MBTA RETIREMENT FUND

Building for the future since 1948.

2016 Comprehensive Annual Financial Report

MBTA Retirement Fund
For the years ended December 31, 2016 and 2015
Boston, Massachusetts

A Pension Trust Fund of the Massachusetts Bay Transportation Authority and Its Employee

Issued by John P. Barry, Interim-Executive Director

MBTA Retirement Fund

A Pension Trust Fund administering benefits earned by employees of the Massachusetts Bay Transportation Authority

COMPREHENSIVE ANNUAL FINANCIAL REPORT

For the Years Ended December 31, 2016 and 2015

Prepared By
The MBTA Retirement Fund Staff

The Massachusetts Bay Transportation Authority Retirement Fund is a private trust created in 1948 by the Metropolitan Transit Authority, the predecessor agency to the Massachusetts Bay Transportation Authority ("MBTA"), and The Boston Carmen's Union, Amalgamated Transit Union Local 589. Our mission then, as now, is to provide retirement benefits to the membership consisting of the transit workers and others employed by the MBTA. To ensure that the pensions earned by active and retired members, and their beneficiaries, remain secure, we are dedicated to managing a strong and diversified investment program.

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INTRODUCTORY SECTION

July 21, 2017

Board of Trustees
Massachusetts Bay Transportation Authority Retirement Fund
One Washington Mall, 4th Floor
Boston, MA 02108

On behalf of the Massachusetts Bay Transportation Authority Retirement Fund (the Fund) Staff, I am pleased to present the Comprehensive Annual Financial Report (CAFR) for the calendar year ended December 31, 2016. This report is intended to provide complete and reliable information of the Fund's investments, financial statements and performance returns.

The Fund's Finance Department prepared this report. It contains the basic financial statements presented in accordance with generally accepted accounting principles (GAAP) and the standards applicable to financial audits as promulgated by *Government Auditing Standards*. For additional information regarding the Fund's performance and cash management, please refer to the Management's Discussion & Analysis (MD&A) section and supporting notes contained within this document. Responsibility for the accuracy of the data and the fairness and completeness of this presentation rests with the Fund's Board. For the year ended December 31, 2016, an audit was conducted by KPMG LLP, a firm of licensed certified public accountants.

The CAFR is divided into the following major sections:
Introductory Section: This section contains the letter of transmittal, an overview of Fund's performance, a summary of financial data and outlines the Fund's organizational structure.

Financial Section: This section contains the opinion of the independent certified public accountant, Management's Discussion and Analysis (MD&A), the financial statements of the Fund, and other required supplementary financial information and supporting tables. The MD&A provides an overview of the current year's financial activity with an analysis of the effects of any significant changes from the prior year.

Investment Section: This section contains a report on investment policies and activity, investment results, and various investment schedules.

Actuarial Section: This section contains the Fund's actuarial certification letter and various actuarial tables.

Statistical Section: This section contains various statistical tables consisting of pertinent information pertaining to the Fund.

(Continued)

Profile of the MBTA Retirement Fund

The Fund was established on January 1, 1948, under an agreement and declaration of trust (restated on October 28, 1980) by and among the Massachusetts Bay Transportation Authority (the Authority), Local 589, Amalgamated Transit Union, Boston Carmen's Union and AFL CIO (collectively, the Union). The Fund is a single employer plan. It was established as a contributory defined benefit retirement plan in accordance with the Pension Agreement; effective July 1, 1970, (restated thereafter) adopted by the Authority and the Union for the purpose of receiving contributions and providing pension benefits for its members and qualified beneficiaries.

The MBTA Retirement Fund Board seeks to utilize its assets under management to the benefit of the membership by strategically and methodically allocating financial resources to a differentiated portfolio of investments while utilizing the knowledge and experience of a broad range of investment managers. An overview of the Investment Policy Statement is included in the Investment Section.

The Board determines investment objectives, strategies, and policies of the Fund. The Executive Director of the Fund is accountable for the Fund's general management and operations and reports to and advises the six-member Board of Trustees. The staff of the Fund work diligently to uphold the original mission of serving members and their families.

As of December 31, 2016, the Fund had approximately $1,485.6 million in net position restricted for pension benefits compared to $1,497.8 million for the prior calendar year, representing a decrease of $12.2 million in net assets. The MBTA Retirement Fund Board utilizes the services of a third-party custodian institution to assist with the settlement and accounting for investment and cash transactions.

Interim-Executive Director Discussion

After a dismal start to 2016 the financial markets bounced back which enabled the Fund to generate a gross rate of return of 6.88% calculated on a time-weighted performance basis. A return of investor confidence in the fourth quarter has carried over into the first half 2017. Although uncertainty may persist the Board will continue to monitor the investment environment and make prudent decisions on behalf of the Members. The Fund's well-diversified portfolio is positioned to overcome volatility, challenges and risks to continue to achieve positive results.

Investment Overview

The Fund's portfolio is broadly diversified holding investments ranging from publicly traded stocks and bonds to privately held partnerships. The Retirement Board of the Fund oversees these investments and routinely reviews the asset allocation policy. The Board voted in September 2016 to adopt a new asset allocation policy which took effect in January 2017. This study is conducted every three to five years to ensure the balance of risk and performance return. The Board's primary goal is to maintain a financially sound pension fund in order to secure the financial security of its Members.

(Continued)

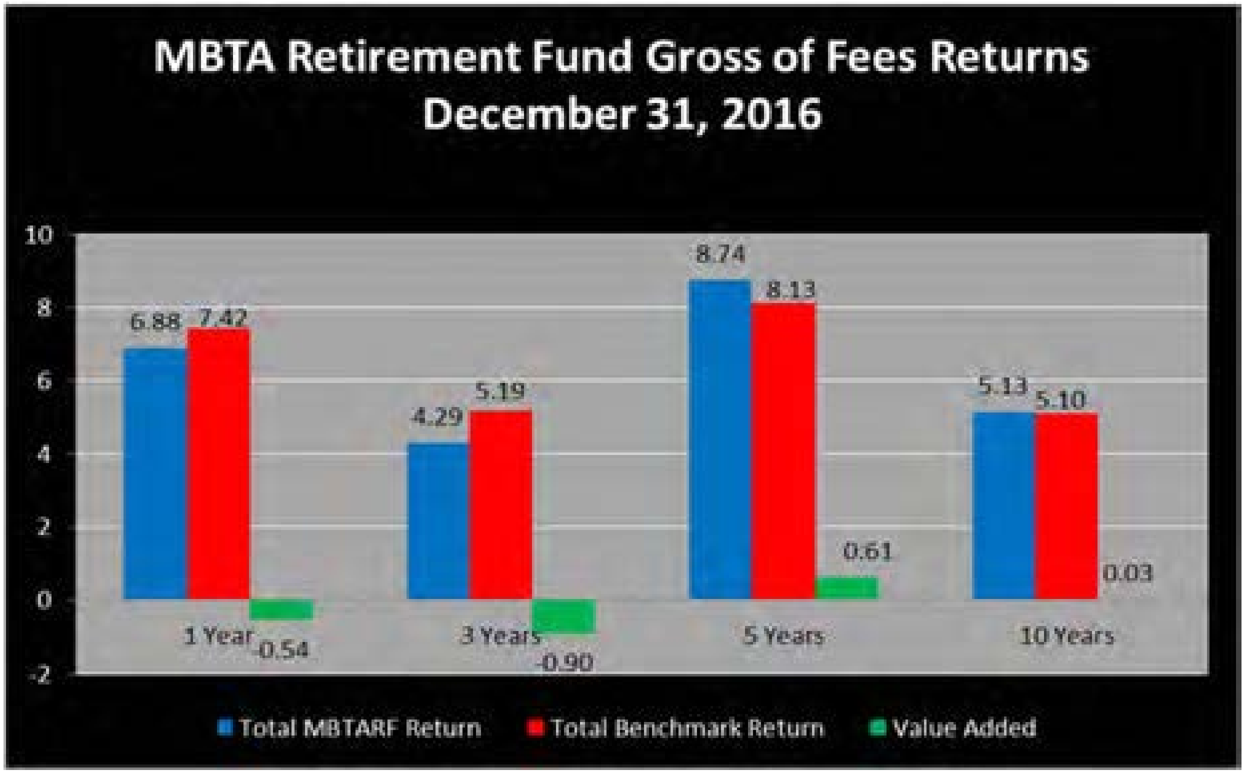
MBTA Retirement Fund Performance

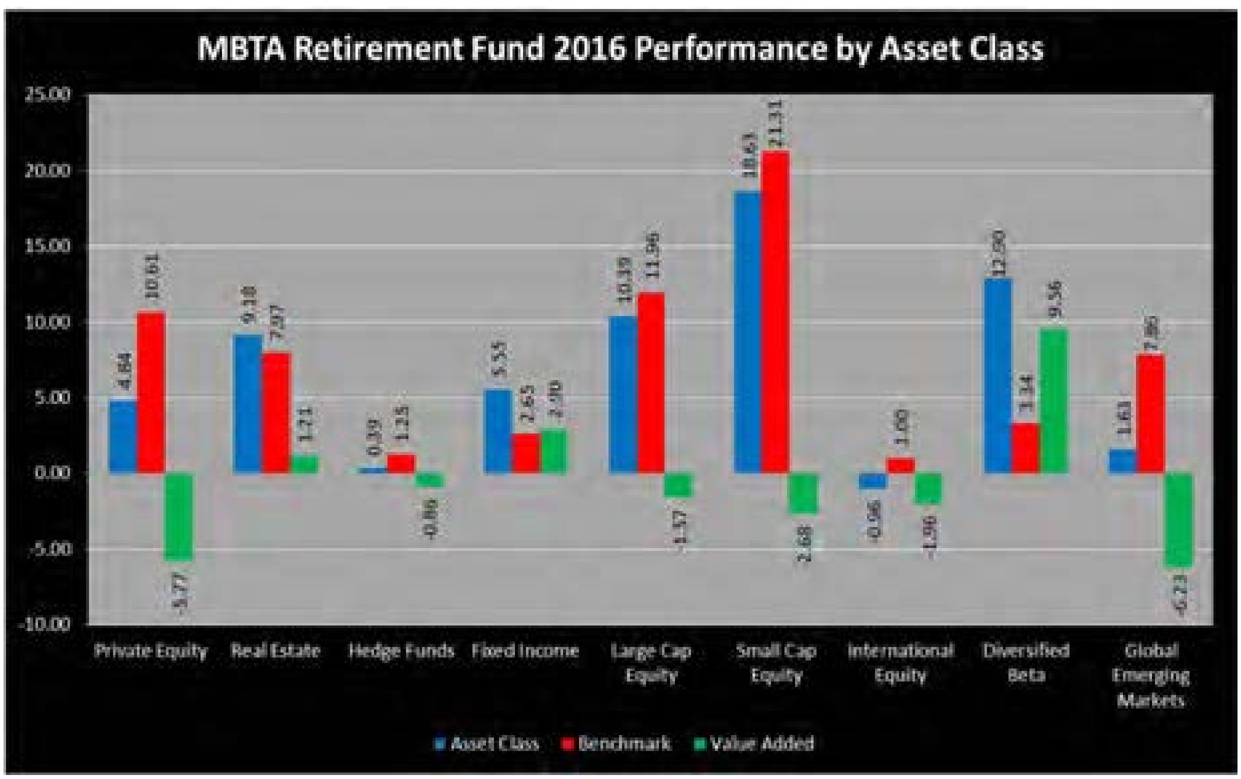
While earnings for the past two years have fallen short of the Fund's expected rate of return, the Board continues to focus on long-term performance. As of December 31, 2016, the total Fund returns gross of fees with the exception of hedge funds which are net of fees was 6.88% and the annualized three and five-year returns were 4.29% and 8.74% respectively. For more detailed information regarding the Fund's investment policies, guidelines, and results please see the Investment Section of this report.

Year Ended December 31, 2016

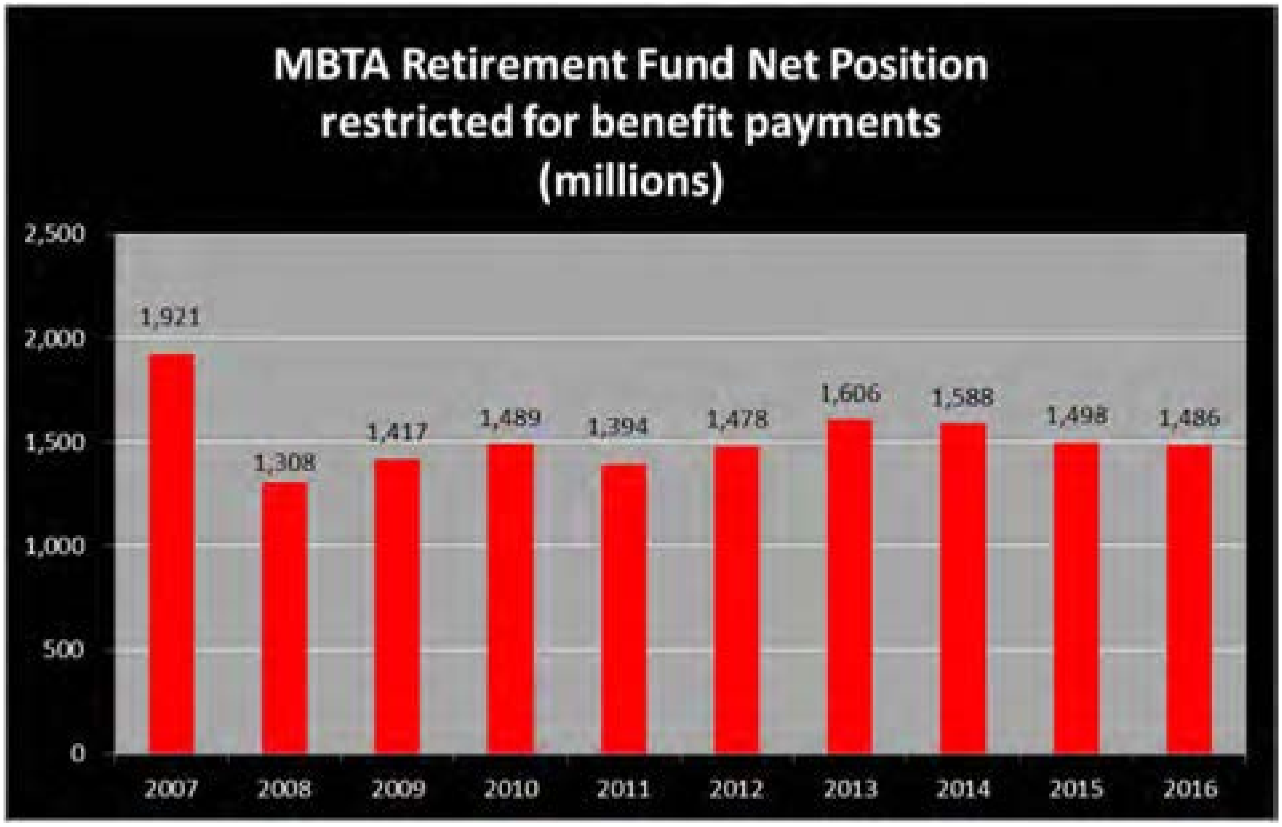
- The Fund gained 6.88% underperforming the total policy benchmark of 7.42% by 54 basis points.
- The Fund's inception to date return is 9.27%.
- The return equates to an investment gain of $86.4 million.
- Net total outflows to pay benefits for the calendar year were approximately $195.7 million.
- The return did not outperform the actuarial rate of return of 8%.

(Continued)


MBTA Retirement Fund Gross of Fees Returns
December 31, 2016
10
8
6
4
2
0
-2
6.88
7.42
-0.54
4.29
5.19
-0.90
8.74
8.13
0.61
5.13
5.10
0.03
1 Year
3 Years
5 Years
10 Years
Total MBTARF Return
Total Benchmark Return
Value Added


MBTA Retirement Fund 2016 Performance by Asset Class
25.00
20.00
15.00
10.00
5.00
0.00
-5.00
-10.00
4.84
10.61
-5.77
9.18
7.97
1.21
0.39
1.25
-0.86
5.55
2.65
2.90
10.39
11.96
-1.57
18.63
21.31
-2.68
-0.96
1.00
-1.96
12.90
3.34
9.56
1.63
7.86
-6.23
Private Equity
Real Estate
Hedge Funds
Fixed Income
Large Cap Equity
Small Cap Equity
International Equity
Diversified Beta
Global Emerging Markets
Asset Class
Benchmark
Value Added

(Continued)


MBTA Retirement Fund Net Position
restricted for benefit payments
(millions)
2,500
2,000
1,500
1,000
500
0
1,921
1,308
1,417
1,489
1,394
1,478
1,606
1,588
1,498
1,486
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016

(Continued)

Management's Discussion and Analysis

The MD&A beginning on page 24 provides an overview and analysis of the Fund's basic financial statements. The letter of transmittal is intended to complement the MD&A and should be read in conjunction with it.

Markets and Outlook

Confidence was the key contributor to the U.S. markets ending strong in 2016. This mentality has spilled over into the first quarter of 2017 due to continued economic expansion and resulting earnings growth. Market enthusiasm was driven by expectations of the newly elected President promising a business friendly environment including tax reform and deregulation. Although employment figures continued on an upward trend and consumer spending was at record lows due to the markets suspicions of President Trump to deliver on his promises, the Federal Reserve increased its target federal funds rate by 25 basis points amid stronger economic data.

Asset Allocation

The asset allocation of the Fund is a critical factor for formulating investment strategies. An asset-liability study is conducted in three to five year intervals. This approach allows for sufficient flexibility to capture investment opportunities as they may occur, yet provide parameters to ensure prudence and care while managing the Fund's assets. The most recent asset allocation (below) is the result of an asset-liability study conducted by the Fund's actuary, Conduent HR Consulting, LLC, formerly known as Buck Consultants, and investment advisor, Segal Marco Advisors. At year end the Fund's actual asset allocations were within approved target ranges.

Asset Class	Target (%)	Minimum Exposure (%)	Maximum Exposure (%)
Equities	43	38	48
Domestic Large Cap	18	13	23
Domestic Small Cap	7	4	10
Established International (Large Cap)	11	8	16
Global / Emerging Markets	7	4	10
Fixed Income	27	22	32
Core Fixed Income	8	4	12
TIPS	3	0	5
Mortgages	3	0	5
Global & Multi Sector	8	4	12
Bank Loans	2	0	4
Real Estate Debt	1	0	2
Cash	2	0	3
Alternative Investments	30	18	37
Private Equity	10	6	14
Real Estate	9	5	12
Hedge Funds	8	4	12
Risk Parity / Diversified Beta	3	0	5

(Continued)

Administration

The Board of Trustees of the Retirement Fund is the highest authority within the organizational structure. As of December 31, 2016, the date of the Fund's most recent actuarial valuation, the Fund's membership included 6,019 members in active status, 6,684, retirees and beneficiaries receiving benefits and 4 terminated vested members who are not yet receiving benefits. Fund management successfully completed the full implementation of its new pension management system to track demographics for both active and retired Members as well as administer benefit payments.

Membership

Membership in the Fund is available to most MBTA employees although MBTA Police Officers are excluded. Employees who are or may become members of the Union are included in the membership of the Fund. Employees who are not members of the Union but who are on the regular payroll of the Authority and Members of the Fund on the date of the execution of the Fund's Pension Agreement are also included in the membership of the Fund. Members whose hire date is on or after December 6, 2012 will be required to complete at least twenty-five (25) years of creditable service and attain age 55 in order to be eligible for an early normal retirement allowance. For those members whose date of hire is prior to December 6, 2012, a completion of at least twenty-three (23) years of creditable service is required to receive compensation under an early normal allowance.

Benefits

The collectively bargained active wage agreement went into effect July 1, 2014. There are no pending imminent changes to this agreement at the time of this publication.

Contributions

Benefits paid to Members are financed by employer contributions, employee contributions, and earnings on investments made by the Fund. Effective July 1, 2016, Members are required to contribute at a rate of 6.4614% of their pensionable salary while the Authority contribution rate is 18.0386%. Effective July 1, 2017, member contribution and Authority contribution rates will be 7.1189% and 20.0111% respectively.

Awards

The Government Finance Officers Association (GFOA) awards a Certificate of Achievement for excellence in financial reporting. In order to be awarded such a certificate, the Fund must publish a comprehendible and efficiently organized CAFR. The financial reports contained within the financial reporting materials must satisfy both generally accepted accounting principles and legal requirements. The Fund intends to submit its CAFR to the GFOA to determine eligibility.

(Continued)

Membership Communications

The MBTA Retirement Fund continues its focus on member communication through Milestones and posting pertinent information to our website at www.mbtarf.com. We place a special emphasis on providing quality customer service and we encourage feedback and welcome new ideas.

Funding

In setting contribution rates the Board’s principal objectives are to set rates so the unfunded actuarial accrued liability (UAAL) will be amortized over a reasonable period of time from the most recent valuation date and the set rates so they remain relatively level over time. The most recent actuarial valuation report, dated December 31, 2016, calculated the Fund’s unfunded actuarial pension liability at $1,086,996,215. An actuarial valuation of the Fund is performed annually. An assumption experience study is performed at least every five years. The actuarial firm, Conduent HR Consulting, completed the actuarial reviews and valuations. For more information on the actuarial assumptions of the Fund as part of the December 31, 2016 valuation please see the Summary of Actuarial Assumptions and Methods found in the Actuarial Section of the CAFR.

Acknowledgements

The compilation of the CAFR reflects the combined efforts of the Fund’s staff, Actuary, and Investment Advisor. Our goal is to present a thorough and accurate report that is easy for our members to read and understand. It is intended to provide complete and reliable information as a basis for making management decisions.

We would like to take this opportunity to express our gratitude to the Board of Trustees, Staff, Investment Advisor, Actuary, and to the many members who are working diligently to ensure the continued success of the Fund.

Yours respectfully,

John P. Barry
Interim - Executive Director /
Chief Financial Officer

MBTA Retirement Fund Board Trustees

Advisory Committees to the MBTA Retirement Fund Board

Audit and Actuary Committee

James M. Evers
Board Member

Betsy Taylor
Board Member

Michael J. Heffernan
Board Member

James M. O'Brien
Board Member

Organizational Chart

MBTA Retirement Fund Board

(6 Appointed & Elected Trustees)

James M. Evers, Interim Chair
Steven Grossman
Michael J. Heffernan
Craig S. Hughes
James M. O'Brien
Betsy Taylor

Pamela M. Holloman, Board Secretary

Retirement Board

- Provide Guidance & Strategic Oversight
- Review and Approve Policy
- Review and Approve Vendor Selections
- Oversee Investment Performance of Investment Managers
- Oversee Internal Controls and Service Delivery

Interim- Executive Director

John P. Barry

- Develop and Recommend Fund Policy
- Monitor Investment Performance & Day to Day Supervision of Investment Managers
- Supervise Consultant, Managers and Vendors
- Report Investment Performance to the Board
- Prepare Recommendations to Board Action
- Labor Relations
- Monitor Internal Controls and Service Delivery

Fund Staff/Counsel

Administrative
Maura Corso

- Executive Support
- Maintain Documentation
- Correspondence
- Customer Service

Benefits
Dominique Sye
Siobhan Keeney
Jack Fitzgerald

- Benefits Calculations
- Member Services
- Records Management
- Disability Requirements

Finance
Catherine McGahan
Jacquelyn Carey
Michael Baryski

- Accounting / Reporting
- Monitoring Investments
- Payroll / Contributions
- Investment Compliance

Info Technology
Robert Biga

- Information Governance
- Technology Oversight
- Cyber Risk Management

Counsel

- Legal Advice
- Investment Compliance
- Fiduciary Guidance

Contractors/Service Providers

Consulting
Segal-Marco

- Asset Allocation
- Monitor Performance
- Investment Policy
- Performance Reporting

Investment Managers

- Equity & Fixed Income
- Alternative Investments
- Hedge Funds

Custodian Bank
State Street

- Safekeeping
- Asset Valuations
- Benefit Payments
- Compliance Reporting

Actuary
Conduent HR Consulting, LLC

- Actuarial Assumptions
- Project Financial Needs
- Earnings Assumptions
- Funded Status

Auditors
KPMG

- Audits
- Independent Testing

Please refer to the Investment Section, page 94 for the Schedule of Broker Commission and Fees.

Historical MBTA Retirement Fund Board Members

	Period of Service From	To
(A) Harold Ulrich **	08/48	01/49
(E) Irving F. Murray	08/48	08/49
(E) William A. Roche	08/49	07/56
(A) Thomas A. Dunbar **	08/48	01/59
(A) Charles A. McCarron **	08/48	05/60
(E) Thomas P. Dillon	08/48	03/61
(A) Ernest M. Flint	01/49	01/50
(E) Bartholomew P. Saunders	08/49	08/52
(A) Arthur V. Grimes	07/50	06/52
(A) Augustine Airola	06/52	04/53
(E) James J. Casey	08/52	08/64
(A) Harold Ulrich	04/53	04/57
(E) Michael J. Gormley	07/56	12/63
(A) William V. Ward **	08/57	08/64
(A) John J. Sullivan	01/59	07/59
(A) Willis B. Downey **	06/59	08/62
(A) William E. Ryan	06/60	02/72
(E) Edward S. Russell	03/61	01/62
(E) Matthew F. Ryan	01/62	12/69
(A) Edward F. McLaughlin, Jr.	08/62	03/70
(E) Walter H. Doyle	12/63	12/69
(E) Thomas F. Holland, Jr.	08/64	08/70
(A) Philip Kramer **	08/64	04/68
(A) Richard D. Buck **	04/68	07/79
(E) John J. Sugrue	12/69	12/71
(E) Albert F. Kelley	12/69	12/75
(A) Joseph C. Kelly	03/70	07/70
(A) John R. Launie	07/70	05/83
(E) Albert J. Fitzpatrick	08/70	07/80
(E) Patrick C. Quill	12/71	12/75
(A) Joseph H. Elcock	02/72	07/79
(E) John J. Sugrue	01/76	07/76
(E) Redmond R. Condon	01/76	02/78
(E) Joseph D. Fleming, Jr.	07/76	12/77
(E) Donald R. Abbott	12/77	08/79
(E) James J. Slattery	02/78	08/79
(A) Walter J. Ryan **	07/79	05/83
(A) Richard L. Taylor	07/79	05/83
(E) George P. Adams	08/79	11/79
(E) Richard J. Guiney	08/79	11/79

	Period of Service From	To
(E) John J. Gallahue, Jr.	11/79	01/83
(E) John J. O'Leary	03/80	01/93
(E) James T. Norton	07/80	10/90
(E) Paul M. Connolly	01/83	12/86
(A) Paul E. Means	05/83	01/84
(A) William F. Irvin **	05/83	04/91
(A) James E. Smith, Esq.	05/83	04/91
(A) Melissa A. Tillman	01/84	04/91
(E) Anthony B. Romano **	12/86	02/92
(E) John J. Connolly **	10/90	08/94
(A) Domenic M. Bozzotto	04/91	02/97
(A) Toye L. Brown, Ph.D.	04/91	10/93
(A) James A. Radley	04/91	11/92
(E) James W. Duchaney	02/92	01/93
(A) Michael P. Hogan	11/92	12/93
(E) Richard M. Murphy	01/93	08/96
(E) Edward F. Sheckleton **	01/93	12/01
(A) Oliver C. Mitchell, Jr.	10/93	05/98
(A) Albert Shaw	12/93	10/95
(E) Paul V. Buckley	08/94	04/98
(A) Boyce W. Slayman	10/95	03/00
(E) James E. Lydon	10/96	12/01
(A) Janice Loux**	10/97	03/15
(E) William A. Irvin	04/98	12/05
(A) William A. Mitchell, Jr.	12/98	10/00
(A) Joseph M. Trolla	08/00	10/08
(A) Hon. Baron H. Martin	11/00	10/04
(E) Stephan G. MacDougall	01/02	12/10
(E) John P. Barry	01/02	04/06
(A) Jonathan R. Davis	10/04	05/15
(E) James M. O'Connell	09/07	06/15
(E) Michael F. Mastrocola	07/06	01/12
(A) Darnell L. Williams	01/09	05/15
(E) John J. Lee	01/11	12/13
(E) James M. Evers	04/12	Present
(E) James M. O'Brien	01/14	Present
(A) Steven Grossman	06/15	Present
(A) Betsy Taylor	06/15	Present
(A) Michael J. Heffernan	06/15	Present
(E) Craig S. Hughes	07/15	Present

(E) Employee Representative (A) Authority Representative ** Chairperson

Historical Executive Directors of the MBTA Retirement Fund

	Period of Service From	To
John H. Moran	01/48	11/51
Michael J. Powell	11/51	12/82
John J. "Jack" Gallahue, Jr.	01/83	03/02
Karl E. White	04/02	06/06
Michael H. Mulhern	07/06	08/16
John P. Barry - Interim	08/16	

