Teachers' Retirement System
Actuarial Valuation Report

January 1, 2015

PUBLIC EMPLOYEE RETIREMENT ADMINISTRATION COMMISSION

COMMONWEALTH OF MASSACHUSETTS

Massachusetts Teachers' Retirement System

ACTUARIAL VALUATION REPORT

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1. INTRODUCTION & CERTIFICATION

This report presents the results of the actuarial valuation of the Massachusetts Teachers' Retirement System (TRS). The valuation was performed as of January 1, 2015, pursuant to Chapter 32 of the General Laws of the Commonwealth of Massachusetts and based on the plan provisions at that time. The actuarial assumptions used to calculate the accrued liability and the normal cost primarily reflect our most recent Experience Study Analysis report which was issued on July 21, 2014. The actuarial assumptions used in this valuation are the same as those used in the January 1, 2014 actuarial valuation with the exception of the investment return assumption (8.0% to 7.75%) and the mortality assumption which now reflects a fully generational table.

This valuation was based on member data as of December 31, 2014, which was supplied by the Retirement Board. We performed a number of tests on the data and made specific assumptions and determinations for a number of data items. We provide more detail on these issues in Section 6. Asset information as of December 31, 2014 was provided by the Pension Reserves Investment Management Board. We reviewed both the membership data and financial information for reasonableness but we did not audit this information.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of natural operation of the methodology used for these measurements such as additional contribution requirements based on the plan's funded status; and changes in plan provisions or applicable law. As part of this valuation, we have not performed an analysis of the potential range of future measurements.

I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report. In my opinion, the actuarial assumptions used in this report are reasonable, are related to plan experience and expectations, and represent my best estimate of anticipated experience. Although there is some uncertainty with regard to the pay and service for some active members as outlined in Section 6, overall, I believe this report represents an accurate appraisal of the actuarial status of the TRS performed in accordance with generally accepted actuarial principles and practices relating to pension plans.

Respectfully submitted,
Public Employee Retirement Administration Commission
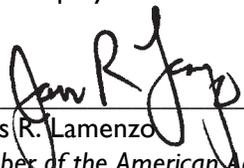
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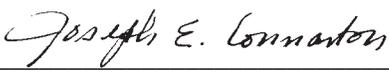
Joseph E. Connarton
Executive Director

September 18, 2015

2. EXECUTIVE SUMMARY

PART A | PRINCIPAL VALUATION RESULTS

Section 22C of G.L. c. 32 mandates the establishment of a funding schedule for the pension obligation of the Commonwealth of Massachusetts. The Massachusetts Teachers' Retirement System reflects one component of the Commonwealth schedule. The other components are the State Retirement System, liabilities for Boston teachers, and State reimbursements to local systems to reflect COLAs granted from 1982 through 1996. The schedule, as mandated by law, calls for payment of the Normal Cost plus an amortization payment on the Unfunded Actuarial Liability (UAL).

The Commonwealth's current funding schedule was filed in January, 2014 and was based on the results of the January 1, 2013 Commonwealth Actuarial Valuation. The FY15 appropriation is $1.793 billion. This amount increases 10% in FY16 and FY17. The appropriations for FY16 and FY17 are respectively, $1.972 billion and $2.169 billion under this schedule. Beginning in FY18, total appropriations increase 7% each year until FY35 with a final amortization payment in FY36.

Based on the results of the January 1, 2015 actuarial valuation, that appropriation increase would be required for two additional years with a final amortization payment in FY38. This extension is primarily due to the adoption of a fully generational mortality assumption, as actuarial gains since January 1, 2013 essentially offset the cost increase for the reduction in the investment return assumption (see page 5 for detail with respect to assumption changes).

The Massachusetts Teachers' Retirement System's portion of the FY16 Commonwealth appropriation is $1.13 billion.

The results of the January 1, 2015 actuarial valuation are as follows (dollars in thousands):

Total Normal Cost	$797,793
Expected Employee Contributions	620,692
Net Normal Cost	$177,101

Total Actuarial Liability	$44,115,769
Assets	23,946,759
Unfunded Actuarial Liability	$20,169,010

2. EXECUTIVE SUMMARY *(continued)*

PART B | COMPARISON WITH PRIOR VALUATION

A comparison of the current valuation and the January 1, 2014 valuation is shown below. (Dollars in thousands)

	1/1/15	1/1/14	Increase (Decrease)	Increase (Decrease)
Total Normal Cost	$797,793	$718,316	$79,477	11.1%
Expected Employee Contributions	620,692	591,582	29,110	4.9%
Net Normal Cost	$177,101	$126,734	$50,367	39.7%
Actuarial Liability				
Actives	$17,571,691	$16,173,481	$1,398,210	8.6%
Retirees and Inactives	26,544,078	24,568,214	1,975,864	8.0%
Total	$44,115,769	$40,741,695	$3,374,074	8.3%
Assets	23,946,759	22,940,196	1,006,563	4.4%
Unfunded Actuarial Liability	$20,169,010	$17,801,499	$2,367,511	13.3%
Funded Ratio	54.3%	56.3%	(2.0%)	

2. EXECUTIVE SUMMARY *(continued)*

PART B | COMPARISON WITH PRIOR VALUATION AND EXPERIENCE ANALYSIS

Actives	1/1/15	1/1/14	% Difference
Number	90,070	88,788	1.4%
Total Payroll	$6,204,274,389	$5,962,649,921	9.6%
Average Salary	$68,883	$67,156	2.6%
Average Age	43.8	44.0	(0.5%)
Average Service	12.9	12.9	0%

Retirees and Survivors	1/1/15	1/1/14	% Difference
Number	62,312	61,034	2.1%
Total Benefits	$2,625,686,385	$2,503,106,819	4.9%
Average Benefits	$42,138	$41,012	2.7%
Average Age	71.6	71.1	0.7%

Gain/(Loss)

The development of the actuarial gain/(loss) is shown on page 11. During 2014, there was an overall actuarial gain of $158 million. There was a non-investment loss on actuarial liability of approximately $153 million and a gain of approximately $312 million on the actuarial value of assets. The return on assets was approximately 9.4% on an actuarial basis, compared to 8.3% on a market value basis.

Since 1998, PERAC has valued system assets using a smoothing technique which spreads gains and losses over five years and employs a "corridor" so that the actuarial value of assets (AVA) is always within a set percentage of the market value of assets. The current corridor is 10% so that the AVA is never less than 90% nor greater than 110% of the market value of assets. The calculated actuarial value of assets as of January 1, 2015 is 95.6% of the market value. This figure was 94.9% as of January 1, 2014.

The UAL increased from $17.8 billion as of January 1, 2014 to $20.2 billion as of January 1, 2015. This increase primarily reflects a change in the investment return assumption from 8.0% to 7.75% and the adoption of a fully generational mortality assumption.

