

REPORT ON AN ACTUARIAL VALUATION OF  
THE MASSACHUSETTS BAY TRANSPORTATION  
AUTHORITY RETIREMENT FUND  
PREPARED AS OF DECEMBER 31, 2013

July 2014

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## SECTION I - OVERVIEW

The Rules and Regulations of the Massachusetts Bay Transportation Authority Retirement Fund provide that the actuary make annual actuarial valuations of the Fund and certify rates of contribution to the Retirement Board.

This report presents the results of an actuarial valuation of the Fund, prepared as of December 31, 2013, together with our recommendations regarding the rates of contribution payable by the Authority.

This valuation is based on the assumptions adopted by the Retirement Board on the basis of an experience study covering the period January 1, 2006, through December 31, 2010. The actuarial assumptions covering termination, disability, retirement, and pre- and post-retirement mortality were changed as a result of the findings of this study. The Actuarial Assumption Subcommittee of the Board voted to increase the interest rate from 7.50% to 8.00% effective December 31, 2011. I believe that these assumptions are reasonable.

To further the alignment of its funding policies with those prevalent among the Commonwealth's public retirement systems and to enhance the transparency of its actuarial calculations, the Fund is changing its actuarial asset valuation method to one under which differences in investment earnings from their expected levels are recognized gradually over a five-year period. This change is effective with this December 31, 2013, valuation, with the smoothing restarted as of December 31, 2013. The actuarial value of assets developed in this valuation is approximately \$96.4 million larger than it would have been under a continuation of the asset smoothing method previously in use. This change is described in greater detail in Section IV of this report.

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 primary purpose of the valuation report is to develop contribution rates, to describe the current financial condition of the Fund, and to provide information needed by the Fund and its auditors for financial reports. Use of this report for any other purposes or by anyone other than the Fund and its auditors may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. This report is not intended to benefit any third party, and Buck assumes no duty or liability to any such party. Content from this report should not be provided without a copy of this cover letter. No one may make any representations or warranties based on any statements or conclusions contained in this report without Buck Consultants' prior written consent.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases 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 valuation.

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.

Respectfully Submitted,

*David L. Driscoll*

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David L. Driscoll, FSA, FCA, MAAA, EA

Principal, Consulting Actuary

July 11, 2014

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Date

REPORT ON AN ACTUARIAL VALUATION OF  
THE MASSACHUSETTS BAY TRANSPORTATION  
AUTHORITY RETIREMENT FUND  
PREPARED AS OF DECEMBER 31, 2013  
SECTION II - SUMMARY OF PRINCIPAL RESULTS

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

Valuation Date	December 31, 2012	December 31, 2013
Number of active members	5,668	5,726
Annual compensation of all members	\$373,000,972	\$381,380,271
Annual compensation of active members below normal retirement age	\$370,872,877	\$379,071,391
Average age	47.08	47.44
Average service	11.42	11.52
Average compensation	\$65,808	\$66,605
Number of active members not accumulating creditable service	62	73
Number of retired members, beneficiaries and disabled members	6,356 <sup>1</sup>	6,371 <sup>2</sup>
Annual retirement allowances	\$177,904,241	\$180,996,340
Assets for funding purposes	\$1,456,956,884	\$1,606,684,354
Unfunded accrued liability	\$855,213,479	\$757,448,781
Contribution rates required:		
Normal	8.8600%	9.1000%
Accrued liability	13.8900%	12.3000%
Expenses	<u>0.4500%</u>	<u>0.4500%</u>
Total required rate	23.2000%	21.8500%
Member excess rate	<u>0.0000%</u>	<u>0.0000%</u>
Actual contribution rate during following fiscal year	23.2000%	21.8500%

<sup>1</sup> Includes 6,274 retirees and beneficiaries and 82 individuals receiving payments under QDROs.

<sup>2</sup> Includes 6,283 retirees and beneficiaries and 88 individuals receiving payments under QDROs.

