Standard Deviation			1.65%
Portfolio Nominal Mean Return			6.44%
Portfolio Standard Deviation			11.47%
Long-Term Expected Rate of Return selected by MTA			**6.50%**

* Based on March 2014 Investment Policy

Discount Rate—The discount rate used to measure the total liability as of December 31, 2020 was 6.5%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that the Plans' contributions will be made in accordance with the statutory contributions determined by the Actuary. Based on those assumptions, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments of current and inactive plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate—The following presents the net pension liability of the Plan, calculated using the discount rate as of 2020; 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 or 1-percentage point higher than the current rate for 2020:

(in thousands)	5.50%	6.50%	7.50%
Net pension liability	$ 1,425,866	$ 944,294	$ 536,021

6. CUSTODIAL AND OTHER PROFESSIONAL SERVICES

JP Morgan Chase Bank is 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 adopted 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.

7. SUBSEQUENT EVENTS

The Plan invested assets with the Allianz Structured Alpha Funds ("Allianz"). During 2020, it is alleged that the fund managers breached their fiduciary and contractual obligations to the Plan, resulting in a significant loss. Allianz has closed the funds. The Plan, along with other institutional investors, filed a lawsuit in the United States District Court for the Southern District of New York (20 Civ. 5615 (KPF)) seeking recovery of their losses. The lawsuit is in preliminary stages of discovery.

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REQUIRED SUPPLEMENTARY INFORMATION
(UNAUDITED)

MANHATTAN AND BRONX SURFACE TRANSIT OPERATING AUTHORITY PENSION PLAN

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

	2020	2019	2018	2017	2016	2015	2014
Total pension liability:							
Service cost	$ 96	$ 90	$ 87	$ 85	$ 82	$ 77	$ 72
Interest	267	265	256	246	237	232	224
Changes of benefit terms	-	-	-	6	-	-	-
Differences between expected and actual experience	(1)	9	6	12	14	(69)	(2)
Changes of assumptions		169	-	-	-	-	-
Benefit payments and withdrawals	(238)	(221)	(214)	(209)	(188)	(180)	(175)
Net change in total pension liability	124	312	135	140	145	60	119
Total pension liability—beginning	4,123	3,811	3,676	3,536	3,391	3,331	3,212
Total pension liability—ending (a)	4,247	4,123	3,811	3,676	3,536	3,391	3,331
Plan fiduciary net position:							
Employer contributions	159	206	205	203	221	215	226
Employee contributions	25	24	22	20	18	16	15
Net investment income	56	447	(88)	350	212	(24)	105
Benefit payments and withdrawals	(238)	(221)	(214)	(209)	(188)	(180)	(175)
Net change in plan fiduciary net position	2	456	(75)	364	263	27	171
Plan fiduciary net position—beginning	3,300	2,844	2,919	2,555	2,292	2,265	2,094
Plan fiduciary net position—ending (b)	3,302	3,300	2,844	2,919	2,555	2,292	2,265
Employer's net pension liability—ending (a)-(b)	$ 945	$ 823	$ 967	$ 757	$ 981	$ 1,099	$ 1,066
Plan fiduciary net position as a percentage of the total pension liability	77.76 %	80.05 %	74.63 %	79.40 %	72.26 %	67.58 %	68.00 %
Covered payroll	814	771	767	748	713	686	672
Employer's net pension liability as a percentage of covered payroll	116.01 %	106.67 %	126.11 %	101.32 %	137.54 %	160.30 %	158.74 %

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

MANHATTAN AND BRONX SURFACE TRANSIT OPERATING AUTHORITY PENSION PLAN

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	Contributions as a Percentage of Covered Payroll
2020	$ 159,486	$ 159,486	$ -	$ 813,994	19.59 %
2019	209,314	206,390	2,924	771,201	26.76
2018	202,509	205,433	(2,924)	766,562	26.80
2017	202,897	202,684	213	747,651	27.11
2016	220,486	220,697	(211)	713,280	30.94
2015	214,881	214,881	-	685,998	31.32
2014	226,374	226,374	-	671,633	33.70
2013	234,474	234,474	-	582,081	40.28
2012	228,918	228,918	-	575,989	39.74
2011	186,454	186,454	-	579,696	32.16

