



BRAINTREE CONTRIBUTORY RETIREMENT SYSTEM

**ACTUARIAL VALUATION
as of**

January 1, 2014

Prepared by:

Linda L. Bournival, FSA
KMS Actuarial, LLC
Fellow, Society of Actuaries
Enrolled Actuary
Member, American Academy of Actuaries



July 15, 2014

Braintree Contributory Retirement Board
Town of Braintree
74 Pond Street, 2nd Floor
Braintree, MA 02184

Dear Board Members:

We are pleased to present the enclosed report summarizing the results of our actuarial valuation of the Braintree Contributory Retirement System as of January 1, 2014.

Our valuation was performed in accordance with the provisions contained in Chapter 32 of the Massachusetts General Laws, "M.G.L.", as of January 1, 2014 and GASB Statement No. 25, Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans (GASB 25) and GASB Statement No. 27, Accounting for Pensions by State and Local Governmental Employers (GASB 27).

The principal results of our valuation are summarized in Section 2. The summary of Plan provisions and actuarial methods and assumptions are shown in Sections 5 and 6, respectively. Section 7 summarizes the demographic profile of active, retired and disabled plan members. Asset information and actuarial liabilities are presented in Section 2. The development of the required appropriations pursuant to Chapter 32 of the M.G.L. is shown in Section 3. The required disclosures under GASB 25, GASB 27 and PERAC are presented in Section 4.

We also provide a 30-year forecast of the required appropriations and cash flows in Section 3.

Our actuarial valuation is based on an investment return rate of 7.75%, compounded annually. Our calculations were based on participant census and asset data and other information provided by the Braintree Contributory Retirement Board and the benefit provisions of Chapter 32 of the M.G.L. as of January 1, 2014.

Our valuation follows generally accepted actuarial methods and we perform such tests as we consider necessary to assure the accuracy of the results. The amounts presented in this report have been appropriately determined according to the actuarial assumptions and methods stated herein.

We appreciate this opportunity to be of service to the Braintree Contributory Retirement Board. We are available to answer any questions with respect to our valuation.

Respectfully submitted,

A handwritten signature in black ink that reads "Linda Bournival". The signature is written in a cursive style with a large, looped "L" and "B".

Linda L. Bournival, FSA
Member, American Academy of Actuaries

TABLE OF CONTENTS

ACTUARIAL CERTIFICATION	1
SECTION 1 - SUMMARY	2
SECTION 2 - PRINCIPAL VALUATION RESULTS	7
Exhibit 2.1 - PLAN ASSETS	
Exhibit 2.2 - ACTUARIAL PRESENT VALUE OF FUTURE BENEFITS	
Exhibit 2.3 - ACTUARIAL ACCRUED LIABILITY	
Exhibit 2.4 - NORMAL COST	
Exhibit 2.5 - UNFUNDED ACTUARIAL ACCRUED LIABILITY	
Exhibit 2.6 - ACTUARIAL EXPERIENCE	
SECTION 3 - CHAPTER 32 OF M.G.L. APPROPRIATIONS	13
Exhibit 3.1 - ANNUAL APPROPRIATIONS	
Exhibit 3.2 - 30-YEAR FORECAST OF ANNUAL APPROPRIATIONS	
Exhibit 3.3 - 30-YEAR FORECAST OF CASH FLOW	
SECTION 4 - REQUIRED DISCLOSURES	17
GASB 25 AND GASB 27 DISCLOSURES	
PERAC DISCLOSURE INFORMATION	
SECTION 5 - SUMMARY OF PLAN PROVISIONS	19
SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS	24
SECTION 7 - PLAN MEMBER INFORMATION	28
Exhibit 7.1 - ACTIVE MEMBERS BY AGE and YEARS OF SERVICE	
Exhibit 7.2 - RETIRED PLAN MEMBERS and BENEFICIARIES	
Exhibit 7.3 - DISABLED PLAN MEMBERS	
SECTION 8 - GLOSSARY OF TERMS	31

ACTUARIAL CERTIFICATION

This report presents the results of the Actuarial Valuation for the Braintree Contributory Retirement System as of January 1, 2014. The report presents the funding schedule contribution amounts for the fiscal years beginning 2015 and accounting and financial reporting information in accordance with Statement Numbers 25 and 27 of the Governmental Accounting Standards Board.

This valuation is based upon member data provided by the Retirement Board and asset information reported to the Public Employee Retirement Administration Commission (PERAC) by the Braintree Contributory Retirement Board. Although we did not audit the data used in the valuation, we believe that the information is complete and reliable.

This report was completed in accordance with generally accepted actuarial standards and procedures, and conforms to the Code of Professional Conduct of the American Academy of Actuaries. The actuarial assumptions used in the determination of costs are reasonably related to the experience of the System and to reasonable expectations, and represent our best estimate of anticipated long-term experience under the System.

This report is intended for the sole use of the Braintree Contributory Retirement Board and is intended to provide information to comply with the stated purpose of the report. It may not be appropriate for other purposes.

The undersigned credentialed actuaries are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinion contained herein. They are available to answer any questions with regard to this report.

Respectfully submitted,



Linda L. Bournival, FSA
Member, American Academy of Actuaries
(603) 792-9494



David M. Mirabito, FSA
Member, American Academy of Actuaries
(978) 766-5532

SECTION 1 - SUMMARY

Background

We have completed the Actuarial Valuation of the Braintree Contributory Retirement System as of January 1, 2014. This valuation is based upon census data provided by the Retirement Board and asset information reported to the Public Employee Retirement Administration Commission (PERAC) by the Braintree Contributory Retirement Board. Information for the prior valuation completed as of January 1, 2012 was obtained from the valuation report prepared by Stone Consulting, Inc.

Massachusetts General Laws

The valuation was prepared in accordance with Chapter 32 of the Massachusetts General Laws ("M.G.L.").

The valuation does not take into consideration:

- Changes in the law after the valuation date,
- State-mandated benefits and
- Cost-of-living increases granted to members in pay status between 1982 and 1997.

GASB Statement Numbers 25 and 27

The Governmental Accounting Standards Board (**GASB**) is responsible for establishing accounting standards for governmental entities. Calculations developed in accordance with GASB standards are required when providing financial statements.

GASB Statement Number 25 (**GASB 25**) establishes financial reporting standards for defined benefit pension plans of state and local governmental entities. The Statement establishes a framework that distinguishes between two categories of information: current financial information about plan assets and financial activities and actuarially determined information about the funded status of the plan and the progress being made in accumulating sufficient assets to pay benefits when due.

GASB Statement Number 27 (**GASB 27**) establishes standards for the measurement, recognition, and display of pension expense and related liabilities, assets, note disclosures, and, if applicable, required supplementary information in the financial reports of state and local governmental employers. Employers are required to measure and disclose an amount for annual pension cost on the accrual basis of accounting, regardless of the amount recognized as pension expense on the accrual basis. Annual pension cost should be equal to the employer's Annual Required Contribution (ARC) to the plan.

The required disclosures under the GASB Statements are presented in Section 4.

SECTION 1 - SUMMARY

GASB Statement Numbers 67 and 68

In June 2012, the GASB approved two related Statements that significantly change the way pension plans and governments will account and report pension liabilities. Effective for plans with fiscal years beginning after June 15, 2013, GASB Statement No. 67, Financial Reporting for Pension Plans, replaces the requirements of Statement No. 25 and effective for employers with fiscal years beginning after June 15, 2014, GASB Statement No. 68, Accounting and Financial Reporting for Pensions, replaces the requirements of Statement No. 27.