2. EXECUTIVE SUMMARY *(continued)*

PART B | COMPARISON WITH PRIOR VALUATION AND EXPERIENCE
ANALYSIS *(continued)*

Assumption Changes

We used an 8.25% investment return assumption in our actuarial valuations prior to January 1, 2013. The January 1, 2013 valuation used an 8.0% investment return assumption. The January 1, 2015 report reflects a 7.75% investment return assumption which we recommended in the fall of 2014. Our recommendation was based on the most recent PRIM study available which was released in early 2014 (see next paragraph) and the general trend of this assumption both in Massachusetts and nationally. The actuarial liability (and correspondingly the UAL) increased by approximately $870 million to reflect this change.

In January 2015, an updated study by PRIM's investment consultant outlined a 30 year expected average annual return of 7.9% (gross of investment expenses which are typically about 50 basis points). This expected return was 30 basis points less than the figure of 8.2% outlined in the 2014 study. The annual PRIM study is one factor we consider in developing a recommendation for the investment return assumption. Based on this result and the upcoming study to be completed in early 2016, we may recommend a further reduction in this assumption in the 2016 valuation.

In our 2011 actuarial valuation, we began reflecting future mortality improvement (increasing life expectancy). Each year we have modified this assumption as we have moved closer to a fully generational mortality assumption that includes all expected future mortality improvements. Based on our recent analysis of retiree mortality, we have taken the final step and moved to a generational assumption. The revised assumption reflects a two-dimensional table based on both the year and a member's age. The 2014 valuation used a static table that projected mortality improvements to 2022 for active members and 2017 for retirees then used these rates for all future years. The actuarial liability increased by approximately $1.0 billion to reflect this change.

As noted in the prior paragraphs, the UAL as of January 1, 2015 would have been approximately $1.9 billion lower ($870 million plus $1.0 billion) if there had been no change in assumptions from the prior valuation. On this basis, the January 1, 2015 UAL would be $18.3 billion and the funded ratio 56.7%. The two assumption changes reflect a more conservative funding basis.

Chapter 176

Chapter 176 of the Acts of 2011, *An Act Providing for Pension Reform and Benefit Modernization* made a number of changes to the Chapter 32 pension law. There are several changes that will have the most impact on decreasing plan liabilities over the longer term. These include an increase in the normal retirement age by two years (for example, from age 65 to age 67 for Group 1 members), an increase in the age (early retirement) reduction factor for ages below the maximum age (from a 4.0% to a 6.0% annual reduction), and an increase in the period for determining a member's average annual compensation (from 3 years to 5 years). Since these changes are effective only for members hired after April 1, 2012, this is the third actuarial valuation to reflect these changes.

As of January 1, 2015, there were approximately 15,200 members hired after April 1, 2012. Since these members have less than three years of service and are generally young, on a percentage basis there is relatively little impact on plan costs in this valuation. The employer normal cost is approximately $24.0 million lower than it would have been if the previous provisions were in place for these members. The actuarial liability is approximately $46.0 million lower than it would have been if the prior provisions were in place.

PART B | COMPARISON WITH PRIOR VALUATION AND EXPERIENCE ANALYSIS *(continued)*

We have detailed a number of the assumptions we made for missing or questionable data for active members of the TRS in Section 6. TRS implemented a new system with the data submission for the January 1, 2014 valuation. As part of the 2014 valuation, we identified several issues that TRS subsequently reviewed prior to the January 1, 2015 data submission. The data submission for the January 1, 2015 valuation has improved.

2. EXECUTIVE SUMMARY *(continued)*

PART C | FUNDING PROGRESS

The UAL and funded ratio are measures of the plan's funded status. These measures reflect the plan's position as of January 1, 2015. We believe these measures alone are not appropriate for assessing the sufficiency of assets to cover the estimated cost of settling the Teachers' benefit obligations or assessing the need for or the amount of future contributions. However, we believe these measures, in conjunction with maintaining the appropriations required under the Commonwealth funding schedule, are appropriate for assessing the amount of future contributions.

The nature of actuarial funding is that assets gradually catch up to the actuarial liability. When pension funding was adopted in 1987, the initial amortization period was established as 40 years. Based on the amortization basis of the schedules adopted, the UAL was expected to increase for a period of time. However, due to actual investment returns significantly exceeding the expected return in the 1990's, the UAL actually decreased until January 1, 2000.

It is important to note that plan assets have grown faster than plan liabilities. As of January 1, 1990, the actuarial liability was $9.7 billion and assets were $3.8 billion. The difference of $5.9 billion is the UAL. As of January 1, 2015, the actuarial liability is $44.1 billion and the actuarial value of assets is $23.9 billion. The difference of $20.2 billion is the UAL. The actuarial liability has grown 4.5 times over this period ($44.1B / $9.7B). But assets have grown 6.3 times over this same period ($23.9B / $3.8B).

For this reason, we believe the funded ratio represents a better measure of funding progress. If you draw a straight line from the 1990 funded ratio of 39.2% to the January 1, 2015 amount of 54.3%, the line is moving upward to the right. This demonstrates the funding progress to date. Although the funded ratio reached 83.3% on January 1, 2000, this was the result of average annual returns from 1985-1999 that exceeded 12.5% and attaining such a high level of funding so quickly was not expected. Over the past 15 years (2000-2014), the average annual return on assets on a market value basis is approximately 6.1%. Over a 10-year and 5-year period, the returns have been 7.0% and 10.0% respectively. The 30 year return is 9.8%.

We indicated on page 5 that the actuarial liability as of January 1, 2015 increased $1.9 billion to reflect a reduction in the investment return assumption from 8.0% to 7.75% and a change to a fully generational mortality assumption. There have been a number of other plan and assumption changes in the past 5 years that have increased the Commonwealth actuarial liability. These changes include a reduction in the investment return assumption from 8.25% to 8.0% as of January 1, 2013, annual adjustments to the mortality assumption and the adoption of a $13,000 COLA base. Including the changes as of January 1, 2015, the actuarial liability is approximately $4.0 billion greater than it would have been using the 2010 basis. Therefore, on a comparable basis with the 2010 plan provisions and assumptions, the UAL on January 1, 2015 would be $16.2 billion and the funded ratio would be 59.7%.

2. EXECUTIVE SUMMARY *(continued)*

PART C | FUNDING PROGRESS
UNFUNDED LIABILITY

The chart below shows the unfunded actuarial accrued liability (UAL) since 1990. The UAL represents the actuarial accrued liability less the actuarial value of plan assets. When there is no UAL, a system is said to be "fully funded". In this exhibit, for years prior to 2000, estimates were developed to reflect implementation of updated actuarial software.

On a market value basis the UAL is $19.1 billion.