MANHATTAN AND BRONX SURFACE TRANSIT OPERATING AUTHORITY PENSION PLAN

SCHEDULE II

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 are as follows:

Valuation Dates	January 1, 2020	January 1, 2019	January 1, 2018	January 1, 2017
Actuarial cost method	Frozen initial liability (FIL) (1)	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 FIL bases, period specified in current valuation report. Future gains/losses are amortized through the calculation of the normal cost in accordance with the FIL cost method amortized based on expected working lifetime, weighted by salary, of the projected population	For FIL bases, period specified in current valuation report. Future gains/losses are amortized through the calculation of the normal cost in accordance with the FIL cost method amortized based on expected working lifetime, weighted by salary, of the projected population	For FIL bases, period specified in current valuation report. Future gains/losses are amortized through the calculation of the normal cost in accordance with the FIL cost method amortized based on expected working lifetime, weighted by salary, of the projected population
Actuarial asset valuation method	Actuarial value equals market value less unrecognized gains/losses over a 5-year period. Gains/losses are based on market value of assets	Actuarial value equals market value less unrecognized gains/losses over a 5-year period. Gains/losses are based on market value of assets	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 6.5% for 2019, per annum, net of investment expenses	Net rate of 6.5% for 2019, per annum, net of investment expenses	Net rate of 7.0% for 2018, per annum, net of investment expenses	Net rate of 7.0% for 2017, per annum, net of investment expenses
Inflation	2.25% per annum	2.25% per annum	2.5% per annum	2.5% per annum
Deaths after retirement	Tables based on recent experience	Tables based on recent experience	Tables based on recent experience	Tables based on recent experience
Separations other than for normal retirement	Tables based on recent experience	Tables based on recent experience	Tables based on recent experience	Tables based on recent experience
Rates of normal retirement	Tables based on recent experience. Rates vary by age, years of service at retirement and Tier/Plan. All members are assumed to retire by age 80	Tables based on recent experience. Rates vary by age, years of service at retirement and Tier/Plan. All members are assumed to retire by age 80	Tables based on recent experience. Rates vary by age, years of service at retirement and Tier/Plan. All members are assumed to retire by age 80	Tables based on recent experience. Rates vary by age, years of service at retirement and Tier/Plan. All members are assumed to retire by age 80
Salary increases	Reflecting general, merit and promotion increases of 3.5% to 4.0% per year for operating and non-operating employees, repectively. Larger increases are assured in the first 5 years of a member's career.	Reflecting general, merit and promotion increases of 3.5% to 4.0% per year for operating and non-operating employees, repectively. Larger increases are assured in the first 5 years of a member's career.	Reflecting general, merit and promotion increases of 3.5% to 4.0% per year for operating and non-operating employees, repectively. Larger increases are assured in the first 5 years of a member's career.	Reflecting general, merit and promotion increases of 3.5% to 4.0% per year for operating and non-operating employees, repectively. Larger increases are assured in the first 5 years of a member's career.
Overtime	Except for managerial employees, 8.5% of base salary for operating employees and 2.0% of base salary for nonoperating employees, with different assumptions used in the year before retirement. For Tier 6 members, all overtime was assumed to be less than overtime cap	Except for managerial employees, 8.5% of base salary for operating employees and 2.0% of base salary for nonoperating employees, with different assumptions used in the year before retirement. For Tier 6 members, all overtime was assumed to be less than overtime cap	Except for managerial employees, 8.5% of base salary for operating employees and 2.0% of base salary for nonoperating employees, with different assumptions used in the year before retirement. For Tier 6 members, all overtime was assumed to be less than overtime cap	Except for managerial employees, 8.5% of base salary for operating employees and 2.0% of base salary for nonoperating employees, with different assumptions used in the year before retirement. For Tier 6 members, all overtime was assumed to be less than overtime cap
Cost-of-living adjustments	60% of inflation assumption or 1.35% per annum if applicable (2)	60% of inflation assumption or 1.35% per annum if applicable (2)	55% of inflation assumption or 1.375% per annum if applicable (2)	55% of inflation assumption or 1.375% per annum if applicable (2)