The new pension standards reflect changes from those currently in place regarding how governments calculate total pension liability and pension expense. Further, the new standards contain requirements for disclosing information in the notes to financial statements and presenting required supplementary information following the notes.

The required disclosures and notes under the new GASB Statements for the fiscal year ending December 31, 2014 will be provided in a separate report.

Actuarial Valuation

During the two years since the last valuation, the total unfunded actuarial accrued liability of the System was expected to decrease from \$82,965,106 as of January 1, 2012 to \$81,480,629 as of January 1, 2014, for a total decrease of \$1,484,477. The actual unfunded actuarial accrued liability, before any assumption or plan changes, was \$79,502,611, resulting in an actuarial gain of \$1,978,018. The actuarial gain was primarily due to an asset gain of \$5,115,784 and a demographic experience loss of \$3,137,766. The details of the gain and loss analysis are provided in Exhibit 2.6.

The Total Normal Cost, which is the portion of the present value of benefits allocated to the current year, increased from the prior valuation. This is due to (1) change in actuarial assumptions, (2) change in the investment return rate, (3) change in actuarial software and (4) change in the method used to attribute the present value of benefits between the actuarial accrued liability and the normal cost. Details of the development of the normal cost are provided in Exhibit 2.4.

Appropriations

The funding appropriation for each year is computed as the sum of the normal cost and an amortization payment to pay off the Unfunded Actuarial Liability, adjusted for annual payments of the appropriation made at the beginning of each fiscal year. The appropriation calculated as of the January 1, 2014 valuation is \$8,480,875, and is made up of a normal cost payment of \$2,385,896, an amortization payment of \$5,967,861 and net 3(8)(c) transfers of \$127,118. The amortization method is an increasing amortization of the unfunded actuarial accrued liability at 4% over 19 years and is expected to fully pay the unfunded actuarial accrued liability by the year 2033. The development of the appropriation as of January 1, 2014 is presented in Exhibit 3.1.

SECTION 1 - SUMMARY

For fiscal year 2015, we show the actual appropriation developed under the previous funding schedule and reported on the PERAC "Required Fiscal Year 2015 Appropriation" letter dated November 14, 2013 of \$8,393,425. For fiscal year 2016, we developed an annual appropriation of \$8,771,129, which is made up of a normal cost of \$2,575,690 and payment toward the unfunded actuarial accrued liability of \$6,195,439. The unfunded actuarial accrued liability is expected to be fully paid by 2033. The Board adopted a schedule that limits the annual increase in appropriations to 4.5% for each year. The current funding schedule is shown in Exhibit 3.2.

SECTION 1 - SUMMARY

A summary of principal valuation results from the current valuation and the prior valuation follows. Changes in actuarial assumptions and methods and Plan provisions are discussed below, as well as changes in census data and asset information.

Valuation Date	<u>1/1/2014</u>	<u>1/1/2012</u>	<u>Increase/ (Decrease)</u>
Summary of Member Data			
Active Members	735	714	2.9%
Average Age	49.2	49.7	(1.0%)
Average Service	12.8	12.9	(0.8%)
Total Salary	\$38,444,353	\$36,452,974	5.5%
Average Salary	\$52,305	\$51,055	2.4%
Retired Members and Beneficiaries			
Retired Members and Beneficiaries	437	432	1.2%
Average Age	74.9	N/A	N/A
Total Annual Pension	\$12,021,546	N/A	N/A
Average Annual Pension	\$27,509	N/A	N/A
State Reimbursed COLAs	\$137,566	N/A	N/A
Total System-Funded Pension	\$11,883,980	\$10,745,267	10.6%
Disabled Members			
Disabled Members	65	64	1.6%
Average Age	67.9	N/A	N/A
Total Annual Pension	\$2,365,921	N/A	N/A
Average Annual Pension	\$36,399	N/A	N/A
State Reimbursed COLAs	\$54,093	N/A	N/A
Total System-Funded Pension	\$2,311,828	\$2,183,487	5.9%
Inactive Members			
Inactive Members	80	68	17.6%
Annuity Savings Fund	974,031	\$964,087	1.0%
Actuarial Accrued Liability (AAL)	\$242,396,817	\$220,507,572	9.9%
Assets			
Market Value of Assets	\$165,581,123	\$135,296,433	22.4%
Actuarial Value of Assets	159,451,992	137,542,466	15.9%
Unfunded Accrued Liability	\$82,944,825	\$82,965,106	0.0%
Funded Status	65.8%	62.4%	5.4%
Normal Cost			
Employer	\$2,035,896	\$1,419,145	43.5%
Employee	3,554,304	3,321,283	7.0%
Administrative Expenses	350,000	366,000	(4.4%)
Total Normal Cost	\$5,940,200	\$5,106,428	16.3%

Braintree Contributory Retirement System
Actuarial Valuation as of January 1, 2014

SECTION 1 - SUMMARY

Valuation Date	<u>1/1/2014</u>	<u>1/1/2012</u>	<u>Increase/ (Decrease)</u>
Appropriations			
Fiscal Year 2014	N/A	\$8,076,380	N/A
Fiscal Year 2015	\$8,393,425	\$8,393,425	0.0%
Fiscal Year 2016	\$8,771,129	\$8,723,153	0.5%
Fiscal Year 2017	\$9,165,831	\$9,066,069	1.1%

Actuarial Assumptions and Methods

Many Actuarial Assumptions and Methods used in this valuation have been changed since the last valuation. Mortality improvement was applied to the RP-2000 Mortality Table and projected to 2020 (pre-retirement) and 2015 (post-retirement), the investment return rate was decreased from 7.875% to 7.75% and turnover rates were changed from age-based rates to service-based rates. Changing these assumptions resulted in a net increase in the unfunded actuarial accrued liability of \$3,442,214 and a decrease in the employer normal cost of \$47,085. The Actuarial Assumptions and Methods utilized in this valuation are detailed in Section 6, Actuarial Assumptions and Methods.

Plan Provisions

Chapter 176 of the Acts of 2011 was incorporated in this valuation, which changes many of the benefit features for members hired on or after April 2, 2012. The Plan provisions utilized in this valuation are detailed in Section 5, Summary of Plan Provisions.

Census Data

As of January 1, 2014, there are 735 active members who may be eligible for benefits in the future, 437 retirees and beneficiaries, 80 inactive members and 65 disabled retirees. Summaries of the active, retired and disabled employees are included in Section 7, Demographic Information.

Assets

This valuation is based upon asset information reported to the Public Employee Retirement Administration Commission (PERAC) by the Braintree Contributory Retirement Board. The market value of assets increased from \$135,296,433 as of January 1, 2012 to \$165,581,123 as of January 1, 2014. During the plan years ended 2012 and 2013, the market value rates of return were 12.13% and 13.09%, respectively.

The actuarial value of assets increased from \$137,542,466 as of January 1, 2012 to \$159,451,992 as of January 1, 2014. During the plan years ended 2012 and 2013, the actuarial rates of return were 10.15% and 9.08%, respectively.