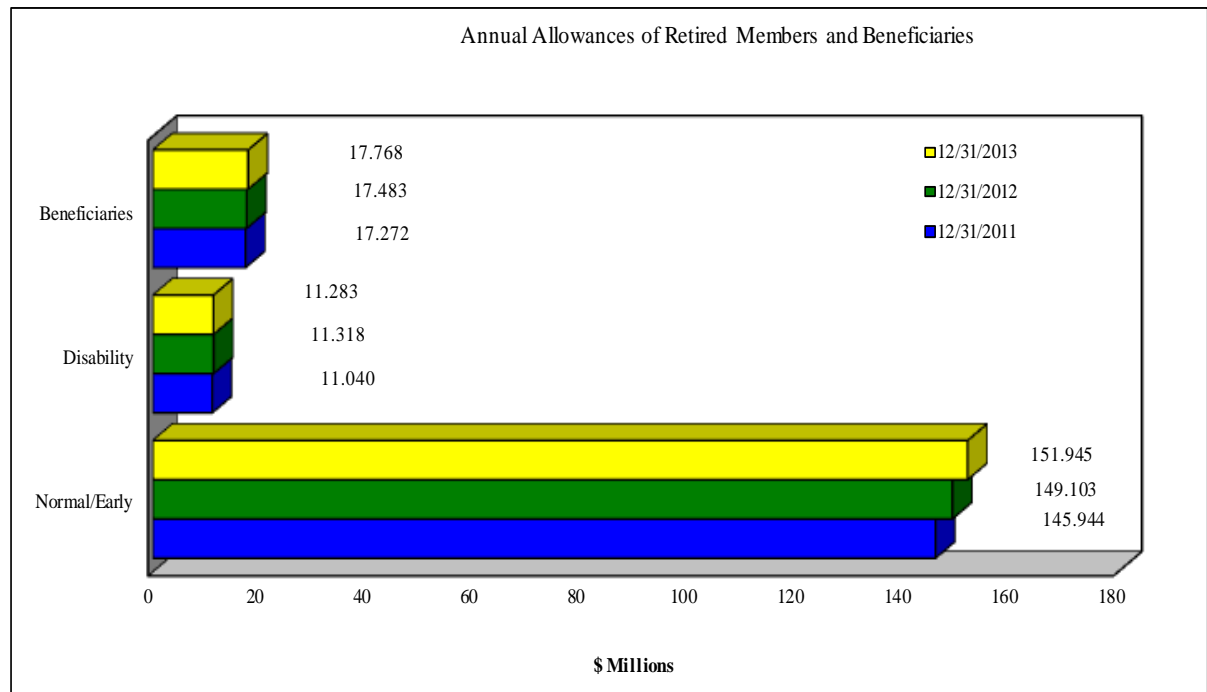
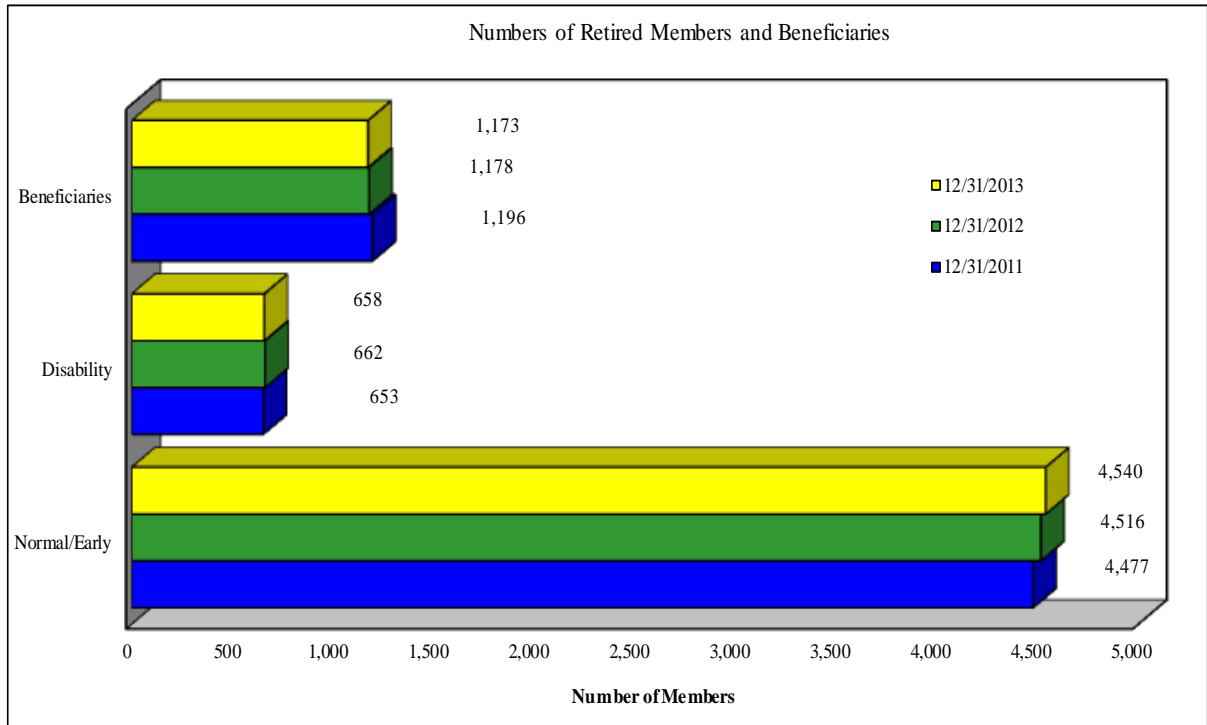
2. Valuation results as of December 31, 2013, are given in Section VI, and contribution levels are set forth in Section VII.
3. Schedule B of this report outlines the actuarial assumptions and methods used in the valuation.
4. Schedule C of this report presents a summary of the main provisions of the Fund, as interpreted in preparing the actuarial valuation.