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 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 FIL bases, period specified in current valuation report. Future gains/losses are amortized through the calculation of the normal cost in accordance with the FIL cost method amortized based on expected working lifetime, weighted by salary, of the projected population	For FIL bases, period specified in current valuation report. Future gains/losses are amortized through the calculation of the normal cost in accordance with the FIL cost method amortized based on expected working lifetime, weighted by salary, of the projected population
Actuarial asset valuation method	Actuarial value equals market value less unrecognized gains/losses over a 5-year period. Gains/losses are based on market value of assets	Actuarial value equals market value less unrecognized gains/losses over a 5-year period. Gains/losses are based on market value of assets	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 2014, per annum, net of investment expenses
Inflation	2.5% per annum	2.5% per annum	2.5% per annum
Deaths after retirement	Tables based on recent experience	Tables based on recent experience	Tables based on recent experience
Separations other than for normal retirement	Tables based on recent experience	Tables based on recent experience	Tables based on recent experience
Rates of normal retirement	Tables based on recent experience. Rates vary by age, years of service at retirement and Tier/Plan. All members are assumed to retire by age 80	Tables based on recent experience. Rates vary by age, years of service at retirement and Tier/Plan. All members are assumed to retire by age 80	Tables based on recent experience. Rates vary by age, years of service at retirement and Tier/Plan. All members are assumed to retire by age 80
Salary increases	In general, merit and promotion increases plus assumed general wage increases of 3.5% to 15.0% for operating employees and 4.0% to 7.0% for nonoperating employees per year, depending on years of service	In general, merit and promotion increases plus assumed general wage increases of 3.5% to 15.0% for operating employees and 4.0% to 7.0% for nonoperating employees per year, depending on years of service	In general, merit and promotion increases plus assumed general wage increases of 3.5% to 15.0% for operating employees and 4.0% to 7.0% for nonoperating employees per year, depending on years of service
Overtime	Except for managerial employees, 8.5% of base salary for operating employees and 2.0% of base salary for nonoperating employees, with different assumptions used in the year before retirement. For Tier 6 members, all overtime was assumed to be less than overtime cap	Except for managerial employees, 8.5% of base salary for operating employees and 2.0% of base salary for nonoperating employees, with different assumptions used in the year before retirement. For Tier 6 members, all overtime was assumed to be less than overtime cap	Except for managerial employees, 8.5% of base salary for operating employees and 2.0% of base salary for nonoperating employees, with different assumptions used in the year before retirement. For Tier 6 members, all overtime was assumed to be less than overtime cap
Cost-of-living adjustments	55% of inflation assumption or 1.375% per annum if applicable (2)	55% of inflation assumption or 1.375% per annum if applicable (2)	55% of inflation assumption or 1.375% per annum if applicable (2)
Provision for expenses	An average of the prior two years' administrative charges added to the normal cost	An average of the prior two years' administrative charges added to the normal cost	An average of the prior two years' administrative charges added to the normal cost

(1) Under this actuarial method, the initial liability has been established by the Entry Age Actuarial Cost Method for determining changes in the Unfunded Actuarial Accrued Liability (UAAL) due to plan provision and assumption changes.
(2) Assumes a long-term consumer price inflation assumption of 2.5% per annum, compounded annually.

MANHATTAN AND BRONX SURFACE TRANSIT OPERATING AUTHORITY PENSION PLAN

REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)
SCHEDULE OF INVESTMENT RETURNS

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

Fiscal Year Ended December 31	Annual Money-Weighted Rate of Return
2020	1.70 %
2019	15.71
2018	(3.01)
2017	13.67
2016	9.16
2015	(1.05)
2014	4.95

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