1 Prior to 1968 the Executive Director position was referred to as Treasurer

Historical MBTA Retirement Fund Alternate Board Members

	Period of Service From	To
(A) Joseph Gannon	08/48	01/49
(A) Richard A. Sullivan	08/48	01/49
(A) Ernie B. Myott	08/48	08/64
(E) Philip E. Doyle	08/48	12/49
(E) John C. Carey	08/48	08/54
(E) Joseph P. Fahey	08/48	04/54
(A) Edward Dana	01/49	02/51
(A) Edward R. Kelly	01/49	07/50
(E) Thomas Freeman	12/49	08/52
(A) Ernest M. Flint	07/50	10/52
(E) Thomas F. Holland, Jr.	08/52	08/64
(A) John J. Sullivan	10/52	01/59
(A) Horace Schmerhorn	04/53	04/56
(E) Edward S. Russell	04/54	03/61
(E) Michael J. Gormley	04/54	07/56
(A) Robert H. Ryan	05/56	08/57
(E) Joseph P. Fahey	07/56	01/58
(A) John J. Graham	08/57	08/64
(E) Thomas J. Rush	01/58	12/69
(A) William J. Fitzsimons	01/59	07/70
(E) Richard R. Rodwell	03/61	01/62
(E) Walter H. Doyle	01/62	12/63
(E) Paul F. Halloran	12/63	12/69
(E) Albert J. Fitzpatrick	08/64	08/70
(A) Frederick J. Sheehan	08/64	03/67
(A) George L. Anderson	08/64	04/68
(A) Vincent M. Banks	03/67	01/74
(A) Forrest I. Neal, Jr.	04/68	01/78
(E) Patrick C. Quill	12/69	12/71
(E) Dennis F. Guiney	12/69	12/73
(A) Joseph A. Emerson	07/70	01/74
(E) Charles H. Ward	08/70	02/77
(E) Paul F. Sullivan	12/71	12/73
(E) Charles F. Cole, Jr.	12/73	12/75
(E) Edward J. Doherty	12/73	12/75
(A) Daniel F. Dullea	01/74	02/76
(A) Francis A. Sullivan	01/74	07/79
(E) Joseph A. Dineen	01/76	12/77
(E) Joseph D. Fleming, Jr.	01/76	07/76
(E) James T. Norton	03/77	07/80
(E) Redmond R. Condon	02/78	01/84
(E) George P. Adams	02/78	08/79
(A) Troy Y. Murray	10/78	07/79
(A) Guido R. Perera, Jr.	10/78	7/79
(A) Paul E. Means	7/79	5/83
(A) John J. McCarthy	7/79	5/83
(A) Guy F. DeBenedetto	7/79	8/81
(E) Frederick W. Burt III	12/79	3/83
(E) Charles E. Smyth	7/80	10/90
(E) Donald J. Quinlan	3/83	7/85
(E) Anthony B. Romano	1/84	12/86
(A) Melba F. Hamilton	5/84	4/91
(A) Judith H. Robbins	6/84	4/91
(E) Stanley V. Stearns	7/85	1/87
(E) Albert Mastrocola	1/87	10/97
(E) Edward F. Sheckleton	1/87	1/93
(E) Paul V. Buckley	10/90	8/94
(A) Michael P. Hogan	6/91	11/92
(A) Gregory C. Flynn, Esq.	10/91	3/92
(A) Arthur D. Shea	11/91	2/92
(A) Wesley G. Wallace, Jr.	2/92	3/94
(A) Esther R. Maletz, Esq.	3/92	3/94
(E) Robert F. Gosnell	1/93	3/96
(A) Carol A. Buckley	3/94	1/96
(A) Francis X. McDonough	3/94	8/96
(A) Clifford H. Straw	3/94	1/96
(E) Robert H. Stearns	8/94	4/98
(A) William A. Mitchell, Jr.	1/96	12/98
(E) Daniel K. Burton	4/96	9/96
(A) Sharna A. Small-Borsellino	4/96	5/00
(E) Francis X. Madden	10/96	1/99
(E) James M. O'Connell	4/98	12/05
(A) Philip Puccia	2/97	3/99
(E) James D. Wyllie	11/97	12/98
(E) Daniel K. Burton	1/99	1/00
(A) Willie J. Davis	12/98	7/00
(A) Michael Mulhern	4/99	4/02
(E) Torrie Austin	5/99	4/00
(E) James D. Wyllie	1/99	11/00
(E) James M. Evers	5/00	9/00
(A) Alice A. Fernandes	5/00	12/06
(A) Jonathan R. Davis	8/00	10/04
(E) Stephan G. MacDougall	10/00	11/00
(E) James M. Evers	11/00	12/01
(E) James Knox	8/01	12/01

(Continued)

(E) James Crowley	01/02	03/03
(E) Roy L. Chance	02/02	12/02
(A) Wesley G. Wallace, Jr.	05/02	10/06
(E) Robert L. Callahan	03/03	02/06
(E) M. John Burr	03/03	12/03
(E) John S. Murray	01/04	02/05
(A) Brian J. Donohue	10/04	05/09
(E) James M. O'Brien	03/05	12/10
(E) Michael F. Mastrocola	02/06	06/06
(E) Daniel K. Burton	07/06	09/07
(E) Brian P. Cummins	08/07	06/15
(E) John M. Burr	09/07	02/08
(A) William A. Mitchell, Jr.	03/07	01/12
(A) Jeanne M. Morrison	10/06	03/15
(E) Walter J. Novicki	02/08	01/10
(E) Lawrence C. Kelly	02/10	04/11
(E) Walter J. Novicki	01/11	12/11
(E) James M. O'Brien	05/11	12/13
(E) John A. Clancy	01/12	12/13
(A) Gerald K. Kelley	06/12	Present
(E) Margaret C. LaPaglia	01/14	Present
(E) Lawrence C. Kelly	01/14	12/16
(E) Timothy P. Long	07/15	Present

(E) Employee Representative (A) Authority Representative

MBTA Retirement Fund Professional Services

KPMG LLP
Audit services

Segal Marco Advisors
Investment consulting services

Conduent HR Consulting, LLC
Formerly known as Buck Consultants
Actuarial services

Holland & Knight
Legal Counsel

State Street Bank & Trust Company
Custodian

FINANCIAL SECTION

KPMG

Two Financial Center
60 South Street
Boston, MA 02111

Independent Auditors' Report

The Retirement Board and Participants
Massachusetts Bay Transportation Authority Retirement Fund:

We have audited the accompanying financial statements of the Massachusetts Bay Transportation Authority Retirement Fund (the Fund), which comprise the statements of fiduciary net position as of December 31, 2016 and 2015 and the related statements of changes in fiduciary net position for the years then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with U.S. generally accepted accounting principles; 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 audit 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 auditors' 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 entity'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 entity'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 of the Massachusetts Bay Transportation Authority Retirement Fund as of December 31, 2016 and 2015 and the changes in fiduciary net position for the years then ended in accordance with U.S. generally accepted accounting principles.

KPMG

Other Matters

Required Supplementary Information

U.S. generally accepted accounting principles require that the Management's Discussion and Analysis and the required supplementary information as listed in the accompanying table of contents (collectively referred to as RSI) 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 RSI 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.

Supplementary Information and Other Information

Our audits were conducted for the purpose of forming an opinion on the Authority's basic financial statements. The Introductory, Other Supplementary Information, Investment, Actuarial, Statistical and the Frequently Asked Questions sections identified in the accompanying table of contents are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The Other Supplementary Information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Other Supplementary Information is fairly stated in all material respects in relation to the basic financial statements as a whole.

The Introductory, Investment, Actuarial, Statistical and the Frequently Asked Questions sections have not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on them.

KPMG LLP

July 19, 2017

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY RETIREMENT FUND

Required Supplementary Information

Management's Discussion and Analysis

December 31, 2016

(Unaudited)

This section presents Management's Discussion and Analysis (MD&A) of the Massachusetts Bay Transportation Authority Retirement Fund's (the Fund or MBTARF) financial activity and performance as of and for the years ended December 31, 2016 and 2015. The MD&A is unaudited and is intended to serve as an introduction to the Fund's basic financial statements, as well as to offer readers of the Fund's financial statements a narrative view and analysis of MBTARF's financial activities.

Financial Reporting Structure

The financial statements include the statements of fiduciary net position and changes in fiduciary net position. They present the financial position of the Fund as of December 31, 2016 and 2015 and its financial activities for the years then ended. The notes to the financial statements provide further information that is essential to a full understanding of the financial statements. The notes describe the significant accounting policies of the Fund and provide detailed disclosures on certain account balances. The required supplementary schedules include the schedules of changes in net pension liability and related ratios, investment returns, contributions and related notes as prescribed by the Governmental Accounting Standards Board (GASB).

The Fund's financial statements are prepared on an accrual basis of accounting. This method of accounting requires recognizing and recording financial transactions when they occur and not just in conjunction with the inflows and outflows of cash.

The total assets managed by the Fund are held in the trust for the payment of pension and related benefits to its members. The Fund's Board of Trustees, in its fiduciary capacity, with assistance from its consultants established the Fund's investment policies and oversees their implementation.

Financial Highlights

Year ended December 31, 2016

The net position of the Fund decreased $12.2 million, or (0.8%), from $1,497.8 million as of December 31, 2015 to $1,485.6 million as of December 31, 2016.

Net investment income increased $82.1 million, or 1746.8%, from $4.7 million for the year ended December 31, 2015 to $86.8 million for the year ended December 31, 2016. The Fund had a 6.88% rate of return for the year ended December 2016 compared to a 0.90% rate of return for the year ended December 31, 2015. The returns identified in the MD&A are gross of fees with the exception of hedge funds, which are net of fees.

The total contributions received during the year ended December 31, 2016 were $105.0 million compared to total contributions received during the year ended December 31, 2015 of $99.9 million.

(Continued)

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY RETIREMENT FUND

Required Supplementary Information

Management's Discussion and Analysis

December 31, 2016

(Unaudited)

Employer contributions during the year ended December 31, 2016 increased $3.8 million or 5.2% to $77.2 million from $73.4 million during the year ended December 31, 2015. This increase is primarily due to the continued execution of the wage agreement that was applied retroactively going back to July 2010.

Member contributions were $27.8 million during the year ended December 2016, an increase of $1.3 million or 4.9% over year ended December 31, 2015 member contributions of $26.5 million. The change in member contributions is also due to the continued implementation of the 2010 wage agreement.

Benefits paid during the year ended December 31, 2016 were $195.7 million an increase of $8.6 million, or 4.6%, over the benefits paid during the year ended December 31, 2015 of $187.1 million. This increase is primarily due to the increased number of retirees and lengthening life span as well as the continued application of the wage agreement for members who retired after July 1, 2010.

Year Ended December 31, 2015

The net position of the Fund decreased $90.1 million, or 5.67%, from $1,587.9 million as of December 31, 2014 to $1,497.8 million as of December 31, 2015.

Net investment income decreased $68.8 million, or 93.6%, from $73.5 million for the year ended December 31, 2014 to $4.7 million for the year ended December 31, 2015. The Fund had a 0.90% rate of return for the year ended December 2015 compared to a 5.51% rate of return for the year ended December 31, 2014. The returns identified in the MD&A are gross of fees with the exception of hedge funds, which are net of fees.

The total contributions received during the year ended December 31, 2015 were $99.9 million compared to total contributions received during the year ended December 31, 2014 of $95.9 million.

Employer contributions during the year ended December 31, 2015 increased $2.8 million or 4.0% to $73.4 million from $70.6 million during the year ended December 31, 2014. This increase is primarily due to the continued execution of the new wage agreement that was applied retroactively going back to July 2010.

Member contributions were $26.5 million during the year ended December 2015, an increase of $1.2 million or 4.7% over year ended December 31, 2014 member contributions of $25.3 million. The change in member contributions is also due to the continued implementation of the new wage agreement.

Benefits paid during the year ended December 31, 2015 were $187.1 million an increase of $4.6 million, or 2.5%, over the benefits paid during the year ended December 31, 2014 of $182.5 million. This increase is primarily due to the increased number of retirees and lengthening life span as well as the continued application of the wage agreement for members who retired after July 1, 2010.

(Continued)

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
RETIREMENT FUND

Required Supplementary Information

Management's Discussion and Analysis

December 31, 2016

(Unaudited)

Financial Analysis

The following schedules report the condensed comparative fiduciary net position and activities for the Fund as of and for the years ended December 31.

Condensed Comparative Fiduciary Net Position

(Dollar values expressed in millions)

		December 31		
		2016	**2015**	**2014**
Cash	$	4.1	3.2	3.0
Receivables		6.8	5.1	5.8
Investments		1,481.8	1,495.9	1,585.9
Cash collateral on securities lending		52.5	66.2	105.9
Total assets		1,545.2	1,570.4	1,700.6
Cash collateral on securities lending		52.5	66.2	105.9
Accounts payable and accrued expenses		5.6	5.1	4.3
Payable for investments purchased		1.5	1.3	2.5
Total liabilities		59.6	72.6	112.7
Net position – restricted for pension benefits	$	1,485.6	1,497.8	1,587.9

Total assets were $1,545.2 million as of December 31, 2016, a decrease of $25.2 million, or 1.60%, over the year ended December 31, 2015. Investments were valued at $1,481.8 million, a decrease of $14.1 million, or (0.9%), over the year ended December 31, 2015. This small investment loss is due to weak corporate revenues and earnings in the first half of the year, although improvements occurred in the third and fourth quarters. The international markets underperformed in the fourth quarter and emerging markets also trended down in the latter part of the year. Fixed income had a turbulent end to 2016 largely due to a spike in interest rates. Cash collateral on securities lending decreased by $13.7 million or 20.7%. Receivables increased by $1.7 million, or 33.3%, over the prior calendar year due to increased pending investment sales at the end of the calendar year.

(Continued)

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
RETIREMENT FUND

Required Supplementary Information

Management's Discussion and Analysis

December 31, 2016

(Unaudited)

Total liabilities as of December 31, 2016 decreased by $13.0 million, or 17.9%, over the prior year. The cash collateral on securities lending decreased by $13.7 million, or 20.7%, in calendar year 2016. Payable for investment purchased increased by $0.2 million, or 15.4%.

Condensed Comparative Fiduciary Net Position

(Dollar values expressed in millions)

		December 31		
		2016	2015	2014
Additions:				
Employer contributions	$	77.2	73.4	70.6
Member contributions		27.8	26.5	25.3
Income from investments		86.8	4.7	73.5
Total additions		191.8	104.6	169.4
Deductions:				
Retirement benefits		195.7	187.1	182.5
Refunds of contributions		1.8	1.8	1.6
Administrative expense		6.5	5.8	4.0
Total deductions		204.0	194.7	188.1
Total changes in fiduciary net position	$	(12.2)	(90.1)	(18.7)

Additions to Plan Fiduciary Position

For the calendar year ended December 31, 2016, employer contributions increased by $3.8 million and member contributions increased by $1.3 million. Effective July 1, 2016, the employer's contribution rate changed from 16.0286% to 18.0386% and the member contribution rate changed from 5.7914% to 6.4614%, resulting in a 12.5% and 11.6% increase, respectively.

Contributions are required to provide benefits and meet administrative expenses and are made jointly by the Massachusetts Bay Transportation Authority (the Authority) and members. The contribution percentage is negotiated periodically as part of the collective bargaining agreement. The Fund's investment portfolio has been a major source of additions to the Fund's net position. There was a net investment gain in 2016 of $86.8 million compared to a $4.7 million net investment gain in 2015. This is primarily the result of a change in the fair value of the investment portfolio.

(Continued)

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY RETIREMENT FUND

Required Supplementary Information

Management's Discussion and Analysis

December 31, 2016

(Unaudited)

Deductions from Fiduciary Net Position

Benefits paid increased by $8.6 million, or 4.6%, over the year ended 2016. This increase is primarily due to the increased number of retirees and lengthening life span as well as the continued application of the wage agreement for members who retired after July 1, 2010. Administrative expenses increased from $5.8 million to $6.5 million, an increase of $0.7 million, or 12%. As more fully detailed in the Fund's 2015 Comprehensive Annual Financial Report, see link at Fund's website *(www.mbtarf.com)*, during 2015 and 2016 the Fund engaged FTI Consulting ("FTI") and counsel to investigate the Fund's financial performance for fiscal years 2011-2013. The investigation was prompted by allegations published in *The Boston Globe* on June 28, 2015, citing a report authored by, among others, Harry Markopolos, questioning the accuracy of the Fund's financial reporting. Although the years in question, 2011-2013, are not directly related to the reporting period covered here, the allegations triggered legal activity resulting in an extraordinary increase in legal fees in both 2015 and 2016.

Net Pension Liability (NPL)

The Fund retains an independent actuarial firm, Conduent HR Consulting, LLC, formerly known as Buck Consultants, to conduct annual actuarial valuations to monitor net pension liability.

As of December 31, 2016, and 2015, the fiduciary net position as a percentage of the total pension liability was 56.44% and 59.63%, respectively.

Investment Performance 2016

The Fund began the calendar year 2016 with a net position of $1,497.8 million and ended the calendar year with a net position of $1,485.6 million, representing a (0.8%) decrease. The Fund invests strategically to achieve the actuarial rate of return while controlling risk through diversification of asset class exposure. The primary determinant of long-term investment performance is the strategic asset allocation policy.

Domestic equity (33.3%), international equity (12.8%), fixed income investments (24.7%), and cash equivalents (3.5%) comprise approximately (74.3%) of invested assets as of December 31, 2016. The remaining (25.7%) of assets are invested in real estate (8.6%), and alternative investments (17.1%), which include private equity, absolute return, and diversified beta. These assets are expected to earn enhanced returns and manage risk through further diversification.

Investment performance results are measured by the relationship of the Fund's portfolio returns for equity and fixed income investment against widely accepted market indices. For the calendar year ended December 31, 2016, the MBTA Retirement Fund's total fund return was 6.88% compared to 0.90% for the calendar year ended December 31, 2015. The 2016 increase in return is due to the markets closing out the year with strong gains.

The domestic large cap equity returned 10.39% compared to the S&P 500 Index of 11.96%. The domestic small cap equity returned 18.63% compared to the Russell 2000 Growth Index of 11.32% and the Russell

(Continued)

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY RETIREMENT FUND

Required Supplementary Information

Management's Discussion and Analysis

December 31, 2016

(Unaudited)

2000 Value Index of 31.74%. The global equity and emerging markets returned 1.63% compared to MSCI All Country World Index of 7.86%. The international equity returned (0.96)% compared to the MSCI EAFE Index of 1.00%. Fixed Income returned 5.55% compared to the BC Aggregate of 2.65%.

The total fund performance of 6.88% for calendar year 2016 underperformed by 0.54% the total fund custom index (a blended composition of major market indices in proportion to the Fund's asset allocation), which returned 7.42%.

Additionally, for the year ended December 31, 2016, the real estate portfolio returned 9.18% compared to the NCREIF Property Index of 7.97%. The hedge fund portfolio returned 0.39 % compared to the CSFB/Tremont Hedge Fund Index of 1.25%. The private equity active portfolio returned 4.84% and the legacy private equity portfolio returned (4.70)% compared to State Street's Customized Benchmark return of 10.61%. State Street Customized Benchmark consists of 36% buyout, 9% venture, 37% debt and 18% fund of funds. Diversified Beta returned 12.90% compared to the 91 Treasury Bill Plus 300 Basis Points return of 3.34%.

Investment Performance 2015

The Fund began the calendar year 2015 with a net position of $1,587.9 million and ended the calendar year with a net position of $1,497.8 million, representing a 5.7% decrease. The Fund invests strategically to achieve the actuarial rate of return while controlling risk through diversification of asset class exposure. The primary determinant of long-term investment performance is the strategic asset allocation policy.

Domestic equity (31.3%), international equity (13.9%), fixed income investments (23.1%), and cash equivalents (4.1%) comprise approximately (72.4%) of invested assets as of December 31, 2015. The remaining (27.6%) of assets are invested in real estate (8.7%), and alternative investments (18.9%), which include private equity, absolute return, and diversified beta. These assets are expected to earn enhanced returns and manage risk through further diversification.

Investment performance results are measured by the relationship of the Fund's portfolio returns for equity and fixed income investment against widely accepted market indices. For the calendar year ended December 31, 2015, the MBTA Retirement Fund's total fund return was 0.90% compared to 5.51% for the calendar year ended December 31, 2014. The 2015 decrease in return was primarily due to the poor domestic and global market conditions.

The domestic large cap equity returned (0.16) % compared to the S&P 500 Index of 1.38%. The domestic small cap equity returned (1.62) % compared to the Russell 2000 Growth Index of (1.38) % and the Russell 2000 Value Index of (7.47) %. The global equity and emerging markets returned 1.40% compared to MSCI All Country World Index of (2.36) %. The international equity returned 2.02% compared to the MSCI EAFE Index of (0.81) %. Fixed Income returned (0.60) % compared to the BC Aggregate of 0.55%.

(Continued)

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
RETIREMENT FUND

Required Supplementary Information

Management's Discussion and Analysis

December 31, 2016

(Unaudited)

The total fund performance of 0.90% for calendar year 2015 underperformed by 1.11% the total fund custom index (a blended composition of major market indices in proportion to the Fund's asset allocation), which returned 2.01%.

Additionally, for the year ended December 31, 2015, the real estate portfolio returned 13.94% compared to the NCREIF Property Index of 13.33%. The hedge fund portfolio returned (4.31)% compared to the CSFB/Tremont Hedge Fund Index of (0.71)%. The private equity active portfolio returned 6.83% and the legacy private equity portfolio returned (6.52)% compared to State Street's Customized Benchmark return of 5.40%. State Street Customized Benchmark consists of 36% buyout, 9% venture, 37% debt and 18% fund of funds. Diversified Beta returned (3.15) % compared to the 91 Treasury Bill Plus 300 Basis Points return of 3.1%.

Other Information

For historical information on the Fund's investments in Weston Capital Partners Fund II and White Oak Global Advisors, LLC, which were written down to zero in prior fiscal years, please refer to the Fund's website, www.mbtarf.com.

Contacting the MBTA Retirement Fund

This financial report is designed to provide a general overview of the Fund's investment results and financial condition of the Fund for the years ended December 31, 2016 and 2015. Please contact the MBTA Retirement Fund Office by emailing invest@mbtarf.com or by phone to 617-316-3800 for additional financial information or questions related to this report.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
RETIREMENT FUND

Statements of Fiduciary Net Position
Years ended December 31, 2016 and 2015

	2016	2015
Assets:		
Investments, at fair value:		
Domestic:		
Cash and cash equivalents	$ 51,979,952	61,253,644
Fixed income	361,903,673	339,671,431
Common stock and equity funds	493,719,994	468,588,759
Real estate	128,148,179	130,266,856
Alternative investments and hedge funds	252,222,874	283,054,021
	1,287,974,672	1,282,834,711
International:		
Cash and cash equivalents	121,317	58,048
Fixed income	4,720,170	5,320,012
Common stock and equity funds	188,951,235	207,659,261
	193,792,722	213,037,321
Total investments	1,481,767,394	1,495,872,032
Cash and cash equivalents	4,125,256	3,233,915
Contribution receivable from Massachusetts Bay Transportation Authority	2,289,769	1,974,341
Cash collateral on securities lending, invested	52,541,468	66,204,476
Receivable for investments sold and other	4,549,186	3,125,680
Total assets	1,545,273,073	1,570,410,444
Liabilities:		
Cash collateral on securities lending, due to borrowers	52,541,468	66,204,476
Accounts payable and accrued expenses	5,588,301	5,056,524
Payable for investments purchased	1,537,420	1,301,409
Total liabilities	59,667,189	72,562,409
Net position – restricted for pension benefits	$ 1,485,605,884	1,497,848,035

See accompanying notes to financial statements.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
RETIREMENT FUND

Statements of Changes in Fiduciary Net Position
Years ended December 31, 2016 and 2015

	2016	2015
Additions:		
Contributions by Massachusetts Bay Transportation Authority	$ 77,239,279	73,373,672
Contributions by members	27,791,543	26,510,946
Total contributions	105,030,822	99,884,618
Investment income:		
Income from investments and other income	47,108,793	56,657,660
Less investment expenses, other than from securities lending	(6,641,836)	(6,611,956)
Net appreciation (depreciation) in fair value of investments	45,975,643	(45,625,486)
Net investment gain	86,442,600	4,420,218
Securities lending activity:		
Securities lending income	930,242	605,634
Less borrower rebates and fees	590,499	314,606
Net income from securities lending activities	339,743	291,028
Total net investment income	86,782,343	4,711,246
Total additions	191,813,165	104,595,864
Deductions:		
Retirement benefits	195,707,470	187,148,675
Refunds of members' contributions	1,854,069	1,757,557
Administrative expenses	6,493,777	5,808,086
Total deductions	204,055,316	194,714,318
Net change in net position	(12,242,151)	(90,118,454)
Net position – restricted for pension benefits:		
Beginning of year	1,497,848,035	1,587,966,489
End of year	$ 1,485,605,884	1,497,848,035

See accompanying notes to financial statements.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
RETIREMENT FUND

Notes to Financial Statements
December 31, 2016 and 2015

(1) Description of the Fund

(a) General

The following description of the Massachusetts Bay Transportation Authority Retirement Fund (the Fund), a single employer plan, provides only general information. Employees (members) should refer to the Pension Agreement for a more complete description of the Fund's provisions.

The Fund was established on January 1, 1948, under an agreement and declaration of trust (restated in October 28, 1980) by and among the Massachusetts Bay Transportation Authority (the Authority), Local 589, Amalgamated Transit Union, Boston Carmen's Union, and AFL-CIO (collectively, the Union). The Fund was established as a contributory defined benefit retirement plan in accordance with the Pension Agreement, effective July 1, 1970, adopted by the Authority and the Union for the purpose of receiving contributions and providing pension benefits for its members and qualified beneficiaries.

The general administration and responsibility for the operation of the Fund are vested in a seven-member Retirement Board. The Board consists of three members appointed by the Authority (at least one of whom must be a member of the Authority's Board of Directors), two members appointed by the Boston Carmen's Union, Local Union 589 of the Amalgamated Transit Union, AFL-CIO, one member elected by vote conducted by the Authority for a term of three years by members of the Fund who are not members of the Boston Carmen's Union, Local Union 589 of the Amalgamated Transit Union, AFL-CIO, and one member, who has no vote and is known as the honorary member, who is elected, for such period as the Retirement Board may determine, by the other six members of the Retirement Board.

(b) Membership

The Fund covers all employees of the Authority except the MBTA Police, who are covered separately, and certain executives who elect coverage under an alternate plan. At December 31, 2016 and 2015, Fund membership consisted of:

	2016	2015
Retired members or beneficiaries currently receiving benefits	6,684 (1)	6,472 (2)
Active members	5,786	5,885
Active members not presently earning service credit	233	88
Total membership	12,703	12,445

(1) Year 2016 includes 6,566 retirees and beneficiaries and 118 individuals receiving payments under QDROs

(2) Year 2015 includes 6,371 retirees and beneficiaries and 101 individuals receiving payments under QDROs

(Continued)

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY RETIREMENT FUND

Notes to Financial Statements
December 31, 2016 and 2015

(c) Funding Policy

Contributions required to provide benefits and meet administrative expenses are made jointly by the Authority and members. The member contribution rate was increased from 5.7914% to 6.4614% effective July 1, 2016 of pretax compensation. The Authority contribution rate was increased from 16.0286% to 18.0386% effective July 1, 2016. As of July 1, 2017, member contribution and Authority contribution rates will be 7.1189% and 20.0111%, respectively. These contribution rates were calculated based on the most recent actuarial valuation of plan benefits and the Memorandum of Understanding with the Authority. The terms of the Fund's obligations are part of the Pension Agreement contained in the annual report of the Fund. Only parties to the Pension Agreement can amend the terms. The contributions by members and the Authority have been developed to provide normal contributions, interest on the unfunded accrued liability, and administrative expenses.

(d) Benefits

The Fund provides for retirement, disability and death benefits in accordance with the Pension Agreement, as amended.

A summary of benefits is as follows:

i) Normal Retirement Allowance

Condition for Allowance

Any member may retire at age 65. A member may remain in service after the stated retirement date.

Amount of Allowance

The normal retirement allowance equals 2.46% of 3-year average annual compensation multiplied by the years of service, such allowance not to exceed 75% of such average annual compensation.

ii) Early Normal Retirement Allowance

Condition for Allowance

Any member hired prior December 6, 2012 and has completed at least 23 years of service may retire on an early normal retirement allowance.