SECTION 2 - PRINCIPAL VALUATION RESULTS

Exhibit 2.1 - Plan Assets

Asset information is reported annually to the Public Employee Retirement Administration Commission by the Braintree Contributory Retirement Board. The Market Value of Assets for the two most recent calendar years are as follows:

Calendar Year	2013	2012
Trust Fund Composition at Year-End		
Cash	\$2,941,580	\$2,728,742
Short-Term Investments	0	0
Fixed Income Securities	0	0
Equities	0	0
Pooled Short Term Funds	0	0
Pooled Domestic Equity Funds	41,356,429	35,622,161
Pooled International Equity Funds	32,041,881	17,980,052
Pooled Global Equity Funds	0	0
Pooled Domestic Fixed Income Funds	43,400,346	55,387,418
Pooled International Fixed Income Funds	3,554,934	0
Pooled Global Fixed Income Funds	0	0
Pooled Alternative Investments	1,221,939	1,108,810
Pooled Real Estate Funds	6,310,328	5,725,964
Pooled Domestic Balanced Funds	0	0
Pooled International Balanced Funds	0	0
Hedge Funds	7,863,515	6,987,249
PRIT Cash	0	0
PRIT Fund	26,890,057	23,422,923
Interest Due & Accrued	0	0
Prepaid Expenses	11,648	8,224
Accounts Receivable	79,528	163,694
Land	0	0
Buildings	0	0
Accumulated Depreciation - Buildings	0	0
Accounts Payable	(91,062)	(59,794)
Total Market Value of Assets	\$165,581,123	\$149,075,443

SECTION 2 - PRINCIPAL VALUATION RESULTS

Exhibit 2.1 - Plan Assets

Calendar Year	2013	2012
Funds		
Annuity Savings Fund	\$41,684,111	\$40,212,816
Annuity Reserve Fund	12,146,397	11,592,642
Military Service Fund	1,510	1,509
Pension Fund	2,517,087	2,255,331
Expense Fund	0	0
Pension Reserve Fund	109,232,018	95,013,145
Total Market Value of Assets	\$165,581,123	\$149,075,443
Asset Activity		
Market value as of Beginning of Year	\$149,075,443	\$135,296,433
Contributions and Receipts	12,627,381	12,140,882
Benefit Payments and Expenses	(15,452,258)	(14,625,723)
Investment Return	19,330,557	16,263,851
Market Value as of End of Year	\$165,581,123	\$149,075,443
Computed Rate of Return	13.09%	12.13%

Returns and annualized past returns developed by PERAC are shown below. Information is obtained from the Annual Investment Reports published by PERAC for the years shown.

Year	1-Year Return	5-Year Return	Return (Since 1985)
2012	12.56%	3.75%	8.83%
2011	1.06%	2.87%	8.70%
2010	11.41%	5.36%	9.00%
2009	20.63%	4.37%	8.91%
2008	-21.35%	2.99%	8.45%
2007	7.82%	12.92%	9.97%
2006	13.93%	9.25%	10.07%
2005	6.26%	6.41%	9.89%
2004	12.87%	5.68%	10.07%
2003	24.61%	5.81%	10.51%

SECTION 2 - PRINCIPAL VALUATION RESULTS

Exhibit 2.1 - Plan Assets

Valuation Date	1/1/2014	1/1/2013
1. Market Value of Assets as of prior January 1	\$149,075,443	\$135,296,433
a. Prior Year Contributions and Receipts	12,627,381	12,140,882
b. Prior Year Benefit Payments and Expenses	(15,452,258)	(14,625,723)
c. Expected Investment Return Rate, prior valuation	7.875%	7.875%
d. Expected Investment Return	11,628,462	10,556,753
e. Expected Market Value of Assets as of Valuation Date	\$157,879,028	\$143,368,345
2. Prior Year Gain / (Loss)		
a. Market Value of Assets as of January 1	\$165,581,123	\$149,075,443
b. Expected Market Value of Assets	157,879,028	143,368,345
c. Prior Year Gain / (Loss)	7,702,095	5,707,098
3. Phase-In of Asset Gains and Losses		
	Unrecognized	Unrecognized
Plan Year	Gain / (Loss)	Gain / (Loss)
a. 2013	\$7,702,095	\$5,776,571
b. 2012	5,707,098	2,853,549
c. 2011	(10,003,955)	(2,500,989)
d. 2010	3,629,554	-
e. 2009	12,665,805	-
f. Total deferred gains/(losses)	6,129,131	185,734
4. Actuarial Value of Assets		
a. Market Value of Assets Less Unrecognized Gain / (Loss)	\$159,451,992	\$148,889,709
b. 90% of Market Value of Assets	149,023,011	134,167,899
c. 110% of Market Value of Assets	182,139,235	163,982,987
d. Actuarial Value of Assets, a., but not less than b. and not greater than c.	\$159,451,992	\$148,889,709
e. Ratio of Actuarial Value of Assets to Market Value of Assets	96.30%	99.88%
5. Rate of Return on Actuarial Value of Assets for Prior Calendar Year	9.08%	10.15%

SECTION 2 - PRINCIPAL VALUATION RESULTS

The **Actuarial Present Value of Future Benefits** is the present value of the cost to finance all benefits payable in the future, discounted to reflect the probability of payment and the time value of money. Below is the Actuarial Present Value of Future Benefits from the current valuation and the prior valuation:

Exhibit 2.2 - Actuarial Present Value of Future Benefits

Valuation Date	<u>1/1/2014</u>	<u>1/1/2012</u>
Actives		
Superannuation	\$124,584,099	
Termination	3,419,795	
Death	5,571,856	
Disability	25,175,455	
Total Actives	\$158,751,205	
Retired Members and Inactives		
Retired Members and Beneficiaries	\$107,090,314	
Disabled Members	24,343,834	
Inactive Members	974,031	
Total Retired Members and Inactives	\$132,408,179	
Total Present Value of Future Benefits	\$291,159,384	Not Available

The **Actuarial Accrued Liability** is the portion of the Actuarial Present Value of Future Benefits which is allocated to all periods prior to a valuation year and therefore is not provided for by future Normal Costs. Below is the Actuarial Accrued Liability from the current valuation and the prior valuation:

Exhibit 2.3 - Actuarial Accrued Liability

Valuation Date	<u>1/1/2014</u>	<u>1/1/2012</u>
Actives		
Superannuation	\$92,313,395	\$82,529,093
Termination	2,533,974	2,299,029
Death	2,774,740	2,472,380
Disability	12,366,529	11,758,602
Total Actives	\$109,988,638	\$99,059,104
Retired Members and Inactives		
Retired Members and Beneficiaries	\$107,090,314	\$97,153,808
Disabled Members	24,343,834	23,330,573
Inactive Members	974,031	964,087
Total Retired Members and Inactives	\$132,408,179	\$121,448,468
Total Actuarial Accrued Liability	\$242,396,817	\$220,507,572

Braintree Contributory Retirement System
Actuarial Valuation as of January 1, 2014

SECTION 2 - PRINCIPAL VALUATION RESULTS

The **Normal Cost** is the portion of the Actuarial Present Value of Future Benefits which is allocated to a valuation year. Only active employees who have not reached Normal Retirement Age incur a Normal Cost. Below is the Normal Cost from the current valuation and the prior valuation:

Exhibit 2.4 - Normal Cost

Valuation Date	<u>1/1/2014</u>	<u>1/1/2012</u>
Actives		
Superannuation	\$3,240,340	
Termination	609,971	
Death	330,279	
Disability	1,409,610	
Total Actives	\$5,590,200	\$4,740,428
As a Percentage of Salary	14.5%	13.0%
Administrative Expenses		
As a Percentage of Salary	\$350,000 0.9%	\$366,000 1.0%
Total Normal Cost		
Normal Cost	\$5,940,200	\$5,106,428
As a Percentage of Salary	15.5%	14.0%
Employee Normal Cost		
Employee Contributions	\$3,554,304	\$3,321,283
As a Percentage of Salary	9.2%	9.1%
Employer Normal Cost		
Employer Normal Cost	\$2,385,896	\$1,785,145
As a Percentage of Salary	6.2%	4.9%