### 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 Tables 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, 2013:

Category	Number	Annual Retirement Allowances
Benefits to Members Retired on Normal, Early Normal and Reduced Early Retirement Allowances	4,540	\$ 151,945,033
Benefits to Members Retired on Disability Retirement Allowances	658	11,283,075
Benefits to Beneficiaries of Deceased Members	1,173	17,768,232
Total	6,371	\$ 180,996,340

Massachusetts Bay Transportation Authority Retirement Fund



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, 2013, amounted to \$1,606,684,354.
3. Effective with this valuation, to further the alignment of its funding policies with those prevalent among the Commonwealth's public retirement systems and to enhance the transparency of its actuarial calculations, the Fund is changing its actuarial asset method from a five-year moving average of market values to 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 so computed may not differ from the market value of assets by more than 20%. The method is being implemented as of December 31, 2013, with a restart at market value and gradual implementation over the next four years. Accordingly, the actuarial value of the Fund's assets as of December 31, 2013 is equal to the market value of assets on that date, or \$1,606,684,354. Continued application of the method previously in use would have produced an actuarial value of assets of \$1,510,325,026 as of December 31, 2013.
4. 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 adjusted asset value 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, 1999 – June 30, 2000	0.85860%	July 1, 2006 – June 30, 2007	0.39610%
July 1, 2000 – June 30, 2001	2.25810%	July 1, 2007 – June 30, 2008	0.39610%
July 1, 2001 – June 30, 2002	3.53610%	July 1, 2008 – June 30, 2009	0.00000%
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%

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, 2013 - June 30, 2014 is derived as follows:
  - a. Effective prior member excess rate (December 31, 2012) -2.1364%
  - b. Decrease in total required contribution rate from  
prior valuation (see Section VII) 1.3500%
  - c. Current member excess rate  
(July 1, 2013) ((a.) + 25% of (b.)) -1.7989%
6. The accumulated value of the excess contributions as of December 31, 2013 is \$0.