MASSACHUSETTS TEACHERS' UNFUNDED LIABILITY
(in billions of dollars)

Year	UAL
90	$5.9
93	$4.6
95	$4.6
96	$3.7
98	$4.1
00	$2.8
01	$3.8
02	$4.9
03	$8.1
04	$7.4
05	$8.5
06	$9.1
07	$8.5
08	$8.1
09	$13.6
10	$12.4
11	$11.8
12	$14.3
13	$17.3
14	$17.8
15	$20.2
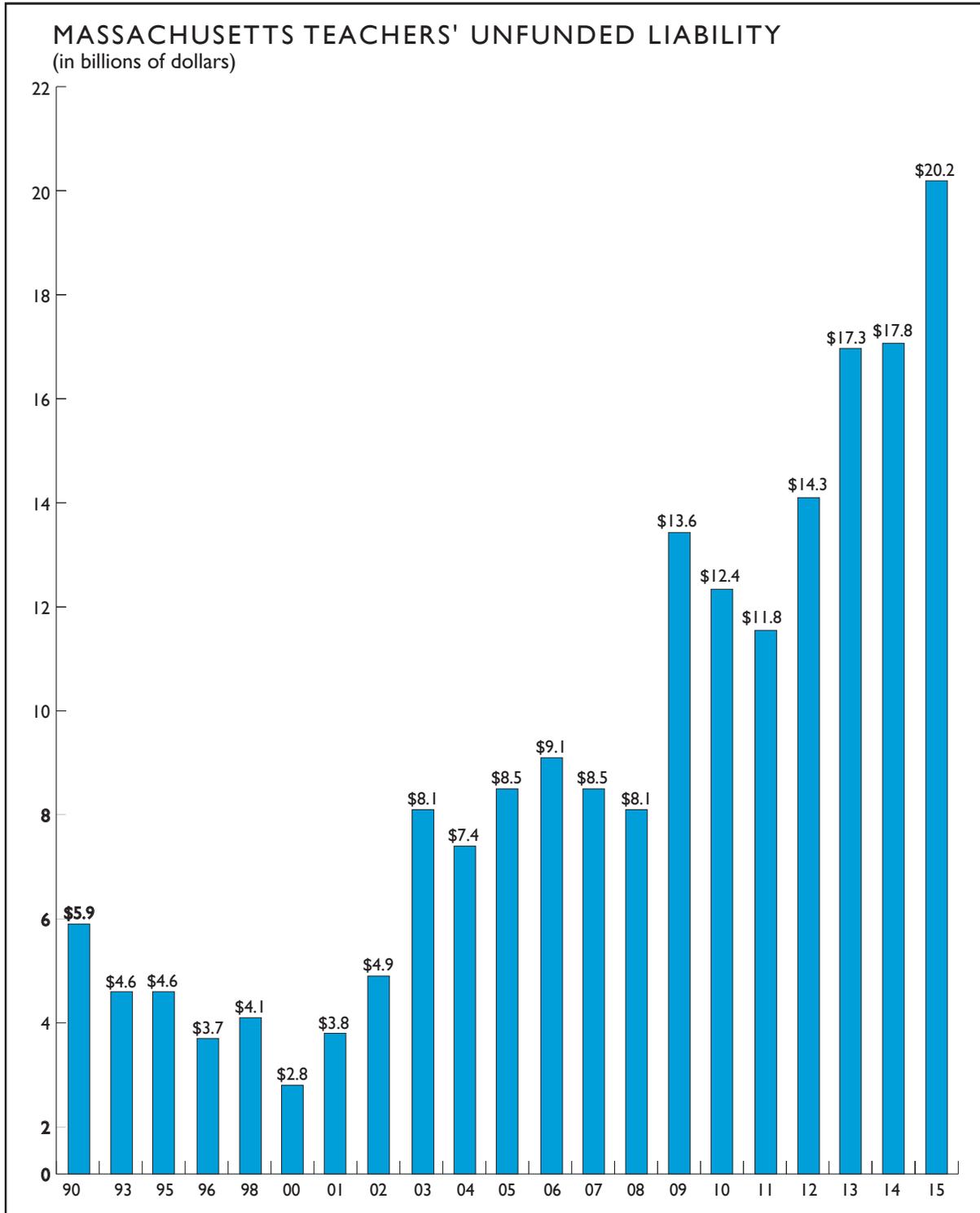
2. EXECUTIVE SUMMARY *(continued)*

PART C | FUNDING PROGRESS *(continued)*
FUNDED RATIO

The chart below shows the funded ratio progress since 1990. The funded ratio represents the actuarial value of plan assets divided by the actuarial accrued liability. When the funded ratio reaches 100%, a system is said to be "fully funded". In this exhibit, for years prior to 2000, estimates were developed to reflect implementation of updated actuarial software.

On a market value basis the Funded Ratio is 56.8%.