Exhibit 2.5 - Unfunded Actuarial Accrued Liability

Valuation Date	<u>1/1/2014</u>	<u>1/1/2012</u>
Unfunded Actuarial Accrued Liability		
a. Actuarial Accrued Liability	\$242,396,817	\$220,507,572
b. Actuarial Value of Assets	159,451,992	137,542,466
c. Unfunded Actuarial Accrued Liability (a. - b.)	\$82,944,825	\$82,965,106
d. Funded Ratio (b. divided by a.)	65.8%	62.4%

SECTION 2 - PRINCIPAL VALUATION RESULTS

Exhibit 2.6 - Actuarial Experience

In performing the actuarial valuation, various assumptions are made regarding mortality, retirement, disability and withdrawal rates as well as salary increases and investment returns. A comparison of the results of the current valuation and the prior valuation is made to determine how closely actual experience relates to expected. During the two years since the last valuation, the total unfunded actuarial accrued liability of the System was expected to decrease by \$1,484,477. Below is the development of the actuarial gain for the current 2-year period:

Calendar Year Ending	<u>12/31/2013</u>	<u>12/31/2012</u>
Expected Unfunded Actuarial Accrued Liability		
a. Unfunded Actuarial Accrued Liability, beginning of year	\$82,388,238	\$82,965,106
b. Normal cost, beginning of year	\$5,310,685	5,106,428
c. Total contributions	(12,627,381)	(12,140,882)
d. Interest (full year on a. and b., one-half year on c.)	6,409,087	6,457,586
e. Expected Unfunded Actuarial Accrued Liability	\$81,480,629	\$82,388,238
f. Unfunded Actuarial Accrued Liability (before changes)	\$79,502,611	
g. (Gain)/Loss	(\$1,978,018)	
Asset (Gain)/Loss		
a. Actuarial value of assets, beginning of year	\$148,889,709	\$137,542,466
b. Contributions and Receipts	12,627,381	12,140,882
c. Benefit Payments and Expenses	(15,452,258)	(14,625,723)
d. Assumed rate of return, prior valuation	7.875%	7.875%
e. Expected return	11,613,835	10,733,629
f. Actuarial value of assets, end of year	159,451,992	148,889,709
g. Actual return	13,387,160	13,832,084
h. Actual rate of return	9.08%	10.15%
i. Asset gain/(loss)	1,773,325	3,098,455
j. Total asset gain/(loss), 2-year period	\$5,115,784	
Actual Unfunded Actuarial Accrued Liability		
a. Changes due to:		
i) Asset (gain)/loss	(\$5,115,784)	
ii) (Gain)/loss from demographic experience	3,137,766	
iii) (Gain)/loss prior to changes	(1,978,018)	
iv) Plan change - apply Chapter 176	-	
v) Plan change - increase COLA base	-	
vi) Assumption change - decrements	441,557	
vii) Assumption change - investment return rate	3,000,657	
viii) Total changes	1,464,196	
b. Unfunded Actuarial Accrued Liability	\$82,944,825	

SECTION 3 - CHAPTER 32 OF M.G.L. APPROPRIATIONS

Exhibit 3.1 - Annual Appropriations

The **Annual Appropriation** is determined in accordance with the requirements set forth in Sections 22D and 22F of Chapter 32 of the Massachusetts General Laws ("M.G.L."). The appropriation is comprised of the annual employer normal cost, amortization payments to pay the unfunded actuarial accrued liability and net 3(8)(c) transfers. Below are the details of the annual appropriation as of the current valuation.

Amortization Payments

a.	Early Retirement Incentive (2002)	
	Fully Funded Year	2019
	Balance as of valuation date	\$46,766
	Amortization Amount	\$10,799
	Remaining Payment Period	5
b.	Early Retirement Incentive (2003)	
	Fully Funded Year	2020
	Balance as of valuation date	\$21,949
	Amortization Amount	\$4,373
	Remaining Payment Period	6
c.	Early Retirement Incentive (2010)	
	Fully Funded Year	2022
	Balance as of valuation date	\$724,443
	Amortization Amount	\$115,889
	Remaining Payment Period	8
d.	Remaining Unfunded Actuarial Liability	
	Fully Funded Year	2033
	Balance as of valuation date	\$82,151,668
	Amortization Amount	\$5,836,800
	Remaining Payment Period	19
	Balance as of valuation date	\$82,151,666
e.	Total Amortization Payments	\$5,967,861
	Normal Cost	\$2,385,896
	Net 3(8)(c) Transfers	\$127,118
	Total Appropriation as of January 1, 2014	\$8,480,875

SECTION 3 - CHAPTER 32 OF M.G.L. APPROPRIATIONS

Exhibits 3.2 and 3.3, are based on the assumptions below:

Exhibit 3.2:

- Employer Normal Cost is expected to increase 4% per year.
- The Unfunded Actuarial Accrued Liability ("UAL") is computed as of January 1 of each year assuming no future gains or losses.
- The Amortization Payment of UAL is to be paid over 19 years through 2033, with the increase in total appropriations limited to 4.5%.
- The Amortization Payments of the Early Retirement Incentive programs (ERI) are level amortizations of the UAL attributable to the ERI programs for 2002, 2003 and 2010 over 5 years, 6 years and 10 years, respectively.
- Net 3(8)(c) transfers are a level dollar amount based on the net transfers expected to be paid by the Braintree Contributory Retirement Board during the current year offset by the amount received during the same period.
- Total Employer Cost is the sum of the Employer Normal Cost, the Amortization Payments of the UAL and the ERI programs and the Net 3(8)(c) Transfers, all computed as of January 1 of each year and adjusted for annual payments made on July 1.
- For fiscal year 2015, we show the actual appropriation developed under the previous funding schedule of \$8,393,425.

Exhibit 3.3:

- Expected benefit payments include payments expected to be made to retired members, beneficiaries, disabled members and active members expected to retire. In addition, expected benefit payments include distribution of the annuity savings fund attributed to inactive members.
- Benefit payments exclude cost-of-living increases granted to members in pay status between 1982 and 1997. In addition, benefit payments are as expected for the first ten years of the forecast, then increase by the greater of 4.50% per year thereafter or the expected future payments for the current population projected by our computer model.
- Calendar year cash flow entries are developed as of each January 1.