## SECTION VI - COMMENTS ON VALUATION

1. Schedule A of this report presents the results of the valuation as of December 31, 2013.
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 \$2,364,133,135. Of this amount, \$1,644,867,542 is on account of retired members and beneficiaries, \$718,519,234 is on account of present active members and \$746,359 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 \$1,606,684,354, including required contributions made by active members. When \$1,606,684,354 is subtracted from \$2,364,133,135, there remains \$757,448,781, which represents the unfunded actuarial accrued liability of the Fund.
4. Amortization of the unfunded liability over a 26-year period beginning December 31, 2013, in annual installments rising at the rate of 4% per year produces a first-year amortization installment with a value of \$46,635,018 as of December 31, 2013. This amounts to 12.30% 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, 2013, is \$34,500,540, or 9.10% 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 0.45% of annual compensation of active members below normal retirement age is included in the total required contribution to cover expenses.
7. During 2013, the unfunded actuarial accrued liability decreased \$97.8 million, from \$855.2 million to \$757.4 million. The expected unfunded actuarial accrued liability is \$876.9 million and the total actuarial gain is \$119.5 million. As noted earlier, a portion of this gain (approximately \$96.4 million) is attributable to the change and restart of the asset valuation method used by the Fund as of December 31, 2013. The remainder is due to overall positive experience of the fund with respect to both demographic and investment experience in 2013.

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 9.10% of compensation is required to cover normal cost and 12.30% of compensation is required to cover amortization of the unfunded accrued liability. Adding 0.45% of compensation for anticipated administrative expenses, excluding fiduciary and other investment expenses, results in a total contribution rate of 21.85% of compensation to be paid by the Authority and the members of the Retirement Fund from July 1, 2014, through June 30, 2015.
  
3. This rate is 1.35% less than the 23.20% rate developed in the December 31, 2012, valuation. Under the adjustment formula contained in the July 1, 2002, Pension Agreement, 75% of the decrease will be allocated to the Authority as a decrease in contributions 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, 2014:

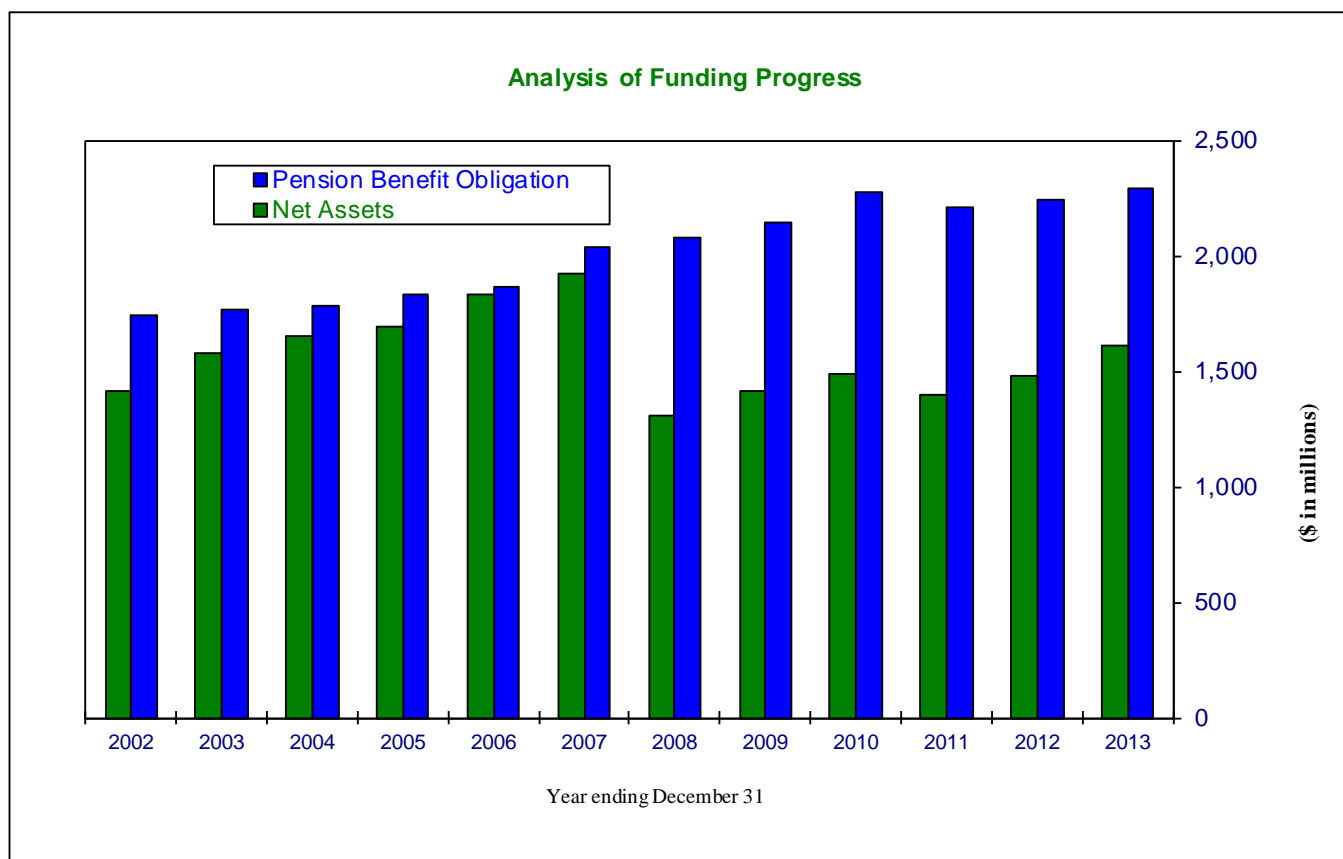
Authority	16.0511%
Members' required	<u>5.7989%</u>
Subtotal (Section II)	21.8500%
Members' excess (Section V)	<u>0.0000%</u>
Total	21.8500%