Any member hired on or after December 6, 2012, has attained age 55 and completed at least 25 years of service may retire on an early normal retirement allowance.

Amount of Allowance

The early normal retirement allowance is computed in the same manner as a normal retirement allowance on the basis of the compensation and service to the time of retirement.

(Continued)

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
RETIREMENT FUND

Notes to Financial Statements
December 31, 2016 and 2015

iii) Early Reduced Retirement Allowance

Condition for Allowance

A member who has attained age 55 and has completed at least 20 years of service may be retired on an early reduced retirement allowance.

Amount of Allowance

The early reduced retirement allowance is an immediate allowance, commencing at the date of retirement, and is computed in the same manner as a normal retirement allowance on the basis of compensation and service to the time of early retirement, but reduced by 1/2 of 1% for each month of retirement prior to normal retirement date.

iv) Disability Retirement Allowance

Condition for Allowance

Any member who has completed 4 years of service in case of disablement due to an occupational accident or sickness, or who has completed 6 years of service in case of disablement due to any other cause, and who has become totally and permanently incapacitated, mentally or physically, for the further performance of duty may be retired.

Amount of Allowance

Upon disability retirement, a member receives an allowance commencing immediately, which is computed as a normal retirement allowance on the basis of the compensation and service to the time of disability retirement and is not less than 15% of the member's 3-year average annual compensation.

v) Vested Retirement Allowance

Condition for Allowance

Any member who has completed 10 years of service and who is not eligible for a retirement allowance is eligible for a vested retirement allowance, in lieu of a refund of his/her contributions with interest, in the event his/her employment terminates for reasons other than voluntary quit or discharge for cause.

Amount of Allowance

The vested retirement allowance is a deferred allowance commencing on the member's normal retirement date and equal to a percentage, not exceeding 100%, of the amount computed as a normal retirement allowance on the basis of the compensation and service to the time of termination; the applicable percentage is 5% multiplied by the number of years of creditable service, not in excess of 20, at the time of termination.

(Continued)

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY RETIREMENT FUND

Notes to Financial Statements
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vi) Survivor Benefit

Condition for Benefit

Upon the death of a member who has completed 10 years of service and who is survived by a spouse and/or dependent children designated to receive the deceased member's contributions with interest, a benefit may be elected by such survivor in lieu of the payment of the contributions with interest.

Amount of Benefit

If the deceased member had completed at least 10 but fewer than 23 years of service, the survivor's benefit, payable for life, is equal to the amount which would have become payable if the member had retired as of the date of his/her death and elected a 50% joint and survivor option in effect as of the date of death with the survivor as the designated person under the option. There is no reduction for early commencement.

If the deceased member had completed at least 23 years of service, the survivor's benefit, payable for life, is equal to the amount which would have become payable if the member had retired as of the date of his/her death and elected a 100% joint and survivor option in effect as of the date of death with the survivor as the designated person under the option. There is no reduction for early commencement.

vii) Accidental Death Benefit

Condition for Benefit

Upon the death of a member in service whose death results solely from an injury or injuries sustained in the performance of duty, and who is survived by a spouse designated to receive the deceased member's contribution with interest, an allowance shall be payable to said spouse.

Amount of Benefit

The accidental death benefit, payable for life, is equal to the amount which would have become payable to the member if the member had retired as of the date of his/her death on a disability retirement allowance. If there should be insufficient creditable service, the surviving spouse receives the minimum allowance available under the disability retirement provision.

(Continued)

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY RETIREMENT FUND

Notes to Financial Statements
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(e) Fund Termination

In the event of termination of the Fund, all of the assets of the Fund shall be used for the benefit of members and retired members or their beneficiaries, and for no other purpose. Each member, and each retired member or their designated beneficiary in receipt of a retirement allowance, shall be entitled to such proportionate part of the assets of the Fund as the reserve, required for their benefits, bears to the total reserves required under the Fund as determined by the Massachusetts Bay Transportation Authority Retirement Board (the Retirement Board) on the basis of actuarial valuation. The Retirement Board may require all such members, and retired members or designated beneficiaries, to withdraw such amounts in cash or in the form of immediate or deferred annuities as it may determine.

(2) Significant Accounting Policies

(a) Basis of Accounting

The financial statements have been prepared on the accrual basis of accounting in conformity with U.S. generally accepted accounting principles (GAAP), as promulgated by the Governmental Accounting Standards Board (GASB).

(b) Use of Estimates

The preparation of financial statements in conformity with GAAP requires the Fund's management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Significant items subject to such estimates and assumptions include, but are not limited to, the assessment of fair values for real estate and alternative investment holdings in the absence of readily available market values, and these estimates may be materially different than values that would have been used had a ready market existed for these investments.

(c) Cash and Cash Equivalents

Cash and cash equivalents generally consist of cash on deposit with banks and financial institutions and highly liquid short-term investments, which have original maturities of three months or less. The Fund maintains its cash deposits with financial institutions, which management considers being of high credit quality and, by policy, limits the allocation of funds to any single major financial institution to minimize the Fund's amount of credit exposure.

(d) Revenue Recognition

Contributions are recognized pursuant to the contractual requirements of the Pension Agreement. Investment income is recognized as it is earned. Net appreciation (depreciation) in the fair value of investments is recorded as an increase (decrease) to investment income based on the valuation of investments as of the date of the financial statements.

(Continued)

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY RETIREMENT FUND

Notes to Financial Statements
December 31, 2016 and 2015

(e) Retirement Benefits and Refunds

Retirement benefits and refunds are recognized when they become due and payable.

(f) Investments

Investments are stated at fair value. Securities traded on national security exchanges are valued on the basis of the closing price as of the last business day of the reporting period. Securities traded in the over-the-counter market are normally valued at the mean of the closing bid and asked prices. Securities listed or traded on certain foreign exchanges whose operations are similar to the U.S. over-the-counter market are valued at the price within the limits of the latest available current bid and asked prices deemed best to reflect current value. Gains and losses on sales of investments are determined on the basis of average cost.

Investments in real estate represent the Fund’s percent ownership in private real estate funds and limited partnerships. The Fund’s investments are valued based on estimates by the Fund’s management as a result of their review of financial information of the underlying real estate investment assets and standards established by the real estate industry, generally using the net asset value of the underlying investment as a practical expedient.

Investments in alternative investments and hedge funds include the Fund’s percent ownership in venture capital, leveraged buyouts, private placements, hedge fund-of-funds, and other investments where the structure, risk profile, and return potential differ from traditional equity and fixed income investments. These investments are included in the statement of fiduciary net position at estimated values determined in good faith by the Fund’s management, generally using the net asset value of the underlying investment as a practical expedient.

Purchase and sales of investments are selected on a trade-date basis.

(g) Derivatives

A derivative is an investment agreement or security with a value that depends on, or is derived from, the value of an underlying asset, reference rate, or financial index. The Fund has classified its investment in forward exchange contracts as investment derivative instruments. A forward exchange contract is a commitment to purchase or sell a foreign currency at a future date at a negotiated forward rate. The Fund utilizes forward foreign exchange contracts to minimize the effect of fluctuating foreign currencies. Risk associated with such contracts includes movement in the value of a foreign currency relative to the U.S. dollar. Realized gain or loss on forward exchange contracts is the difference between the original contract and the closing value of such contract and is included in the statement of changes in fiduciary net position. At December 31, 2016 and 2015, the Fund held open forward exchange contracts of varying amounts and currencies. Unrealized gains and losses are not significant to the financial statements.

(Continued)

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY RETIREMENT FUND

Notes to Financial Statements

December 31, 2016 and 2015

(h) Currency Translation

As a result of having assets and liabilities denominated in foreign currencies, the Fund is exposed to the effect of foreign exchange rate fluctuations. Assets and liabilities denominated in foreign currencies and commitments under forward foreign exchange contracts and currency options are translated into U.S. dollars at the mean of the quoted bid and asked prices of such currencies against the U.S. dollar. Changes in foreign exchanges are reflected directly in income. Purchases and sales of portfolio securities are translated at the rates of exchange prevailing when such securities were acquired or sold. Income and expenses are translated at rates of exchange prevailing when accrued. It is not practical to isolate that portion of the results of operations arising as a result of changes in the foreign exchange rates from the fluctuations arising from changes in the market price of securities during the period. Net realized gains on foreign currency transactions represent net foreign exchange gains from holding foreign currencies, currency gains or losses realized between the trade and settlement dates on security transactions, and the difference between the amounts of dividends, interest, and foreign taxes recorded on the Fund's books and the U.S. dollar equivalent amounts actually received or paid.

(i) Income Taxes

The Fund is considered a qualified governmental plan under Internal Revenue Code Section 414(d) and, is generally exempt from federal and state income tax under the Internal Revenue Code Section 115.

(3) Cash Deposits, Investments, and Securities Lending

The Fund, in accordance with the declaration of trust agreement, is authorized to make deposits into checking and savings accounts and to invest in any form or type of investment, financial instrument, or financial transaction deemed prudent in the informed opinion of the Retirement Board. State Street Bank & Trust Company serves as the master custodian for the Fund's assets.

For the years ended December 31, 2016 and 2015, the Fund's essential risk information about deposits and investments is presented on the following tables.

(a) Custodial Credit Risk

Custodial credit risk is the risk that, in the event of failure of a depository financial institution, the Fund's deposits may not be returned. The Fund maintains its cash and cash equivalent deposits with various financial institutions, which management considers being of high quality. The Fund limits the allocation of its cash and cash equivalent deposits to any single financial institution to minimize the Fund's exposure. The Fund's Board has not adopted a formal custodial credit risk policy.

The Fund's cash and cash equivalent deposits that are not collateralized are subject to the Federal Deposit Insurance Corporation (FDIC) insurance limits. At December 31, 2016 and 2015, \$3,717,265 and \$2,825,925 of the Fund's cash and cash equivalents deposits were in excess of the FDIC insurance limit.

(Continued)

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY RETIREMENT FUND

Notes to Financial Statements
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Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of the Fund and are held by either the depository financial institution or the depository financial institution's trust department or agent but not in the Fund's name.

All of the Fund's investments are held by the Fund's custodian in the Fund's name, except for investments in hedge funds, real estate and alternative investments, which by their nature are not required to be categorized.

(b) Investment Policy

The Fund's investment objective is to achieve consistent positive real returns and to maximize long-term total return within prudent levels of risk through a combination of income and capital appreciation. The Fund's goal is to meet or exceed the Fund's actuarial target rate of return in order to maintain and improve upon its funded status.

The Fund is currently invested in stocks (domestic and foreign), fixed income securities (domestic), real estate, private equity, and hedge funds.

The following was the Board's adopted asset allocation policy as of December 31, 2016 and 2015:

Asset class	Target
Domestic equity	25%
International equity	11
Global/emerging markets	7
Fixed income	25
Real estate	9
Private equity	10
Hedge funds	8
Risk parity/diversified beta	3
Cash	2
Total	100%

(Continued)

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
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Notes to Financial Statements
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(c) Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. The following is a listing of the Fund's fixed income investments and related maturity schedule (in years) as of December 31, 2016 and 2015. Certain reclassifications have been made to the 2015 schedules in order to conform with the current year presentation.

		2016				
Investment type		**Fair value**	**Less than 1**	**1–5**	**6–10**	**More than 10**
U.S. agencies	$	58,697,800	—	56,882,343	1,127,001	688,456
U.S. Treasury notes and bonds		51,315,015	5,091,909	23,841,602	14,124,509	8,256,995
Domestic corporate		196,288,631	563,181	65,773,818	92,249,194	37,702,438
International corporate		4,720,170	1,057,410	2,585,014	899,870	177,876
Asset backed:						
CMOs		14,567,352	—	—	768,983	13,798,369
Mortgage backed		21,989,332	—	—	—	21,989,332
Other		19,045,543	—	7,802,007	1,731,873	9,511,663
	$	366,623,843	6,712,500	156,884,784	110,901,430	92,125,129

		2015				
Investment type		**Fair value**	**Less than 1**	**1–5**	**6–10**	**More than 10**
U.S. agencies	$	70,163,455	—	66,159,721	1,133,565	2,870,169
U.S. Treasury notes and bonds		25,945,505	2,381,219	15,098,668	4,910,838	3,554,780
Domestic corporate		190,400,467	124,801	53,236,982	93,908,201	43,130,484
International corporate		5,320,012	1,446,327	2,818,135	765,144	290,405
Asset backed:						
CMOs		16,477,835	—	—	—	16,477,835
Mortgage backed		17,829,008	35,096	495,466	—	17,298,446
Other		18,855,161	—	4,868,944	1,270,984	12,715,233
	$	344,991,443	3,987,443	142,677,916	101,988,732	96,337,352

The Fund's guidelines limit its effective exposure to interest rate risk by benchmarking the separately managed fixed income investment accounts to an intermediate duration benchmark with a weighted average duration of four to five years. The Fund further constrains its actively managed fixed income portfolios to maintain a duration that shall not exceed 1.5 times the benchmark duration. The manager of each fixed income portfolio is responsible for determining the maturity and commensurate returns of his/her portfolio. Fixed income managers are also expected to report risk statistics and give a description of portfolio characteristics, including quality, duration, allocation by security type, and yield to maturity.

The collateralized mortgage obligations (CMOs) held by the Fund at December 31, 2016 and 2015 are highly sensitive to changes in interest rates.

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MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
RETIREMENT FUND

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(d) Credit Risk

Credit risk exists when there is a possibility the issuer or other counterparty to an investment may be unable to fulfill its obligations.

The Fund's Board does not have a formal investment policy governing credit risk; each fixed income securities investment manager is given a specific set of guidelines to invest within based on the mandate for which it was hired. The Fund expects all investment managers to perform their fiduciary duties as prudent people would and conform to all state and federal statutes governing the investment of the funds. Managers are to adhere to the philosophy and style that was articulated to the Retirement Board at the time of hire. The fixed income investment managers have full discretion to invest in fixed income securities in order to exceed their strategy specific benchmarks.

The Fund's fixed income investments as of December 31, 2016 and 2015 were rated by Standard and Poor's and/or an equivalent national rating organization, and the ratings are presented below using the Standard & Poor's rating scale:

					2016				
Investment type	**Fair value**	**AAA**	**AA**	**A**	**BBB**	**BB**	**B**	**CCC**	**Not rated**
U.S. agencies	$ 58,697,801	—	2,174,927	1,917,252	54,198,969	—	406,653	—	—
Domestic corporate	196,288,631	—	1,381,445	66,385,908	52,552,153	9,879,528	47,538,616	—	18,550,981
International	4,720,170	982,740	—	1,426,190	535,558	—	193,192	—	1,582,490
Asset backed:									
CMOs	14,567,350	5,846,549	—	1,587,211	162,030	—	—	—	6,971,560
Mortgage backed	21,989,332	—	—	—	—	—	—	—	21,989,332
Other	19,045,544	5,218,413	42,908	2,295,983	2,077,487	—	13,126	219,893	9,177,734
Total credit securities risk	315,308,828	12,047,702	3,599,280	73,612,544	109,526,197	9,879,528	48,151,587	219,893	58,272,097
U.S. government fixed income securities*	51,315,015								
Total fixed income securities	$ 366,623,843								

					2015				
Inestment Type	**Fair value**	**AAA**	**AA**	**A**	**BBB**	**BB**	**B**	**CCC**	**Not rated**
	$ 70,163,455	—	3,794,824	1,133,565	65,235,066	—	—	—	—
	190,400,465	407,104	1,719,139	63,904,984	53,007,833	46,933,691	5,452,365	545,671	18,429,678
	5,320,013	1,003,382	—	1,814,454	737,123	532,894	—	—	1,232,160
CMOs	16,477,835	3,523,654	3,038,384	3,862,165	585,238	—	—	—	5,468,394
Mortgage backed	17,829,008	—	—	—	—	—	—	—	17,829,008
Other	18,855,161	4,987,673	4,723	1,652,359	1,427,684	—	14,834	263,570	10,504,318
Total credit securities risk	319,045,937	$ 9,921,813	8,557,070	72,367,527	120,992,944	47,466,585	5,467,199	809,241	53,463,558
U.S. government fixed income securities*	25,945,506								
Total fixed income securities	$ 344,991,443								

*Obligations of the U.S. government or obligations explicitly guaranteed by the U.S. government are not considered to have credit risk.

(Continued)

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(e) Concentration Risk

Concentration of credit risk is the risk of loss that may be attributed to the magnitude of a government's investment in a single issuer. The Fund places a 5% limit on the individual exposure to any single issuer at the time of purchase. The Fund has no investments, at fair value, that exceed 5% of the Fund's total investments as of December 31, 2016. At December 31, 2015, the Fund had investments in individual commingled funds that represent more than 5% of the Fund's assets, but in each case, these investments are in institutional commingled funds that are invested in diversified portfolios.

(f) 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. The Fund's exposure to foreign currency risk is attributable to its investments in separately managed and commingled international equity mutual funds and trusts that are invested in diversified portfolios of international stocks that are denominated in foreign currencies. The Fund's combined policy target allocation to all non-U.S. securities is currently 18% of the Fund's total assets. Currency hedging is permitted for defensive purposes. Currency hedging shall be effected through the use of forward currency contracts, which are described more fully in note 2.

Risk of loss arises from changes in currency exchange rates. The Fund's exposure to foreign currency risk as of December 31, 2016 and 2015 are presented on the following tables:

(Continued)

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY RETIREMENT FUND

Notes to Financial Statements
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Currency		2016 Short-Term	2016 Fixed Income	2016 Equity	2016 Total
Argentine peso	$	—	193,192	—	193,192
Australian dollar		—	316,947	570,811	887,757
Brazilian real		—	183,542	—	183,542
Canadian dollar		51,988	—	1,457,584	1,509,572
Colombian peso		—	775,532	—	775,532
Danish krone		—	—	1,978,987	1,978,987
Euro currency		2,550	—	37,658,553	37,661,103
Hong Kong dollar		—	—	3,305,102	3,305,102
Hungarian forint		—	—	—	—
Indian rupee		—	982,740	—	982,740
Indonesian rupiah		—	—	439,408	439,408
Japanese yen		—	—	30,239,692	30,239,692
Mexican peso		—	2,268,216	—	2,268,216
New Israeli sheqel		—	—	588,947	588,947
New Zealand dollar		—	—	607,909	607,909
Pound sterling		2	—	17,616,494	17,616,496
Singapore dollar		(8)	—	2,375,594	2,375,585
South African rand		—	—	3,092,935	3,092,935
South Korean won		18,264	—	1,018,818	1,037,082
Swedish krona		—	—	533,901	533,901
Swiss franc		48,521	—	8,167,398	8,215,919
Thailand baht		—	—	5,500,658	5,500,658
International equity pooled funds (various currencies)		—	—	73,798,445	73,798,445
Total securities subject to foreign currency risk		121,317	4,720,170	188,951,235	193,792,722
United States dollars (securities held by international investment managers)		—	—	19,590,078	19,590,078
Total International Investment Securities	$	121,317	4,720,170	208,541,313	213,382,800

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**MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
RETIREMENT FUND**

Notes to Financial Statements
December 31, 2016 and 2015

	2015			
Currency	Short term	Fixed income	Equity	Total
Australian dollar	$ 13,919	550,929	598,296	1,163,144
Brazilian real	—	596,059	937,846	1,533,905
Canadian dollar	7,029	—	1,498,891	1,505,920
Chilean peso	—	278,027	—	278,027
Colombian peso	—	728,101	—	728,101
Danish krone	—	—	922,012	922,012
Euro currency	11,927	—	45,020,789	45,032,716
Hong Kong dollar	—	—	3,020,969	3,020,969
Indian rupee	—	1,003,382	—	1,003,382
Japanese yen	—	—	34,449,442	34,449,442
Mexican peso	—	2,163,514	—	2,163,514
New Zealand dollar	7	—	—	7
Norwegian krone	—	—	831,127	831,127
Pound sterling	25,151	—	23,662,844	23,687,995
Singapore dollar	—	—	2,467,125	2,467,125
South African rand	—	—	2,873,092	2,873,092
South Korean won	—	—	742,058	742,058
Swedish krona	15	—	3,122,044	3,122,059
Swiss franc	—	—	8,437,587	8,437,587
Thailand baht	—	—	4,101,191	4,101,191
International equity pooled funds (various currencies)	—	—	74,973,948	74,973,948
Total securities subject to foreign currency risk	58,048	5,320,012	207,659,261	213,037,321
United States dollars (securities held by international investment managers)	—	—	20,574,921	20,574,921
Total international investment securities	$ 58,048	5,320,012	228,234,182	233,612,242

(g) Securities Lending Transactions

The Fund participates in the State Street Bank and Trust Company securities lending program by lending securities to borrowers (subject to borrower limits and program guidelines) and earning additional income, which is included in net investment income in the statement of changes in fiduciary net position.

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MASSACHUSETTS BAY TRANSPORTATION AUTHORITY RETIREMENT FUND

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The Fund did not incur any losses on loaned securities during the year ended December 31, 2016 and 2015. The securities are monitored on a daily basis by the custodian to ensure that the loans are properly collateralized. The collateral value is required to be at least 102% of the fair value of loaned domestic investments and a collateral value of at least 105% of the fair value on loaned international investments. Collateral can consist of both cash and securities. Should the collateral percentage levels fall below the stated figures, the borrowers are required to provide additional collateral to proper levels. The indemnification that State Street Bank provides the Fund in regard to loan risk is that should a borrower default on returning a security from loan, the collateral held is used to buy the security to be returned to the Fund. Any shortfall of proceeds to purchase the securities is taken on by State Street Bank.

Loaned securities are included in the statement of fiduciary net position since the Fund maintains ownership. For loans collateralized by cash, the value of the collateral is recorded as a liability offsetting the cash collateral recorded as an asset. The cash collateral as of December 31, 2016 and 2015 was $52,541,468 and $66,204,476, respectively. For loans having collateral other than cash, the related collateral securities are not recorded as assets in the statement of fiduciary net position, and a corresponding liability is not recorded, since the Fund cannot pledge or sell the collateral securities, except in the event of a borrower's default.

At December 31, 2016 and 2015, the fair value of loaned securities outstanding, included in investments, was approximately $51,224,711 and $64,045,712, respectively.

(h) Commitments

At December 31, 2016 and 2015, the Fund had contractual commitments to provide approximately $61.4 million and $89.6 million, respectively, of additional funding for alternative investments and real estate.

(i) Money Rate of Return

The Annual money-weighted rate of return on the Fund's investments calculated as the internal rate of return on the pension fund net of investment expenses for the years ended December 31, 2016 and 2015 is 5.88% and 0.65%, respectively. A money weighted return expresses investment performance net of pension plan investment expense, adjusted for the changing amounts actually invested.

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**MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
RETIREMENT FUND**

Notes to Financial Statements
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(4) Fair Value Measurements

The Fund measures and records its investments using fair value measurement guidelines established by generally accepted accounting principles. The fair value gives the highest priority to unadjusted quoted prices in active markets for identical assets and liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). These levels of fair value hierarchy are described below:

- Level 1 – Unadjusted quoted prices for identical assets or liabilities in active markets
- Level 2 – Observable inputs other than quoted prices in active markets for identical assets and liabilities. Level 2 inputs include the following:
  - Quoted prices for similar assets and liabilities in active markets
  - Quoted prices for identical or similar assets or liabilities in markets that are not active
  - Inputs other than quoted prices that are observable for the asset or liability, such as:
    1. Interest rates and yield curves observable at commonly quoted intervals
    2. Implied volatilities
    3. Credit spreads
- Level 3 – Unobservable inputs for the asset or liability (i.e., supported by little or no market activity). Level 3 inputs include management's assumptions.

(Continued)

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY RETIREMENT FUND

Notes to Financial Statements
December 31, 2016 and 2015

The following tables' sets forth by fair value hierarchy level, the Fund's assets carried at fair value at December 31, 2016 and 2015:

		Fair value measurements using:		
		Quoted prices in active markets for identical assets	Significant other observable inputs	Significant unobservable inputs
	Total at December 31, 2016	(Level 1)	(Level 2)	(Level 3)
Cash equivalents:				
Active cash	$ 2,006,156	2,006,156	-	-
Government issues	2,954,772	2,954,772	-	-
International cash and equivalents	121,317	121,317	-	-
Stif-type instrument	47,019,024	-	47,019,024	-
Total cash equivalents	52,101,269	5,082,245	47,019,024	-
U.S. equities:				
Common stock	429,517,683	418,096,664	11,421,019	-
Depository receipts	22,262,879	22,262,879	-	-
Mutual funds	29,767,778	340,487	29,427,291	-
Preferred stock	2,079,384	2,079,384	-	-
Real estate inv trust	10,092,270	10,092,270	-	-
Total U.S. equities	493,719,994	452,871,684	40,848,310	-
International equities	188,951,235	115,152,790	73,798,445	-
Fixed income:				
U.S. agencies	58,697,801	-	4,498,832	54,198,969
U.S. treasury notes and bonds	51,315,015	-	51,315,015	-
Domestic corporate	196,288,630	-	142,874,825	53,413,805
Asset backed:				
CMO	14,567,352	-	14,567,352	-
Mortgage-backed	21,989,332	-	21,989,332	-
Other asset backed	19,045,543	-	19,045,543	-
Total U.S. fixed income	361,903,673	-	254,290,899	107,612,774
International fixed income	4,720,170	-	4,720,170	-
Total investments by fair value level	1,101,396,341	573,106,719	420,676,848	107,612,774
Total investments measured at net asset value (NAV):				
Hedge fund of funds	112,818,545			
Private equity funds	139,404,329			
Private real estate funds	128,148,179			
Total investments measured at NAV	380,371,053			
Total investments at fair value	$ 1,481,767,394			

(Continued)

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY RETIREMENT FUND

Notes to Financial Statements
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		Fair value measurements using:		
	Total at December 31, 2015	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Cash equivalents:				
Active cash	$ 906,340	906,340	-	-
Government issues	1,091,696	1,091,696	-	-
International cash and equivalents	58,048	58,048	-	-
Stif-type instrument	59,255,608	-	59,255,608	-
Total cash equivalents	61,311,692	2,056,084	59,255,608	-
U.S. equities:				
Common stock	418,305,889	406,105,921	12,199,968	-
Depository receipts	20,012,009	20,012,009	-	-
Mutual funds	22,355,840	-	22,355,840	-
Preferred stock	2,203,885	2,203,885	-	-
Real estate inv trust	5,711,136	5,711,136	-	-
Total U.S. equities	468,588,759	434,032,951	34,555,808	-
International equities	207,659,261	132,685,313	74,973,948	-
Fixed income:				
U.S. agencies	70,163,455	-	4,928,389	65,235,066
U.S. treasury notes and bonds	25,945,505	-	25,945,505	-
Domestic corporate	190,400,467	-	139,417,010	50,983,457
Asset backed:				
CMO	16,477,835	-	16,477,835	-
Mortgage-backed	17,829,008	-	17,829,008	-
Other asset backed	18,855,161	-	18,855,161	-
Total U.S. fixed income	339,671,431	-	223,452,908	116,218,523
International fixed income	5,320,012	-	5,320,012	-
Total investments by fair value level	1,082,551,155	568,774,348	397,558,284	116,218,523
Total investments measured at net asset value (NAV):				
Hedge fund of funds	132,138,477			
Private equity funds	150,915,544			
Private real estate funds	130,266,856			
Total investments measured at NAV	413,320,877			
Total investments at fair value	$ 1,495,872,032			

(Continued)

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
RETIREMENT FUND

Notes to Financial Statements
December 31, 2016 and 2015

(5) Related-Party Transactions

The Fund invests certain cash in a money market fund, the State Street Bank and Trust Company Short Term Investment Fund, which is sponsored by the Fund's custodial bank. The total value of the funds held at December 31, 2016 and 2015 was $47,019,024 and $59,255,608, respectively.

The Fund invests in the AFL-CIO Housing Investment Trust and the AFL-CIO Building Investment Trust, two for-profit investment programs of the AFL-CIO. The total value of AFL-CIO Housing Investment Trust at December 31, 2016 and 2015 was $50,241,098 and $49,286,560, respectively. The total value of AFL-CIO Building Investment Trust at December 31, 2016 and 2015 was $14,553,935 and $13,625,681, respectively.