SECTION 3 - CHAPTER 32 OF M.G.L. APPROPRIATIONS

Exhibit 3.2 - 30-Year Forecast of Annual Appropriations

Fiscal Year Ending	Employer Normal Cost	Amortization Payment of UAL	Amortization Payment of ERI 2002	Amortization Payment of ERI 2003	Amortization Payment of ERI 2010	Net 3(8)(c) Transfers	Total Employer Cost	Increase over Prior Year
2015	\$2,476,624	\$5,648,804	\$11,210	\$4,539	\$120,296	\$131,952	\$8,393,425	
2016	2,575,690	5,927,442	11,210	4,539	120,296	131,952	8,771,129	4.50%
2017	2,678,718	6,219,116	11,210	4,539	120,296	131,952	9,165,831	4.50%
2018	2,785,866	6,524,429	11,210	4,539	120,296	131,952	9,578,292	4.50%
2019	2,897,302	6,844,017	11,210	4,539	120,296	131,952	10,009,316	4.50%
2020	3,013,193	7,189,755	-	4,539	120,296	131,952	10,459,735	4.50%
2021	3,133,721	7,544,454	-	-	120,296	131,952	10,930,423	4.50%
2022	3,259,070	7,910,974	-	-	120,296	131,952	11,422,292	4.50%
2023	3,389,433	8,414,910	-	-	-	131,952	11,936,295	4.50%
2024	3,525,011	8,816,466	-	-	-	131,952	12,473,429	4.50%
2025	3,666,011	9,236,769	-	-	-	131,952	13,034,732	4.50%
2026	3,812,652	9,676,691	-	-	-	131,952	13,621,295	4.50%
2027	3,965,160	10,137,143	-	-	-	131,952	14,234,255	4.50%
2028	4,123,766	10,602,395	-	-	-	131,952	14,858,113	4.38%
2029	4,288,717	11,026,491	-	-	-	131,952	15,447,160	3.96%
2030	4,460,266	11,467,550	-	-	-	131,952	16,059,768	3.97%
2031	4,638,676	11,926,253	-	-	-	131,952	16,696,881	3.97%
2032	4,824,222	12,403,302	-	-	-	131,952	17,359,476	3.97%
2033	5,017,191	12,899,436	-	-	-	131,952	18,048,579	3.97%
2034	5,217,879	-	-	-	-	131,952	5,349,831	-70.36%
2035	5,426,593	-	-	-	-	131,952	5,558,545	3.90%
2036	5,643,656	-	-	-	-	131,952	5,775,608	3.91%
2037	5,869,403	-	-	-	-	131,952	6,001,355	3.91%
2038	6,104,180	-	-	-	-	131,952	6,236,132	3.91%
2039	6,348,346	-	-	-	-	131,952	6,480,298	3.92%
2040	6,602,281	-	-	-	-	131,952	6,734,233	3.92%
2041	6,866,372	-	-	-	-	131,952	6,998,324	3.92%
2042	7,141,027	-	-	-	-	131,952	7,272,979	3.92%
2043	7,426,667	-	-	-	-	131,952	7,558,619	3.93%
2044	7,723,733	-	-	-	-	131,952	7,855,685	3.93%

Braintree Contributory Retirement System
Actuarial Valuation as of January 1, 2014

SECTION 3 - CHAPTER 32 OF M.G.L. APPROPRIATIONS

Exhibit 3.3 - 30-Year Forecast of Cash Flow

Calendar Year	Assets, BOY	Benefit Payments	Employee Contributions	Employer Contributions	Investment Return	Assets, EOY
2014	\$165,581,123	\$16,251,575	\$3,554,304	\$8,085,941	\$13,104,907	\$174,074,699
2015	174,074,699	15,770,906	3,696,476	8,449,808	13,821,004	184,271,081
2016	184,271,081	16,340,145	3,844,335	8,830,050	14,630,093	195,235,414
2017	195,235,414	16,953,925	3,998,108	9,227,402	15,498,757	207,005,756
2018	207,005,756	17,695,690	4,158,032	9,642,635	16,426,790	219,537,523
2019	219,537,523	18,501,058	4,324,353	10,076,554	17,413,312	232,850,684
2020	232,850,684	19,387,202	4,497,327	10,529,999	18,459,292	246,950,100
2021	246,950,100	20,301,883	4,677,220	11,003,849	19,567,218	261,896,504
2022	261,896,504	21,271,508	4,864,309	11,499,022	20,740,866	277,729,193
2023	277,729,193	22,256,968	5,058,881	12,016,478	21,984,895	294,532,479
2024	294,532,479	23,258,532	5,261,236	12,557,219	23,305,929	312,398,331
2025	312,398,331	24,305,166	5,471,685	13,122,294	24,710,079	331,397,223
2026	331,397,223	25,398,898	5,690,552	13,712,798	26,202,837	351,604,512
2027	351,604,512	26,541,848	5,918,174	14,313,802	27,788,831	373,083,471
2028	373,083,471	27,736,231	6,154,901	14,881,270	29,469,493	395,852,904
2029	395,852,904	28,984,361	6,401,097	15,471,435	31,250,577	419,991,652
2030	419,991,652	30,288,657	6,657,141	16,085,209	33,138,200	445,583,545
2031	445,583,545	31,651,647	6,923,427	16,723,531	35,138,863	472,717,719
2032	472,717,719	33,075,971	7,200,364	17,387,389	37,259,480	501,488,981
2033	501,488,981	34,564,390	7,488,379	5,153,845	38,505,798	518,072,613
2034	518,072,613	36,119,788	7,787,914	5,354,914	39,769,555	534,865,208
2035	534,865,208	37,745,178	8,099,431	5,564,025	41,048,346	551,831,832
2036	551,831,832	39,443,711	8,423,408	5,781,502	42,339,404	568,932,435
2037	568,932,435	41,218,678	8,760,344	6,007,678	43,639,562	586,121,341
2038	586,121,341	43,073,519	9,110,758	6,242,900	44,945,214	603,346,694
2039	603,346,694	45,011,827	9,475,188	6,487,532	46,252,271	620,549,858
2040	620,549,858	47,037,359	9,854,196	6,741,948	47,556,118	637,664,761
2041	637,664,761	49,154,040	10,248,364	7,006,541	48,851,555	654,617,181
2042	654,617,181	51,365,972	10,658,299	7,281,717	50,132,751	671,323,976
2043	671,323,976	53,677,441	11,084,631	7,567,901	51,393,179	687,692,246

SECTION 4 - REQUIRED DISCLOSURES

The Governmental Accounting Standards Board (GASB) requires certain disclosures of pension liabilities for public employer financial statements in accordance with Statement Numbers 25 and 27. Footnote disclosures required by GASB Statement Numbers 25 and 27 include a description of the Plan, a summary of significant accounting policies and information about contributions, legally required reserves and investment concentrations. The Annual Required Contribution (ARC) shown is for the fiscal year beginning the following July 1.

Below is the required disclosure information:

<u>Valuation Date</u>	<u>1/1/2014</u>	<u>1/1/2012</u>
1. Actuarial Accrued Liability	\$242,396,817	\$220,507,572
2. Actuarial Value of Assets	159,451,992	137,542,466
3. Unfunded Actuarial Accrued Liability (UAAL)	\$82,944,825	\$82,965,106
4. Funded Ratio = 2. ÷ 1.	65.8%	62.4%
5. Covered Payroll	\$38,444,353	\$36,452,974
6. UAAL as a Percentage of Covered Payroll = 3. ÷ 5.	215.8%	227.6%
7. Annual Required Contribution (ARC)	\$8,393,425	\$7,560,687
8. Net Pension Obligation	\$0	\$0

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) / c)
1/1/2014	159,451,992	242,396,817	82,944,825	65.8%	38,444,353	215.8%
1/1/2012	137,542,466	220,507,572	82,965,106	62.4%	36,452,974	227.6%
1/1/2010	137,153,350	202,776,702	65,623,352	67.6%	35,050,919	187.2%
1/1/2008	141,345,518	189,265,970	47,920,452	74.7%	33,893,980	141.4%
1/1/2006	119,721,733	167,313,371	47,591,638	71.6%	30,860,696	154.2%
1/1/2004	103,345,000	151,324,000	47,979,000	68.3%	29,450,000	162.9%

Braintree Contributory Retirement System
Actuarial Valuation as of January 1, 2014

SECTION 4 - REQUIRED DISCLOSURES

The most recent actuarial valuation of the System was prepared by KMS Actuaries, LLC as of January 1, 2014.