SECTION VIII - STATEMENTS NO. 5 AND 25 OF THE GOVERNMENTAL  
ACCOUNTING STANDARDS BOARD

1. Statement No. 5 of the Governmental Accounting Standards Board has been superseded by Statement No. 25. The information below is shown nonetheless for informational purposes. These values were based on assumed interest rates of 8%.

Pension Benefit Obligation	December 31, 2012	December 31, 2013
a. Retirees and beneficiaries currently receiving benefits and active employees not accumulating creditable service	\$ 1,627,629,000	\$ 1,645,613,900
b. Current employees		
i. Accumulated employee Contributions	\$ 183,328,525	\$ 196,543,768
ii. Employer financed vested	180,115,569	189,185,122
iii. Employer financed non-vested	130,407,515	141,171,941
iv. Future salary increases	<u>124,279,133</u>	<u>122,432,992</u>
v. Total	618,130,742	649,333,823
c. Total Obligation (a. + b.)	\$ 2,245,759,742	\$ 2,294,947,723
d. Market value of assets	\$ 1,478,348,978	\$ 1,606,684,354
e. Unfunded pension benefit obligation (surplus) (c. – d.)	\$ 767,410,764	\$ 688,263,369

## Massachusetts Bay Transportation Authority Retirement Fund



Year Ending December 31	(1) Net Assets Available for Benefits	(2) Pension Benefit Obligation	(3) Percentage Funded (1)/(2)	(4) Unfunded Pension Benefit Obligation (2)-(1)
2013	\$1,606,684,354	\$2,294,947,723	70.01%	\$688,263,369
2012	1,478,348,978	2,245,759,742	65.83%	767,410,764
2011	1,394,395,336	2,209,665,912	63.10%	815,270,576
2010	1,488,656,182	2,271,799,907	65.53%	783,143,725
2009	1,417,576,340	2,143,655,616	66.13%	726,079,276
2008	1,308,203,132	2,080,943,299	62.87%	772,740,167
2007	1,920,580,509	2,034,861,006	94.38%	114,280,497
2006	1,832,680,372	1,865,116,054	98.26%	32,435,682
2005	1,689,381,056	1,831,874,727	92.22%	142,493,671
2004	1,649,441,389	1,781,989,870	92.56%	132,548,481
2003	1,576,110,373	1,770,271,779	89.03%	194,161,406
2002	1,414,751,760	1,745,703,285	81.04%	330,951,525

2. The following schedule shows funding progress information as required by Statement No. 25:

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)
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%

Notes:

1. The actuarial cost method was changed to the individual entry age normal method as of December 31, 2009.
2. The Actuarial Assumption Subcommittee of the Board voted to increase the interest rate from 7.50% to 8.00% effective December 31, 2011.
3. The asset valuation method was changed and restarted at market value effective December 31, 2013, as described in Section IV of this report. Continued application of the method previously in use would have produced an actuarial value of assets of \$1,510,325,026 as of December 31, 2013.