MASSACHUSETTS TEACHERS' FUNDED RATIO
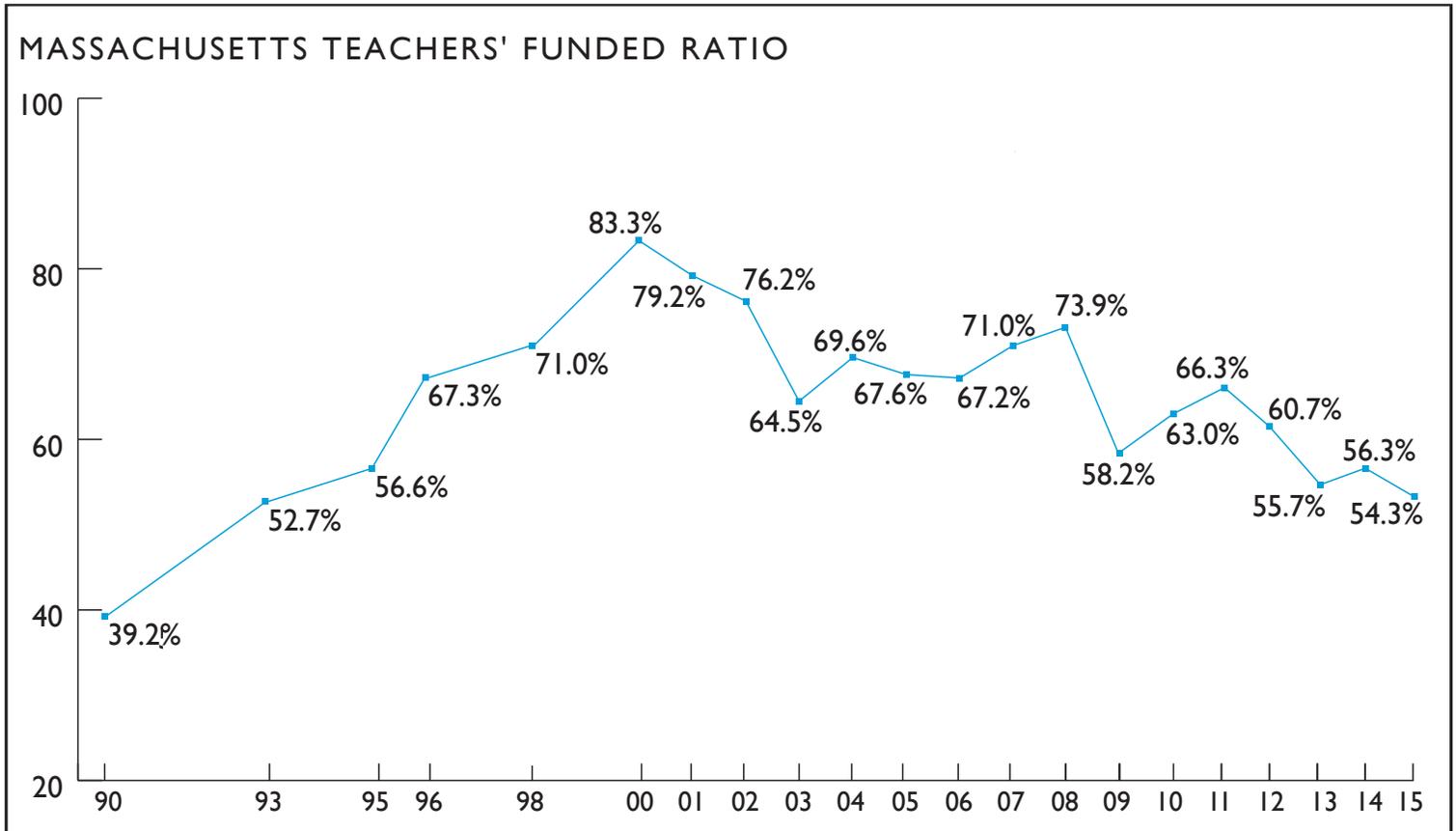
3. SUMMARY OF VALUATION RESULTS

(Dollars in thousands)

A. Number of Members	
Active	90,070
Vested Terminated	NA
Retired/ Beneficiaries	62,312
Total	152,382
B. Total Payroll	$6,204,274
C. Normal Cost	
Superannuation	$677,668
Death	27,941
Disability	9,697
Termination	82,487
Total Normal Cost	$797,793
Expected Employee Contributions	620,692
Net Employer Normal Cost	$177,101
D. Actuarial Liability	
Active	
Superannuation	$16,838,378
Death	209,729
Disability	90,485
Termination	433,099
Total Active	$17,571,691
Vested Terminated (a)	625,000
Non-Vested Terminated	0
Retirees and Survivors	25,919,078
Total Actuarial Liability	$44,115,769
E. Actuarial Value of Assets	23,946,759
F. Unfunded Actuarial Liability	$20,169,010
G. Funded Ratio: E/D	54.3%

(a) estimated and includes non-vested terminated members.

4. DEVELOPMENT OF THE ACTUARIAL GAIN OR LOSS *(in millions)*

A. Gain/(loss) on Actuarial Liability

1.	Actuarial Liability 1/1/14	40,742
2.	Total Normal Cost 1/1/14	718
3.	Interest on (1) and (2) at 8.0%	3,317
4.	Benefits paid during 2014 [a]	2,600
5.	Interest on (4) assuming mid-year payment	104
6.	Expected Actuarial Liability before adjustments: (1)+(2)+(3)-(4)-(5)	42,073
7.	Increase due to change in assumptions	1,890
8.	Expected Actuarial Liability 1/1/15: (6)+(7)	43,963
9.	Actuarial Liability 1/1/15	44,116
10.	Gain/(loss): (8)-(9)	(153)

B. Gain/(loss) on assets

11.	Actuarial Value of Assets (AVA) 1/1/14	22,940
12.	Interest on (11) at 8.0%	1,835
13.	Net Receipts [b]	717
14.	Net Disbursements [b]	1,813
15.	Net Cash Flow: (13)-(14)	(1,096)
16.	Interest on (15) [c]	(44)
17.	Expected AVA 1/1/15: (11)+(12)+(15)+(16)	23,635
18.	AVA 1/1/15	23,947
19.	Gain/(loss): (18)-(17)	312

C.	Total Gain/(loss): (10)+(19)	158

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[a] Estimated

[b] Amounts actually received or disbursed by the fund.

[c] Assumes time weighting based on monthly cash flow.

Figures may not add due to rounding.

5. ASSETS

PART A | ASSET ALLOCATION
(Dollars in thousands)

Pension Reserve Investment Trust (Teachers' Retirement System)

Market Value	$25,046,692
Actuarial Value	$23,946,759
Actuarial Value as Percentage of Market Value	95.6%

The actuarial value of assets is determined so that 20% of the investment gain and loss in a given year is recognized annually for the next five years. Therefore, these investment gains and losses are fully recognized after five years. In addition to this treatment of gains and losses, we use a "corridor" approach so that the actuarial value of assets can never be too far from the market value of assets. Under our approach for TRS, the actuarial value of assets cannot be less than 90% nor greater than 110% of the market value.

Due to the severity of the 2008 investment loss, and later the 2011 investment loss, the calculated actuarial value of assets was greater than 110% of the market value each year from January 1, 2009 through January 1, 2012. Therefore, the actuarial value was set at 110% of the market value for those years. As of January 1, 2013, the 2008 loss was completely recognized and the actuarial value of assets was 99.3% of market value. As of January 1, 2014, the actuarial value of assets was 94.9% of the market value. As of January 1, 2015, the actuarial value of assets was 95.6% of the market value.

5. ASSETS *(continued)*

PART B | DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS
(Dollars in thousands)

A. Development of 12/31/14 expected actuarial value of assets (AVA)

1. Market value of assets (MVA) 12/31/13	24,183,391
2. Actuarial value of assets (AVA) 12/31/13 (as calculated)	22,940,196
3. Net Receipts 2014	716,803
4. Net Disbursements 2014	1,813,345
5. Net Cash Flow: (3)-(4)	(1,096,542)
6. Expected Investment Return on (2): 0.08 x (2)	1,835,216
7. Expected Investment Return on (5): ½x 0.08 x (5)	(43,862)
8. Expected AVA 12/31/14: (2)+(5)+(6)+(7)	23,635,008

B. Previous differences not yet amortized

1. Unrecognized amount of 12/31/13 difference	
a. .2 x 2010 Gain/(loss)	137,345
b. .4 x 2011 Gain/(loss)	(729,679)
c. .6 x 2012 Gain/(loss)	559,984
d. .8 x 2013 Gain/(loss)	1,275,546
e. Total	1,243,196

C. Gain/(loss) from 2014

1. Market Value 12/31/14	25,046,692
2. Expected Market Value 12/31/14: A(8)+B(1e)	24,878,204
3. Gain/ (loss) from 2014 investment: (1)-(2)	168,488

D. Development of AVA 12/31/14

1. 2014 Gain/(loss)	168,488
2. 2013 Gain/(loss)	1,594,433
3. 2012 Gain/(loss)	933,306
4. 2011 Gain/(loss)	(1,824,198)
5. 2010 Gain/(loss)	686,724
6. 20% of 2014 Gain/(loss)	33,698
7. 20% of 2013 Gain/(loss)	318,887
8. 20% of 2012Gain/(loss)	186,661
9. 20% of 2011 Gain/(loss)	(364,840)
10. 20% of 2010 Gain/(loss)	137,345
11. Total	311,751
12. Actuarial Value 12/31/14: A8+D11	23,946,759
13. Percentage of Market Value	95.6%
14. Actuarial Value: (12) but not less than 90% of C(1)	23,946,759

6. SYSTEM MEMBERSHIP

PART A | ACTIVE MEMBERS

A critical element of an actuarial valuation is accurate and up-to-date membership information. As part of this valuation, PERAC analyzed the member data provided by the Massachusetts Teachers' Retirement System (TRS). We made several assumptions about missing, questionable, or unavailable data.

Until the January 1, 2006 actuarial valuation, we had estimated the total creditable service for each member for the actuarial valuation. The estimate was based on either the employment date (date of hire as a teacher) or the adjusted employment date and was set equal to the greater of the two calculated service amounts. We used this methodology, which we believed was conservative, because we had no way to assess additional costs for members who buy back service near retirement. In 2006, we compared the service estimated for valuation purposes with actual service for over 6,800 members who retired in 2004 and 2005. We found that, in total, our methodology slightly understated service. To estimate this additional cost, we increased the plan liabilities as of January 1, 2006. We have continued using this methodology in each valuation.

For members with a date of birth and/or date of hire that seemed questionable, we assumed (based on credited service or date of birth) the member was hired at age 30 (or at a younger age, if the member was under 30).

Based on our experience with prior years' data, buyback issues, and questions to TRS regarding specific members, we made several adjustments. Members whose pay was less than $5,000 were assumed to be inactive. For members with pay between $5,000 and $10,000, we used an estimated pay of $50,000. For members with submitted pay over $150,000, we compared this year's figure to the pay used in last year's valuation. We adjusted this year's figure based on the amount contributed if we believed it was overstated.

Determining valuation pay for members with reported pay less than $10,000 is difficult. Although we make the assumptions outlined above, we know there will always be a significant number of members that fall into this category for a variety of reasons including leaves of absence and part time employment. We believe our overall assumption is reasonable but know some members that we have deemed inactive are active members. To reflect this uncertainty, we made an additional increase to the calculated plan liabilities consistent with last year.

We increased the normal cost by 2.0% and the active actuarial liability by 1.0% to reflect the service buyback and various data issues.

Pay for all members hired in 2014 was annualized.

Because we could not determine the number of vested terminations, we estimated a combined inactive (terminated vested plus terminated with an ASF balance) liability. This is the same methodology we have used in prior valuations.

6. SYSTEM MEMBERSHIP *(continued)*

PART A | ACTIVE MEMBERS *(continued)*

	Actives
Number of Members	90,070
Average Age	43.8
Average Service	12.9
Average Salary	$68,883
Average Annuity Savings Fund Balance	$66,224

Age by Service Distribution of Active Members

	Years of Service							
Present Age	0 – 4	5 -9	10 - 14	15 – 19	20 – 24	25 - 29	30+	Total
0 - 24	2,102							2,102
25 - 29	8,227	1,698	2					9,927
30 - 34	4,139	6,799	1,766	6				12,710
35 - 39	1,967	3,191	5,732	1,307	15			12,212
40 - 44	1,497	1,783	3,352	4,871	1,003	31		12,537
45 - 49	1,354	1,798	2,257	2,923	2,494	686	27	11,539
50 - 54	889	1,564	2,132	1,910	1,271	2,101	614	10,481
55 - 59	497	929	1,790	1,977	1,204	1,470	2,276	10,143
60 - 64	209	454	975	1,261	920	903	2,050	6,772
65+	45	119	203	278	196	196	610	1,647
Total	20,926	18,335	18,209	14,533	7,103	5,387	5,577	90,070

6. SYSTEM MEMBERSHIP *(continued)*

PART A | ACTIVE MEMBERS *(continued)*

Salary by Age Distribution of Active Members

Present Age	Number of Members	Total Salary	Average Salary
0 - 24	2,102	$90,310,470	$42,964
25 - 29	9,927	$493,228,592	$49,686
30 - 34	12,710	$760,447,663	$59,831
35 - 39	12,212	$843,014,493	$69,032
40 - 44	12,537	$916,969,103	$73,141
45 - 49	11,539	$849,835,717	$73,649
50 - 54	10,481	$787,701,122	$75,155
55 - 59	10,143	$790,126,422	$77,899
60 - 64	6,772	$537,888,872	$79,428
65+	1,647	$134,751,935	$81,817
Total	90,070	$6,204,274,389	$68,883

6. SYSTEM MEMBERSHIP *(continued)*

PART B | RETIREES AND SURVIVORS

	Superannuation	Ordinary Disability	Accidental Disability	Survivors	Total
Number of Members	57,998	425	319	3,570	62,312
Average Age	71.3	67.6	70.3	76.8	71.6
Average Annual Benefit	$43,761	$21,213	$39,035	$18,527	$42,138

Benefit by Retirement Type

	Superannuation	Ordinary Disability	Accidental Disability	Survivors	Total
Annuity	$472,553,582	$1,560,098	$1,079,238	$11,600,639	$486,793,557
Pension	$2,065,522,658	$7,455,421	$11,372,856	$54,541,893	$2,138,892,828
Total	$2,538,076,240	$9,015,519	$12,452,094	$66,142,532	$2,625,686,385

6. SYSTEM MEMBERSHIP *(continued)*

PART B | RETIREES & SURVIVORS *(continued)*

Benefit by Age Distribution

Present Age	Number of Members	Total Benefits	Average Benefits
Less than 40	27	$375,164	$13,895
40 – 44	38	$372,654	$9,807
45 – 49	75	$1,160,591	$15,475
50 – 54	179	$3,690,768	$20,619
55 – 59	1,850	$77,796,715	$42,052
60 – 64	11,429	$565,720,015	$49,499
65 – 69	18,869	$900,946,339	$47,747
70 – 74	12,045	$520,061,071	$43,177
75 – 79	6,975	$257,402,060	$36,904
80 – 84	5,350	$169,927,721	$31,762
85 – 89	3,262	$85,284,989	$26,145
90+	2,213	$42,948,300	$19,407
Totals	62,312	$2,625,686,385	$42,138

7. VALUATION COST METHODS

PART A | ACTUARIAL COST METHOD

The Actuarial Cost Method which was used to determine pension liabilities in this valuation is known as the *Entry Age Normal Cost Method*. Under this method the *Normal Cost* for each active member on the valuation date is determined as the level percent of salary, which, if paid annually from the date the employee first became a member of the retirement system, would fully fund by retirement, death, disability or termination, the projected benefits which the member is expected to receive. The *Actuarial Liability* for each member is determined as the present value as of the valuation date of all projected benefits which the member is expected to receive, minus the present value of future annual Normal Cost payments expected to be made to the fund. Since only active members have a Normal Cost, the Actuarial Liability for inactives, retirees and survivors is simply equal to the present value of all projected benefits. The sum of Normal Cost and Actuarial Liability for each member is equal to the Normal Cost and Actuarial Liability for the Plan. The *Unfunded Actuarial Liability* is the Actuarial Liability less current assets.

The Normal Cost for a member will remain a level percent of salary for each year of membership except for changes in provisions of the Plan or the actuarial assumptions employed in projection of benefits and present value determinations. The Normal Cost for the entire system will also change due to the addition of new members or the retirement, death or termination of members. The Actuarial Liability for a member will increase each year to reflect the additional accrual of Normal Cost. It will also change if the Plan provisions or actuarial assumptions are changed.

Differences each year between the actual experience of the Plan and the experience projected by the actuarial assumptions are reflected by adjustments to the Unfunded Actuarial Liability. An experience difference which increases the Unfunded Actuarial Liability is called an *Actuarial Loss* and one which decreases the Unfunded Actuarial Liability is called an *Actuarial Gain.*

PART B | ASSET VALUATION METHOD

In valuations prior to 1998, plan assets were determined at market value. As part of the 1998 valuation this methodology was adjusted so that investment gains and losses for a given year would not be fully recognized until five years have passed. This calculation recognizes 20% of the gain or loss occurring in the prior year, 40% of those gains or losses occurring two years ago, etc., so that 100% of the gain or loss occurring 5 or more years ago is recognized. This approach reduces the potential volatility in the market value approach from year to year. Under our corridor approach, the actuarial value of assets cannot be less than 90% nor greater than 100% of market value. The actuarial value of assets as of January 1, 2015 is 95.6% of the market value.

8. ACTUARIAL ASSUMPTIONS

Investment Return

7.75% per year net of investment expenses *(prior assumption 8.0%)*

The investment return assumption is a long term assumption and is based on capital market expectations by asset class, historical returns, and professional judgment. We considered analysis prepared by PRIM's investment advisor using a building block approach which included expected returns by asset class, risk analysis, and the determination of a 30 year expected target rate of return.

Interest Rate Credited to the Annuity Savings Fund

3.5% per year

Assumed Rate of Cost of Living Increases (COLA)

3.0% per year (on the first $13,000 of an allowance)

Mortality

Pre-retirement mortality reflects RP-2014 Employees table projected generationally with Scale BB and a base year of 2014 (gender distinct). *(Prior assumption – RP-2000 Employees table adjusted for "white-collar" employment projected 22 years with Scale AA.)*

Post-retirement mortality reflects RP-2014 Healthy Annuitant table projected generationally with Scale BB and a base year of 2014 (gender distinct). (*Prior assumption – RP-2000 Healthy Annuitant table adjusted for large annuity amounts and projected 17 years with Scale AA.)*

For disabled members, the mortality rate is assumed to be in accordance with the RP-2014 Healthy Annuitant Table projected generationally with Scale BB and a base year of 2014 set forward 4 years. *(Prior assumption – RP-2000 Healthy Annuitant table adjusted for large annuity amounts and projected 7 years with Scale AA set forward 3 years for males.)*

It is assumed that 55% of pre-retirement deaths are job-related for Group 1 and 2 members and 90% are job-related for Group 4 members. For members retired under an Accidental Disability, 40% of deaths are assumed to be from the same cause as the disability.

8. ACTUARIAL ASSUMPTIONS *(continued)*

Salary Increase

Based on an analysis of past experience. Sample rates are shown below.

Service	Teachers
0	7.50%
1	7.10%
2	7.00%
3	6.90%
4	6.80%
5	6.70%
6	6.60%
7	6.50%
8	6.30%
9	6.10%
10	5.90%
11	5.70%
12	5.20%
13	4.70%
14	4.35%
15-16	4.20%
17-19	4.10%
20+	4.00%

8. ACTUARIAL ASSUMPTIONS *(continued)*

Retirement
Males

	Not in Retirement Plus			Retirement Plus		
	Less than 20	20+		Less than 20	20-30	30+
47	0.000	0.000	47	0.00	0.000	0.00
48	0.000	0.000	48	0.00	0.000	0.00
49	0.000	0.000	49	0.00	0.000	0.00
50	0.000	0.020	50	0.00	0.010	0.02
51	0.000	0.020	51	0.00	0.010	0.02
52	0.000	0.020	52	0.00	0.010	0.02
53	0.000	0.020	53	0.00	0.015	0.02
54	0.000	0.030	54	0.00	0.025	0.02
55	0.035	0.030	55	0.05	0.030	0.06
56	0.035	0.035	56	0.05	0.060	0.20
57	0.050	0.040	57	0.05	0.100	0.40
58	0.055	0.050	58	0.05	0.150	0.50
59	0.060	0.060	59	0.10	0.200	0.50
60	0.075	0.150	60	0.10	0.250	0.40
61	0.120	0.250	61	0.20	0.300	0.40
62	0.140	0.300	62	0.20	0.350	0.35
63	0.140	0.300	63	0.25	0.400	0.35
64	0.140	0.300	64	0.25	0.400	0.35
65	0.300	0.300	65	0.25	0.400	0.35
66	0.300	0.250	66	0.30	0.300	0.40
67	0.300	0.250	67	0.30	0.300	0.40
68	0.300	0.250	68	0.30	0.300	0.40
69	0.300	0.250	69	0.30	0.300	0.40
70+	1.000	1.000	70+	1.00	1.000	1.00

8. ACTUARIAL ASSUMPTIONS *(continued)*

Retirement
Females

	Not in Retirement Plus			Retirement Plus		
	Less than 20	20+		Less than 20	20-30	30+
47	0.000	0.000	47	0.00	0.00	0.000
48	0.000	0.000	48	0.00	0.00	0.000
49	0.000	0.000	49	0.00	0.00	0.000
50	0.000	0.010	50	0.00	0.01	0.015
51	0.000	0.010	51	0.00	0.01	0.015
52	0.000	0.015	52	0.00	0.01	0.015
53	0.000	0.020	53	0.00	0.01	0.015
54	0.000	0.020	54	0.00	0.01	0.020
55	0.035	0.040	55	0.03	0.03	0.050
56	0.035	0.040	56	0.03	0.05	0.150
57	0.035	0.040	57	0.04	0.08	0.350
58	0.050	0.060	58	0.08	0.10	0.350
59	0.065	0.080	59	0.08	0.15	0.350
60	0.085	0.150	60	0.10	0.20	0.350
61	0.100	0.200	61	0.12	0.25	0.350
62	0.120	0.200	62	0.12	0.30	0.350
63	0.120	0.250	63	0.15	0.30	0.350
64	0.200	0.300	64	0.20	0.30	0.350
65	0.300	0.400	65	0.25	0.40	0.350
66	0.300	0.300	66	0.25	0.30	0.350
67	0.300	0.300	67	0.30	0.30	0.300
68	0.300	0.300	68	0.30	0.30	0.300
69	0.300	0.300	69	0.30	0.30	0.300
70+	1.000	1.000	70+	1.00	1.00	1.000

8. ACTUARIAL ASSUMPTIONS *(continued)*

Disability

Based on an analysis of past experience. Sample annual rates are shown below.

Age	
20	0.00004
30	0.00006
40	0.00010
50	0.00050
60	0.00070

It is also assumed that 35% of disabilities will be job-related for Teachers.

Withdrawal

Based on an analysis of past experience. In addition to being age and service based, Teacher rates are also gender based. Sample annual rates are shown below.