The normal cost for employees on that date was:	\$3,554,304	9.2% of payroll
The normal cost for the employer was:	\$2,385,896	6.2% of payroll

The actuarial liability for active members was:	\$109,988,638
The actuarial liability for retired and inactive members was:	132,408,179
Total actuarial liability:	\$242,396,817
System assets as of that date:	\$159,451,992
Unfunded actuarial accrued liability:	\$82,944,825

The ratio of System assets to total actuarial accrued liability was: 65.8%

The principal actuarial assumptions used in the valuation are as follows:

Investment Return:	7.75%
Rate of Salary Increase:	4% per year

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded AAL (UAAL) (b- a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) / c)
1/1/2014	159,451,992	242,396,817	82,944,825	65.8%	38,444,353	215.8%
1/1/2012	137,542,466	220,507,572	82,965,106	62.4%	36,452,974	227.6%
1/1/2010	137,153,350	202,776,702	65,623,352	67.6%	35,050,919	187.2%
1/1/2008	141,345,518	189,265,970	47,920,452	74.7%	33,893,980	141.4%
1/1/2006	119,721,733	167,313,371	47,591,638	71.6%	30,860,696	154.2%
1/1/2004	103,345,000	151,324,000	47,979,000	68.3%	29,450,000	162.9%

SECTION 5 - SUMMARY OF PLAN PROVISIONS

Administration

There are 105 contributory retirement systems for public employees in Massachusetts. Each system is governed by a retirement board and all boards, although operating independently, are governed by Chapter 32 of the Massachusetts General Laws and other applicable statutes. This law in general provides uniform benefits, uniform contribution requirements and a uniform accounting and funds structure for all systems.

Participation

Participation is mandatory for all full-time employees. Eligibility with respect to part-time, provisional, temporary, seasonal or intermittent employment is governed by regulations promulgated by the local retirement board, and approved by PERAC. Membership is optional for certain elected officials.

There are four classes of membership in the Retirement System:

- | | |
|----------|--|
| Group 1: | General employees, including clerical, administrative, technical and all other employees not otherwise classified. |
| Group 2: | Certain specified hazardous duty positions. |
| Group 3: | State police officers and inspectors. |
| Group 4: | Local police officers, firefighters and other specified hazardous positions. |

For members in more than one group, participation will be proportional.

Member Contributions

Member contributions vary depending on the most recent date of membership:

Prior to 1975:	5% of Salary
1975 – 1983:	7% of Salary
1984 – June 30, 1996:	8% of Salary
July 1, 1996 – present:	9% of Salary
1979 – present:	An additional 2% of Salary in excess of \$30,000.
Group 1 members hired on or after April 2, 2012:	6% of Salary with 30 or more years of creditable service.

Rate of Interest

Interest on regular deductions made after January 1, 1984 is a rate established by PERAC in consultation with the Commissioner of Banks. The rate is obtained from the average rates paid on individual savings accounts by a representative sample of at least ten financial institutions.

SECTION 5 - SUMMARY OF PLAN PROVISIONS

Retirement Age The mandatory retirement age for some Group 2 and Group 4 members is age 65. Most Group 2 and Group 4 members may remain in service after reaching age 65. Group 4 members who are employed in certain public safety positions are required to retire at age 65. There is no mandatory retirement age for members in Group 1.

Salary Gross regular compensation. This does not include bonuses, overtime, severance pay, unused sick leave credit or other similar compensation.

Average Salary Membership before April 2, 2012: Average annual rate of regular compensation received during the three consecutive years that produce the highest average, or, if greater, during the last three years (whether or not consecutive) preceding retirement.
 Membership on or after April 2, 2012: Average annual rate of regular compensation received during the five consecutive years that produce the highest average, or, if greater, during the last five years (whether or not consecutive) preceding retirement.

Creditable Service The period during which a member contributes to the retirement system plus certain periods of military service and “purchased” service.

Benefit Rate The benefit rate varies with the member's retirement age, Group, membership date and years of creditable service at retirement. Each year a member retires prior to the age at which the 2.5% maximum benefit rate applies, a reduction is applied to each year of age under the maximum age. The maximum age and reduction for each Group and membership date is as follows:

	<u>Group 1</u>	<u>Group 2</u>	<u>Group 4</u>
2.5% for Membership before April 2, 2012:			
Maximum age:	65	60	55
Reduction:	0.1%	0.1%	0.1%
2.5% for Membership on or after April 2, 2012 (less than 30 years of service):			
Maximum age:	67	62	57
Reduction:	0.15%	0.15%	0.15%
2.5% for Membership on or after April 2, 2012 (30+ years of service):			
Maximum age:	67	62	57
Reduction:	0.125%	0.125%	0.125%

Braintree Contributory Retirement System
 Actuarial Valuation as of January 1, 2014

SECTION 5 - SUMMARY OF PLAN PROVISIONS

Superannuation Retirement

Eligibility if membership before April 2, 2012:	<ul style="list-style-type: none"> • completion of 20 years of Creditable Service, or • attainment of age 55 if hired prior to 1978, or • attainment of age 55 with 10 years of Creditable Service, if hired after 1978.
Eligibility if membership on or after April 2, 2012:	<ul style="list-style-type: none"> • attainment of age 60 with 10 years of Creditable Service if classified in Group 1 • attainment of age 55 with 10 years of Creditable Service if classified in Group 2 • attainment of age 55 if hired prior to 1978 or if classified in Group 4
Benefit Amount	Product of the member's Benefit Rate, Average Salary and Creditable Service.
Maximum Benefit	80% of the member's Average Salary.
Veteran's Benefit	Additional benefit of \$15 per year of Creditable Service, up to a maximum of \$300.

Deferred Vested

Eligibility	<ul style="list-style-type: none"> • completion of ten or more years of Creditable Service. • elected officials hired prior to 1978, completion of six years of Creditable Service.
Benefit Amount	Accrued benefit payable commencing at age 55, or the completion of 20 years of Creditable Service, or may be deferred until later at the participant's option.

SECTION 5 - SUMMARY OF PLAN PROVISIONS

Withdrawal of Contributions		<p>Contributions may be withdrawn upon termination of employment.</p> <ul style="list-style-type: none"> • Members who voluntarily terminate with at least ten years of creditable service will receive 100% of the regular interest that has accrued to the Annuity Savings Account. • Members who voluntarily terminate with fewer than ten years of creditable service will receive interest on the Annuity Savings Account at the annual rate of 3%.
Ordinary Disability Retirement	Eligibility	Non-job related disability after completion of ten years of Creditable Service.
	Benefit Amount for Group 1 membership before April 2, 2012 or Group 2 or Group 4	Superannuation benefit determined as if the member is age 55, up to a maximum of 80% of Average Salary over three years. If the member is a veteran, 50% of final rate of salary (final year) plus an annuity based on the accumulated member contributions plus credited interest, up to a maximum of 80% of Average Salary over five years.
	Benefit Amount for Group 1 membership on or after April 2, 2012	Superannuation benefit determined as if the member is age 60, up to a maximum of 80% of Average Salary over three years. If the member is a veteran, 50% of final rate of salary (final year) plus an annuity based on the accumulated member contributions plus credited interest, up to a maximum of 80% of Average Salary over five years.
Accidental Disability Retirement	Eligibility	Disabled as a result of an accident in the performance of duties. There is no minimum age or service requirement.
	Benefit Amount	72% of Salary plus an annuity based on accumulated member contributions plus credited interest.
	Maximum Benefit	100% of Salary if hired before January 1, 1988, otherwise 75% of Salary.
	Veteran's Benefit	Additional allowance of \$15 per year of Creditable Service, up to a maximum of \$300.
	Supplemental Dependent	Additional allowance of \$415 per year for each child.