## SCHEDULE A

RESULTS OF THE VALUATION AS OF DECEMBER 31, 2013

1.	Present Value of Future Benefits	
	(a) Present value of prospective benefits to retired members, former members and beneficiaries	\$ 1,644,867,541
	(b) Present value of prospective retirement allowances on account of present active members	986,213,506
	(c) Present value of members' contributions to be returned to the members not accumulating creditable service	<u>746,359</u>
	(d) Total actuarial liabilities	\$ 2,631,827,406
2.	Assets of the Fund for purposes of development of contributions	\$ 1,606,684,354
3.	Present value of future contributions to the fund (1(d)-2)	\$ 1,025,143,052
4.	Present value of future normal contributions to the Fund*	\$ 267,694,271
5.	Unfunded accrued liability (3) - (4)	\$ 757,448,781

\* Includes future contributions of members at the rate developed in Section VII.

SCHEDULE BOUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

DATA: For new entrants, the rate of pay was used for the 2013 salary.

INTEREST RATE: 8.00% 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 and Reduced Early Retirement	Disability – Male <sup>1</sup>	Disability – Female <sup>1</sup>
20	.1097	.0007	.0011
25	.0831	.0008	.0012
30	.0622	.0010	.0015
35	.0466	.0013	.0020
40	.0453	.0017	.0026
45	.0422	.0025	.0038
50	.0422	.0042	.0063
55	.0504	.0076	.0114
60	.0696	.0150	.0225
64	.0864	.0280	.0420

<sup>1</sup>50% of disabilities are assumed to qualify for occupational disability benefits.



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

Age	Males		Females	
	In the year attaining 23 years of service.	In years after attainment of 23 years of service	In the year attaining 23 years of service.	In years after attainment of 23 years of service
50	28%	3%	28%	3%
55	30%	5%	30%	5%
60	36%	11%	36%	11%
62	55%	30%	55%	30%
63	55%	30%	55%	30%
64	55%	30%	55%	30%
65	55%	30%	55%	30%
66	55%	30%	55%	30%
67	55%	30%	55%	30%
68	55%	30%	55%	30%
69	55%	30%	55%	30%
70	100%	100%	100%	100%

**SALARY INCREASES:** 4% per year.

**DEATHS BEFORE AND AFTER RETIREMENT:** The UP 1994 Mortality Table for Males projected to year 2020 with Scale AA is used for all active and retired participants. The UP 1994 Mortality Table for Females projected to year 2020 with Scale AA is used for all beneficiaries. A special mortality table is used for the period after disability retirement. Among pre-retirement deaths, 7.5% 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.

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%. This method has been implemented as of December 31, 2013, with a restart at market value and phase-in of the method over the next four years.

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

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 9, 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 9, 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.

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.

### 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. The valuation does not incorporate a specific provision for return of contributions upon death after retirement for current retirees due to its 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, and to 5.5589% effective April 7, 2014. Member contributions are "picked up" by the Authority pursuant to Section 414(h)(2) of the Internal Revenue Code.

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, 2013

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	44	2,176,841	1	41,876	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45	2,218,717
25 to 29	215	10,524,539	109	6,594,819	1	62,130	0	0	0	0	0	0	0	0	0	0	0	0	325	17,181,488
30 to 34	168	9,327,597	220	13,995,731	63	4,259,714	0	0	0	0	0	0	0	0	0	0	0	0	451	27,583,042
35 to 39	172	9,711,429	231	15,035,552	126	8,502,505	40	2,836,964	0	0	0	0	0	0	0	0	0	0	569	36,086,449
40 to 44	182	10,626,217	230	15,138,294	173	11,500,506	94	6,363,196	66	4,751,430	4	197,699	0	0	0	0	0	0	749	48,577,343
45 to 49	217	13,168,663	269	18,811,697	224	15,269,575	125	8,683,786	164	11,535,063	68	5,074,857	0	0	0	0	0	0	1067	72,543,641
50 to 54	194	12,767,803	271	18,688,968	216	15,348,340	113	7,728,589	159	11,885,394	135	10,091,819	13	953,191	0	0	0	0	1101	77,464,104
55 to 59	112	7,251,870	174	11,825,600	146	10,016,758	87	5,887,628	152	11,052,123	118	8,400,807	34	2,495,323	2	160,855	0	0	825	57,090,964
60 to 64	40	2,532,893	88	6,308,947	85	5,679,829	48	3,483,701	84	6,351,793	73	5,419,135	15	1,083,034	5	350,923	1	70,240	439	31,280,494
65 to 69	16	1,279,832	18	1,362,356	27	1,864,686	13	905,041	30	2,372,526	16	1,109,015	2	124,002	2	144,991	2	139,377	126	9,301,826
70 & up	4	260,668	4	275,738	5	366,553	3	178,321	4	266,286	7	528,447	0	0	0	0	2	176,190	29	2,052,202
Total	1,364	79,628,351	1,615	108,079,578	1,066	72,870,597	523	36,067,226	659	48,214,614	421	30,821,779	64	4,655,550	9	656,769	5	385,807	5,726	381,380,271

TABLE 2

THE NUMBER AND ANNUAL RETIREMENT  
ALLOWANCES DISTRIBUTED BY AGE AS OF DECEMBER 31, 2013

Age	Service Retirements		Disabled Members		Beneficiaries	
	Number	Amount	Number	Amount	Number	Amount
<50	118	4,902,207	52	813,318	34	398,195
50	47	2,033,316	9	162,453	6	62,628
51	46	1,927,379	11	216,934	8	115,645
52	36	1,401,156	10	172,749	5	63,790
53	66	2,652,511	16	301,230	7	150,100
54	67	2,685,334	23	331,300	8	115,292
55	86	3,650,615	26	529,234	8	77,623
56	69	2,855,083	27	551,655	8	147,322
57	97	3,985,247	8	115,227	12	138,118
58	94	3,736,215	25	431,653	20	292,969
59	107	4,377,344	29	514,286	7	98,565
60	106	4,158,800	27	529,393	13	179,312
61	142	5,779,650	25	417,003	16	293,699
62	128	4,983,884	18	363,242	17	299,464
63	156	6,015,825	33	582,778	19	379,191
64	167	6,482,749	36	663,110	17	305,772
65	192	7,118,725	28	555,383	22	406,681
66	230	7,946,366	32	631,525	26	504,146
67	193	6,584,715	21	363,402	31	554,410
68	188	6,284,794	23	488,043	28	487,017
69	218	7,184,809	24	409,064	34	604,518
70	198	6,387,235	31	379,611	35	664,025
71	189	6,039,441	21	359,237	37	619,573
72	160	4,815,013	15	204,840	26	322,165
73	139	4,092,068	17	298,776	40	656,673
74	146	4,478,325	10	141,631	29	468,069
75	124	3,618,404	12	199,880	33	497,592
76	122	3,346,470	10	132,774	31	538,976
77	104	2,995,477	6	59,831	47	782,805
78	94	2,569,641	7	98,325	30	463,993
79	80	2,065,361	4	46,399	29	448,809
80	79	2,090,857	6	84,669	28	402,578
81	86	2,081,524	4	33,127	31	467,749
82	59	1,433,422	0	0	32	450,611
83	61	1,443,233	3	29,269	34	436,277
84	51	1,265,199	1	3,375	44	625,478
85	36	859,079	2	17,328	39	556,534
>85	259	5,617,560	6	51,019	282	3,691,866
Total	4,540	151,945,034	658	11,283,075	1,173	17,768,232
No Option	2,907	97,469,169	530	9,334,876	1,173	17,768,232
Survivor Option	36	1,495,496	10	159,475	0	0
Pop-Up Option	1,597	52,980,368	118	1,788,724	0	0
Total	4,540	151,945,034	658	11,283,075	1,173	17,768,232