(6) Net Pension Liability

The components of the net pension liabilities of the MBTA Retirement Fund as of December 31, 2016 and 2015 are shown as follows (amounts in thousands):

		2016	2015
Total pension liability	$	2,632,255	2,512,085
Plan fiduciary net position		(1,485,606)	(1,497,848)
Fund's net pension liability	$	1,146,649	1,014,237
Plan fiduciary net position as a percentage of total pension liability		56.44%	59.63%

Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of December 31, 2016 and 2015, using the following actuarial assumptions:

- Projected salary increases of 4% per year including inflation
- Investment rate of return 8% per annum, compounded annually
- Inflation rate of 3%

For the actuarial valuations, as of December 31, 2016 and 2015, the RP-2000 Blue Collar Mortality Tables with generational projection using Scale BB are used for all active participants. 97.2% of the RP-2000 Blue-Collar Tables for Healthy Males projected by Scale BB generationally are used for all retirees and deferred vested participants. 116.5% of the RP-2000 Blue-Collar Tables for Healthy Females projected by Scale BB generationally are used for all beneficiary participants. The RP-2000 Tables for Disabled Lives projected by Scale BB generationally are used for the period after disability retirement. Among pre-retirement deaths, 7.50% are assumed for accidental death benefits.

(Continued)

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
RETIREMENT FUND

Notes to Financial Statements
December 31, 2016 and 2015

The actuarial assumptions used in the December 31, 2016 and 2015 valuations were based on the results of an actuarial experience study for the period from January 1, 2010, through December 31, 2014. Actuarial valuations attempt to estimate costs associated with the pension fund based on a number of demographic, economic and retirement experience assumptions. Experience studies are required by statute to be conducted every five years to review experience in comparison to these assumptions and to provide recommended changes to assumptions.

The long-term expected rate of return on Fund investments was determined using best-estimate ranges of expected future nominal rates of return (expected returns, net of investment expense and inflation) developed for each major asset class using an econometric model that forecasts a variety of economic environments and then calculates asset class returns based on functional relationships between economic variables and the asset class. Best estimates of arithmetic real rates of return for each major asset class included in the target asset allocation as of December 31, are summarized in the following table:

	Target asset allocation		Long-term expected real rate of return	
Asset class	2016	2015	2016	2015
Equity	43 %	43 %	8.75 %	8.46 %
Fixed income	25	27	6.20	1.83
Alternatives	30	30	8.70	7.92
Cash	2	—	0.94	—

Nominal long-term expected rates of return for these asset classes are equal to the sum of the above expected long-term real rates and the expected long-term inflation rate of 3.0%.

(Continued)

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
RETIREMENT FUND

Notes to Financial Statements
December 31, 2016 and 2015

(a) Discount Rate

The discount rate used to measure the total pension liability at December 31, 2016 and 2015, was 8.00%. The projections of cash flows used to determine the discount rate assumed that contributions will continue to be made in accordance with the current funding policy. Based on those assumptions, the Fund's fiduciary net position was projected to be available to make all projected further benefit payments of current plan members. Therefore, the long-term expected rate of return on the plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

(b) Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability as of December 31, 2016 and 2015, calculated using the discount rate of 8.00%, as well as what the net pension liability would be if it were calculated using a discount rate that is one percentage point lower (7.00%) or one percentage point higher (9.00%) than the current rate (amounts in thousands):

		2016		
		1% Decrease (7.00%)	Current discount rate (8.00%)	1% Increase (9.00%)
Net pension liability	$	1,412,017	1,146,649	920,903

		2015		
		1% Decrease (7.00%)	Current discount rate (8.00%)	1% Increase (9.00%)
Net pension liability	$	1,269,791	1,014,237	796,832

REQUIRED SUPPLEMENTARY INFORMATION

(Unaudited)

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY RETIREMENT FUND

Required Supplementary Information
Schedule of Changes in Net Pension Liability and Related Ratios
(Unaudited)

		2016	2015	2014
Total Pension Liability				
Service cost	$	31,896,560	37,305,333	34,500,540
Interest		195,768,057	191,392,028	184,667,178
Differences between expected and actual experience		90,067,566	31,325,149	48,560,391
Changes of assumptions		-	(6,762,751)	-
Benefit Payments		(197,561,539)	(188,906,232)	(184,130,187)
Net change in total pension liability		120,170,644	64,353,527	83,597,922
Total pension liability-beginning of year		2,512,084,594	2,447,731,057	2,364,133,135
Total pension liability-ending (a)		2,632,255,238	2,512,084,594	2,447,731,057
Change in fiduciary net position:				
Contributions - employer		77,239,279	73,373,672	70,603,285
Contributions - emplopyee		27,791,543	26,510,946	25,318,224
Net investment income		86,782,343	4,711,246	73,543,477
Benefit payments		(197,561,539)	(188,906,232)	(184,130,187)
Administrative expenses		(6,493,777)	(5,808,086)	(4,052,664)
Net change in fiduciary net position		(12,242,151)	(90,118,454)	(18,717,865)
Fund fiduciary net position-beginning of year		1,497,848,035	1,587,966,489	1,606,684,354
Fund fiduciary net position - end of year (b)		1,485,605,884	1,497,848,035	1,587,966,489
Fund's net pension liability-ending (a)-(b)	$	1,146,649,354	1,014,236,559	859,764,568
Fund fiduciary net position as a percentage of the total pension liability		56.44%	59.63%	64.88%
Covered payroll as of December 31, 2016 and 2015 actuarial valuation	$	446,740,427	443,237,899	417,957,007
Net pension liability as a percentage of covered-employee payroll		256.67%	228.82%	205.71%

This schedule is intended to present 10 years of data. Additional years will be resneted when available.

See accompanying independent auditors' report.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY RETIREMENT FUND

Required Supplementary Information
Schedule of Investment Returns
(Unaudited)

	2016	2015	2014
Annual money-weighted rate of return, net of investment expense	5.88%	0.65%	4.80%

This schedule is intended to present 10 years of data. Additional years will be presented when available.

See accompanying independent auditors' report.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY RETIREMENT FUND

Required Supplementary Information
Schedule of Contributions
(Unaudited)

Year	Actuarially determined contribution	Actual contribution in relation to actuarially determined contribution	Percentage of actuarially required contributions	Covered-employee payroll	Contribution as a percentage of covered-employees
2016	$ 77,239,279	$ 77,239,279	100.00%	$ 446,740,427	17.29%
2015	73,359,000	73,373,372	100.02	443,238,000	16.55
2014	77,594,000	70,603,285	90.99	417,957,000	16.89
2013	67,602,000	58,039,160	85.85	379,071,000	15.31
2012	66,035,000	54,968,325	83.24	370,873,000	14.82
2011	60,691,000	52,278,311	86.14	366,535,000	14.26
2010	60,252,000	49,006,722	81.34	356,608,000	13.74
2009	49,340,000	38,566,024	78.16	350,619,000	11.00
2008	39,761,000	35,420,770	89.08	377,795,000	9.38
2007	33,815,000	30,014,017	88.76	357,069,000	8.41
2006	33,327,000	34,485,593	103.48	320,648,000	10.76

See accompanying independent auditors' report.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
RETIREMENT FUND

Notes to Required Supplementary Information
(Unaudited)

Actuarial Assumption and Methods

Actuarially determined contributions are calculated as of the December 31 preceding by six months of the start of the fiscal year in which contributions are made. For example, the contribution calculated in the December 31, 2015 actuarial valuation was to be made during the period from July 1, 2016 through June 30, 2017.

Methods and assumptions used to determine the contributions for calendar 2017 and 2016 (based on 2014 and 2015 actuarial valuations).

- Actuarial cost method – Entry Age Normal
- Amortization method – Level Percentage of Pay
- Remaining amortization period – 23 years (2016 valuation), 24 years (2015 valuation)
- Asset Valuation method – Five year phase-in smoothing method
- Investment rate of return – 8% net of pension plan investment expense
- Retirement Age -Probabilities of retirement are based on table that reflects both age and service
- Mortality – For all active and retired participants, RP-2000 Blue Collar Mortality Tables with generational projection using Scale BB are used for all active participants. 97.2% of the RP-2000 Blue-Collar Tables for Healthy Males projected by Scale BB generationally are used for all retirees and deferred vested participants. 116.5% of the RP-2000 Blue-Collar Tables for Healthy Females projected by Scale BB generationally are used for all beneficiary participants. The RP-2000 Tables for Disabled Lives projected by Scale BB generationally are used for the period after disability retirement. Among pre-retirement deaths, 7.50% are assumed for accidental death benefits.

Effective with the December 31, 2013 actuarial valuation, the actuarial asset valuation method utilized to compute the actuarial value of assets changed from the five-year moving average of market values method to the five-year phase-in smoothing method. This was done in an effort to further align the Fund's funding policies with those prevalent among the Commonwealth of Massachusetts' public retirement systems and to enhance the transparency of its actuarial calculations. With the implementation as of December 31, 2013, the Fund restarted its actuarial value of plan assets at market value and will gradually implement the phase-in smoothing method over four years.

Schedule of Administrative Expenses

As of December 31,	2016	2015
Wages and Benefits		
Staff Salaries *	1,210,560	1,276,088
Retiree Payroll	389,053	330,826
Benefits	329,711	334,369
Total Personnel Services	**1,929,324**	**1,941,282**
*Executive Director Salary = $216,329		
*Deputy Director Salary = $196,000		
Professional Services		
Actuarial	240,521	140,224
Audit	99,661	97,154
Extraordinary Consultant fees*	1,724,664	1,189,039
Legal Counsel	1,601,713	1,509,106
Disability Medical Exams	46,543	37,375
Total Professional Services	**3,713,103**	**2,972,898**
Communication		
Newsletter / Annual Report	13,153	80,614
Postage	7,913	8,114
Telephone	32,672	37,972
Education and Training	29,168	54,856
Manager Meetings	7,667	18,393
Member Services	5,641	5,748
Total Communication	**96,213**	**205,696**
Miscellaneous		
General and Administrative	26,139	49,179
Business Insurance	211,666	162,576
Rent	381,690	366,387
Technological Support	135,643	110,068
Total Miscellaneous	**755,137**	**688,210**
Total Administrative Expenses	**6,493,777**	**5,808,086**

*Fees incurred in response to Markopolous allegations and in support of FTI Consulting investigation, and related matters.

See accompanying Independent Auditors' Report

Schedule of Investment Expenses and Payments to Consultants

As of December 31, 2016

Schedule of Investment Expenses	
Investment Management Fees	5,364,252
Investment Consultant Fees	344,000
Communications / Governmental Services	153,788
Custodial Fees	779,797
Total Investment Expenses	**6,641,836**

Schedule of Payments to Consultants*	
Independent Auditors	99,661
Extraordinary Consultant fees**	1,724,664
Actuary	240,521
Legal	1,601,713
Total Payments to Consultants	**3,666,559**

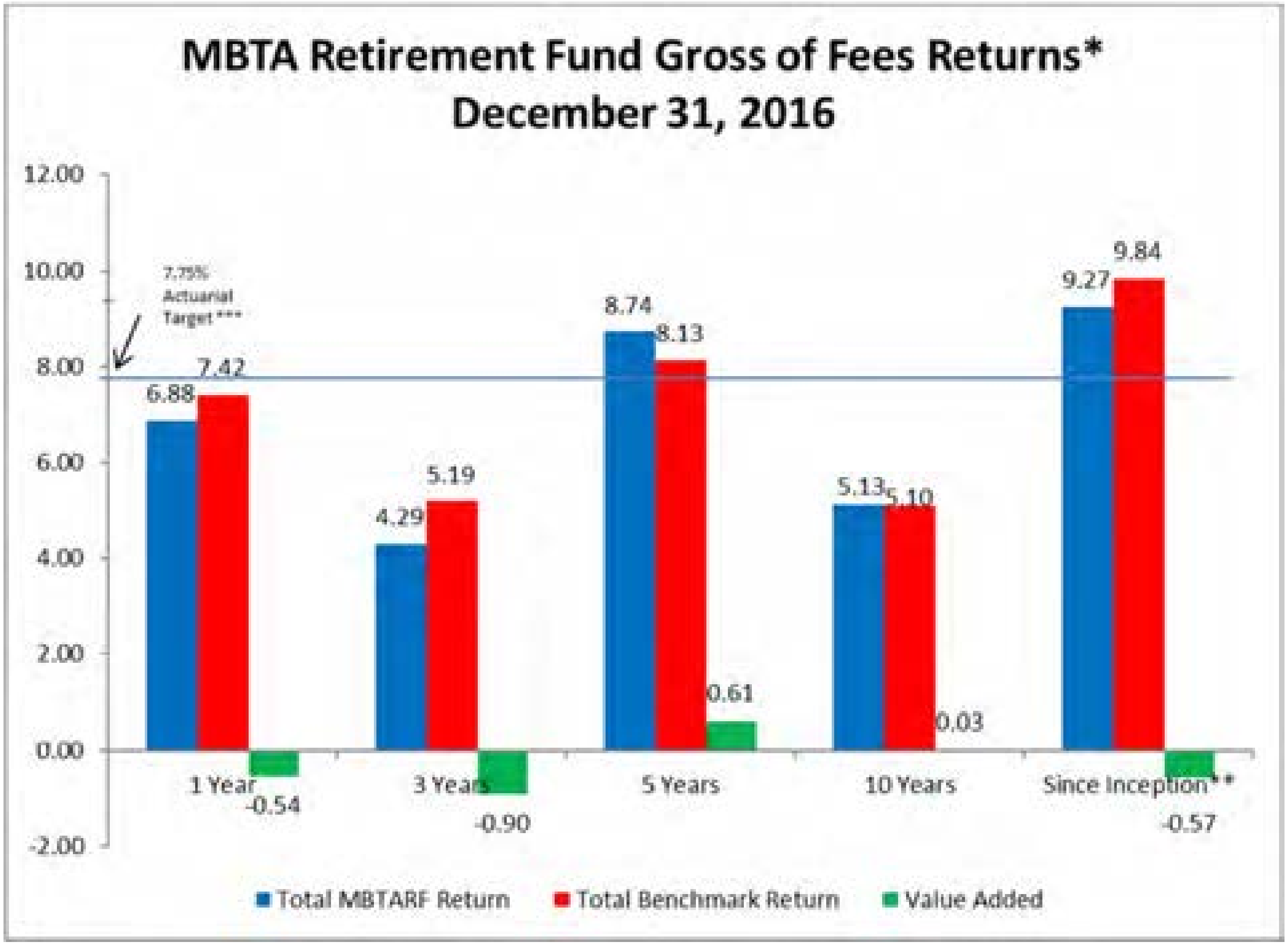
*These payments are presented for analytical purposes; each amount is already included in schedules of administrative or investment expenses

**Fees incurred in response to Markopolous allegations and in support of FTI Consulting investigation, and related matters.

See accompanying Independent Auditors' Report

INVESTMENT SECTION

2016 Investment Results



***** Gross of Fees with the exception of hedge funds which are net of fees

** Performance inception date of January 1, 1982

*** In February 2016, the MBTA Retirement Fund Board adopted new actuarial assumptions for use in the preparation of the annual actuarial valuations of the Fund. These assumptions were based on an experience study covering the four-year period ending December 31, 2014. The expected return on assets for funding purposes was reduced by a 25-basis-point margin, resulting in a 7.75% expected return on assets. The discount rate used to measure the total pension liability at December 31, 2015, was 8.00%. The projection of cash flows used to determine the discount rate assumed that contributions will continue to be made in accordance with the Fund's current funding policy.

Report on Investment Activity

The Massachusetts Bay Transportation Authority Retirement Fund (the "Fund") was created to provide retirement benefits for certain employees of the Massachusetts Bay Transportation Authority (the "Authority"). The Fund was established in 1948 pursuant to a Trust Agreement between local 589 ATU AFL-CIO (the "Union") and the Authority that is governed by the terms of a separately negotiated Pension Agreement between the Authority and the Union. The MBTA Retirement Board is responsible for the general oversight of the MBTA Retirement Fund. The primary goal of the Fund's investment program is to meet or exceed the Fund's actuarial target rate of return in order to maintain and improve upon its funded status. The Board of the Fund seeks to maximize return on investments through a diverse group of investment managers with an acceptable level of risk.

The Investment Section was prepared by the MBTA Retirement Fund Finance Staff with assistance of the consultant, Segal Marco Advisors. The Fund's investment portfolios are presented at fair value which is appropriate industry standard.

As of December 31, 2016 the Board employed 17 public markets investment managers, 35 private equity market managers, 9 real estate managers, 3 hedge fund-of-funds managers and 2 risk parity/diversified beta managers. The Fund had approximately $1,481.8 million in assets under management at December 31, 2016. Each investment manager operates within guidelines that are established by the Board and consultant and are outlined in a detailed investment management or partnership agreement.

The Investment Policy statement adopted by the Fund Board requires that the Board and the Executive Director review the asset allocation at least quarterly to determine if the asset allocation is consistent with the exposure ranges described. A change in the Fund's liability structure, funded status, or long-term investment prospects may also trigger a revision of the asset allocation. The Executive Director will direct investment managers to transfer funds to rebalance the asset allocation as necessary. The Executive Director shall use appropriate judgment and care when rebalancing portfolios.

Current Allocation as of 12/31/2016

Asset Class	12/31/2016 Allocation %	Target (%)
Equities	46.0	43
Domestic Large Cap	18.1	18
Domestic Small Cap	8.5	7
Established International (Large Cap)	11.5	11
Global / Emerging Markets	7.9	7
Fixed Income	28.3	27
Core Fixed Income	7.0	8
TIPS	2.0	3
Real Estate Debt/Mortgages	4.5	4
Global & Multi Sector	8.8	8
Bank Loans	2.5	2
Cash*	3.5	2
Alternative Investments	25.7	30
Private Equity	9.5	10
Real Estate	8.6	9
Hedge Funds	2.9	8
Risk Parity / Diversified Beta	4.7	3

*Investment manger's cash holdings are reported in cash and cash equivalents

The Year in Review – The World Markets

Fiscal Year 2016 Global Markets Overview –

First Quarter 2016:

January and February proved to be difficult times for financial markets, but March saw a rebound in asset performance. The turnaround in March was marked by increased investor confidence. Oil prices at the beginning of the quarter dropped well below $30.00 a barrel but bounced back in the last month. Falling oil prices are often seen as an omen of an economic decline and the recovery of prices on these assets appeared to strengthen investor confidence. The US dollar reversed some of its gains indicating a higher degree of confidence from investors.

Developed international markets also provided strong returns in the later third of the first quarter. With the referendum by the United Kingdom to leave the European Union on the horizon, the European Central Bank successfully alleviated some of the fears related to this. Emerging markets also posted huge gains after experiencing significant losses. The leading culprit for the emerging markets turnaround was the weakening dollar. The European Central Bank and Chinese authorities pushed economic policies toward growth and this had an effect on each of their respective jurisdictions. However, growth policy in Japan proved to be ineffective.

Second Quarter 2016:

During June 2016, a referendum was passed for the exit of Britain from the European Union. All three major US stock indices (Dow Industrials, S&P 500, NASDAQ Composite), which had been positive throughout the quarter, plunged on the news of Brexit. Many grew fearful that the British exit from the European Union (EU) would be abrupt and that there would be a significant amount of fallout from the decision. However, EU and British leaders reassured the investing public that the departure of Great Britain from the EU would be gradual and controlled. This helped the markets gain confidence and the S&P 500 and Dow Jones Industrials gained over two percent during the quarter. The NASDAQ ended the quarter in the red. Foreign developed nations were hit even harder by the Brexit fallout due to their higher exposure to those markets.

Negative earnings growth also weighed on market participants as many believed the second quarter would continue the streak of earnings decline to five consecutive quarters. While international economic events such as Brexit continued to fuel fears, the US Federal Reserve was expected to keep interest rates unchanged at their prevailing historical lows. (Continued)

Such monetary policy in the United States gave a boost to emerging markets. Furthermore, fixed-income markets experienced positive returns as investors fled to safe US fixed income securities. Much of the economic data coming from the United States was positive. However, jobs growth showed weakness in May when only 38,000 jobs were created compared to the number expected.

Third Quarter 2016:

All three major US stock indices saw gains during the quarter and the NASDAQ led the way with a 10.02% gain. However, earnings data was expected to be weak as earnings growth was anticipated to decline for the 6^{th} straight quarter. Other developed markets continued to recover from Brexit as the MSCI EAFE Index returned 6.43%. Emerging markets also performed well as the US Federal Reserve decided not to raise interest rates at their September meeting. The fixed income markets showed mixed results and the yield on the 10-year Treasury remained volatile.

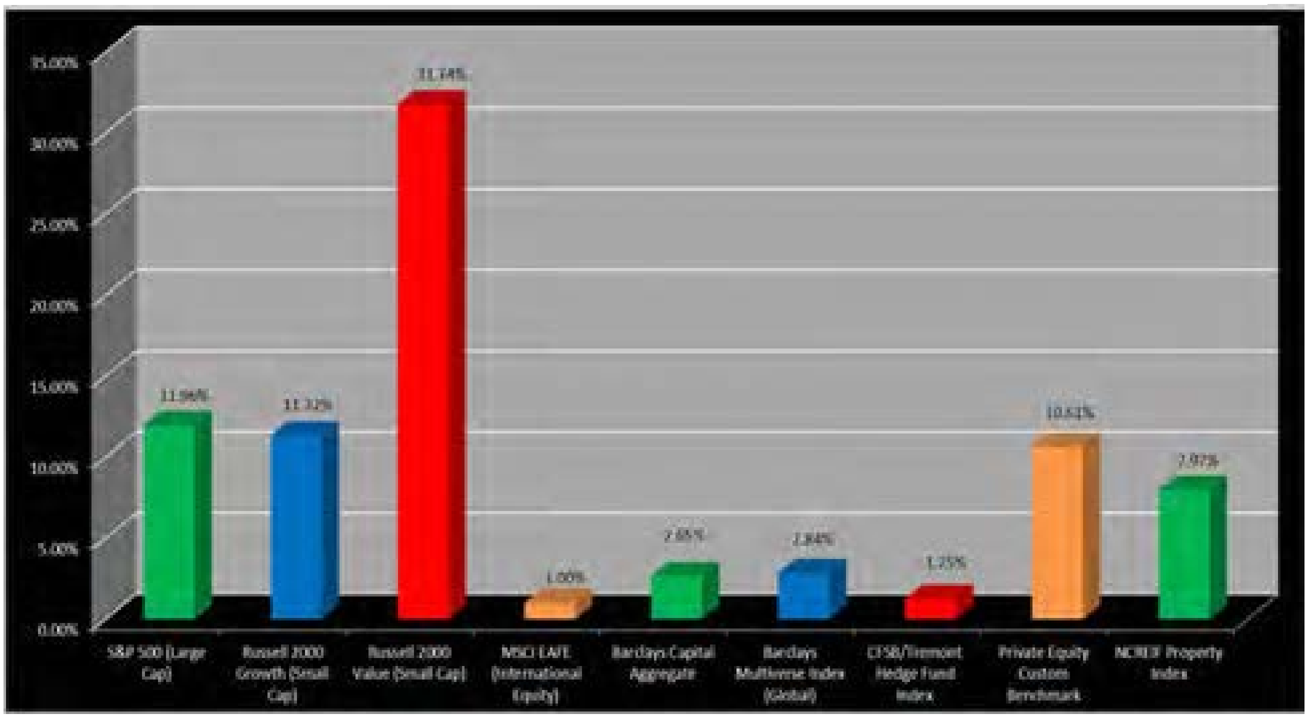
There were a few major risks facing the global economy during the quarter. The Syrian refugee crisis and the weakening Chinese economy still posed threats but were not considered to be imminent problems. However, the instability of Deutsche Bank in Europe was also weighing on many investors' minds. Arguably the largest uncertainty in the financial markets remained the upcoming US election where the two major party candidates for president represented very different political ideologies.

Fourth Quarter 2016:

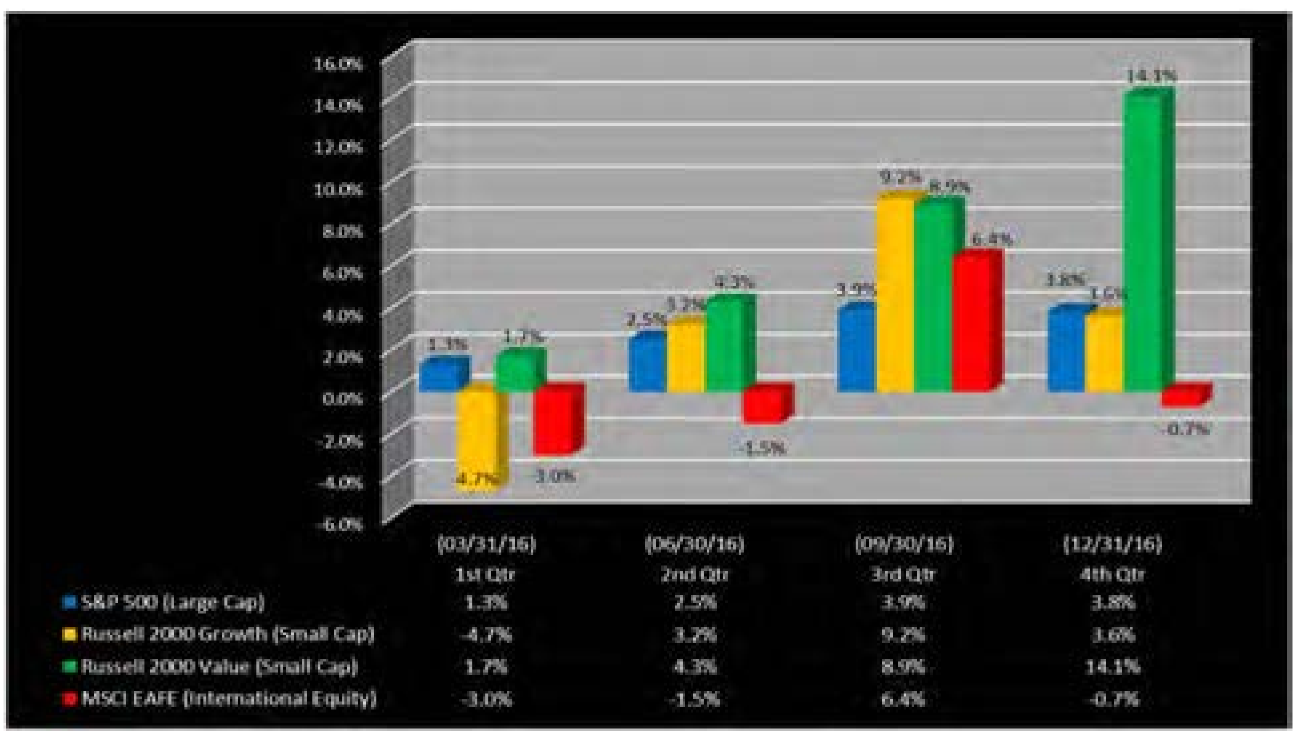
The major US stock indices ended the year with positive returns. Earnings growth resumed and investors regained confidence. The US Federal Reserve decided to raise interest rates in December signaling to the world their confidence in the recovering US economy. Most economic data released during the quarter showed positive signs that the economy was continuing to recover. Consumer confidence increased and it appeared that businesses were beginning to invest again. The November jobs report indicated that 178,000 jobs were added during that month. The housing market showed signs of taking off as sales of both existing and new homes increased more than expected. Fixed income markets did suffer in the fourth quarter due to increasing interest rates and the US election results.

The key factor driving financial markets in the fourth quarter was the result of the US election. Donald J. Trump won the presidency and the Republican Party gained much influence in the federal government. The incoming Republican government left many business operators with hope as deregulation and tax reform were now on the horizon. Internationally, a banking crisis emerged in Italy and concerns over the growth of the Chinese economy weighed on investors.