Age	Service					
	0		5		10+	
	Male	Female	Male	Female	Male	Female
20	0.130	0.100	0.055	0.070	0.015	0.050
30	0.150	0.150	0.054	0.088	0.015	0.045
40	0.133	0.105	0.052	0.050	0.017	0.022
50	0.162	0.098	0.070	0.050	0.023	0.020

Members Hired on or After April 2, 2012

Chapter 176 of the Acts of 2011 changed the retirement eligibility for the different job groups. For example, Group 1 eligibility changed from 55 years old with 10 years of service to 60 years old with 10 years of service (Chapter 176 removed the provision that allowed retirement at any age with 20 years of service). Our software system is programmed such that at any given age, a member is assumed to either retire or terminate, but not both. Therefore, we adjusted the retirement and termination rates for members impacted by Chapter 176. For example, for Group 1 members, we removed retirement rates for ages 50-59. Termination rates remain in effect for those years. We will monitor these assumptions going forward.

Loading and Administrative Expenses

We increased the total normal cost by 2% and the actuarial accrued liability of active members by 1% to account for buybacks at retirement and various data issues including the status of members with reported pay of less than $10,000. In addition, an amount of $15 million has been included in the normal cost to reflect a portion of administrative and other expenses paid by the fund and net Section 3(8)(c) cash flow.

9. SUMMARY OF PLAN PROVISIONS

ADMINISTRATION

There are 104 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. This law establishes benefits, contribution requirements and an 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 retirement board, and approved by PERAC. Membership is optional for certain elected officials. There are 4 classes of membership in the Commonwealth. Members of the Massachusetts Teachers' Retirement System are classified in Group 1.

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:

Police officers, firefighters, corrections officers, and other specified hazardous positions.

MEMBER CONTRIBUTIONS

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

Date of Membership	Contribution Rate
Prior to 1975:	5% of regular compensation
1975 - 1983:	7% of regular compensation
1984 to 6/30/96:	8% of regular compensation
7/1/96 to present:	9% of regular compensation
7/1/96 to present:	12% of regular compensation (State Police)
7/1/01 to present:	11% of regular compensation (for teachers hired after 7/1/01 and those accepting provisions of Chapter 114 of the Acts of 2000)
1979 to present:	an additional 2% of regular compensation in excess of $30,000.

In addition, members of Group 1 who join the system on or after April 2, 2012 will have their withholding rate reduced to 6% after achieving 30 years of creditable service.

9. SUMMARY OF PLAN PROVISIONS *(continued)*

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 10 financial institutions.

RETIREMENT AGE

There is no mandatory retirement age for employees in Groups 1 and 2. Most Group 4 members must retire at age 65. As the result of a federal court decision, there is no mandatory retirement age for Group 3 members.

SUPERANNUATION RETIREMENT

A person who became a member before April 2, 2012 is eligible for a superannuation retirement allowance (service retirement) upon meeting the following conditions:

- completion of 20 years of service, or

- attainment of age 55 if hired prior to 1978, or if classified in Group 4, or

- attainment of age 55 with 10 years of service, if hired after 1978, and if classified in Group 1 or 2

A person who became a member on or after April 2, 2012 is eligible for a superannuation retirement allowance (service retirement) upon meeting the following conditions:

- attainment of age 60 with 10 years of service if classified in Group 1, or

- attainment of age 55 with 10 years of service if classified in Group 2, or

- attainment of age 55 if hired prior to 1978, or if classified in Group 4.

AMOUNT OF BENEFIT

A member's annual allowance is determined by multiplying average salary by a benefit rate related to the member's age and job classification at retirement, and the resulting product by his or her creditable service. The amount determined by the benefit formula cannot exceed 80% of the member's highest three-year (or five-year salary as discussed below) average salary. For veterans as defined in G.L. c. 32, s. 1, there is an additional benefit of $15 per year for each year of creditable service, up to a maximum of $300.

- Salary is defined as gross regular compensation. For employees who become members after January 1, 2011, regular compensation is limited to 64% of the federal limit found in 26 U.S.C. 401(a)(17). In addition, regular compensation for members who retire after April 2, 2012 will be limited to prohibit "spiking" of a member's salary to increase the retirement benefit.

9. SUMMARY OF PLAN PROVISIONS *(continued)*

• For persons who became members prior to April 2, 2012, average salary is the 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.

• For persons who became members on or after April 2, 2012, average salary is the average annual rate of regular compensation received during the 5 consecutive years that produce the highest average, or, if greater, during the last 5 years (whether or not consecutive) preceding retirement.

• The benefit rate varies with the member's retirement age. For persons who became members prior to April 2, 2012 the highest rate of 2.5% applies to Group 1 employees who retire at or after age 65, Group 2 employees who retire at or after age 60, and Group 4 employees who retire at or after age 55. A .1% reduction is applied for each year of age under the maximum age for the member's group. For Group 2 employees who terminate from service under age 55, the benefit rate for a Group 1 employee shall be used.

• For persons who became members on or after April 2, 2012 and retire with less than 30 years of creditable service, the highest rate of 2.5% applies to Group 1 employees who retire at or after age 67, Group 2 employees who retire at or after age 62, and to Group 4 employees who retire at or after age 57. A .15% reduction is applied for each year of age under the maximum age for the member's group.

• For persons who became members on or after April 2, 2012 and retire with more than 30 years of creditable service, the highest rate of 2.5% applies to Group 1 employees who retire at or after age 67, Group 2 employees who retire at or after age 62, and Group 4 employees who retire at or after age 55. A .125% reduction is applied for each year of age under the maximum age for the member's group.

• For a teacher who is subject to the provisions of Chapter 114 of the Acts of 2000 and who has completed at least 30 years of creditable service, the benefit rate is multiplies by the creditable service and the resulting percentage is increased by 2% per year for each year of service in excess of 24. The amount determined cannot exceed 80% of the average salary.

The allowance of state police officers is calculated using a slightly different formula. Information regarding this formula can be obtained directly from the State Retirement Board.

9. SUMMARY OF PLAN PROVISIONS *(continued)*

DEFERRED VESTED BENEFIT

A participant who has attained the requisite years of creditable service can elect to defer his or her retirement until a later date. Group 4 employees cannot defer beyond age 65. All participants must begin to receive a retirement allowance or withdraw their accumulated deductions no later than April 15 of the calendar year following the year they reach age 70½.

WITHDRAWAL OF CONTRIBUTIONS

Member contributions may be withdrawn upon termination of employment. The interest rate for employees who first become members on or after January 1, 1984 who voluntarily withdraw their contributions with less than 10 years of service will be 3%. Interest payable on all other withdrawals will be set at regular interest.

ORDINARY DISABILITY

Eligibility: Non-veterans who become totally and permanently disabled by reason of a non-job related condition with at least ten years of creditable service.

Veterans with ten years of creditable service who become totally and permanently disabled by reason of a non-job related condition prior to reaching "maximum age".

Retirement Allowance: For persons who became members prior to April 2, 2012, the benefit is equal to the accrued superannuation retirement benefit as if the member was age 55. If the member is a veteran, the benefit is 50% of the member's final rate of salary during the preceding 12 months, plus an annuity based upon accumulated member contributions plus credited interest. If the member is over age 55, he or she will receive not less than the superannuation allowance to which he or she is entitled.

For persons in Group 1 who became members on or after April 2, 2012, the benefit is equal to the accrued superannuation retirement benefit as if the member was age 60. If the member is a veteran, the benefit is 50% of the member's final rate of salary during the preceding 12 months, plus an annuity based upon accumulated member contributions plus credited interest. If the member is over age 60, he or she will receive not less than the superannuation allowance to which he or she would have been entitled had they retired for superannuation.

9. SUMMARY OF PLAN PROVISIONS *(continued)*

ACCIDENTAL DISABILITY

Eligibility: Applies to members who become permanently and totally unable to perform the essential duties of the position as a result of a personal injury sustained or hazard undergone while in the performance of duties. There are no minimum age or service requirements.

Retirement Allowance: 72% of salary plus an annuity based on accumulated member contributions, with interest. This amount is not to exceed 100% of pay. For those who became members-in-service after January 1, 1988 or who have not been members-in-service continually since that date, the amount is limited to 75% of pay. There is an additional pension of $821.52 per year per child who is under 18 at the time of the member's retirement, with no age limitation if the child is mentally or physically incapacitated from earning. The additional pension may continue up to age 22 for any child who is a full-time student at an accredited educational institution. Veterans, as defined in G.L. c. 32, s. 1, receive an additional benefit of $15 per year for each year of creditable service, up to a maximum of $300.

ACCIDENTAL DEATH

Eligibility: Applies to members who die as a result of a work-related injury or if the member was retired for accidental disability and the death was the natural and proximate result of the injury or hazard undergone on account of which such member was retired.

Allowance: An immediate payment to a named beneficiary equal to the accumulated deductions at the time of death, plus a pension equal to 72% of current salary and payable to the surviving spouse, dependent children or the dependent parent, plus a supplement of $821.52 per year, per child, payable to the spouse or legal guardian until all dependent children reach age 18 or 22 if a full time student, unless mentally or physically incapacitated.

The surviving spouse of a member of a police or fire department or any corrections officer who, under specific and limited circumstances detailed in the statute, suffers an accident and is killed or sustains injuries resulting in his death, may receive a pension equal to the maximum salary for the position held by the member upon his death.

In addition, an eligible family member of a firefighter, public prosecutor, police officer or corrections officer killed in the line of duty may receive a one time payment of $150,000 from the State Retirement Board.

9. SUMMARY OF PLAN PROVISIONS *(continued)*

DEATH AFTER ACCIDENTAL DISABILITY RETIREMENT

Effective November 7, 1996, Accidental Disability retirees were allowed to select Option C at retirement and provide a benefit for an eligible survivor. For Accidental Disability retirees prior to November 7, 1996, who could not select Option C, if the member's death is from a cause unrelated to the condition for which the member received accidental disability benefits, a surviving spouse will receive an annual allowance of $12,000.

DEATH IN ACTIVE SERVICE

Allowance: An immediate allowance equal to that which would have been payable had the member retired and selected Option C on the day before his or her death. For a member who became a member prior to April 2, 2012 whose death occurred prior to the member's superannuation retirement age, the age 55 benefit rate is used.   For a member classified in Group 1 who became a member on or after April 2, 2012 whose death occurred prior to the member's superannuation retirement age, the age 60 benefit rate is used. If the member died after age 60, the actual age is used. The minimum annual allowance payable to the surviving spouse of a member-in-service who dies with at least two years of creditable service is $6,000, provided that the member and the spouse were married for at least one year and living together on the member's date of death.

The surviving spouse of such a member-in-service receives an additional allowance equal to the sum of $1,440 per year for the first child and $1,080 per year for each additional child until all dependent children reach age 18 or 22 if a full-time student, unless mentally or physically incapacitated.

COST OF LIVING

A cost of living adjustment (COLA) is determined based upon the increase in the Consumer Price Index (CPI) used for indexing Social Security benefits, but cannot exceed 3.0% on the first $13,000 of a retiree's benefit.

9. SUMMARY OF PLAN PROVISIONS *(continued)*

METHODS OF PAYMENT

A member may elect to receive his or her retirement allowance in one of 3 forms of payment.

Option A: Total annual allowance, payable in monthly installments, commencing at retirement and terminating at the member's death.

Option B: A reduced annual allowance, payable in monthly installments, commencing at retirement and terminating at the death of the member, provided, however, that if the total amount of the annuity portion received by the member is less than the amount of his or her accumulated deductions, including interest, the difference or balance of his accumulated deductions will be paid in a lump sum to the retiree's beneficiary or beneficiaries of choice.

Option C: A reduced annual allowance, payable in monthly installments, commencing at retirement. At the death of the retired employee, 2/3 of the allowance is payable to the member's designated beneficiary (who may be the spouse, or former spouse who remains unmarried for a member whose retirement becomes effective on or after February 2, 1992, child, parent, sister, or brother of the employee) for the life of the beneficiary. For members who retired on or after January 12, 1988, if the beneficiary pre-deceases the retiree, the benefit payable increases (or "pops up") based on the factor used to determine the Option C benefit at retirement. For members who retired prior to January 12, 1988, if the System has accepted Section 288 of Chapter 194 of the Acts of 1998 and the beneficiary pre-deceases the retiree, the benefit payable "pops up" in the same fashion. The Option C became available to accidental disability retirees on November 7, 1996.

ALLOCATION OF PENSION COSTS

If a member's total creditable service was partly earned by employment in more than one retirement system, the cost of the "pension portion" is allocated between the different systems pro rata based on the member's service within each retirement system. If a member received regular compensation concurrently from two or more systems on or after January 1, 2010, and was not vested in both systems as of January 1, 2010, such a pro-ration will not be undertaken. This is because such a person will receive a separate retirement allowance from each system.

10. 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 amount and duration of pension benefits, such as: mortality, withdrawal, disablement and retirement; changes in compensation; 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 Normal Cost and the 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 two Actuarial Valuation dates.

Note: The effect on the Accrued Liability and/or the Normal Cost resulting from changes in the Actuarial Assumptions, the Actuarial Cost Method or pension plan provisions would be described as such, not as an Actuarial Gain (Loss).

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.

10. GLOSSARY OF TERMS *(continued)*

ANNUAL STATEMENT

The statement submitted to PERAC each year that describes the asset holdings and Fund balances as of December 3l 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 deductions, including interest, is transferred at the time a member retires, and from which annuity payments are made.

ANNUITY SAVINGS FUND

The fund in which employee 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).

ASSETS

The value of securities held by the plan.

COST OF BENEFITS

The estimated payment from the pension system for benefits for the fiscal year.

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 22C of M.G.L. Chapter 32.

GASB

Governmental Accounting Standards Board

10. GLOSSARY OF TERMS *(continued)*

NORMAL COST

Total Normal Cost is that portion of the Actuarial Present Value of pension plan benefits, which is to be paid in a single fiscal year. The Employee Normal Cost is the amount of the expected employee contributions for the fiscal year. The Employer Normal Cost is the difference between the Total Normal Cost and the Employee Normal Cost.

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.

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 ACCRUED LIABILITY

The excess of the Actuarial Accrued Liability over the Assets.