SECTION 5 - SUMMARY OF PLAN PROVISIONS

Non-Occupational Death	Eligibility	For members with at least two years of creditable service who die while in active service, but not due to occupational injury.
	Benefit Amount	Benefit as if Option C had been elected. Minimum benefit of \$250 per month for surviving spouse, \$120 per month for first child and \$90 per month for each additional child.
Accidental Death	Eligibility	For members who die as a result of an occupational injury.
	Benefit Amount	72% of Salary plus an annuity based on accumulated member contributions plus credited interest.
	Maximum Benefit	100% of Salary if hired before January 1, 1988, otherwise 75% of Salary.
	Veteran's Benefit	Additional allowance of \$15 per year of creditable service, up to a maximum of \$300.
	Supplemental Dependent Allowance	Additional allowance of \$708.60 per year for each child until age 18 (or age 22 if a full-time student).
Cost-of-Living Adjustment (COLA)	In accordance with the adoption of Chapter 17 of the Acts of 1997, the granting of a Cost-of-Living Adjustment will be determined by an annual vote by the Retirement Board. The amount of increase will be based upon the Consumer Price Index, limited to a maximum of 3.0%, beginning on July 1. All retirees, disabled retirees and beneficiaries who have been receiving benefit payments for at least one year as of July 1 are eligible for the adjustment. The maximum amount of pension benefit subject to a COLA is \$12,000. All COLAs granted to members after 1981 and prior to July 1, 1998 are deemed to be an obligation of the Commonwealth of Massachusetts and are not the liability of the Retirement System.	
Optional Forms of Payment	A member may elect to receive his or her retirement allowance in one of three forms of payment:	
	<ul style="list-style-type: none"> • Option A – Life annuity. • Option B – Life annuity with death benefit equal to excess of member contributions plus credited interest to retirement over annuity benefit paid to member. • Option C – Life annuity with 66⅔% of benefit continued to designated joint annuitant upon death of member. 	

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Valuation Date: January 1, 2014

Investment Return: 7.75% per year. Previously, 7.875% per year.

Annuity Savings Fund Interest Rate: 2.00% per year

Amortization Method: *Unfunded Actuarial Accrued Liability (UAL):*
 Increasing dollar amount at 4.00% to reduce the Unfunded Actuarial Accrued Liability to zero on or before June 30, 2033. No change from prior valuation.

Early Retirement Incentive Programs (ERI):
 2002 ERI is amortized as a level dollar amount to reduce the liability to zero on June 30, 2019.
 2003 ERI is amortized as a level dollar amount to reduce the liability to zero on June 30, 2020.
 2010 ERI is amortized as a level dollar amount to reduce the liability to zero on June 30, 2022.

Salary Scale: The assumed annual rates for salary increases including longevity are illustrated by the following rates:

<u>Year</u>	<u>General Employees</u>	<u>Police and Fire</u>
Current valuation	4.00%	4.00%
Previous valuation	4.00%	4.00%

Cost-of-Living Allowance: Cost-of-Living Allowances (COLA) are assumed to be 3% of the pension amount, capped at \$360 per year. No change from prior valuation.

Mortality Table: RP-2000 Mortality Table, projected to 2020 with Scale AA and 2015 with Scale AA for pre-retirement and post-retirement, respectively. RP-2000 Mortality Table set forward two years for disabled members. Previously, RP-2000 Mortality Table projected to 2017 with Scale AA.

General Employees: 50% of deaths are job-related.
Police and Fire : 50% of deaths are job-related.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Turnover Rates:

Illustrative turnover rates are shown below:

<u>Creditable Service</u>	<u>General Employees</u>	<u>Police and Fire</u>
0	0.1500	0.0150
1	0.1200	0.0150
2	0.1000	0.0150
3	0.0900	0.0150
4	0.0800	0.0150
5	0.0760	0.0150
6	0.0750	0.0150
7	0.0670	0.0150
8	0.0630	0.0150
9	0.0590	0.0150
10	0.0540	0.0150
11	0.0500	0.0000
20	0.0200	0.0000
30	0.0000	0.0000

Disability Rates:

Illustrative disability rates are shown below:

<u>Attained Age</u>	<u>General Employees</u>	<u>Police and Fire</u>
20	0.0003	0.0010
25	0.0004	0.0012
30	0.0006	0.0018
35	0.0008	0.0026
40	0.0012	0.0038
45	0.0018	0.0058
50	0.0031	0.0098
55	0.0050	0.0160
60	0.0061	0.0197

General Employees: 67% of disabilities are accidental and 33% are ordinary.

Police and Fire: 90% of disabilities are accidental and 10% are ordinary.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Retirement Rates: Illustrative retirement rates are shown below:

<u>Age</u>	<u>General Employees</u>		<u>Police and Fire</u>
	<u>Male</u>	<u>Female</u>	<u>Male & Female</u>
50	0.00	0.00	0.02
51	0.00	0.00	0.02
52	0.00	0.00	0.02
53	0.00	0.00	0.02
54	0.00	0.00	0.02
55	0.10	0.10	0.05
56	0.03	0.03	0.05
57	0.03	0.03	0.05
58	0.03	0.03	0.05
59	0.05	0.05	0.05
60	0.05	0.05	0.10
61	0.05	0.05	0.10
62	0.10	0.10	0.20
63	0.10	0.10	0.20
64	0.10	0.10	0.20
65	0.50	0.50	1.00
66	0.35	0.35	1.00
67	0.35	0.35	1.00
68	0.35	0.35	1.00
69	0.35	0.35	1.00
70	1.00	1.00	1.00

Actuarial Cost Method: Individual Entry Age Normal.

Actuarial Asset Method: The Actuarial Value of Assets is the market value of assets as of the valuation date reduced by the sum of:

- a) 75% of gains and losses of the prior year,
- b) 50% of gains and losses of the second prior year and
- c) 25% of gains and losses of the third prior year.

Investment gains and losses are determined by the excess or deficiency of the expected return over the actual return on the market value. The actuarial valuation of assets is further constrained to be not less than 90% or more than 110% of market value.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Census Data:	Census data as of the valuation date were submitted by the Retirement Board.
Asset Data:	Asset information is reported annually to the Public Employee Retirement Administration Commission by the Braintree Contributory Retirement System.
Dependents:	100% of all members will be survived by a spouse. Age assumption for spouses is that males are assumed to be three years older than females.
Administrative Expenses:	The anticipated administrative expenses for the fiscal year. For Fiscal Year 2015, the administrative expenses were assumed to be \$350,000 and are anticipated to increase at 4% per year.

SECTION 7 - PLAN MEMBER INFORMATION

Exhibit 7.1 - Active Members by Age and Years of Service as of January 1, 2014

Age	Years of Service									Total
	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	
Under 20	-	-	-	-	-	-	-	-	-	0
	-	-	-	-	-	-	-	-	-	0
20-24	15	-	-	-	-	-	-	-	-	15
	28,211	-	-	-	-	-	-	-	-	28,211
25 to 29	30	7	-	-	-	-	-	-	-	37
	40,494	67,725	-	-	-	-	-	-	-	45,645
30 to 34	23	18	7	-	-	-	-	-	-	48
	48,097	63,247	62,450	-	-	-	-	-	-	55,871
35 to 39	7	11	16	3	-	-	-	-	-	37
	32,749	60,112	63,576	94,318	-	-	-	-	-	59,207
40 to 44	15	15	12	17	6	-	-	-	-	65
	21,716	52,321	67,466	72,403	73,696	-	-	-	-	55,280
45 to 49	30	38	29	14	27	13	-	-	-	151
	28,464	40,302	75,917	62,684	73,764	90,258	-	-	-	57,149
50 to 54	26	26	35	23	13	27	7	-	-	157
	32,922	29,966	41,698	58,309	71,046	78,231	86,208	-	-	51,433
55 to 59	15	16	30	25	11	17	9	1	-	124
	38,651	44,011	44,577	52,015	52,179	78,929	77,019	104,060	-	53,505
60 to 64	3	10	20	17	10	7	3	-	-	70
	38,772	29,373	40,768	40,127	51,995	70,558	116,507	-	-	46,728
65 to 69	2	5	6	5	2	3	-	-	-	23
	47,751	11,722	46,977	67,574	16,207	42,962	-	-	-	40,658
70 & up	-	-	2	-	3	1	-	1	1	8
	-	-	40,716	-	44,080	40,192	-	10,457	57,191	40,189
Total	166	146	157	104	72	68	19	2	1	735
Average Salary	34,944	44,011	53,764	58,201	64,111	77,799	86,639	57,258	57,191	52,305
							Average Age:	49.2	Average Service:	12.8