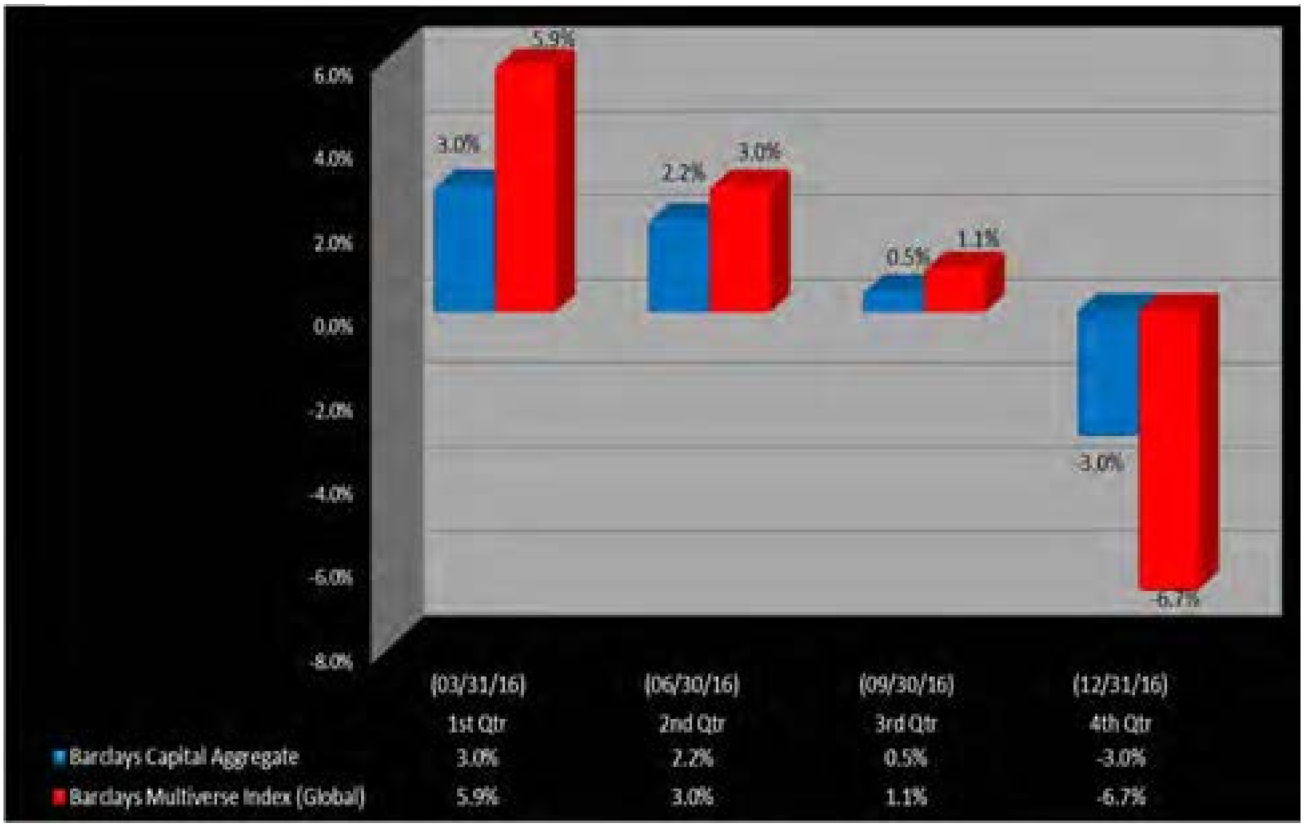
Fiscal Year 2016 Market Indices Returns



Fiscal Year 2016 Equity Indices by Quarter



Fiscal Year 2016 Fixed Income Indices by Quarter



MBTARF Core Performance: Fiscal Year 2016

Returns are calculated based on a time-weighted rate of return methodology. The Fund's returns (gross of fees) and benchmarks for the periods ended December 31, 2016:

During fiscal year 2016, the Fund returned 6.88%, underperforming the Policy Benchmark of 7.42% by 54 basis points. The MBTARF began fiscal year 2016 with a net position of $1,498 million and ended with a $1,486 million net position. On a gross basis the Fund decreased $12 million. $195.7 million in net retirement benefits were dispersed to members of the Fund.

The quarterly returns of the Fund in fiscal year 2016 were as follows:

	MBTARF Return	Policy Benchmark Return
QTR 1	-0.27	1.35
QTR 2	1.64	1.62
QTR 3	3.90	3.20
QTR 4	0.67	1.07

U.S. stocks ended 2016 on a strong note amid firm employment data, favorable earnings forecasts and an optimistic view of stimulus, tax reform and infrastructure spending promised by a new U.S. administration. In contrast, U.S. bond markets experienced considerable volatility, particularly in the fourth quarter. Yields on Ten-year U.S. Treasury notes, which move inversely to bond prices, increased from near-record lows of approximately 1.3% in July 2016 to over 2.4% in anticipation of Federal Reserve action to raise interest rates.

(Continued)

For the full-year period, equities generated returns ranging from 1% for the EAFE index of non-U.S. developed markets stocks to 11.96% and 21.31% for the S&P 500 Index of Large Cap U.S. stocks and Russell 2000 Index of Small Cap U.S. stocks, respectively. Core bond index returns ranged from 2.1% for the Bloomberg Barclays Global Aggregate index to 2.65% for the Bloomberg Barclays U.S. Aggregate Index. Among alternatives, real estate as measured by the NECREIF ODCE Index gained 7.97%, while commodities, as measured by the Bloomberg index, gained 11.3%. Diversified hedge funds gained 0.5% for the year based on the HFRI Fund of Funds composite. Private equity returns for the full year were not available as of this writing.

The MBTA Retirement Fund (the "Fund") generated a gross return of 6.88% in 2016, the eighth consecutive year in which the Fund has generated positive returns. The Fund's long-term investment objective is 7.75%. The Fund's annualized return since inception is 9.27%. The Fund's annualized return over the ten year period ended December 2016 was 5.13% and ranked in the top 57% of the InvestorForce Public Pension Fund Universe. The five year period was 8.74% and ranked in the top 35th percentile.

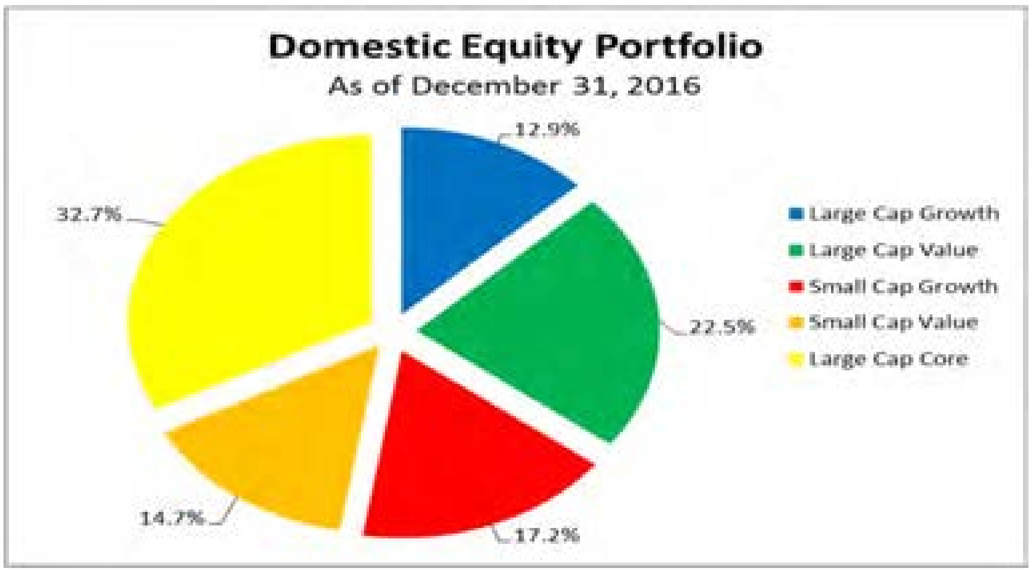
During 2016, the MBTA Retirement Board authorized the following actions, among others, to position the Fund for long-term risk-adjusted returns, while addressing the Fund's policy framework and cost effectiveness:

- Authorized a new asset allocation structure to further diversify the portfolio within Fund risk tolerances based on a joint asset liability management ("ALM") and asset allocation study
- Approved amendments to the investment policy, that among other changes, improved documentation of risk measures, monitoring processes and permissible investment vehicles
- Reallocated assets from actively managed U.S. large cap equity strategies to passive management to gain asset class exposure at reduced costs in more efficient markets.

Investment Summary by Type

Domestic Equity Portfolio

As of December 31, 2016, the domestic equity portfolio had approximately $394.5 million in net assets, which represented 26.62% of the Fund portfolio. Approximately 68.1% of the domestic equity portfolio is invested in a large capitalization equity strategy (large cap) with the remaining 31.9% in a small capitalization equity strategy (small cap). The Fund's domestic equity portfolio is actively managed in an attempt to outperform a diverse set of indices. Each investment manager's performance is measured against an assigned index based on the stated investment strategy.



On a three, five and ten-year basis through December 31, 2016, the domestic equity portfolio has returned 6.59%, 14.66% and 8.08% compared to the S&P 500 benchmark, which returned 8.87%, 14.66% and 6.95% respectively.

Style - The Board intends to manage risk and diversify the Fund's portfolio through the selection of money managers with different investment styles and complementary characteristics within each asset class.

Portfolio Risks – Although the performance of equity securities has historically exceeded that of other market assets over an extended period of time, these assets, as all investments carry the risk of loss of principal and are subject to changing market conditions. The value of equities is not only determined by external market factors but by the performance of the firms for which these assets legally represent. (Continued)

Portfolio Returns - During the fiscal year the portfolio produced a return of 12.97% compared to 11.96% for the portfolio benchmark. Large cap equity managers returned 10.39% underperforming the benchmark by 1.57% and small cap equity returned 18.63% underperforming the Russell 2000 Index by 2.68%. The Fund had one large cap core manager, which underperformed the S&P 500 benchmark by 3.59%. The large cap growth manager underperformed by 4.14% and the large cap value managers both outperformed their benchmark. Of the four small cap managers, RBC Global Asset Management was the only manager to outperform their respective benchmark in 2016.

The top ten holdings in the domestic equity portfolio at December 31, 2016 are illustrated below. A complete listing of holdings is available upon request.

Shares	Stock	Market Value ($000's)	% of fair value
114,927	VISA INC CLASS A SHARES	$8,967	2.27%
70,612	FACEBOOK INC A	8,124	2.06
10,382	AMAZON.COM INC	7,785	1.97
4,898	PRICELINE GROUP INC/THE	7,181	1.82
52,777	APPLE INC	6,113	1.55
95,626	MICROSOFT CORP	5,942	1.51
60,282	ALIBABA GROUP HOLDING SP ADR	5,293	1.34
124,500	SCHWAB (CHARLES) CORP	4,914	1.25
5,799	ALPHABET INC CL C	4,475	1.13
39,300	ASML HOLDING NV NY REG SHS	4,409	1.12
	Total Top Ten	**$63,203**	**16.02%**

(Continued)

The MBTA Retirement Fund's domestic equity managers at December 31, 2016 are presented in the following table:

Manager	Investment Mandate	Portfolio Fair Value @ 12-31-2016
Alliance Bernstein	Small Cap Growth	$ 35,688,737
Aristotle Capital Management	Large Cap Value	44,389,882
Boston Partners	Large Cap Value	44,440,265
Holland Capital Management	Large Cap Growth	50,708,590
Intech	Large Cap Core	129,047,197
RBC Global Asset Management	Small Cap Growth	32,286,484
Robeco Investment Management	Small Cap Value	28,521,282
State Street Global Advisors	Small Cap Value	29,427,291
Total Portfolio Fair Value:		**$ 394,509,726**

International Equity Portfolio

As of December 31, 2016, the international equity portfolio had approximately $174.9 million in net assets, representing 11.80% of the Fund portfolio. The international equity managers are benchmarked against the MSCI EAFE index, which includes the developed markets of Europe, Australia and the Far East. The international equity portfolio is comprised of three actively managed accounts.

The primary strategy is to invest in international equity funds to achieve consistent, positive real returns and to maximize long-term total return within prudent levels of risk through a combination of income and capital appreciation.

Style – The Board intends for a group of managers employing various strategies to invest assets in a well-diversified portfolio of Non-U.S. developed market equity securities. This group consists of a broad range of styles and approaches including: core international products, top-down country selectors, bottom-up security selectors, capitalization ranges, growth and value-oriented products and products using various mixtures of these strategies. Certain investment managers may have a guideline up to 20% exposure in emerging markets.

Portfolio Risks – International assets are subject to additional risks such as changes in foreign currency exchange markets and the environment in which the trading of these securities and associated financial reporting are governed. Differences between reporting standards across jurisdictions also adds to the complexity of these markets.

Portfolio Returns - During the fiscal year, international equity returned -0.96% underperforming the benchmark by 196 basis points. All three international equity asset managers underperformed their respective benchmark, MSCI EAFE index.

(Continued)

On a three, five and ten-year basis through December 31, 2016, the international equity portfolio has returned -1.66%, 7.25% and 2.44% compared to the MSCI EAFE benchmark, which returned -1.60%, 6.53% and 0.75% respectively.

The top ten holdings in the international equity portfolio at December 31, 2016 are illustrated below. A complete listing of holdings is available upon request.

	Shares	Stock	Market Value ($000's)	% of fair value
1	51,274	FRESENIUS SE + CO KGAA	$4,016	2.30%
2	2,129,000	CP ALL PCL FOREIGN	3,716	2.12
3	62,412	TOTAL SA	3,207	1.83
4	51,400	ASOS PLC	3,153	1.80
5	21,000	NASPERS LTD N SHS	3,093	1.77
6	39,569	NOVARTIS AG REG	2,885	1.65
7	118,858	KONINKLIJKE AHOLD DELHAIZE N	2,511	1.44
8	431,853	AIA GROUP LTD	2,437	1.39
9	167,992	ING GROEP NV	2,369	1.35
10	444,956	DS SMITH PLC	2,244	1.28
		Total Top Ten	**$29,631**	**16.94%**

The MBTA Retirement Fund's international equity managers at December 31, 2016 are presented in the following table:

	Manager	Investment Mandate	Portfolio Fair Value @ 12-31-2016
	Gryphon International	Growth	$ 51,598,037
	Henderson Investors	All-Cap	49,497,929
	Morgan Stanley Asset Management	International Large Value	73,798,445
	Total Portfolio Fair Value:		**$ 174,894,412**

Global Equity and Emerging Market Portfolio

As of December 31, 2016, the global equity and emerging markets portfolio had approximately $112.4 million or 7.6% of MBTA Retirement Fund's assets. The MBTA Retirement Fund measures the investment manager's performance against the MSCI ALL Country World Index a benchmark comprised of stocks from 46 different countries including 23 countries classified as developed markets (including the United States) and 23 countries that are considered emerging markets.

Portfolio Composition - The portfolio invests a significant percentage of its assets in foreign securities traded on foreign exchanges including the use of derivatives (e.g. LEPOS and p-notes) to gain access to certain foreign markets. The manager is granted full discretion to buy, sell, invest and reinvest its portion of the Fund's assets in stocks contained within the MSCI ALL Country World Index. The maximum allocation to emerging markets is three times the benchmark sector weighting or approximately 30% of the portfolio. The investment objective of the global equity and emerging markets portfolio is to achieve consistent, positive real returns and to maximize long term total return within prudent levels of risk through a combination of income and capital appreciation.

As of December 31, 2016, the global and emerging markets portfolio's country and regional exposures included a 71% allocation to developed market stocks, which included a 57% allocation to U.S. stocks, and an approximately 26% allocation to emerging, markets stocks, which included a 12% allocation to holdings in India.

Portfolio Risks – In addition to providing the potential for higher expected returns, emerging markets generally expose investors to higher expected risks due their susceptibility to more volatile economic conditions, potential political instability and, in some cases, an absence of a

(Continued)

mature system of corporate governance. These investments also carry all the risks associated with domestic and developed market investments.

Portfolio Returns - During the fiscal year, global equity and emerging market portfolio returned 1.63%, underperforming the benchmark by 6.23%. On a three, year basis through December 31, 2016, the global equity and emerging market portfolio has returned 3.10%, compared to the MSCI All Country World Index, which returned 3.13%. Due to the fact the MBTA Retirement Fund began investing in this asset class in October 2012, the investment manager's results do not yet include five and ten year periods.

The top ten holdings in the global equity and emerging market portfolio at December 31, 2016 are illustrated below. A complete listing of holdings is available upon request.

	Shares	Stock	Market Value ($000's)	% of fair value
1	50,600	FACEBOOK INC	$ 5,822	5.18%
2	71,800	VISA INC CLASS A SHARES	5,602	4.98
3	3,600	PRICELINE GROUP INC	5,278	4.70
4	121,700	SCHWAB (CHARLES) CORP	4,803	4.27
5	51,600	ALIBABA GROUP HOLDING SP ADR	4,531	4.03
6	39,300	ASML HOLDING	4,409	3.92
7	5,775	AMAZON	4,330	3.85
8	231,300	JP MORGAN STRUCTURED	4,301	3.83
9	2,129,000	CP ALL PCL FOREIGN	3,716	3.31
10	32,600	MONSANTO CO	3,430	3.05
		Total Top Ten	**$ 46,222**	**41.13%**

The MBTA Retirement Fund's global equity and emerging market manager at December 31, 2016 is presented in the following table:

	Manager	Investment Mandate	Portfolio Fair Value @ 12-31-2016
SANDS	Sands Capital Management	Growth	$ 112,385,744

Fixed Income Portfolio

As of December 31, 2016, the fixed income portfolio had approximately $367.5 million in net assets, which represented 24.80% of the MBTARF portfolio. The Fund's fixed income portfolio is benchmarked against the Barclays Aggregate Bond Index, BC GOV/Credit, BC MBS, S&P/LSTA Leveraged Loan, BC U.S. TIPS and Barclays Multiverse.

Styles - Fixed income managers serve in a specialist role managing debt securities. Domestic core fixed income managers' investments may include (i) U.S. dollar denominated obligations of the United States Government and its Agencies and instrumentalities, and U.S. corporations, (ii) mortgage-backed securities including CMOs and commercial mortgage backed securities ("CMBS"), (iii) Asset Backed Securities("ABSs"), (iv) registered 144A securities if applicable, (v) municipal bonds, (vi) short term securities, (vii) securities of foreign companies or foreign countries (sovereigns or supranational) denominated in U.S. dollars, trading in the U.S. markets and capable of settlement in U.S. markets (Yankee bonds), and (viii) dollar denominated obligations of U.S. companies trading outside the U.S. ("Eurobonds").

Portfolio Risk - Risk in bond investments is primarily driven by changing interest rates which cause the value of these investments to fluctuate. The action of the Federal Reserve Bank of the United States through its monetary policy and through the monetary policy of other such institutions significantly affects interest rates. The risk of default is also associated with these investments and is measured by established credit rating firms. Default risks are subject to change.

Portfolio Returns - During the fiscal year, fixed income portfolio returned 5.55% outperforming the Barclays Aggregate Bond Index benchmark by 2.90%.

On a three, five and ten-year basis through December 31, 2016, the fixed income portfolio has returned 3.24%, 4.41% and 4.38% compared to the Barclays Aggregate Bond Index, which returned 3.03%, 2.23% and 4.34% respectively. (Continued)

The top ten holdings in the fixed income portfolio at December 31, 2016 are illustrated below. A complete listing of holdings is available upon request.

	Shares	Stock	Market Value ($000's)	% of fair value
1	4,221,000	US TREASURY N/B Due 09/30/2021 Rating NR	$ 4,071	1.11%
2	2,761,000	US TREASURY N/B Due 02/15/2036 Rating NR	3,494	0.95
3	2,850,000	US TREASURY N/B Due 03/31/2021 Rating NR	2,784	0.76
4	2,703,000	US TREASURY N/B Due 05/15/2045 Rating NR	2,666	0.72
5	2,293,202	TSY INFL IX N/B Due 04/15/2019 Rating NR	2,322	0.63
6	2,315,000	US TREASURY N/B Due 12/15/17 Rating NR	2,317	0.63
7	2,154,101	TSY INFL IX N/B Due 04/15/2018 Rating NR	2,174	0.59
8	1,998,217	TSY INFL IX N/B Due 01/15/2025 Rating NR	1,965	0.53
9	1,945,000	CITIBANK CREDIT CARD ISSUANCE Due 04/09/2020 Rating AAA	1,952	0.53
10	1,852,760	TSY INFL IX N/B Due 07/15/2024 Rating NR	1,820	0.49
		Total Top Ten	**$ 25,565**	**6.95%**

(Continued)

The MBTA Retirement Fund's fixed income managers at December 31, 2016 are presented in the following table:

	Manager	Investment Mandate	Portfolio Fair Value @ 12-31-2016
	AFL-CIO Housing	MBS	$ 50,241,098
	Amalgamated Bank of New York	Real Estate Debt	16,302,765
	Eaton Vance	Senior Loan	37,111,040
	Franklin Templeton	Global FI	54,198,969
	Income Research & Management	Core Bonds	103,238,842
	IRM TIPS	TIPS	30,025,413
	IRM Transition Fund	Core Bonds	440,830
	Loomis, Sayles & Company	Core Plus	75,946,234
	Total Portfolio Fair Value:		**$ 367,505,191**

Real Estate Portfolio

As of December 31, 2016, the MBTA Retirement Fund had $128.1 million invested in real estate. The equity real estate program is comprised primarily of two separate but complementary investment strategies – core and specialty. Core investments include property types in multi-family housing, retail, industrial and office buildings. These assets are characterized by stable and increasing income levels and are located in major metropolitan areas which exhibit reasonable economic diversification. Specialty investments include property types in hotels, assisted-living and congregate care facilities. Specialty strategies enhance returns of assets capable of, but not currently, exhibiting core type characteristics.

Objective - The MBTA Retirement Fund's allocation to real estate equity is intended to enhance the return, risk and portfolio diversification characteristics of the Fund's total portfolio. It is anticipated that investments in equity real estate will, over a full market cycle, produce an income return that is in excess of the yield of an investment grade, core fixed income investment combined with some level of equity appreciation. In addition, it is expected that equity real estate will exhibit a lower correlation with traditional equity and fixed income securities.

Portfolio Risk - Real estate investments expose investors to risks. These include:

- Market risks that may be exacerbated by real estate's sensitivity to economic conditions and/or by the investment manager's utilization of leverage.
- Lower liquidity, especially for closed end, limited partnership and direct investments.
- Operational and credit risks that are higher than those of traditional investments.
- Valuation and appraisal lag which can be exacerbated in times of rapid price changes in the commercial real estate market.

Leverage – Leverage may be utilized at the discretion of the underlying real estate managers in a constrained manner, consistent with the commingled fund documents, in order to enhance

(Continued)

yields of the various investments and/or facilitate the diversification of the portfolio. The total level of debt for any single commingled fund investment is not expected to exceed seventy percent of the value of that fund. However, as a general guideline, the Fund's composite real estate portfolio shall never be more than fifty percent levered on an aggregate basis at any time.

Real Estate Investment Strategies - Private real estate equity strategies include core, core plus, value-added and opportunistic approaches. Core diversified funds have lower risk due to their limited use of leverage and broad diversification across multiple property types, geographic regions, and income generating assets (most properties in core portfolios are fully leased and generating income). Further out on the risk and return continuum, core plus, value-added and opportunistic funds have lower occupancy rates, utilize more leverage and include properties in the development and/or pre-development stage. Due to their higher risk, these strategies are expected to generate returns that exceed that of core real estate.

Open ended and closed end real estate investments are diversified by vintage year, investment manager, geographic region, property type and investment strategy. With respect to vintage year diversification, closed end funds are diversified due to the fact that they are designed to invest over specific, finite time periods, while open-end funds are diversified by definition (i.e. by virtue of always being open and investing in all time periods).

Investment Strategy Allocations - Of the MBTA Retirement Fund's 12 active closed end real estate funds, 2 funds with a total market value of $9.4 million are in the investing stage of their lifecycle; 6 funds accounting for $21.8 million in market value are in the harvesting stage, while 4 funds accounting for $6.2 million in market value are liquidating their underlying investments.

The MBTA Retirement Fund's investment strategy is diversified by strategy across the closed and open-end funds as follows:

- 41.5% of the portfolio was invested in core and core plus strategies
- 43.2% of the portfolio was invested in value-added strategies

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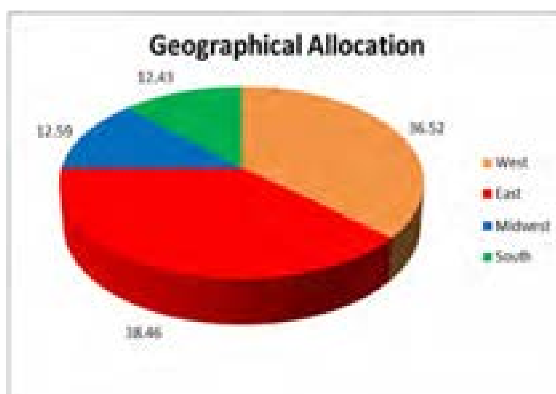
- 10.0% of the portfolio was invested in opportunistic strategies
- In total, 5.4% was invested in sector focused, mezzanine and other investment strategies.

Portfolio Returns – The MBTARF real estate portfolio returned 9.18% during the fiscal year. The 3, 5 and 10 year returns for the real estate portfolio are 14.37%, 13.87%, and 4.66%, respectively. The NCREIF Benchmark returned 8.0% during the fiscal year. The benchmark’s 3, 5, and 10 year returns are 11.02%, 10.92%, and 6.93%, respectively.

The MBTARF real estate portfolio received $15.7 million in distributions during the fiscal year ended December 31, 2016, compared to the $30.8 million in distributions received during the 2015 fiscal year. The MBTARF’s real estate managers called $3.9 million of capital during the 2016 fiscal year, compared to $2.9 million of capital called during the 2015 fiscal year. The net cash flow from the MBTARF’s real estate portfolio for the year ended December 31, 2016 was a net cash inflow of $11.8 million, compared to a net inflow of $27.9 million for the fiscal year ended December 31, 2015.

Geographic Diversification

The following charts illustrate the property type and geographic diversification of closed end real estate portfolio:



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The MBTA Retirement Real Estate managers at December 31, 2016 are presented in the following table:

	Manager	Investment Mandate	Portfolio Fair Value @ 12-31-2016
	AFL CIO BLDG INVST TR	Open Ended	$ 14,553,935
	PEARLMARK REAL ESTATE PARTNERS	Value Add, Mezzanine & Sector Focused	3,875,386
	COLONY INVESTORS VII LP	Opportunistic	2,733,800
	INTERCONTINENAL REAL ESTATE CORP	Core Plus and Open Ended	20,491,978
	JP MORGAN ASSET MANAGEMENT	Open Ended	40,400,981
	MULTI EMPLOYER PROPERTY TRUST	Open Ended	18,118,033
	TA ASSOCIATES REALTY	Value Add	14,292,680
	PRUDENTIAL REAL ESTATE INVESTORS	Sector Focused	3,604,440
	SIGULER GUFF & COMPANY	Opportunistic	10,076,946
	Total Portfolio Fair Value:		**$ 128,148,179**

Risk Parity / Diversified Beta Portfolio:

As of December 31, 2016, the MBTA Retirement Fund had $69.7 million invested in the risk parity portfolio, representing 4.71% of the total Fund. The Risk Parity managers utilizes a risk premium capture strategy that seeks to generate returns by investing in equity, bond and commodity markets using a risk-balanced investment process. Specifically, the managers selects the appropriate assets for the strategy, allocates them based on their proprietary risk management and portfolio construction techniques, and then applies an active position process to improve expected returns.

The MBTA Retirement Fund invests in Risk Parity / Diversified Beta products because it provides the Fund with diversification and attractive returns. Additionally, the strategy provides daily liquidity, no lock-up, high capacity, and high transparency-all of which are attractive qualities for the Fund.

Portfolio Risks - Investments in Risk Parity / Diversified Beta are subject to various risks, including derivatives and leverage risk. The Risk Parity managers may invest a substantial portion of its assets in “derivatives” –so-called because their value “derives” from the value of an underlying asset, reference rate or index-the value of which may rise or fall more rapidly than other investments. The strategy invests principally in exchange-traded futures across a diverse mix of assets including equities, bonds and commodities. For some derivatives, it is possible to lose more than the amount invested in the derivative. If the portfolio uses derivatives to “hedge” a portfolio risk, it is possible that the hedge may not succeed. This may happen for various reasons, including unexpected changes in the value of the rest of the portfolio. Over the counter derivatives are also subject to counterparty risk, which is the risk that the other party to the contract will not fulfill its contractual obligation to complete the transaction with the Fund. The implementation of a risk parity strategy requires the use of leverage in order to increase the risk of the government bond allocation in the strategy so that it can be balanced against the portfolio’s exposure to stocks and commodities. The use of derivatives facilitates the ability to create the desired level of leverage in the portfolio. Leverage may cause the portfolio to be more volatile than if the portfolio had not been leveraged because leverage can exaggerate the effect of any increase or decrease in the value of securities held by the portfolio.

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Portfolio Returns - For the calendar year 2016, the Risk Parity / Diversified Beta portfolio returned 12.90% outperforming the asset class benchmark, (Treasury Bill Plus 300 Basis Points) by 9.56%.

On a three-year basis through December 31, 2016, the Risk Parity / Diversified Beta portfolio has returned 5.30% compared to its benchmark, which returned 3.14%. The MBTA Retirement Fund began investing in this asset class in 2012. Due to this, 5 and 10 year returns are not yet available.

The MBTA Retirement Fund's Risk Parity / Diversified Beta managers at December 31, 2016 are presented in the following table:

	Manager	Investment Mandate	Portfolio Fair Value @ 12-31-2016
Invesco	Invesco National Trust	Diversified Beta	$ 49,300,777
PanAgora	PanAgora Asset Management	Risk Parity	20,435,674
	Total Portfolio Fair Value:		**$ 69,736,451**

Hedge Fund Portfolio

As of December 31, 2016, the MBTARF's hedge fund portfolio held $43.1 million in net assets, which represented 2.91% of the total MBTARF portfolio. The objective of the MBTARF's hedge fund program is to reduce the volatility of the total fund while attempting to maximize returns in a variety of market conditions. As a group of strategies, hedge funds represent a broad set of investment styles, mandates, and products that focus primarily on the liquid equity, fixed income, and derivatives markets, but that may also include allocations to non-traditional investments, including illiquid securities and investments. There are two primary methods for investing in hedge funds: funds of hedge funds; and single manager funds. The MBTARF primarily utilizes funds of hedge funds in an effort to significantly reduce risk through diversification.

Portfolio Risks - Hedge Funds are subject to various risks inherent in this strategy. Fluctuations in the markets can create market risk. Credit risk due to the fixed income nature of hedge fund strategies. As the MBTARF is invested in fund of fund strategies, liquidity risk is present as managers unwind from underlying positions. Investing in hedge fund exposes operational risks in executing strategies and valuations of positions. The Fund monitors risk by enforcing the investment managers to provide exceptional levels of transparency.

Portfolio Returns - The MBTARF's hedge fund portfolio returned 0.39% for the fiscal year. The MBTARF uses the CSFB/Tremont Hedge Fund Index as a benchmark for hedge fund performance. The benchmark returned 1.25% in the 2016 fiscal year. On a 3, 5, and 10-year basis, the MBTARF hedge fund portfolio returned (0.34) %, 3.65%, and 1.59%, respectively. The benchmark returned 1.54%, 4.34%, and 3.75%, respectively, over the same 3, 5, and 10 year periods.

(Continued)

The MBTARF hedge fund portfolio has 3 active investments as of December 31, 2016. Each of these investments is in a fund of hedge funds.

	Manager	Investment Mandate	Portfolio Fair Value @ 12-31-2016	
ENTRUST	EnTrust Capital Diversified Fund LTD	fund of funds	$	1,946,666
	Rock Creek	fund of funds		29,621,097
SILVER CREEK	Silver Creek	fund of funds		11,514,332
	Total Portfolio Fair Value:		**$**	**43,082,095**

Private Equity Portfolio

As of December 31, 2016, the private equity portfolio had approximately $139.4 million in net assets, which represented 9.41% of the MBTARF portfolio. The private equity portfolio is used to increase the expected long-term return of the MBTARF portfolio, while generating cash flow and providing diversification. The private equity portfolio is diversified among sub-classes which include: venture capital, growth equity, buyouts, mezzanine, secondary strategies, distressed, energy, and special situations. The MBTARF private equity portfolio is benchmarked to a State Street Customized Benchmark, which takes into account the portfolio's allocations to the various private equity sub-classes.

Portfolio Risks - Private equity does not lend itself to traditional quantitative measures of risk. Rather, risk is measured through a combination of quantitative and qualitative constraints. These risks include, but are not limited to, the following:

- ***Liquidity risk***: Private equity investments are illiquid and typically have expected holding periods of 10-12 years. Investments are typically held until maturity and selling prior to maturity results in a discount to fair value. Liquidity risk is managed by minimizing the possibility of forced sales that may arise from exceeding maximum exposure limits or lowering asset allocation exposure limits.
- ***Vintage risk***: Vintage reflects the year of the first capital draw from a fund. Vintage risk refers to the variability of private equity commitments over time. Vintage risk is minimized by pacing investments to provide vintage year diversification.
- ***Manager risk***: Manager risk consists of two elements: the exposure within an investment vehicle; and the number of managers in the private equity program. The exposure to a specific manager within an investment vehicle is controlled by limiting the commitment size to a specific investment vehicle. The optimum number of managers in the portfolio varies with time.

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- ***Firm risk***: Firm risk is the exposure to a private equity firm and is controlled by limiting the maximum commitment to funds actively managed by a firm and its affiliates.
- ***Currency risk***: Currency risk is the risk that investments held in a foreign currency will change in value as a result of changes in the currency exchange rates. The private equity program accepts the currency risks consistent with the geographic constraints of the investment opportunity. Private equity investments generally do not hedge currency risk and the private equity program does not implement currency hedges.
- ***Industry risk***: Typically, private equity funds are permitted to invest in a wide variety of industries with limited controls. Industry risk is controlled primarily through appropriate diversification across strategies and sub-strategies.
- ***Geographic risk***: Geographic risk is controlled through a long-term, international target exposure. Global opportunities generally indicate geographic limits and exposure will be attributed and monitored accordingly.
- ***Leverage risk***: Private equity managers invest capital throughout the capital structure of portfolio companies. The capital markets control the maximum leverage available to the private equity managers. Investors control leverage exposure through portfolio construction and private equity fund selection.

Portfolio Returns - The MBTARF's active private equity portfolio returned 4.84% during the fiscal year. The 3, 5 and 10 year returns for the private equity active portfolio are 1.77%, 5.16%, and 6.41%, respectively. The MBTARF's State Street Customized Benchmark returned 10.61% during the fiscal year. The benchmark's 3, 5, and 10 year returns are 9.19%, 12.54%, and 9.83%, respectively. The legacy portfolio, vintage years prior to 2005, returned (4.70) % during the calendar year. The 3, 5 and 10 year returns for the private equity legacy portfolio are (9.52) %, (2.85) % and 3.73% respectively.

The MBTARF private equity portfolio received $34.4 million in distributions during the fiscal year 2016, compared to $42.5 million in the 2015 fiscal year. The private equity portfolio's

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managers called $18.3 million of capital during the fiscal year 2016, compared to $24.0 million called in the 2015 fiscal year. The net cash flow from the private equity portfolio was an inflow of $16.1 million in fiscal year 2016, compared to an inflow of $18.5 million in fiscal year 2015.

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The MBTA Retirement Fund's active private equity investment manager's investments are reported in the summary below:

Manager	Investment Mandate	Portfolio Fair Value 12-31-2016	Manager	Investment Mandate	Portfolio Fair Value 12-31-2016
ADD ONE PARTNERS	Venture	$ 309,623	QUADRANGLE CAPITAL PARTNERS II	Buyout	1,006,727
AG EQUITY PARTNERS	Growth Equity	3,077	SCP PARTNERS I	Venture	10,340
AIG CAPITAL MGMT	Buyout	86,402	SCP PARTNERS II	Venture	1,130,002
ASCENT VENTURES II	Venture	666,746	SIGULER GUFF BRIC OPPN FDII	Buyout	4,597,728
ASCENT VENTURES III	Venture	292,207	SIGULER GUFF DISTRESSED	Distressed	461,089
BOSTON MILLENNIA II	Venture	1,263,269	SIGULER GUFF DISTRESSED OPP	Distressed	3,317,038
CHARTWELL CAPITAL II	Growth Equity	342,303	SL CAPITAL ESF I	Buyout	3,858,567
CRESCENDO IV	Venture	2,133,950	SL CAPITAL SOF II	Secondary Fund of Funds	3,992,805
CRESCENT MEZZ PARTNERS VIIB	Mezzanine	410,675	STERLING CAPITAL PARTNERS	Growth Equity	468,124
CROSS ATLANTIC TECHNOLOGY	Venture	259,857	STERLING CAPITAL PARTNERS II	Growth Equity	1,084,843
EUROPEAN STRATEGIC II	Buyout	1,086,263	STERLING CAPITAL PARTNERS III	Growth Equity	1,694,698
EUROPEAN STRATEGIC PARTNERS 2006B	Buyout	2,766,326	STERLING CAPITAL PARTNERS IV	Growth Equity	3,494,331
EUROPEAN STRATEGIC PARTNERS 2008A	Buyout	5,664,348	STERLING VENTURES	Venture	33,233
EUROPEAN STRATEGIC PARTNERS I	Buyout	89,447	SVB STRATEGIC INVESTORS VIII	Venture	60,006
GROSVENOR OPPOR CREDIT III	Special Situations	4,185,732	SVB CAPITAL PARTNERS II	Venture	1,166,016
HALIFAX CAPITAL PARTNERS II	Buyout	1,950,685	SVB CAPITAL PARTNERS III	Venture	4,450,909
LAZARD TECHNOLOGY II	Venture	983,189	SVB STRATEGIC INVESTORS III	Venture	4,654,668
LEXINGTON CAPITAL PARTNERS VIB	Secondary Fund of Funds	2,467,722	SYNDICATED COMM IV	Growth Equity	64,523
LEXINGTON CAPITAL PTNRS VII	Secondary Fund of Funds	4,608,180	TCW CRESCENT MEZZANINE V	Mezzanine	732,658
LEXINGTON CAPITAL PTNRS VIII	Secondary Fund of Funds	2,662,892	THOMAS H LEE EQUITY FUND VI	Buyout	3,181,950
LEXINGTON MID MARKET II LP	Secondary Fund of Funds	4,346,847	THOMAS WEISEL PARTNERS II	Secondary Fund of Funds	1,145,257
LEXINGTON MID MARKET III	Secondary Fund of Funds	4,336,242	TOP TIER VENTURE VELOCITY FUND	Secondary Fund of Funds	5,257,623
LEXINGTON MIDDLE MARKET	Secondary Fund of Funds	1,960,762	VANGUARD VII	Venture	270,494
NEW MOUNTAIN PARTNERS II	Buyout	58,868	VENTURE LENDING + LEASING III	Mezzanine	114,660
NEW MOUNTAIN PARTNERS III	Buyout	4,081,029	VENTURE LENDING + LEASING IV	Mezzanine	343,000
NEW MOUNTAIN PARTNERS IV	Buyout	3,530,908	VENTURE LENDING + LEASING V	Mezzanine	1,095,225
OAKTREE MEZZANINE FUND LP CLASS A	Mezzanine	4,205	VENTURE LENDING + LEASING VI	Mezzanine	4,477,920
OAKTREE MEZZANINE FUND LP CLASS B	Mezzanine	2,221,490	VENTURE LENDING + LEASING VII	Mezzanine	6,347,053
OCH ZIFF ENERGY FUND	Energy	4,353,301	VENTURE LENDING + LEASING VIII	Mezzanine	1,919,775
OPUS CAPITAL VENTURE PRTNS V	Venture	3,980,215	WELLINGTON PARTNERS II	Venture	1,736,297
PAUL CAPITAL HEALTHCARE III	Mezzanine	776,714	WLR RECOVERY FUND V	Special Situations	4,110,397
PHAROS CAPITAL	Growth Equity	149,132	WP+G VA VI (LIGHTSPEED)	Venture	826,391
PHAROS CAPITAL II	Growth Equity	4,052,556	Z CAPITAL SPECIAL SIT. FD II	Special Situations	2,891,226
PHAROS CAPITAL PARTNERS III	Growth Equity	3,323,594	**Total Portfolio Fair Value**		**$ 139,404,329**

SCHEDULE OF TIME-WEIGHTED RETURNS BY ASSET CLASS*

For the Period Ended December 31, 2016

Portfolio	Returns for periods ending December 31,						
	Annualized Returns		Annual Returns				
	3 - Year	5 - Year	2016	2015	2014	2013	2012
Total Fund	4.29	8.74	6.88	0.90	5.51	17.08	14.93
Policy Benchmark	5.19	8.13	7.42	2.01	6.22	14.40	10.99
Taft Hartley - Median	4.80	8.40	7.50	1.10	6.70	16.90	11.70
Domestic Equity Large Cap Composite	6.75	14.04	10.39	(0.16)	10.39	32.01	20.10
S&P 500 Index	8.87	14.66	11.96	1.38	13.69	32.39	16.00
Domestic Equity Small Cap Composite	6.11	15.09	18.63	(1.62)	2.37	42.25	18.83
Russell 2000 Growth Index	5.05	13.74	11.32	(1.38)	5.60	43.30	14.59
Russell 2000 Value Index	8.31	15.07	31.74	(7.47)	4.22	34.52	18.05
Global Emerging Markets Composite	3.10	-	1.63	1.40	6.35	29.17	-
MSCI ALL Country World	3.13	-	7.86	(2.36)	5.50	22.80	-
International Equity Composite	(1.66)	7.25	(0.96)	2.02	(5.87)	23.34	20.98
MSCI EAFE	(1.60)	6.53	1.00	(0.81)	(4.90)	22.78	17.32
Fixed Income Composite	3.24	4.41	5.55	(0.60)	4.90	0.84	11.80
Barclays Aggregate	3.03	2.23	2.65	0.55	5.97	(2.02)	4.21
Diversified Beta	5.30	-	12.90	(3.15)	6.72	2.73	3.66
91 Treasury Bill Plus 300 Basis Points	3.14	3.12	3.34	3.05	3.04	3.08	3.11
Hedge Funds	(0.34)	3.65	0.39	(4.31)	4.14	(4.75)	(1.94)
CSFB/Tremont Hedge Fund Index	1.54	4.34	1.25	(0.71)	4.13	9.73	7.67
Private Equity:							
Active Portfolio	1.77	5.16	4.84	6.83	7.60	15.93	18.19
Legacy Portfolio (vintage years prior to 2005)	(9.52)	(2.85)	(4.70)	(6.52)	(4.96)	(6.23)	9.52
State Street Cusomized Benchmark	9.19	12.54	10.61	5.40	6.93	17.08	13.51
Real Estate Composite	14.37	13.87	9.18	13.94	20.25	14.33	11.56
NCREIF Property Index	11.02	10.92	7.97	13.33	11.82	10.98	10.54

Policy Benchmark:

10% State Street PE 1 quarter lag	7% MSCI All County World Index (net)
11% S&P EPAC Large/Mid Cap	9% Barclays Aggregate Bond
17% S&P 500	3% Barclays U.S. TIPS 1-10 yr
1% Russell 3000	3% Barclays MBS
7% Russell 2000	8% Barclays Multiuniverse
11% 91 T-Bill One month lag plus 300 BP	2% S&P LSTA
9% NCREIF Property Index quarter lag	

* All return information is gross of fees, except hedge fund fees, which are net of fees. Returns are calculated on a time-weighted rate of return methodology.

Investment Summary at Fair Value

As of December 31, 2016

	Fair Value ($000s)	% of Fair Value
Short-Term:		
Cash and cash equivalents*	$52,101,269	3.52%
Fixed Income:		
U.S. Agencies	58,697,800	3.96%
US Treasury	51,315,015	3.46%
Domestic fixed income	196,288,631	13.25%
International fixed income	4,720,170	0.32%
Asset Backed	55,602,227	3.75%
Equity:		
Domestic equity securities	493,719,994	33.32%
International equity securities	188,951,235	12.75%
Real Estate	128,148,179	8.65%
Private Equity	139,404,329	9.41%
Risk Parity	69,736,451	4.71%
Hedge Funds	43,082,094	2.91%
Total Investments	$1,481,767,394	100.00%

*Investment manager's cash holdings are reported in cash and cash equivalents

SUMMARY SCHEDULE OF BROKER COMMISSION

(Top 25 Brokers and Cumulative Fees Paid to Others)
Year Ended December 31, 2016

Brokerage Firm	Shares/Par Value	Fees Paid	% Total	Average $ per share
STATE STREET BANK AND TRUST COMPANY Total	3,381,644	$ 33,816	9.51%	0.0100
RBS SECURITIES INC. Total	2,589	32,166	9.05%	12.4241
STATE STREET GLOBAL MKTS/BOS Total	1,921	25,972	7.30%	13.5199
WEEDEN + CO. Total	772,480	18,523	5.21%	0.0240
UBS SECURITIES LLC Total	866,671	17,919	5.04%	0.0207
JP MORGAN SECURITIES PLC Total	1,037,822	15,786	4.44%	0.0152
J.P. MORGAN SECURITIES INC. Total	683,128	14,392	4.05%	0.0211
GOLDMAN SACHS + CO Total	535,732	13,318	3.75%	0.0249
SANFORD CBERNSTEIN CO LLC Total	591,239	12,510	3.52%	0.0212
CREDIT SUISSE SECURITIES (USA) LLC Total	762,884	11,599	3.26%	0.0152
MORGAN STANLEY CO INCORPORATED Total	356,600	11,168	3.14%	0.0313
INSTINET Total	346,817	8,476	2.38%	0.0244
ROSENBLATT SECURITIES LLC Total	337,211	7,308	2.06%	0.0217
SG AMERICAS SECURITIES LLC Total	332,037	7,210	2.03%	0.0217
JEFFERIES + COMPANY INC Total	278,844	6,543	1.84%	0.0235
UBS LIMITED Total	2,532,881	6,211	1.75%	0.0025
CITATION GROUP Total	205,829	5,209	1.47%	0.0253
CAPITAL INSTITUTIONAL SVCS INC EQUITIES Total	301,443	5,180	1.46%	0.0172
INSTINET U.K. LTD Total	172,314	4,569	1.29%	0.0265
DEUTSCHE BANK SECURITIES INC Total	200,195	4,550	1.28%	0.0227
SJ LEVINSON & SONS LLC Total	304,203	4,497	1.26%	0.0148
CREDIT SUISSE SECURITIES (EUROPE) LTD Total	340,565	4,320	1.21%	0.0127
MERRILL LYNCH PIERCE FENNER + SMITH INC Total	206,821	4,143	1.17%	0.0200
SOCIETE GENERALE LONDON BRANCH Total	316,578	3,910	1.10%	0.0124
MERRILL LYNCH INTERNATIONAL Total	1,447,462	3,076	0.87%	0.0021
OTHER	7,239,581	73,205	20.59%	0.0101
TOTAL	**23,555,491**	**$ 355,577**	**100%**	**0.0151**

The Fund Board has a commission recapture agreement with Capital Institutional Services, Inc. For the year ended December 31, 2016 the Fund earned approximately two thousand dollars from the commission recapture program.

SCHEDULE OF DIRECT MANAGEMENT FEES

Year Ended December 31, 2016

Investment Management Fees by Asset Class:		**AUM ($000s)**		**Fees ($000s)**
Domestic Equity	$	394,510	$	1,741
International Equity		174,894		1,252
Global Equity		112,386		758
Fixed Income		367,505		767
Risk Parity / Diversified Beta		69,736		233
Real Estate		128,148		613
Total Investment Management Fees				5,364
Investment Advisory (Consulting) Fees			$	344
Communications and Governmental Services				154
Custodian Fees				780
Total Other Fees				1,278
Total Direct Management Fees charged to MBTARF			$	6,642

INVESTMENT POLICY STATEMENT

The following are significant fundamentals of the Fund's Investment Policy Statement. The policy delineates the objectives and policies that have been established by the Board to provide a framework for the on-going management of the Fund. It is designed to clearly communicate the directives of the Board to all interested parties. The Policy shall be revised from time to time, as deemed necessary, and will be reviewed annually to ensure its relevance to the Fund's current needs. Any resulting material changes will be communicated to all affected parties. The Policy will apply to the Fund on an aggregate basis.

The primary goal of the Massachusetts Bay Transportation Authority Retirement Fund's investment program is to meet or exceed the Fund's actuarial target rate of return in order to maintain and improve upon its funded status. The Fund's investment program is based on the precepts of the generally accepted capital markets theory followed by institutional investors who, by definition, are long-term-oriented investors with goals and objectives that are similar to the Fund. This philosophy holds that:

- Increasing risk is rewarded with compensating returns over time and therefore, prudent risk- taking is justifiable for long-term investors.
- Risk can be controlled through diversification of asset class exposure, implementation strategies and individual security holdings.
- Diversification benefits shall be measured by examining the correlation between asset classes, implementation strategies and manager styles, with a goal of maximizing diversification and limiting concentration and overlap in asset classes and strategies that are more highly correlated.
- Risk is reduced by time and, over time; the relative performance of different asset classes is reasonably consistent.

The Fund shall be managed to accomplish the following:

- Ensure the availability of sufficient assets to pay benefits;
- Minimize and stabilize employer and employee contributions;
- Achieve the appropriate rate of total return with prudent levels of risk and liquidity consistent with the Fund's liabilities and cash flows;
- Maintain sufficient diversification to avoid large losses and preserve capital; and
- Maintain and improve the funded ratio (market value of assets/actuarial value of benefits earned to date as measured by the Fund's actuary) of the Fund over time.

(Continued)

Rate of Return Assumption

The actuarially required return for the Fund is 8.00%* annually, net of all fees and operating expenses.

Relative Return Objectives

The Fund shall seek to achieve a rate of return that ranks in the top half of the appropriate peer fund universes given a comparable level of risk and to achieve a long term rate of return on investments that is equal to or exceeds both the Policy and Allocation Indices. Returns for investment managers are expected to exceed their respective benchmarks, as well as rank in the top half of the appropriate universe of managers adhering to the same investment strategy. The Board further recognizes that the return targets described herein may not be achieved in any single year. Instead, a longer-term horizon of five years shall be used in measuring the long-term success of the Fund. While the Board expects that returns will vary over time, the Fund shall have a risk tolerance consistent with that of other funds created for similar purposes, and the assets of the Fund shall be invested accordingly.

Current Asset Allocation Targets & Ranges

Asset allocation herein refers to the establishment of relative percentage allocation guidelines for the investment of assets in equities, fixed income, alternative investments, cash equivalents, and other general forms of investment, and not to individual security selection. This single decision is the most important consideration for the Board. In terms of direct impact on the Fund's performance, the Fund's policy asset mix choice outweighs all other decisions. As a practical matter, the Board understands that while important, portfolio structure decisions and active management strategies involving stock and bond selection, sector weighting, or market timing have been shown to contribute less than long-term asset allocation decisions.

Factors to be considered include:

(1) the Fund's assumed rate of return,
(2) the risk tolerance of the Board,
(3) the Fund's liquidity requirements,
(4) Funded status,
(5) the Fund's liability structure and other characteristics unique to the fund. Following an asset allocation review which considered the impact of a range of asset allocation policies on the Fund.

The Board will review the asset allocation targets at least annually, and may adopt changes over a three- to five-year time horizon or, more frequently, if significant changes occur within the economic or capital market environments. A change in the Fund's liability structure, funded status, or long-term investment prospects may also trigger a revision of the asset allocation.

***** *In February 2016, the MBTA Retirement Fund Board adopted new actuarial assumptions for use in the preparation of the annual actuarial valuations of the Fund. These assumptions were based on an experience study covering the four-year period ending December 31, 2014. The expected return on assets for funding purposes was reduced by a 25-basis-point margin, resulting in a 7.75% expected return on assets. The discount rate used to measure the total pension liability at December 31, 2016, was 8.00%. The projection of cash flows used to determine the discount rate assumed that contributions will continue to be made in accordance with the Fund's current funding policy.*

(Continued)

Performance Benchmarks

Total Fund Return: The Total Fund Return shall be compared against other corporate, jointly trusteed and public pension plans. The Board shall seek to compare its returns against other funds of similar size and circumstances, as represented by various peer group medians provided by the Fund's investment consultant. The Total Fund Return objective is to meet or exceed the Allocation Index Return and the Policy Index Return, which are each described below.

Allocation Index: The Allocation Index Return shall measure the success of the Fund's current allocation. It shall be calculated by using index rates of return for each asset class invested in by the Fund multiplied by the actual percent allocated to each asset class. The difference between the Allocation Index Return and the Total Fund Return measures the effect of active management. If the Total Fund Return is greater than the Allocation Index Return, then active management has in aggregate added value. If the Total Fund Return is less than the Allocation Index Return, then active management has not added value.

Policy Index: The Policy Index Return shall measure the success of the Fund's target allocation. It shall be calculated by using index rates of return for each asset class invested in by the Fund multiplied by the percent targeted to each asset class. The difference between the Allocation Index Return and the Policy Index Return measures the effects of deviating from the target allocation. If the Allocation Index Return is greater than the Policy Index Return, then deviating from the target allocation has added value. If the Allocation Index Return is less than the Policy Index Return, then deviating from the target allocation has not added value.

Manager Benchmarks: The Investment Managers shall be compared to a combination of passively managed index returns matching the managers' specific investment styles, as well as the median manager in their appropriate peer group universe.

Rebalancing

The Board and Executive Director will review asset allocation at least quarterly to determine if the asset allocation is consistent with the exposure ranges described herein. The Executive Director will direct investment managers to transfer funds to rebalance the asset allocation as necessary. The Executive Director shall use appropriate judgment and care when rebalancing portfolios. A cash equitization investment strategy may use financial futures contracts to overlay the Fund's cash manager account in accordance with the provisions of this policy. The strategy will be used in order to gain equity and fixed income market exposure consistent with the Fund's asset allocation targets as detailed above.

ACTUARIAL SECTION

Conduent HR Consulting, LLC, formerly known as Buck Consultants, has performed a December 31, 2016 actuarial valuation of the MBTA Retirement Fund. This valuation and report was prepared using generally accepted actuarial principles and practices and meets the parameters set by the Governmental Accounting Standards Board (GASB) - Statement No. 67. To the best of our knowledge, this report is complete and accurate, and the assumptions used represent our best estimate of anticipated experience of the Fund.

Conduent HR Consulting, LLC has prepared and included as part of this report all of the supporting schedules in the Actuarial Section of the Comprehensive Annual Financial Report (CAFR).

CONDUENT
260 Franklin Street, Suite 500
Boston, MA 02110

Section I - Overview

July 11, 2017

Retirement Board
Massachusetts Bay Transportation Authority Retirement Fund
One Washington Mall, Fourth Floor
Boston, MA 02108

Dear Board Members:

The Pension Agreement covering the Massachusetts Bay Transportation Authority Retirement Fund provides that the actuary make annual actuarial valuations of the Fund and certify rates of contribution to the Retirement Board. The most recent actuarial valuation of the Fund was prepared as of December 31, 2016.

This valuation reflects the funding policy adopted by the Board effective December 31, 2009. The actuarial cost method used is the entry age normal cost method. The amortization of the unfunded liability is made in installments increasing at the rate of four percent per year over a closed 30-year period beginning December 31, 2009.

This valuation is based on the assumptions adopted by the Retirement Board, in February 2016 and effective with the actuarial valuation of December 31, 2015, on the basis of an experience study covering the period January 1, 2010, through December 31, 2014. I believe that these assumptions are reasonable.

We performed the valuation using participant data and plan asset data supplied by the Authority and Retirement Fund. Although we did not audit the data, we reviewed the data for reasonableness and consistency with the prior year's information. The accuracy of the results of the valuation is dependent on the accuracy of the data.

The following exhibits from the valuation report were incorporated in the Actuarial Section of the Comprehensive Annual Financial Report (CAFR):

1. Summary of Principal Results
2. Number and annual retirement allowances of retired members, disabled members and beneficiaries as of December 31, 2016
3. Schedule of Funding Progress
4. Outline of Actuarial Assumptions and Methods
5. Summary of Main Provisions of the Fund as Interpreted for Valuation Purposes
6. Number and Annual Compensation of Active Members Distributed by Fifth Age and Service as of December 31, 2016
7. Number and Annual Retirement Allowances Distributed by Age as of December 31, 2016

(Continued)

The following exhibits were separately prepared by Conduent for use in the CAFR:

1. Schedule of Retired Members and Beneficiaries Added To and Removed From Rolls
2. Solvency Test

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. An analysis of the potential range of such future differences is beyond the scope of this report.

Where presented, references to "funded ratio" and "unfunded accrued liability" typically are measured on an actuarial value of assets basis. It should be noted that the same measurements using market value of assets would result in different funded ratios and unfunded accrued liabilities. Moreover, the funded ratio presented is appropriate for evaluating the need and level of future contributions but makes no assessment regarding the funded status of the plan if the plan were to settle (i.e., purchase annuities) to cover a portion or all of its liabilities.

I am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the Qualification Standards of the Academy to render the actuarial opinions contained in this report. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and I am available to answer questions about it.

Conduent HR Consulting, LLC

David L. Driscoll

David L. Driscoll, FSA, FCA, MAAA, EA
Principal, Consulting Actuary

Section II - Summary of Principal Results

1. The principal results of the current and preceding years' valuations are summarized below:

Valuation Date	December 31, 2015	December 31, 2016
Number of active members	5,885	5,786
Annual compensation of all members	$ 443,237,899	$ 446,740,427
Annual compensation of active members below normal retirement age	$ 440,501,980	$ 444,455,312
Average age (years)	47.45	47.31
Average service (years)	11.03	10.50
Average compensation	$ 75,317	$ 77,211
Number of active members not accumulating creditable service	88	233
Number of retired members, beneficiaries and disabled members	6,472[1]	6,684[2]
Annual retirement allowances	$ 192,715,872	$ 207,033,735
Assets for funding purposes	$ 1,630,411,191	$ 1,607,560,108
Unfunded accrued liability	$ 941,672,817	$ 1,086,996,215
Contribution rates required:		
Normal	10.0100%	10.2700%
Accrued liability	13.4900%	15.8600%
Expenses	1.0000%	1.0000%
Total required rate	24.5000%	27.1300%
Member excess rate	0.0000%	0.0000%
Actual contribution rate during following fiscal year	24.5000%	27.1300%

2. Valuation results as of December 31, 2016, are given in Section VI, and contribution levels are set forth in Section VII.

3. Schedule B of this report outlines the actuarial assumptions and methods used in the valuation. The actuarial assumptions were selected on the basis of an experience study covering the five-year period ending December 31, 2014. The Board voted to adopt these assumptions in February 2016.

4. Schedule C of this report presents a summary of the main provisions of the Fund, as interpreted in preparing the actuarial valuation.

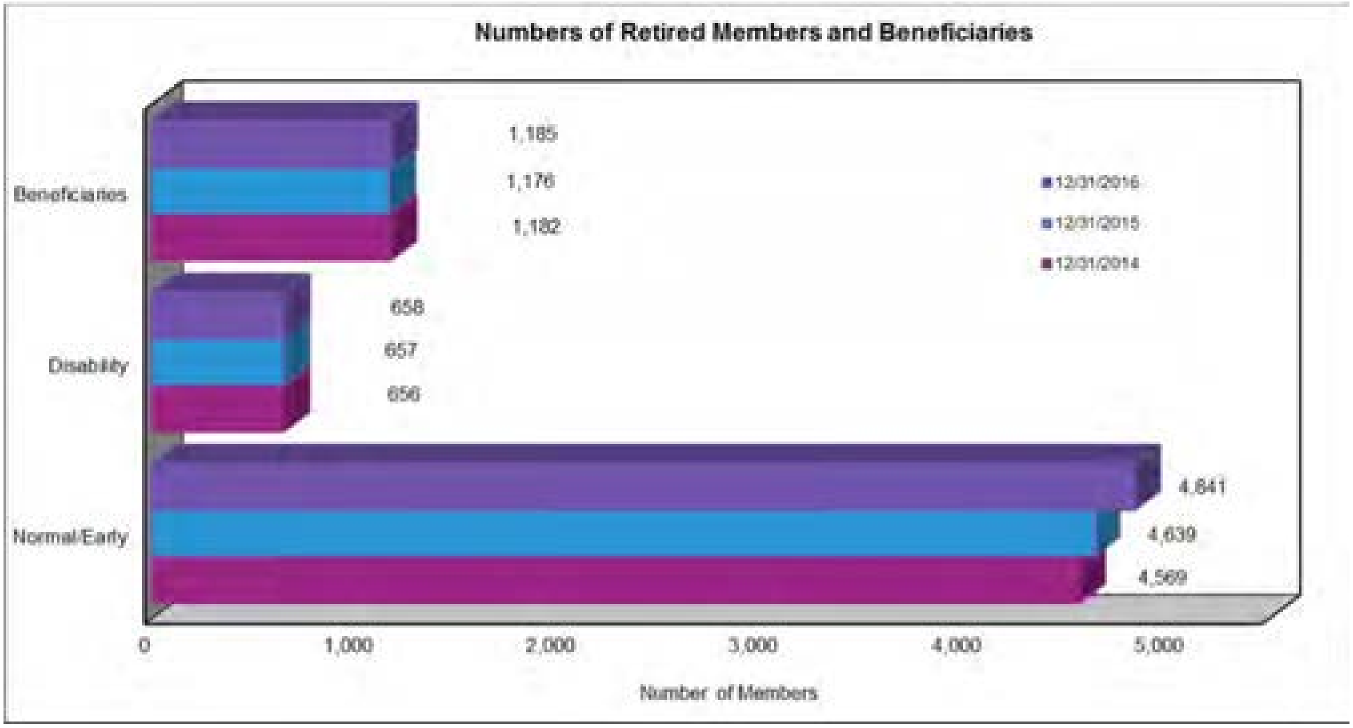
[1] Includes 6,371 retirees and beneficiaries and 101 individuals receiving payments under QDROs.
[2] Includes 6,566 retirees and beneficiaries and 118 individuals receiving payments under QDROs.

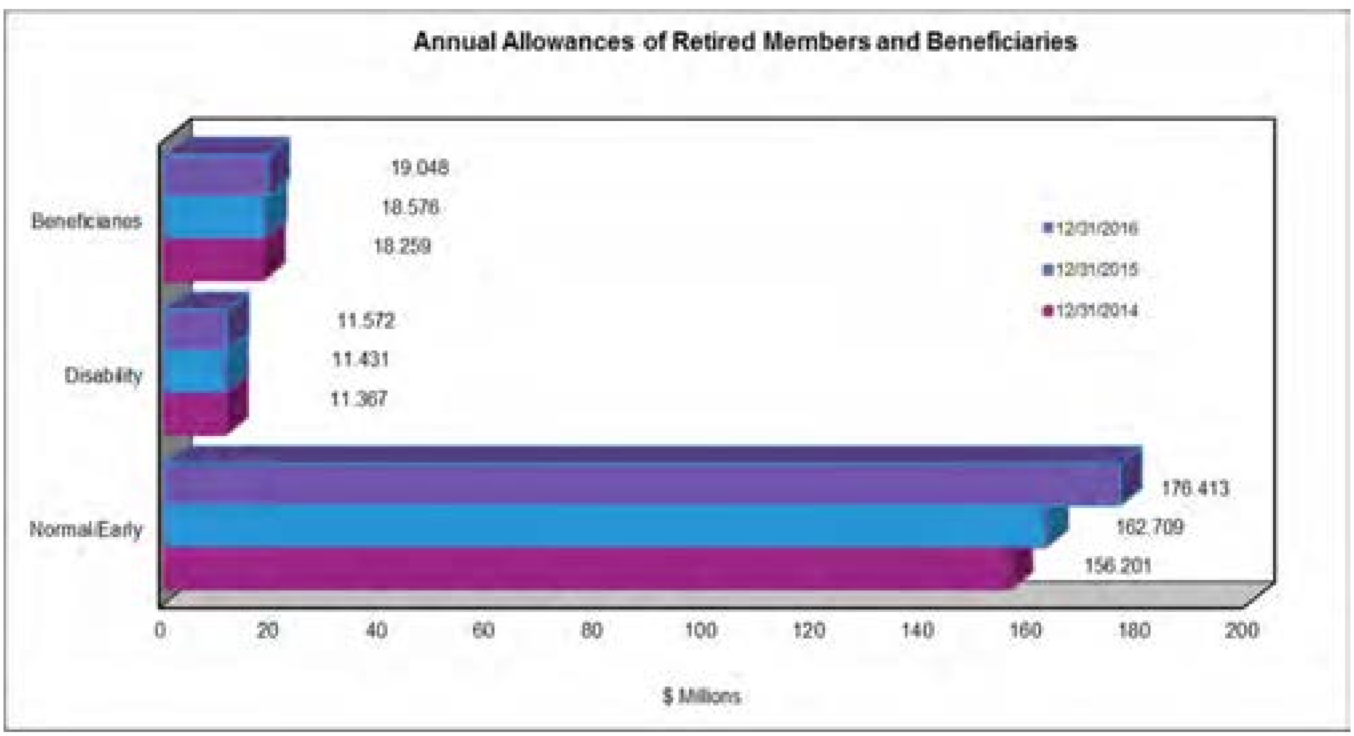
Section III - Membership Data

1. Employee data were furnished by the Authority and Retirement Fund.
2. Table 1 of Schedule D shows the number and annual compensation of active members, while Table 2 of Schedule D shows the number and annual retirement allowances of retired members, disabled members and beneficiaries.
3. The following table summarizes the number and annual retirement allowances of retired members, disabled members and beneficiaries as of December 31, 2016:

Category	Number	Annual Retirement Allowances
Benefits to Members Retired on Normal, Early Normal and Reduced Early Retirement Allowances	4,841	$ 176,412,979
Benefits to Members Retired on Disability Retirement Allowances	658	11,572,403
Benefits to Beneficiaries of Deceased Members	1,185	19,048,353
Total	6,684	$ 207,033,735

Section III - Membership Data (continued)





Section IV - Assets

1. Asset information was obtained from the Retirement Fund office.
2. The market value of the Fund's net assets available for benefits as of December 31, 2016, amounted to $1,485,605,884.
3. The asset method is a five-year phase-in smoothing method under which the value of assets for actuarial purposes equals market value less a five-year phase-in of the differences between actual and assumed investment return. The value of assets for actuarial purposes may not differ from the market value of assets by more than 20%. The smoothing method used to calculate the value of assets for actuarial purposes was restarted as of December 31, 2013, coincident with the change to the present method.
4. The calculation of the actuarial value of assets as of December 31, 2016 is presented below:

Market value as of December 31, 2016	1,485,605,884	(A)

Adjustment to recognize asset gains (losses) over 5 years:

Year Ending	Asset gain (loss)	X	Adjustment factor	=	Adjustment	
12/31/2016	(31,618,592)		0.80		(25,294,874)	
12/31/2015	(124,258,689)		0.60		(74,555,213)	
12/31/2014	(55,260,341)		0.40		(22,104,137)	
Total					(121,954,224)	(B)

Actuarial value of assets as of, December 31, 2016	1,607,560,108	
Asset gain during fiscal year ending December 31, 2016		
Actual return on market value and cash flow		
Income from investments and securities lending	48,039,035	
Net appreciation	45,975,643	
Investment expenses	(6,641,836)	
Total	87,372,842	(C)
Expected 7.75% return on market value and cash flow	118,991,434	(D)
Asset gain (loss) (C) – (D)	(31,618,592)	

The assets for valuation purposes are 108.20% of market value.

5. As of December 31, 2007, members' excess contributions (as discussed in Section V) had been fully depleted to cover the cost of the one-time cost-of-living increases negotiated during the collective bargaining related to the benefits provided under the Fund. The actuarial asset value derived above thus requires no additional adjustment for members' excess contributions.

Section V – Member Excess Contributions

1. Effective July 1, 1998, in lieu of a reduction in the 4% contribution rate, members continued to make contributions equal to 4% of covered payroll.
2. To the extent that 4.00% exceeds the actuarially determined member required contribution rate, the excess is characterized as member excess contributions. These amounts are to be accumulated within the Retirement Fund and used to provide additional benefits.
3. The member excess rates developed in prior years are as follows:

Period	Excess Rate	Period	Excess Rate
July 1, 2002 – June 30, 2003	0.64610%	July 1, 2009 – June 30, 2010	0.00000%
July 1, 2003 – June 30, 2004	0.00000%	July 1, 2010 – June 30, 2011	0.00000%
July 1, 2004 – June 30, 2005	0.27610%	July 1, 2011 – June 30, 2012	0.00000%
July 1, 2005 – June 30, 2006	0.08610%	July 1, 2012 – June 30, 2013	0.00000%
July 1, 2006 – June 30, 2007	0.39610%	July 1, 2013 – June 30, 2014	0.00000%
July 1, 2007 – June 30, 2008	0.39610%	July 1, 2014 – June 30, 2015	0.00000%
July 1, 2008 – June 30, 2009	0.00000%	July 1, 2015 – June 30, 2016	0.00000%

4. As of December 31, 2007, members' excess contributions accumulated in prior years had been fully depleted.
5. The member excess rate for the period July 1, 2016 - June 30, 2017 is derived as follows:
   a. Effective prior member excess rate (December 31, 2015) -2.1164%
   b. Decrease in total required contribution rate from prior valuation (see Section VII) -2.6300%
   c. Current member excess rate (July 1, 2016) ((a.) + 25% of (b.)) -2.7739%
6. The accumulated value of the excess contributions as of December 31, 2016 is $0.

Section VI – Comments on Valuation

1. Schedule A of this report presents the results of the valuation as of December 31, 2016.
2. The total entry age normal accrued liability on account of benefits expected to be paid to present retired members, former members, beneficiaries, active and inactive members is $2,694,556,323**.** Of this amount, $1,918,980,542 is on account of retired members and beneficiaries, $771,628,450 is on account of present active members and $3,947,331 is on account of contributions expected to be returned to active members not accumulating creditable service.
3. The value of Fund assets to be used in developing required contributions to the Fund is $1,607,560,108, including required contributions made by active members. When $1,607,560,108 is subtracted from $2,694,556,323, there remains $1,086,996,215, which represents the unfunded actuarial accrued liability of the Fund.
4. Amortization of the unfunded liability over the remaining 23 years in the amortization period as of December 31, 2016, in annual installments rising at the rate of 4% per year produces an amortization installment of $70,470,797 as of December 31, 2016. This amounts to 15.86% of the value of annual compensation of active members below normal retirement age on that date.
5. The total entry age normal cost at December 31, 2016, is $45,653,983, or 10.27% of the annual compensation of active members below normal retirement age on that date.
6. In addition to the amounts needed to cover amortization of the unfunded liability and normal cost, an allowance of 1.00% of annual compensation of active members below normal retirement age is included in the total required contribution to cover expenses.
7. During 2016, the unfunded actuarial accrued liability increased $145.3 million, from $941.7 million to $1,087.0 million. The expected unfunded actuarial accrued liability at December 31, 2016, was $953.0 million. The $134.0 million difference consists of a $53.1 million shortfall in 2016 of returns on the actuarial value of assets and $80.9 million in increases in accrued liability due to contribution rate changes and unfavorable demographic experience in 2016. Additional detail is provided in Section IX.

Section VII – Contributions to the Fund

1. Effective December 31, 2009, the contributions by members and the Authority are to provide normal contributions, amortization of the unfunded accrued liability and administrative expenses. It is assumed that investment earnings will be sufficient to cover fiduciary and investment expenses and, in addition, provide the yield assumed for actuarial purposes.
2. The valuation indicates that 10.27% of compensation is required to cover normal cost and 15.86% of compensation is required to cover amortization of the unfunded accrued liability. Adding 1.00% of compensation for anticipated administrative expenses, excluding fiduciary and other investment expenses, results in a total contribution rate of 27.13% of compensation to be paid by the Authority and the members of the Retirement Fund from July 1, 2017, through June 30, 2018.
3. This rate is 2.63% more than the 24.50% rate developed in the December 31, 2015, valuation. Under the adjustment formula contained in the July 1, 2002, Pension Agreement, 75% of the change will be allocated to the Authority as a change in the contribution rate and 25% will be allocated to the member's required contribution rate. This results in the following rates payable during the year beginning July 1, 2017:

Authority	20.0111%
Members' required	7.1189%
Subtotal (Section II)	27.1300%
Members' excess (Section V)	0.0000%
Total	27.1300%

Section VIII – Schedule of Funding Progress

The following table for the years 2007 through 2016 reflects the Schedules of Funding Progress under the Entry-Age-Normal Actuarial Cost Method. The Fund believes that this method of valuation more clearly reflects the actual funding status of the Fund.

Schedule of Funding Progress (,000)

Year Ending December 31	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a)/c)
2016	$ 1,607,560	$ 2,694,556	$ 1,086,996	59.66%	$ 444,455	244.57%
2015	1,630,411	2,572,084	941,673	63.39%	440,502	213.77%
2014	1,632,175	2,447,731	815,556	66.68%	415,146	196.45%
2013	1,606,684	2,364,133	757,449	67.96%	379,071	199.82%
2012	1,456,957	2,312,170	855,213	63.01%	370,873	230.59%
2011	1,550,446	2,276,750	726,304	68.10%	366,535	198.15%
2010	1,649,129	2,341,344	692,215	70.44%	356,608	194.11%
2009	1,667,362	2,216,722	549,360	75.22%	350,619	156.68%
2008	1,729,738	2,141,576	411,838	80.77%	377,795	109.01%
2007	1,902,276	2,091,930	189,654	90.93%	357,069	53.11%

Section IX – Experience

Records are maintained whereby the actual experience of active and retired members is compared to that expected on the basis of the tables adopted by the Retirement Board. In this way, deviations in the experience from that anticipated will be noted and any adjustments believed necessary will be brought to the attention of the Retirement Board in future experience studies.

During the last year, the total unfunded actuarial accrued liability (UAL) was expected to increase from $941,672,817 to $953,044,512. The actual UAL at the end of the year was $1,086,996,215. The chart below reconciles the expected to actual UAL. The primary sources of changes were a $79,502,740 increase in the accrued liability resulting from unfavorable demographic experience in 2016 and returns on investments that were $53,091,668 below expected levels in 2016.

The sources of the (Gains)/Losses are as follows:

Actual UAL as of December 31, 2015		$ 941,672,817
Expected UAL (Prior to Changes) as of December 31, 2016		$ 953,044,512
Salary Increases	$ 702,987	
New Participants	643,001	
Active – Retirements	56,887,707	
Active – Terminations	7,746,082	
Active – Mortality	(19,533)	
Active – Disabilities	(680,620)	
Retiree Mortality	2,050,494	
Other (Data Corrections, etc.)	12,172,622	
Liability (Gain)/Loss – Demographic Experience		$ 79,502,740
Change in Accrued Liability Due to Contribution Rate Changes		$ 1,357,295
Change in Accrued Liability Due to Assumption Changes		$ 0
Total of Liability (Gain)/Loss and effects of changes in assumptions and Contribution rates		$ 80,860,035
Investment (Gain)/Loss		$ 53,091,668
Total Change in UAL		$ 133,951,703
Actual UAL as of December 31, 2016		$1,086,996,215

Schedule A – Results of the Valuation as of December 31, 2015

1.	Present Value of Future Benefits	
	(a) Present value of prospective benefits to retired members, former members and beneficiaries	$ 1,918,980,542
	(b) Present value of prospective retirement allowances on account of present active members	1,173,962,292
	(c) Present value of members' contributions to be returned to the members not accumulating creditable service	3,947,331
	(d) Total actuarial liabilities	$ 3,096,890,165
2.	Assets of the Fund for purposes of development of contributions	$ 1,607,560,108
3.	Present value of future contributions to the fund (1(d)-2)	$ 1,489,330,057
4.	Present value of future normal contributions to the Fund[1]	$ 402,333,842
5.	Unfunded accrued liability (3) - (4)	$ 1,086,996,215

[1] Includes future contributions of members at the rate developed in Section VII.

Schedule B – Outline of Actuarial Assumptions and Methods

Data
The rate of pay was used for the 2016 valuation (projected 2017 pensionable earnings).

Interest rate for funding purposes
7.75% per annum, compounded annually, in addition to fiduciary and investment management expenses.

Separations from active service
Representative values of the assumed rates of withdrawal and reduced early retirement and disability are as follows:

Age	Withdrawal[1] and Reduced Early Retirement	Disability Male[2]	Disability – Female[2]
20	.0878	.0007	.0011
25	.0665	.0008	.0012
30	.0498	.0010	.0015
35	.0373	.0013	.0020
40	.0362	.0017	.0026
45	.0337	.0015	.0038
50	.0338	.0025	.0044
55	.0403	.0046	.0080
60	.0557	.0090	.0158
64	.0691	.0168	.0294

Representative rates of unreduced early normal retirement allowances are as follows:

Hired Before December 6, 2012:

	Males		Females	
Age	In the year attaining 23 years	In years after attainment of 23 years	In the year attaining 23 years	In years after attainment of 23 years
50	15%	4%	15%	4%
55	20%	5%	20%	5%
60	30%	10%	30%	10%
62	35%	10%	35%	10%
63	35%	10%	35%	10%
64	35%	20%	35%	20%
65	35%	30%	35%	30%
66	25%	25%	25%	25%
67	25%	25%	25%	25%
68	25%	25%	25%	25%
69	25%	25%	25%	25%
70	100%	100%	100%	100%

[1] 100% of future terminated members not eligible for a retirement allowance are assumed to receive a refund of their accumulated employee contributions.
[2] 50% of disabilities are assumed to qualify for occupational disability benefits.

Schedule B – Outline of Actuarial Assumptions and Methods (continued)

Hired After December 6, 2012:

	Males		Females	
Age	In the year attaining 25 years	In years after attainment of 25 years	In the year attaining 25 years	In years after attainment of 25 years
50	0%	0%	0%	0%
55	20%	20%	20%	20%
60	30%	10%	30%	10%
62	35%	10%	35%	10%
63	35%	10%	35%	10%
64	35%	20%	35%	20%
65	35%	30%	35%	30%
66	25%	25%	25%	25%
67	25%	25%	25%	25%
68	25%	25%	25%	25%
69	25%	25%	25%	25%
70	100%	100%	100%	100%

Salary increases
4% per year.

Deaths before and after retirement
The RP-2000 Blue Collar Mortality Tables with generational projection using Scale BB are used for all active participants. 97.2% of the RP-2000 Blue-Collar Tables for Healthy Males projected by Scale BB generationally are used for all retirees and deferred vested participants. 116.5% of the RP-2000 Blue-Collar Tables for Healthy Females projected by Scale BB generationally are used for all beneficiary participants. The RP-2000 Tables for Disabled Lives projected by Scale BB generationally are used for the period after disability retirement. Among pre-retirement deaths, 7.50% are assumed to qualify for accidental death benefits.

Normal retirement
Age 65.

Percent married
90% of male members and 50% of female members under age 55 or who have less than 23 years of service are assumed to be married. 100% of employees age 55 and older or who have 23 or more years of service are assumed to be married. In each case, the female is assumed to be three years younger than the male.

Pension options
50% of male members elect a 75% joint and survivor benefit and 10% of female members elect a 50% joint and survivor benefit. All others elect a life annuity.

Fiduciary and investment management expenses
Paid from investment earnings of the Fund.

Loading or contingency reserves
None.

Schedule B – Outline of Actuarial Assumptions and Methods (continued)

Valuation method

Prior to December 31, 2009, projected benefit method with entry age normal cost and open-end accrued liability. On and after December 31, 2009, individual entry age normal method.

Asset valuation method

A five-year phase-in smoothing method is used, under which the value of assets for actuarial purposes equals market value less a five-year phase-in of the differences between actual and assumed investment return. The value of assets for actuarial purposes may not differ from the market value of assets by more than 20%.

Effective December 31, 2013, the actuarial asset method was changed from a five-year moving average of market values to a five-year phase-in smoothing method, with the smoothing restarted as of December 31, 2013.

Prior to December 31, 2013, a five-year moving average of market values method was used to compute the actuarial value of assets.

Summary of Changes from December 31, 2015 Valuation

None.

Schedule C – Summary of Main Provisions of the Fund as Interpreted for Valuation Purposes

The Massachusetts Bay Transportation Authority Retirement Fund became effective as of January 1, 1948. The following summary describes the current main membership, benefit, and contribution provisions of the Fund as interpreted for the valuation.

1 - Definitions

"Compensation" means the full regular remuneration paid to an employee, excluding any overtime pay. "Service" creditable under the Fund means all service rendered by a member prior to his normal retirement date since he last became a member for which contributions are made by the member and by the Authority. "Union" means Boston Carmen's Union, Local Division 589 of the Amalgamated Transit Union, AFL-CIO.

2 - Membership

Each employee, including employees on a part-time basis, who is or who may become a member of the Union or any union recognized by the Authority for collective bargaining purposes is included in the membership of the Fund. Any employee who is not a member of the Union but who is in a group which was authorized to participate in the Fund is included in the membership.

3 - Benefits

Normal Retirement Allowance

Condition for Allowance

Any member may retire at age 65. A member may remain in service after the stated retirement date.

Amount of Allowance

The normal retirement allowance equals 2.46% of 3-year average annual compensation multiplied by the years of service, such allowance not to exceed 75% of such average annual compensation.

Early Normal Retirement Allowance

Condition for Allowance

Any member hired prior December 6, 2012 and has completed at least 23 years of service may retire on an early normal retirement allowance.

Any member hired on or after December 6, 2012, has attained age 55 and completed at least 25 years of service may retire on an early normal retirement allowance.

Amount of Allowance

The early normal retirement allowance is computed in the same manner as a normal retirement allowance on the basis of the compensation and service to the time of retirement.

Early Reduced Retirement Allowance

Condition for Allowance

A member who has attained age 55 and has completed at least 20 years of service may be retired on an early reduced retirement allowance.

Amount of Allowance

The early reduced retirement allowance is an immediate allowance, commencing at the date of retirement, and is computed in the same manner as a normal retirement allowance on the basis of compensation and service to the time of early retirement, but reduced by ½ of 1% for each month of retirement prior to normal retirement date.

Schedule C – Summary of Main Provisions of the Fund as Interpreted for Valuation Purposes (continued)

Disability Retirement Allowance

Condition for Allowance

Any member who has completed 4 years of service in case of disablement due to an occupational accident or sickness, or who has completed 6 years of service in case of disablement due to any other cause, and who has become totally and permanently incapacitated, mentally or physically, for the further performance of duty may be retired.

Amount of Allowance

Upon disability retirement, a member receives an allowance commencing immediately, which is computed as a normal retirement allowance on the basis of the compensation and service to the time of disability retirement and is not less than 15% of the member's 3-year average annual compensation.

Vested Retirement Allowance

Condition for Allowance

Any member who has completed 10 years of service and who is not eligible for a retirement allowance is eligible for a vested retirement allowance, in lieu of a refund of his contributions with interest, in the event his employment terminates for reasons other than voluntary quit or discharge for cause.

Amount of Allowance

The vested retirement allowance is a deferred allowance commencing on the member's normal retirement date and equal to a percentage, not exceeding 100 percent, of the amount computed as a normal retirement allowance on the basis of the compensation and service to the time of termination; the applicable percentage is 5 percent multiplied by the number of years of creditable service, not in excess of 20, at the time of termination.

Survivor Benefit

Condition for Benefit

Upon the death of a member who has completed 10 years of service and who is survived by a spouse and/or dependent children designated to receive the deceased member's contributions with interest, a benefit may be elected by such survivor in lieu of the payment of the contributions with interest.

Amount of Benefit

If the deceased member had completed at least 10 but fewer than 23 years of service, the survivor's benefit, payable for life, is equal to the amount which would have become payable if the member had retired as of the date of his death and elected a 50% joint and survivor option in effect as of the date of death with the survivor as the designated person under the option. There is no reduction for early commencement.

If the deceased member had completed at least 23 years of service, the survivor's benefit, payable for life, is equal to the amount which would have become payable if the member had retired as of the date of his death and elected a 100% joint and survivor option in effect as of the date of death with the survivor as the designated person under the option. There is no reduction for early commencement.

Accidental Death Benefit

Condition for Benefit

Upon the death of a member in service whose death results solely from an injury or injuries sustained in the performance of duty, and who is survived by a spouse designated to receive the deceased member's contribution with interest, an allowance shall be payable to said spouse.

Schedule C – Summary of Main Provisions of the Fund as Interpreted for Valuation Purposes (continued)

Amount of Benefit

The accidental death benefit, payable for life, is equal to the amount which would have become payable to the member if the member had retired as of the date of his death on a disability retirement allowance. If there should be insufficient creditable service, the surviving spouse receives the minimum allowance available under the disability retirement provision.

Return of Contributions

On Account of Termination of Service

In the event of a member's termination of employment for any reason other than death or retirement, he is paid the amount of his contributions, with interest.

On Account of Death Prior to Retirement

Upon the death of a member or retired member before his retirement allowance has become effective, the amount of his contributions, with interest, is paid to his beneficiary or estate, unless a survivor benefit is payable.

On Account of Death after Retirement

Upon the death of a retired member, or the survivor of a retired member and his designated beneficiary under an optional benefit, any excess of his contributions at retirement, with interest, over the sum of all retirement allowance payments made is paid to the member's beneficiary or to the survivor's estate.

Our valuation does not include return of contributions on account of death after retirement for current retirees due to negligible impact on the Fund's liabilities.

Optional Benefits in Lieu of Regular Benefits

At retirement, or on his normal retirement date if prior thereto, any member may elect to convert his allowance into an optional benefit of equivalent actuarial value permitted by the Rules and Regulations.

Reinstatement of Creditable Service

If a member's service is interrupted by reason of resignation or dismissal, he has the opportunity upon the completion of 3 years of service after he has been rehired to repay to the Fund all amounts he has withdrawn together with an amount equal to their reasonable earnings. Upon such repayment, the member is to be credited with service for the periods before and after the interruption as though they had been a single period of service.

4 - Contributions

Contributions required to provide benefits and meet administrative expenses are made jointly by the Authority and members. The member contribution rate was increased from 5.1489% to 5.4989% effective August 11, 2012, to 5.5589% effective July 1, 2013, to 5.7989% effective July 1, 2014, to 5.7914% effective July 1, 2015, to 6.4614% effective July 1, 2016, and to 7.1189% effective July 1, 2017. Member contributions are "picked up" by the Authority pursuant to Section 414(h)(2) of the Internal Revenue Code.

Summary of Changes from December 31, 2015 Valuation

None.

Schedule D – Tables of Employee Data

Table 1 – The Number and Annual Compensation of Active Members Distributed by Fifth Age and Service as of December 31, 2016

Attained Age	Completed Years of Service																			
	0 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 & up		Total	
	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary
Under 25	15	950,693	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	950,693
25 to 29	229	14,257,122	78	5,917,344	3	249,930	0	0	0	0	0	0	0	0	0	0	0	0	310	20,424,395
30 to 34	297	18,649,629	221	17,318,559	57	4,674,523	2	162,656	0	0	0	0	0	0	0	0	0	0	577	40,805,366
35 to 39	259	16,481,114	189	15,057,122	134	10,937,508	50	4,084,655	0	0	0	0	0	0	0	0	0	0	632	46,560,400
40 to 44	223	14,403,990	217	17,230,769	159	12,817,208	128	10,622,132	20	1,690,930	1	101,247	0	0	0	0	0	0	748	56,866,274
45 to 49	247	17,097,742	223	18,268,363	170	13,902,701	167	13,332,404	93	7,621,450	28	2,347,006	1	95,160	0	0	0	0	929	72,664,827
50 to 54	211	15,547,909	246	20,397,320	213	17,698,972	196	15,807,988	116	9,555,294	79	6,476,475	16	1,334,611	0	0	0	0	1077	86,818,569
55 to 59	144	10,461,360	178	14,927,387	185	15,536,747	171	13,821,020	87	7,261,862	83	6,907,537	24	1,982,086	0	0	0	0	872	70,898,000
60 to 64	56	4,087,538	95	7,703,624	108	8,666,684	101	8,048,853	63	5,319,890	38	3,124,454	21	1,738,627	5	441,626	0	0	487	39,131,296
65 to 69	17	1,450,647	22	1,869,830	30	2,446,394	22	1,763,568	8	697,287	7	601,598	2	180,253	2	170,373	2	155,540	112	9,335,491
70 & up	1	77,535	4	342,443	5	484,424	6	464,880	4	350,293	4	323,379	1	71,893	0	0	2	170,269	27	2,285,115
Total	1,699	113,465,279	1,473	119,032,761	1,064	87,415,091	843	68,108,157	391	32,497,006	240	19,881,696	65	5,402,629	7	611,998	4	325,809	5,786	446,740,427

Schedule D – Tables of Employee Data (continued)

Table 2 – The Number and Annual Retirement Allowances Distributed by Age as of December 31, 2016

	Service Retirements		Disabled Members		Beneficiaries	
Age	Number	Amount	Number	Amount	Number	Amount
<50	93	4,410,235	44	725,580	37	429,829
50	35	1,637,287	5	97,218	4	49,500
51	59	2,757,677	6	107,278	5	89,366
52	57	2,677,894	10	154,143	9	92,376
53	85	4,080,940	12	225,783	12	168,685
54	74	3,433,462	10	204,495	11	213,359
55	59	2,642,517	12	211,264	9	125,733
56	93	4,117,822	21	419,998	11	227,718
57	96	4,223,394	25	355,043	7	102,511
58	126	5,646,642	24	488,061	14	161,609
59	101	4,538,916	27	565,657	9	249,045
60	130	5,703,553	10	149,128	17	204,986
61	133	5,865,991	30	575,970	26	383,636
62	133	5,806,139	35	649,538	13	231,567
63	145	6,136,225	28	564,902	14	180,884
64	177	7,691,485	25	412,852	23	484,994
65	165	6,440,560	18	361,848	23	363,887
66	193	7,370,883	35	624,851	22	482,013
67	200	7,772,220	32	586,487	20	366,794
68	229	8,438,519	24	468,684	31	582,465
69	236	8,176,293	29	581,732	31	609,621
70	195	6,767,649	19	337,827	35	643,083
71	188	6,247,483	20	434,659	32	597,052
72	213	7,115,907	23	400,874	33	617,320
73	199	6,476,131	28	335,639	42	792,928
74	180	5,861,174	18	302,544	42	713,958
75	149	4,540,742	14	210,374	31	409,640
76	124	3,613,590	16	282,541	41	670,729
77	135	4,165,684	8	91,795	33	563,844
78	107	3,145,338	11	185,894	37	608,275
79	105	2,893,315	6	92,518	34	593,133
80	88	2,528,282	7	66,103	48	818,139
81	77	2,128,398	5	71,326	34	579,349
82	62	1,654,202	3	25,902	31	488,415
83	66	1,701,904	6	88,074	28	441,998
84	65	1,631,547	3	28,696	26	413,220
85	43	1,087,858	0	0	33	490,452
>85	226	5,285,123	9	87,122	277	3,806,241
Total	4,841	176,412,979	658	11,572,403	1,185	19,048,353
No Option	3,081	112,865,322	537	9,667,616	1,185	19,048,353
Survivor Option	30	1,276,557	3	60,755	0	0
Pop-Up Option	1,730	62,271,100	118	1,844,032	0	0
Total	4,841	176,412,979	658	11,572,403	1,185	19,048,353

Solvency Test

As of December 31, 2016

Valuation Date	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active/Inactive Members (Employer Financed)	Actuarial Value of Assets	Portion of AAL Covered by Assets (1)	(2)	(3)
12/31/2016	$ 219,497,282	$ 1,918,980,542	$ 556,078,499	$ 1,607,560,108	100%	79%	0%
12/31/2015	219,752,752	1,774,425,407	577,905,849	1,630,411,191	100%	79%	0%
12/31/2014	211,433,306	1,682,557,007	553,740,744	1,632,174,762	100%	84%	0%
12/31/2013	196,543,768	1,644,867,542	522,721,825	1,606,684,354	100%	86%	0%
12/31/2012	183,328,525	1,627,032,223	501,809,615	1,456,956,884	100%	78%	0%
12/31/2011	170,925,725	1,602,587,528	503,237,245	1,550,446,450	100%	86%	0%
12/31/2010	156,410,547	1,625,488,398	559,445,973	1,649,129,123	100%	92%	0%
12/31/2009	159,328,548	1,490,267,023	567,125,679	1,667,361,586	100%	100%	3%
12/31/2008	157,653,458	1,429,105,495	920,588,947	1,667,361,587	100%	100%	9%
12/31/2007	159,324,351	1,341,170,637	989,006,782	1,667,361,588	100%	100%	17%

Schedule of Retirees and Beneficiaries Added to and Removed from Rolls

As of December 31, 2016

Valuation Date	Added to Rolls		Removed from Rolls		Rolls - End of Year		% Increase in Annual Allowances	Average Annual Allowances
	No.	Annual Allowances	No.	Annual Allowances	No.	Annual Allowances		
12/31/2016	370	$ 18,053,040	158	$ 3,735,177	6,684	$ 207,033,735	4.02%	$ 30,975
12/31/2015	270	11,550,600	205	4,661,828	6,472	192,715,872	2.67%	29,777
12/31/2014	123	5,191,092	87	360,332	6,407	185,827,100	2.09%	29,004
12/31/2013	174	6,687,864	159	3,595,765	6,371	180,996,340	1.50%	28,409
12/31/2012	184	6,926,496	154	3,278,250	6,356	177,904,241	1.61%	27,990
12/31/2011	204	7,738,128	176	3,112,020	6,326	174,255,995	2.27%	27,546
12/31/2010	285	11,050,020	137	2,666,364	6,298	169,629,887	2.73%	26,934
12/31/2009	248	9,365,472	145	2,360,087	6,150	161,246,231	2.79%	26,219
12/31/2008	313	11,455,800	131	2,774,961	6,047	154,240,846	2.77%	25,507
12/31/2007	280	10,174,080	139	2,179,315	5,865	145,560,007	5.64%	24,818

Notes:

In 2007 there was a post-retirement COLA that added an additonal $3,085,592 to the total annual benefits.

Schedule of Active Member Valuation Data

Valuation Date	Number	Annual Payroll	Average Annual Pay	% Increase In Average Pay
2016	5,786	446,740,427	77,211	2.5%
2015	5,885	443,237,899	75,317	4.5%
2014	5,798	417,957,007	72,086	8.2%
2013	5,726	381,380,271	66,605	1.2%
2012	5,668	373,000,972	65,808	2.3%
2011	5,726	368,473,591	64,351	1.4%
2010	5,643	358,028,815	63,447	0.9%
2009	5,719	359,486,528	62,858	0.1%
2008	6,152	386,372,713	62,804	4.9%
2007	6,081	364,204,073	59,892	4.4%

STATISTICAL SECTION

Objectives

The objectives of the Statistical Section are to provide additional historical perspective, context and detail to assist readers in using the information in the Financial Statements, Notes to the Financial Statements, and Required Supplementary Information in order to understand and assess the Plan's economic condition.

Financial Trends

The Schedule of Changes in Net Position presented on page 125 contains historical information related to the Fund's revenues, expenses, changes in net position and net position available for benefits. The Schedule of Additions by Source on page 125 provides employer and employee contribution rates and investment income historical information. The schedules of deductions and benefits by type on page 126 provide a history of annual benefit, withdrawal, and operating expense trends.

Demographic and Economic Information

The schedule of Distribution of Plan Members shown on page 127 provides relevant details about the composition of the Fund's active membership including concentration of members within various age groups.

Operating Information

The Schedule of Average Benefit Payments on page 128 presents average monthly benefits and average final salary information by years of credited service for new benefit recipients within specified plan years. The Schedule of Benefit Recipients by Type and Option on page 129 illustrates the number of participants and total benefit payments by type and option.

Statistical data is provided from both the Fund's internal resources and from Conduent HR Consulting, LLC.

Financial Trends (2007 – 2016 for all reports)

Schedule of Changes in Net Position

Year Ended Dec 31	Net Position Beginning of Year	Additions	Deductions	Increase (Decrease) in net Position	Net Position End of Year
2016	1,497,848,035	191,813,165	204,055,316	(12,242,151)	1,485,605,884
2015	1,587,966,489	104,595,864	194,714,318	(90,118,454)	1,497,848,035
2014	1,606,684,354	169,464,986	188,182,851	(18,717,865)	1,587,966,489
2013	1,478,348,978	310,688,826	182,353,450	128,335,376	1,606,684,354
2012	1,394,395,336	262,766,724	178,813,082	83,953,642	1,478,348,978
2011	1,488,656,182	80,652,299	174,913,145	(94,260,846)	1,394,395,336
2010	1,417,576,340	240,947,436	169,867,594	71,079,842	1,488,656,182
2009	1,308,203,132	271,639,119	162,265,911	109,373,208	1,417,576,340
2008	1,920,580,509	(457,172,436)	155,204,941	(612,377,377)	1,308,203,132
2007	1,858,191,522	210,674,872	148,285,885	62,388,987	1,920,580,509

Schedule of Additions by Source

Year Ended Dec 31	Employee Contributions	Employer Contributions	Employer Contributions as % of Covered Payroll	Investment Income (a)	Total
2016	27,791,543	77,239,279	17.38	86,782,343	191,813,165
2015	26,510,946	73,373,672	16.66	4,711,246	104,595,864
2014	25,318,224	70,603,285	17.00	73,543,477	169,464,986
2013	21,027,548	58,039,160	15.31	231,622,118	310,688,826
2012	20,023,337	54,968,325	14.82	187,775,062	262,766,724
2011	19,089,304	52,278,311	14.26	9,284,684	80,652,299
2010	17,999,009	49,006,722	13.74	173,941,705	240,947,436
2009	15,254,120	38,566,024	11.00	217,818,975	271,639,119
2008	14,963,808	35,420,770	9.38	(507,557,014)	(457,172,436)
2007	13,373,194	30,014,017	8.41	167,287,661	210,674,872

Contributions were made in accordance with actuarially determined contribution requirements
(a) Net of investment expenses

Schedule of Deductions by Type

Year Ended Dec 31	Benefits	Operating Expenses	Withdrawals	Total
2016	195,707,470	6,493,777	1,854,069	204,055,316
2015	187,148,675	5,808,086	1,757,557	194,714,318
2014	182,499,776	4,052,664	1,630,411	188,182,851
2013	177,311,634	3,948,978	1,092,838	182,353,450
2012	174,627,907	3,384,113	801,062	178,813,082
2011	170,034,251	3,793,418	1,085,476	174,913,145
2010	164,510,892	4,441,078	915,624	169,867,594
2009	156,774,660	4,584,068	907,183	162,265,911
2008	148,957,895	5,207,616	1,039,430	155,204,941
2007	142,028,261	5,284,586	973,038	148,285,885

Schedule of Benefit Deduction by Type

Year Ended Dec 31	Service	Disability	Beneficiary	Total
2016	165,645,608	13,811,300	16,250,562	195,707,470
2015	158,790,759	12,294,604	16,063,312	187,148,675
2014	153,390,245	10,892,495	18,217,036	182,499,776
2013	149,450,754	10,689,534	17,171,346	177,311,634
2012	146,842,625	10,685,263	17,100,019	174,627,907
2011	142,715,543	10,508,424	16,810,284	170,034,251
2010	137,212,102	10,534,419	16,764,370	164,510,892
2009	129,815,106	10,165,316	16,794,238	156,774,660
2008	122,976,439	9,538,216	16,443,240	148,957,895
2007	116,557,172	8,993,080	16,478,010	142,028,261

Demographic and Economic Information (As of 12/31/16)

Distribution of Fund Members as of December 31, 2016 - Active Members

	Years of Service										Total	Average
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total	Compensation	Compensation
0-24	15	0	-	-	-	-	-	-	-	15	950,693	63,380
25-29	229	78	3	-	-	-	-	-	-	310	20,424,395	65,885
30-34	297	221	57	2	-	-	-	-	-	577	40,805,366	70,720
35-39	259	189	134	50	-	-	-	-	-	632	46,560,400	73,672
40-44	223	217	159	128	20	1	-	-	-	748	56,866,274	76,024
45-49	247	223	170	167	93	28	1	-	-	929	72,664,827	78,218
50-54	211	246	213	196	116	79	16	-	-	1,077	86,818,569	80,611
55-59	144	178	185	171	87	83	24	-	-	872	70,898,000	81,305
60-64	56	95	108	101	63	38	21	5	-	487	39,131,296	80,352
65-69	17	22	30	22	8	7	2	2	2	112	9,335,491	83,353
70+	1	4	5	6	4	4	1	-	2	27	2,285,115	84,634
Total	**1,699**	**1,473**	**1,064**	**843**	**391**	**240**	**65**	**7**	**4**	**5,786**	**446,740,427**	77,211

Operating Information

Schedule of Average Benefit Payments - New Benefit Recipients (2007 – 2016)

Years of Service	0-4	5-9	10-14	15-19	20-24	25-29	30+	Total
From 1/1/2007 - 12/31/2007								
Average Monthly Benefit	$ 440	$ 750	$1,413	$ 2,173	$2,981	$ 3,937	$3,909	$ 3,028
Average Final Average Salary	47,660	46,528	60,895	65,416	67,094	74,345	73,696	67,834
Number of Retired Members	3	8	10	20	165	57	17	280
From 1/1/2008 - 12/31/2008								
Average Monthly Benefit	$ 376	$ 805	$1,366	$ 1,890	$3,114	$ 3,785	$3,791	$ 3,050
Average Final Average Salary	54,435	54,936	59,125	62,404	69,994	72,082	72,697	69,177
Number of Retired Members	3	3	8	31	198	50	20	313
From 1/1/2009 - 12/31/2009								
Average Monthly Benefit	$ 510	$ 764	$1,413	$ 2,074	$3,206	$ 3,968	$4,162	$ 3,147
Average Final Average Salary	60,930	53,579	60,646	62,910	71,326	76,376	76,467	70,839
Number of Retired Members	1	4	12	25	147	45	14	248
From 1/1/2010 - 12/31/2010								
Average Monthly Benefit	$ -	$ 795	$1,525	$ 2,035	$3,338	$ 3,989	$4,169	$ 3,231
Average Final Average Salary	-	66,069	68,550	66,235	74,107	76,433	75,093	73,415
Number of Retired Members	0	7	11	24	188	41	14	285
From 1/1/2011 - 12/31/2011								
Average Monthly Benefit	$ -	$ 876	$1,390	$ 2,721	$3,266	$ 3,919	$4,351	$ 3,161
Average Final Average Salary	-	61,939	66,442	75,563	74,337	78,379	80,226	74,320
Number of Retired Members	0	7	12	16	133	29	7	204
From 1/1/2012 - 12/31/2012								
Average Monthly Benefit	$ 311	$ 840	$1,534	$ 2,305	$3,165	$ 4,239	$4,669	$ 3,137
Average Final Average Salary	43,363	59,592	75,925	73,205	74,644	80,771	85,574	75,643
Number of Retired Members	1	5	13	22	101	32	10	184
From 1/1/2013 - 12/31/2013								
Average Monthly Benefit	$ 844	$ 976	$1,460	$ 2,195	$3,298	$ 3,969	$4,868	$ 3,203
Average Final Average Salary	104,387	56,659	69,224	72,730	77,261	77,890	83,824	76,361
Number of Retired Members	2	4	19	12	78	52	7	174
From 1/1/2014 - 12/31/2014								
Average Monthly Benefit	$ -	$ 944	$1,565	$ 2,371	$3,455	$ 4,103	$4,429	$ 3,517
Average Final Average Salary	-	60,088	69,079	71,012	80,485	81,816	80,201	79,223
Number of Retired Members	0	1	10	7	55	37	13	123
From 1/1/2015 - 12/31/2015								
Average Monthly Benefit	$ 813	$ 951	$1,760	$ 2,346	$3,720	$ 4,582	$4,988	$ 3,565
Average Final Average Salary	143,040	77,667	74,294	76,590	86,810	87,865	88,188	85,090
Number of Retired Members	2	18	27	24	98	70	31	270
From 1/1/2016 - 12/31/2016								
Average Monthly Benefit	$ 2,754	$ 1,294	$1,871	$ 2,708	$4,012	$ 4,430	$5,222	$ 4,066
Average Final Average Salary	91,458	82,418	81,622	80,316	85,125	78,969	81,558	81,761.05
Number of Retired Members	2	15	24	19	111	128	71	370

Schedule of Benefit Recipients by Type and Option

December 31, 2016

		Type of Retirement*									Option Selected**					
	Total	I	II	III	IV	V	VI	VII	VIII	IX	A	B	C	D	E	Grand Total
$0-$500	217	19	0	0	74	6	4	90	0	24	170	20	5	0	22	217
$500-$1,000	518	62	2	3	133	4	26	248	0	40	409	54	14	1	40	518
$1,000-$1,500	662	106	33	24	165	5	15	279	8	27	518	84	32	1	27	662
$1,500-$2,000	789	125	242	43	130	3	3	187	37	19	520	187	62	1	19	789
$2,000-$2,500	1091	149	670	42	105	3	1	99	15	7	687	311	85	2	6	1091
$2,500-$3,000	1032	94	823	18	38	2	2	51	4	0	581	357	87	7	0	1032
$3,000-$3,500	884	58	784	7	10	0	5	19	0	1	510	306	62	5	1	884
$3,500-$4,000	643	43	583	3	3	0	2	9	0	0	342	218	75	8	0	643
Over $4,000	848	83	760	1	0	0	2	2	0	0	492	265	83	8	0	848
Total	**6684**	**739**	**3897**	**141**	**658**	**23**	**60**	**984**	**64**	**118**	**4229**	**1802**	**505**	**33**	**115**	**6684**

***Type of Retirement**
I Normal
II Early Normal
III Early Reduced
IV Disability
V Special Disability
VI Special Survivor
VII Optionee
VIII Special early Reduced
IX QDRO

**** Option Selected**
A Lifetime Annuity
B Joint Annuinty Pop-up
C Joint Annuity
D Term Certain
E QDRO

FREQUENTLY ASKED QUESTIONS

Questions & Answers

Q ***Who is eligible to become a member of the Retirement Fund?***

A Any person regularly employed by the MBTA is eligible to become a member of the Retirement Fund.

Q ***How does an employee contribute to the Retirement Fund?***

A Retirement contributions are deducted from the regular earnings (excluding overtime).

Q ***Are the matching contributions made by the Authority applied to the member's balance in the Fund?***

A NO. The Authority's contributions are not applied to the member's balance in the Fund. These contributions become an irrevocable asset of the Fund used for the benefit of its members.

Q ***What is the rate of interest earned by the member on his/her contributions? Does the member continue to earn interest after his/her employment with the Authority is terminated by reason of retirement, resignation or discharge?***

A Interest earned on contributions made on or after July 1, 1967, are compounded annually at a rate of three percent (3%). Note: This rate is set by the Pension Agreement and does not reflect the earnings of the Fund. NO. A member stops earning interest on his/her contributions as of the last day of the month prior to his/her separation from the Authority's service.

Q ***How do part-time employees accrue creditable service?***

A For the purpose of determining the amount of retirement benefit, creditable service shall accrue at the rate of one month of creditable service, or fraction thereof, for each 173 pay hours received.

Questions & Answers *(continued)*

Q ***Under what circumstances is the spouse of a member required to sign a spousal consent form?***

A When a member is about to retire, a spousal consent is required when the member elects to receive his/her benefit in the following manner:

No optional benefit for spouse
33 1/3% with no pop-up
25% with no pop-up
50% with pop-up
33 1/3% with pop-up
25% with pop-up
5, 10 or 15 years term certain benefits

Q ***Are retirement contributions deducted from Workers' Compensation payments? Does the time out on Workers' Compensation count as creditable membership service?***

A No. There are no retirement contributions deducted from Workers' Compensation payments. As a result, it may exclude that year as a high year in calculating the high 3 year average.

Yes. When a member is out of work and receiving Workers' Compensation payments, it does count as creditable membership service.

Q ***Workers' Compensation Offset: Does my receipt of Workers' Compensation payments affect my disability retirement benefit?***

A Possibly: If the payments that you receive under Workers' Compensation are based on the same injury that qualified you for disability retirement, your pension benefit will be offset against your Workers' Compensation for that same injury.

This means that your pension benefit will be directly reduced by the amount of the Workers' Compensation benefit that you receive.

Workers' Compensation payments that are based on an injury different from the injury that qualified you for a disability pension will not affect your disability retirement benefit.

Q ***Is the employment date with the Authority the same as the membership date in the Fund?***

A NO. Membership in the Fund begins when contributions are made to the Fund and is usually a short time after the employment date, typically 90 days after being employed.

Q ***When can a member retire?***

A A member can retire at age 65 or older on a Normal Retirement; for a member hired before December 6th, 2012, an Early Normal Retirement is available with 23 years of creditable service; a member hired on or after December 6th, 2012, an Early Normal Retirement is available if the member is age 55 or older and has at least 25 years of creditable service; an Early Reduced Retirement is available if a member is age 55 or older and has at least 20 years of creditable service; however, the retirement allowance will be reduced by 1/2 of 1% for each month between the age at retirement and age 65. The Plan provides for a Disability Retirement after 4 years of creditable service for an occupational disability or after 6 years for a non-occupational disability.

Q ***How is a member's retirement allowance determined?***

A The maximum retirement allowance is determined by using the following formula: The average of the best 3 years of earnings, multiplied by 2.46%, and multiplied by years and months of creditable membership service.

Q ***What is the date shown on the monthly retirement checks and when are they mailed to the retirees?***

A The monthly retirement checks are dated for the last business day of the month. The checks are mailed 4 or 5 days before the end of the month in order for them to arrive at the retiree's home by the last day of the month.

Questions & Answers *(continued)*

Q ***Does a member have a decision to make on how the pension will be paid?***

A YES. A member can take the maximum retirement allowance payable and will get a check every month for life in that amount, subject to adjustments from time to time. If a member takes the maximum retirement allowance payable, the member will recover the money contributed to the Fund in three years or less, and after the member dies, no further payments will be made from this Fund. A member can elect to take retirement payments under an option. Options give the retiree a lesser amount for life with the provision that upon their death the person designated as beneficiary will receive a retirement allowance. An example would be the 100% option. Instead of taking the maximum retirement allowance payable, the member elects to take a reduced amount for life and upon the member's death, the designated beneficiary will receive 100% of the allowance the member was receiving for life. The amount of reduction from the maximum is determined by option factors which are based on the member's and designated beneficiary's age and life expectancy. There are several types of options available.

Q ***If a member leaves the employ of the MBTA, what happens to the contributions made on the employee's behalf (Authority's Contributions) to the Fund?***

A Those contributions, once made, become an irrevocable asset of the Pension Fund and can only be used for the exclusive benefit of the members of the Fund.

Q ***If a retirement benefit is sent direct deposit (ACH – wire transfer) to a bank or credit union, when is the benefit deposited into the retiree's account and when are the funds available?***

A The benefit is wired to the retiree's bank or credit union on the last business day of the month. The availability date of these funds is determined by the member's banking institution.

Q ***Once a member has retired and elected either the maximum benefit or elected an option, can this election be changed?***

A NO. An option elected by a member can only be changed prior to the effective date of retirement.

Q ***How does unused sickleave affect the retirement allowance?***

A At retirement, a member's unused sickleave is converted to creditable membership service, which when multiplied by 2.46% of the average of the three (3) best years, increases the retirement allowance. For example, sickleave of 150 days converts to 7 months of creditable membership service. However, unused sickleave cannot be used to determine service eligibility for retirement.

Q ***In the event a retiree is divorced/widowed, can he/she drop the option elected or change it in favor of a new spouse?***

A NO. In the event a retiree is divorced/widowed from his/her spouse, the option elected cannot be dropped or transferred in favor of a new spouse after the effective date of retirement.

Q ***Can a member buy any service for which credit is not being received?***

A NO. A member can only get credit for the time in which both the member and the Authority make contributions.

Q ***Who can an active or retired member contact with specific questions concerning health and life insurance benefits?***

A Active and retired members of the MBTA may contact the Benefits Department with specific questions about health and life insurance benefits. The telephone number is (617) 222-3244. Written inquiries should be sent to the MBTA Benefits Department, 10 Park Plaza, 4th Floor, Boston, MA 02116.

Questions & Answers *(continued)*

Q ***Can a member withdraw any money from the Fund and pay it back at a later date with interest?***

A NO. A member cannot withdraw any contributions from the Fund. The only way a member can obtain money from the Fund is either by resigning or retiring.

Q ***Can I receive creditable service in the MBTA Retirement Fund for service with any other Federal, State, or local government agency?***

A NO. Since the MBTA Retirement Fund is a private system, no credit can be given for service other than with the MBTA.

Q ***If the surviving spouse is eligible to receive a monthly benefit, how soon does he/she begin receiving the benefit? Does he/she have to wait until the member would have reached age 65?***

A The surviving spouse is eligible to receive the benefit the first month following the member's death. He/she does not have to wait until the member would have reached age 65.

Example: Member passes away June 15. The surviving spouse is eligible for benefit starting July 1.

Q ***How are changes made in the Pension Plan?***

A All changes and improvements to the Pension Plan are negotiated between Local #589 and the Authority.

Q ***If I leave the employ of the Authority and return at a later date, am I eligible to "Buy Back" my prior service?***

A YES. A former member of the Fund who is re-employed by the Authority is eligible, after a 3-year waiting period, to request the Retirement Board to restore his/her previous service by the repayment of the withdrawn funds, plus interest. "Bridging the Gap" restores to the member the creditable service he/she built up during the previous period of employment. There is no credit given for the period between the date the member left the employ of the Authority and the date he/she was re-employed. That gap will always remain. Therefore, any member of the Fund who terminated his/her employment with the Authority and was re-employed should contact the Retirement Board to determine the amount necessary to "Buy Back" the previous service.

Q ***How does a member qualify for a benefit under the Vesting Provision of the Fund?***

A Under the Vesting Provision of the Fund, a member who has at least 10 years of creditable membership service may qualify for a benefit provided that his/her employment with the MBTA ended through no fault of their own. If a member resigns or is discharged for cause, he/she is not eligible for a retirement benefit under this provision.

Q ***When is a member eligible to receive a benefit under the Vesting Provision of the Fund?***

A Under the Vesting Provision of the Fund, a member is eligible to receive a retirement benefit the first of the month following the member's 65th birthday provided that the member has the 10 years of creditable membership service in the Fund and his/her employment did not end voluntarily or by termination.

Q ***Can taxes be withheld from my pension benefit?***

A Federal taxes can be withheld and deducted from your pension check each month. The amount of federal tax withheld from your monthly benefit can be changed at anytime by filing a new W-4P form with the Retirement Fund.

The MBTARF Pension is not taxable in the state of Massachusetts. Retirees residing in Massachusetts should not include their pensionable earnings from the MBTA Retirement Fund as income on their Massachusetts return.

Q ***If a member has a question concerning the Fund or would like to obtain an estimate of his/her retirement benefit, whom should he/she contact for the correct answer?***

A All questions should be directed to the MBTA Retirement Fund at One Washington Mall, Boston, MA 02108 (617) 316-3800 or 800-810-6228.