Braintree Contributory Retirement System
Actuarial Valuation as of January 1, 2014

SECTION 7 - PLAN MEMBER INFORMATION

Exhibit 7.2 - Retired Plan Members and Beneficiaries Annual Pensions as of January 1, 2014

Attained Age	Male		Female		Total	
	Count	Total Payments	Count	Total Payments	Count	Total Payments
<20	0	0	0	0	0	0
20-24	1	34,418	0	0	1	34,418
25-29	0	0	1	9,584	1	9,584
30-34	0	0	0	0	0	0
35-39	0	0	1	23,046	1	23,046
40-44	0	0	0	0	0	0
45-49	1	27,526	0	0	1	27,526
50-54	2	113,012	1	3,583	3	116,595
55-59	14	644,165	9	301,226	23	945,391
60-64	32	1,833,335	15	325,753	47	2,159,088
65-69	35	1,514,251	30	497,082	65	2,011,333
70-74	42	1,623,493	39	806,884	81	2,430,377
75-79	33	1,224,725	28	409,205	61	1,633,930
80-84	29	705,052	52	814,999	81	1,520,051
85-89	11	224,553	26	450,615	37	675,168
90-94	10	189,169	18	180,674	28	369,843
95+	1	19,837	6	45,357	7	65,194
Total	211	8,153,536	226	3,868,010	437	12,021,546
Average Age	72.6		77.1		74.9	
Average Payment		38,642		17,115		27,509
	48.3%	67.8%	51.7%	32.2%	100.0%	100.0%

Included in above totals is \$137,566 in State reimbursed COLAs.

SECTION 7 - PLAN MEMBER INFORMATION

Exhibit 7.3 - Disabled Plan Members Annual Pensions as of January 1, 2014

Attained Age	Male		Female		Total	
	Count	Total Payments	Count	Total Payments	Count	Total Payments
<20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	0	0	0	0	0	0
40-44	0	0	0	0	0	0
45-49	0	0	0	0	0	0
50-54	2	78,456	1	40,944	3	119,400
55-59	6	305,178	0	0	6	305,178
60-64	17	707,102	0	0	17	707,102
65-69	15	515,572	0	0	15	515,572
70-74	10	350,612	2	44,578	12	395,189
75-79	7	204,688	0	0	7	204,688
80-84	3	44,608	0	0	3	44,608
85-89	2	74,183	0	0	2	74,183
90-94	0	0	0	0	0	0
95+	0	0	0	0	0	0
Total	62	2,280,399	3	85,522	65	2,365,921
Average Age	68.1		64.4		67.9	
Average Payment		36,781		28,507		36,399
	95.4%	96.4%	4.6%	3.6%	100.0%	100.0%

Included in above totals is \$54,093 in State reimbursed COLAs.

SECTION 8 - GLOSSARY OF TERMS

Actuarial Accrued Liability – That portion of the Actuarial Present Value of pension plan benefits which is not provided by future Normal Costs or employee contributions. It is the portion of the Actuarial Present Value attributable to service rendered as of the Valuation Date.

Actuarial Assumptions – Assumptions, based upon past experience or standard tables, used to predict the occurrence of future events affecting the commencement, amount and duration of pension benefits, such as: changes in compensation, mortality, withdrawal, disablement and retirement; rates of investment earnings and asset appreciation or depreciation; and any other relevant items.

Actuarial Cost Method (or Funding Method) – A procedure for allocating the Actuarial Present Value of all past and future pension plan benefits to the current year (Normal Cost) and the past (Actuarial Accrued Liability).

Actuarial Gain or Loss (or Experience Gain or Loss) – A measure of the difference between actual experience and that expected based upon the set of Actuarial Assumptions, during the period between the valuation date and the most recent immediately preceding valuation date.

Actuarial Present Value – The dollar value on the valuation date of all benefits expected to be paid to current members based upon the Actuarial Assumptions and the terms of the Plan.

Amortization Payment – That portion of the pension plan appropriation which represents payments made to pay interest on and the reduction of the Unfunded Accrued Liability.

Annual Required Contribution (ARC) – The employer's periodic required contributions to a defined benefit pension plan, calculated in accordance with the rules required by the Governmental Accounting Standards Board (GASB).

Annual Statement – The statement submitted by the local retirement board to PERAC each year that describes the asset holdings and Fund balances as of December 31 and the transactions during the calendar year that affected the financial condition of the retirement system.

Annuity Reserve Fund – The fund into which total accumulated Member Contributions, including interest, is transferred at the time a member retires, and from which annuity payments are made.

Annuity Savings Fund – The fund in which Member Contributions plus interest credited are held for active members and for former members who have not withdrawn their contributions and are not yet receiving a benefit (inactive members).

SECTION 8 - GLOSSARY OF TERMS

Assets – The total value of the investments held by the Plan trust that are for the payment of promised benefits.

Cost of Benefits – The estimated payment from the pension system for benefits for the fiscal year.

Expense Fund – The fund into which the appropriation for administrative expenses is paid and from which all such expenses are paid.

Funded Ratio – The Actuarial Value of Assets expressed as a percentage of the Actuarial Accrued Liability.

Funding Schedule – The schedule based upon the most recently approved actuarial valuation which sets forth the amount which would be appropriated to the pension system in accordance with Section 22D of M.G.L. Chapter 32.

GASB – Governmental Accounting Standards Board.

Normal Cost – Total Normal Cost is that portion of the Actuarial Present Value of pension plan benefits which is expected to accrue in the current fiscal year. The Employee Normal Cost is the amount of the expected Member Contributions for the current fiscal year. The Employer Normal Cost is the difference between the Total Normal Cost and the Employee Normal Cost.

Pension Benefit Obligation – The portion of the Actuarial Present Value attributable to past service in accordance with the Projected Unit Credit cost method as stipulated by GASB Statement Number 5 (GASB 5). GASB 5 has been superseded by GASB Statements Number 25 and 27.

Pension Fund – The fund into which appropriation amounts as determined by PERAC are paid and from which pension benefits are paid.

Pension Reserve Fund – The fund which shall be credited with all amounts set aside by a system for the purpose of establishing a reserve to meet future pension liabilities. These amounts would include excess interest earnings.

Present Value of Future Benefits – The actuarial present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value of money and the probabilities of payment.

Special Fund for Military Service Credit – The fund which is credited with amounts paid by the retirement board equal to the amount which would have been contributed by a member during a military leave of absence as if the member had remained in active service of the retirement board. In the event of retirement or a non-job related death, such amount is transferred to the Annuity Reserve Fund. In the event of termination prior to retirement or death, such amount shall be transferred to the Pension Fund.

Unfunded Actuarial Accrued Liability – The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets.