January 1, 2014

Actuarial Valuation Report

Arlington Retirement Board

Lawrence B. Stone

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November 14, 2014

Arlington Retirement Board
869 Massachusetts Avenue, Room 109
Arlington, MA 02476

Dear Arlington Retirement Board:

Stone Consulting, Inc. has performed a January 1, 2014 actuarial valuation of the Arlington Retirement System. This valuation and report was prepared using generally accepted actuarial principles and practices and meets the parameters set by the Governmental Accounting Standards Board Statement (GASB) No. 27. To the best of our knowledge, this report is complete and accurate, and the assumptions used represent our best estimate of anticipated experience of the system.

As part of performing the valuation, Stone Consulting, Inc. was furnished member data by the Arlington Retirement System's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary. In addition, the administrative staff furnished financial statements that were not audited by the actuary or by the plan's auditors.

The funding objective of the plan is to fully fund the system while attempting to maintain a stable contribution amount for the upcoming fiscal year that is consistent with prior funding schedules or if employer finances allow it, to increase the contribution amount. This funding objective is being met.

We anticipate over time the contribution level to increase as a percentage of payroll. The contribution rate is determined by adding the normal cost plus an amortization of the unfunded actuarial accrued liability. The normal cost is expected to remain at a level percentage of payroll. The length of the funding schedule contained in this actuarial valuation report is eighteen years (fully funded in Fiscal 2033). The contribution is set to increase by 5.50% each year except starting in Fiscal 2033, when it decreases by 6.04%.

The amortization payments are the amount left over after subtracting the normal cost and the 3(8)(c) payments from the contribution amount.

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The contribution amount for Fiscal Year 2016 is $10,508,369 which is $49,802 less than the anticipated contribution amount from the prior funding schedule. PERAC and GASB guidelines indicate that actuarial valuations should be conducted every year. The Arlington Retirement Board conducted their previous actuarial valuation effective January 1, 2013.

The actuarial results for the GASB Statement 25 disclosure do not include the effect of ongoing adoption by the Town of Sections 90A, C and D of Chapter 32 of the MGL. It is not necessary to prospectively include the effect of this pattern of benefit improvements. However, GASB Statement 68, which is effective in Fiscal 2015, will require that these provisions be reflected.

We are pleased to present the results of this valuation. If the Retirement Board has any questions on the content of this report, we would be glad to respond. Please note that this report is meant to be used in its entirety. Use of excerpts of this report may result in inaccurate or misleading understanding of the results.

I, Lawrence Stone, am a consultant for Stone Consulting, Inc. 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 herein.

Respectfully submitted,
STONE CONSULTING, INC.
Actuaries for the Plan

Lawrence B. Stone
Member, American Academy of Actuaries

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Introduction

This report presents the results of the actuarial valuation of the Arlington Retirement System. The valuation was performed at the request of the Retirement Board as of January 1, 2014 for the purpose of determining the contribution requirements for Fiscal Year 2016 and beyond. The contribution requirements are based on:

- The financial condition of the system as of December 31, 2013
- The benefit provisions of M.G.L. Chapter 32 and related statutes;
- The demographics of members in the system (i.e., active and inactive participants, retirees and beneficiaries as of January 1, 2014);
- Economic assumptions regarding salary increases and investment earnings; and
- Other actuarial assumptions (e.g., withdrawals, retirement, death, etc.)

January 1, 2014 Valuation Summary

	January 1, 2014	January 1, 2013	Change
Contribution Fiscal 2016	$10,508,369	$10,558,171	($49,803)
Funding Schedule Length (as of Fiscal 2016)	18 years	17 years	1 years
Annual Increase in Contribution	5.50%	6.00%	-.50%
Funding Ratio	49%	49%	0%
Interest Rate Assumption	7.50%	7.50%	0.00%
Salary Increase Rate Assumption	Select and 4.00% Ultimate	4.50% (all years)	N/A

- The Fiscal Year 2016 contribution is equal to the planned 2016 contribution. Stone Consulting, with agreement from the Retirement Board, values assets using a four-year asset smoothing method. In this approach, asset gains and losses are recognized over a four-year period. The purpose of this approach is to avoid wide swings in asset value from one year to the next.

- The System, over the one-year period from January 1 through December 31, 2013, experienced a 14.2% annual return on the market value of assets versus our assumption of 7.50%. There was a $7,719,896 net actuarial gain in calendar year 2013. The System's asset portfolio, effective December 31, 2013 is approximately 78% equities and 22% fixed income and short-term investments. The interest rate assumption was maintained 7.50% to reflect anticipated future market performance.

- The salary increase assumption was changed from the prior valuation. We used a select and ultimate table (Group 1 and 2, 3.50% steps for first 7 years; Group 4, longevity increases of .75% in year 5, 1.75% in year 10, 2.75% in year 15, 3.75% in year 20, and 4.75% in year 25; ultimate rate of 4.00% for all groups). This compares with a previous salary assumption of 4.50%. This assumption is based on expected future experience. This change decreased the accrued liability by $1.5 million. Total compensation changed by 6.0% over the prior valuation; however average annual compensation (compensation divided by number of active members) only changed by 3.4%.

- The funding level of the Arlington Retirement System is 49% compared to 49% for the January 1, 2013 actuarial valuation. Chapter 68 requires a minimum funding ratio of 65% along with additional criteria in order to avoid being labeled an "underperforming system". The funding level is estimated to be below the median for Massachusetts' Contributory Retirement Systems.

The schedule length is eighteen (18) years, which is one year longer than the 17 years remaining from the 18 year schedule from the prior valuation. The maximum period permitted under Section 22F of Chapter 32 of the Massachusetts General Laws is 25 years (Fiscal 2040). The payments are set so that the total contribution amount will increase by 5.50% each year, except for a 6.04% decrease in FY 2033. The 5.50% increase amount is .50% lower than the 6.00% increase amount from the prior valuation.

- Non-economic assumptions were changed from the January 1, 2013 actuarial valuation. The mortality assumption is based upon the RP-2000 table (sex-distinct) projected with Generational Mortality and Scale BB. The previous assumption used the RP-2000 Table projected 18 years with Scale AA. The net effect of this change increased the accrued liability by $10.3 million.

January 1, 2014 Actuarial Valuation Results

	January 1, 2014	January 1, 2013	Percentage Change
Funding			
Contribution for Fiscal 2016	$10,508,369		
Contribution for Fiscal 2016 based on current schedule		$10,558,171	-0.5%
Members *			
Actives			
a. Number	693	676	2.5%
b. Annual Compensation	$31,803,519	$30,010,325	6.0%
c. Average Annual Compensation	$45,893	$44,394	3.4%
d. Average Attained Age	47.0	47.6	-1.3%
e. Average Past Service	10.7	11.0	-2.7%
Retired, Disabled and Beneficiaries			
a. Number	623	634	-1.7%
b. Total Benefits*	$16,184,503	$16,116,733	0.4%
c. Average Benefits*	$25,978	$25,421	2.2%
d. Average Age	73.5	74.6	-1.5%
Inactives			
a. Number	307	290	5.9%
Normal Cost			
a. Total Normal Cost as of January 1, 2014	$4,744,410	$4,197,096	13.0%
b. Less Expected Members' Contributions	2,901,794	2,700,438	7.5%
c. Normal Cost to be funded by the Municipality	$1,842,616	$1,496,658	23.1%
d. Adjustment to July 1, 2015	125,765	102,153	23.1%
e. Administrative Expense Assumption	368,711	361,389	2.0%
f. Normal Cost Adjusted to July 1, 2015	$2,337,092	$1,960,199	19.2%
Actuarial Accrued Liability as of January 1, 2014			
a. Active Members	$91,897,852	$85,522,577	7.5%
b. Inactive Members	1,580,240	1,545,764	2.2%
c. Retired Members and Beneficiaries	156,933,756	149,899,019	4.7%
d. Total	$250,411,848	$236,967,360	5.7%
Unfunded Actuarial Accrued Liability			
a. Actuarial Accrued Liability as of January 1, 2014	$250,411,848	$236,967,360	5.7%
b. Less Actuarial Value of Assets as of January 1, 2014	123,494,772	116,431,256	6.1%
c. Unfunded Actuarial Accrued Liability as of January 1, 2014	$126,917,076	$120,536,104	5.3%
d. Adjustment to July 1, 2015	$7,275,309	$6,565,626	
e. Unfunded Actuarial Accrued Liability as of July 1, 2015	$134,192,385	$127,101,730	

*Excluding State reimbursed COLA

Demographic Information

	January 1,2014	Percentage Change
Members		
▪ Actives		
a. Number	693	2.5%
b. Annual Compensation	$31,803,519	6.0%
c. Average Annual Compensation	$45,893	3.4%
d. Average Attained Age	47.0	-1.3%
e. Average Past Service	10.7	-2.7%
▪ Retired, Disabled and Beneficiaries		
a. Number	623	-1.7%
b. Total Annual Retirement Allowance excluding State-reimbursed COLA	$16,184,503	0.4%
▪ Inactives		
a. Number	307	5.9%

- The data was supplied by the Arlington Retirement Board. The data was checked under broad parameters for reasonableness. With the assistance of the staff of the Arlington Retirement Board, we were able to develop a database sufficient for valuation purposes.

History of Active Participants

Valuation Year	Number	Average Age	Average Past Service	Average Ann'l Compensation
2014	693	47.0	10.7	$45,893
2013	676	47.6	11.0	$44,394
2012	677	47.7	11.0	$42,261
2011	661	48.3	11.6	$43,323
2010	677	48.1	11.3	$42,694
2008	707	48.6	11.3	$39,257
2006	681	48.3	11.7	$38,676
2005	664	48.4	11.6	$38,115
2004	683	48.1	11.5	$35,116
2003	683	48.2	11.3	$34,490
2002	733	48.5	11.5	$33,119

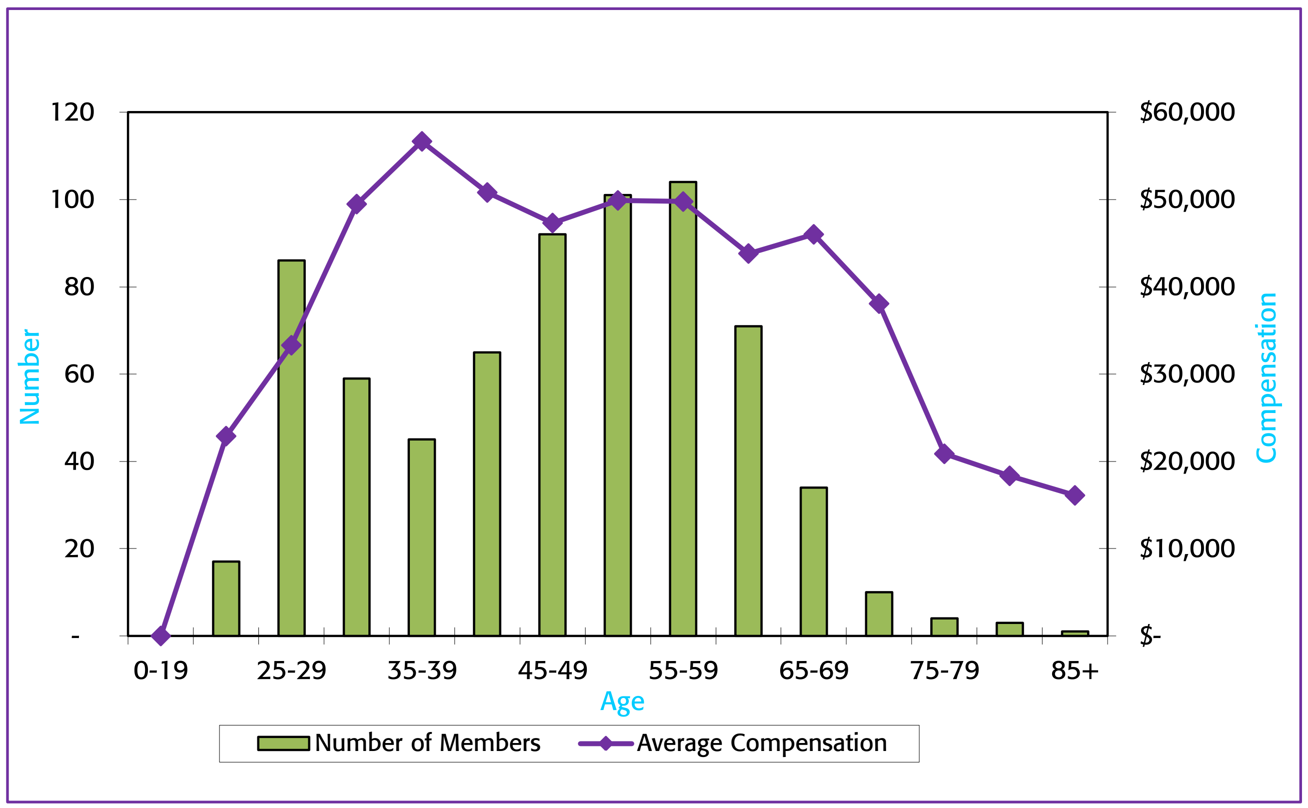
- Employee age has decreased by 1.5 years and service has decreased by .8 years over the course of the past twelve years. This differs from the trend in the Commonwealth towards an aging of the employee population. Average annual compensation has grown by 38.6% (2.8% annually) over the same time period.

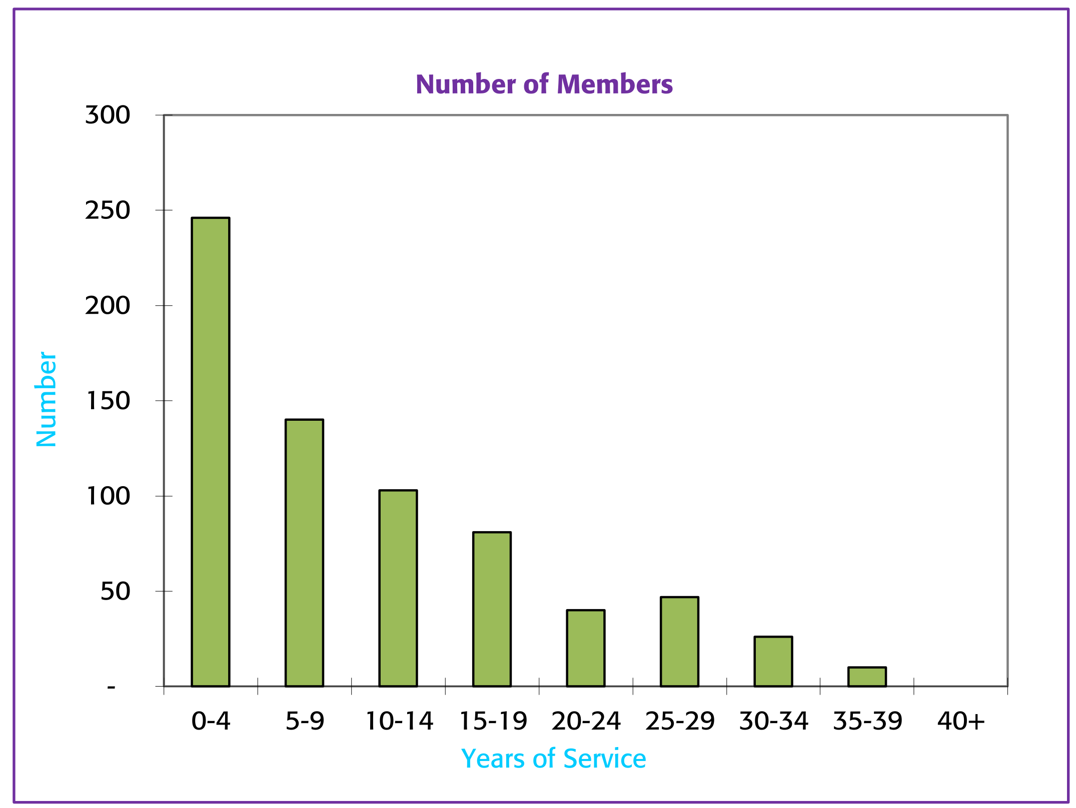
The charts on the following pages summarize demographic information regarding active and retiree members.

Distribution of Plan Members as of January 1, 2014

Active Members

AGE	0-4 Years	5-9 Years	10-14 Years	15-19 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40 + Years	Total	Total Compensation	Average Compensation
0-19	-	-	-	-	-	-	-	-	-	-	$ -	$ -
20-24	17	1	-	-	-	-	-	-	-	17	389,181	22,893
25-29	76	10	-	-	-	-	-	-	-	86	2,864,180	33,304
30-34	33	24	2	-	-	-	-	-	-	59	2,919,331	49,480
35-39	15	12	17	1	-	-	-	-	-	45	2,549,795	56,662
40-44	24	11	13	15	2	-	-	-	-	65	3,302,407	50,806
45-49	30	15	10	17	13	7	-	-	-	92	4,352,522	47,310
50-54	21	25	18	16	6	11	4	-	-	101	5,039,784	49,899
55-59	18	18	16	14	7	17	11	3	-	104	5,175,723	49,767
60-64	9	19	16	8	7	5	4	3	-	71	3,110,847	43,815
65-69	2	4	8	7	4	3	5	1	-	34	1,564,409	46,012
70-74	1	-	2	2	1	2	-	2	-	10	380,719	38,072
75-79	-	-	1	1	-	-	1	1	-	4	83,478	20,870
80-84	-	1	-	-	-	2	-	-	-	3	55,038	18,346
85+	-	-	-	-	-	-	1	-	-	1	16,106	16,106
TOTAL	**246**	**140**	**103**	**81**	**40**	**47**	**26**	**10**	**-**	**693**	**$ 31,803,519**	**$ 45,893**





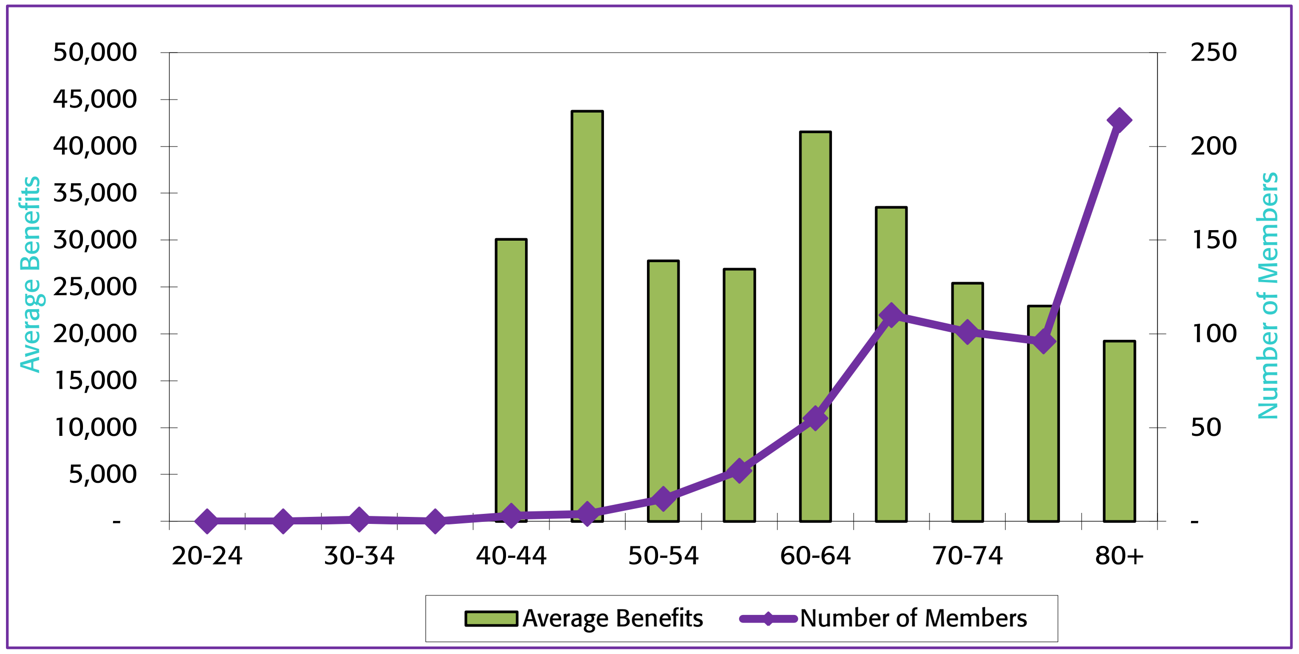
Distribution of Plan Members as of January 1, 2014

Retired Members

Retired Members and Beneficiaries			
Age	Number	Average Benefit	Total Benefit
20-24	-	-	-
25-29	-	-	-
30-34	1	114	114
35-39	-	-	-
40-44	1	1,829	1,829
45-49	1	18,194	18,194
50-54	7	20,697	144,876
55-59	16	25,374	405,983
60-64	44	42,301	1,861,238
65-69	87	32,713	2,846,011
70-74	88	24,412	2,148,254
75-79	86	21,592	1,856,879
80+	205	18,752	3,844,237
TOTAL	536	$ 24,492	$ 13,127,615

Disabled Members			
Age	Number	Average Benefit	Total Benefit
20-24	-	-	-
25-29	-	-	-
30-34	-	-	-
35-39	-	-	-
40-44	2	44,241	88,482
45-49	3	52,270	156,809
50-54	5	37,774	188,872
55-59	11	29,079	319,872
60-64	11	38,540	423,942
65-69	23	36,454	838,440
70-74	13	31,974	415,663
75-79	10	34,983	349,831
80+	9	30,553	274,975
TOTAL	87	$ 35,137	$ 3,056,888

Total			
Age	Number	Average Benefit	Total Benefit
20-24	-	-	-
25-29	-	-	-
30-34	1	114	114
35-39	-	-	-
40-44	3	30,104	90,311
45-49	4	43,751	175,004
50-54	12	27,812	333,748
55-59	27	26,884	725,855
60-64	55	41,549	2,285,179
65-69	110	33,495	3,684,452
70-74	101	25,385	2,563,917
75-79	96	22,987	2,206,710
80+	214	19,249	4,119,213
TOTAL	623	$ 25,978	$ 16,184,503



Benefits shown are net of State reimbursed COLA.

Valuation Methodology

Stone Consulting, Inc. used the Entry Age Normal actuarial funding method in this actuarial valuation. The use of the Entry Age Normal actuarial funding method is consistent with the requirements of Chapter 32 of the Massachusetts General Laws.

NORMAL COST

	January 1, 2014	% of Payroll*
Gross Normal Cost (GNC)	$4,744,410	14.9%
Employees Contribution	$2,901,794	9.1%
Net Normal Cost (NNC)	$1,842,616	5.8%
Adjusted to Beginning of Fiscal Year 2016	$125,765	
Administrative Expense	$368,711	1.2%
Adjusted Net Normal Cost With Admin. Expense	$2,337,092	

*Payroll paid in 2013 for employees as of January 1, 2014 is $31,803,519. Payroll for new hires in 2013 was annualized.

- The gross normal cost (GNC) is the "price" of benefits accruing in the current year if the assumptions underlying the normal cost were realized.

- An individual normal cost represents that part of the cost of a member's future benefits that are assigned to the current year as if the costs are to remain level as a percentage of the member's pay. Benefits payable under all circumstances (i.e., retirement, death, disability, and withdrawals) are included in this calculation.

- Anticipated employee contributions to be made during the year are subtracted from the GNC to determine employer normal cost, or net normal cost (NNC).

- Administrative expenses added to the NNC. The administrative expense does not include investment manager and custodial fees. These fees are considered part of the interest rate assumption that is net of fees.

Actuarial Accrued Liability and Funded Status

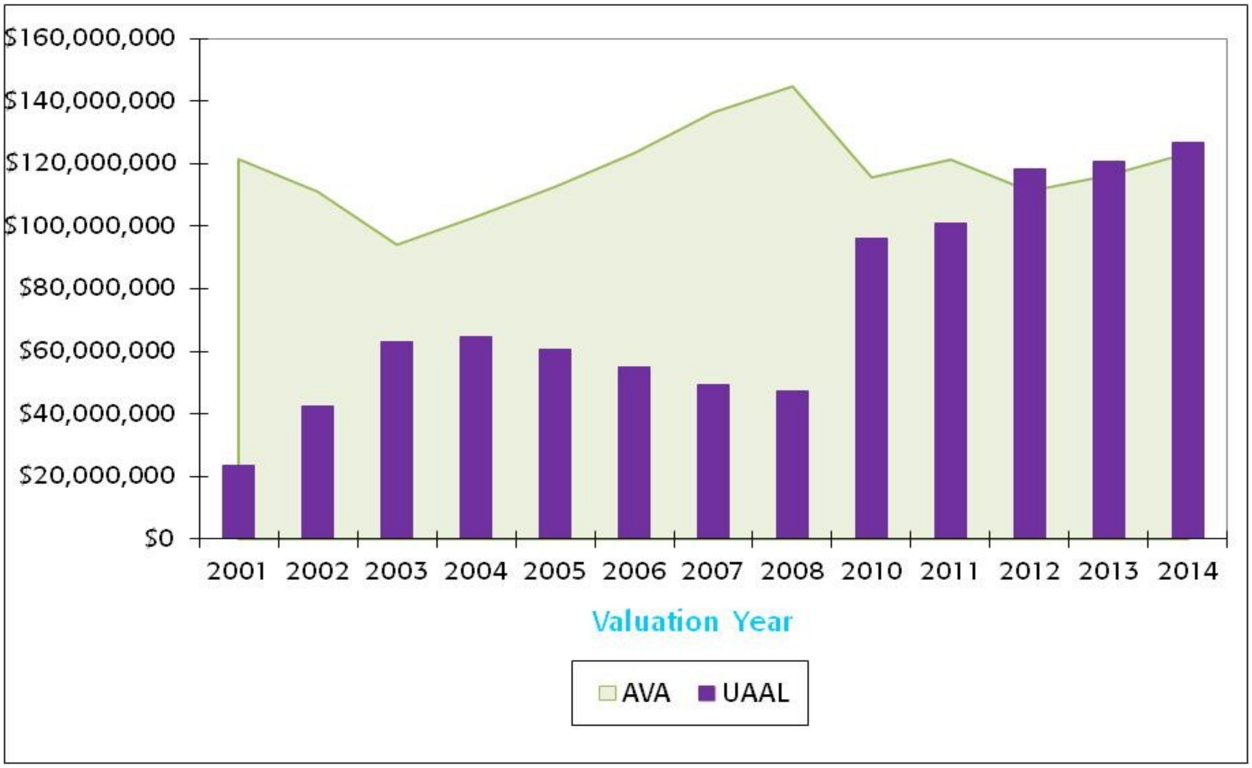
				January 1, 2014	Percentage Change
Active Actuarial Accrued Liability			$	91,897,852	7.5%
Superannuation	$	84,613,671			
Death	$	1,894,635			
Disability	$	4,677,727			
Withdrawal	$	711,819			
Retiree, Inactive, Survivor and Beneficiary Actuarial Accrued Liability			$	158,513,996	4.7%
Retirees and Beneficiaries	$	122,825,808			
Disabled	$	34,107,948			
Inactive	$	1,580,240			
Total Actuarial Accrued Liability (AAL)			$	250,411,848	5.7%
Actuarial Value of Assets (AVA)			$	123,494,772	6.1%
Unfunded Actuarial Accrued Liability			$	126,917,076	5.3%
Funded Ratio (AVA / AAL)					
2014 (7.50% interest rate):		49%			
2013 (7.50% interest rate):		49%			

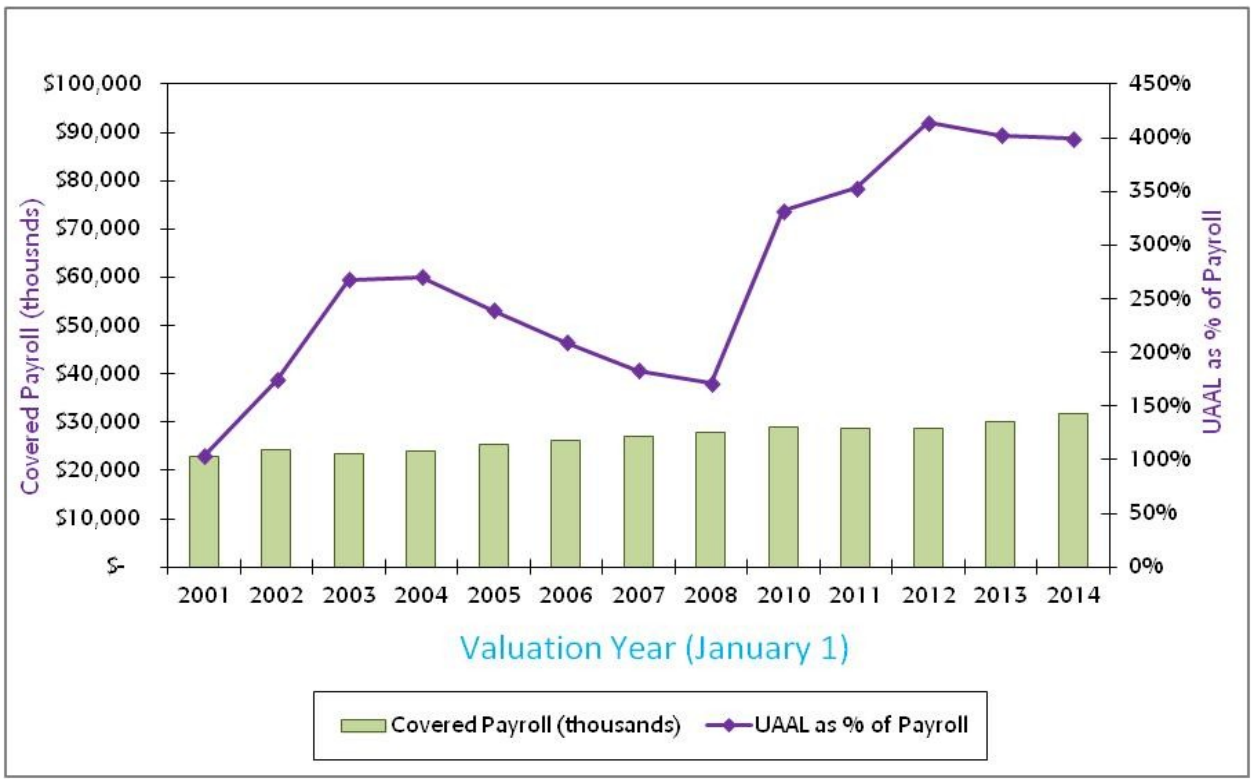
- Actuarial Accrued Liability (AAL) is the "price" of benefits attributable to benefits earned in past years, or in other words, represents today's value of all benefits earned by active and inactive members.

- The total AAL is $250,411,848. This along with an actuarial value of assets of $123,494,772 produces a funded status of 49% (52% funded status using market value of assets). This compares to a funded status of 49% for the 2013 valuation.

The chart on the following page is a history of the unfunded actuarial accrued liability (UAAL) and the valuation assets (AVA) over the course of the past thirteen actuarial valuations.

History of Actuarial Valuation of Assets (AVA) and Unfunded Actuarial Accrued Liability (UAAL)





Development of Funding Schedule

Net Employer Normal Cost for Fiscal 2016 (including admin. expenses)	2,337,092
Net 3(8)(c) Payments	(10,894)
Amortization	8,182,171
Total Appropriation required for Fiscal 2016	10,508,369

- The funding schedule is composed of the normal cost, the net 3(8)(c) payments and the amortization of the actuarial accrued unfunded liability and is adjusted by the administrative expense assumption. The contribution is assumed to be made at the beginning of the fiscal year. The 3(8)(c) payments are the amount that the Arlington Retirement System pays to or receives from other retirement boards for service that a retiree had with a different retirement system. The net 3(8)(c) payments is the difference between what the Arlington Retirement System paid out minus what was received by the System.

- The 3(8)(c) amount here includes payments made as part of a five-year plan with Minuteman, of which three more payments remain. The 3(8)(c) payments after FY2018 decrease to reflect this.

- The contribution amount for Fiscal 2016 is $10,508,369. The funding schedule is presented on page 11. The schedule's length is eighteen (18) years (for the fresh start base) which is one year longer than the remainder of the 18 year schedule from the January 1, 2013 valuation. The maximum funding schedule length allowed by Section 22F of Chapter 32 of the Massachusetts General Laws is twenty-five years to Fiscal 2040.

- In developing the funding schedule, we used a fresh start approach in which the unfunded actuarial accrued liability (UAAL), other than the UAAL due to past early retirement incentives, is reamortized instead of maintaining the existing amortization amount and separately amortizing the actuarial gain or loss. The use of a fresh-start approach can result in a funding schedule in which the changes in contribution amounts from year to year are more consistent. The amortization is adjusted each year to maintain a constant increase in the total contribution. In this funding schedule, the contribution increases 5.50% a year.

Fiscal Year	Normal Cost	Unfunded Liability*	Funding Amortization of UAAL	Net 3(8)(c) Payments	Schedule Contribution**	% Increase Over Prior Contribution
2016	2,337,092	134,192,385	8,182,171	(10,894)	10,508,369	5.50%
2017	2,442,261	134,170,360	8,654,962	(10,894)	11,086,329	5.50%
2018	2,552,163	131,698,776	9,154,808	(10,894)	11,696,077	5.50%
2019	2,667,010	129,804,792	9,785,967	(113,616)	12,339,361	5.50%
2020	2,787,026	129,020,236	10,344,616	(113,616)	13,018,026	5.50%
2021	2,912,442	127,576,292	10,935,192	(113,616)	13,734,018	5.50%
2022	3,043,502	125,389,182	11,559,503	(113,616)	14,489,389	5.50%
2023	3,180,459	122,366,905	12,219,462	(113,616)	15,286,305	5.50%
2024	3,323,580	118,408,502	12,917,088	(113,616)	16,127,052	5.50%
2025	3,473,141	113,403,271	13,654,514	(113,616)	17,014,039	5.50%
2026	3,629,432	107,229,913	14,433,995	(113,616)	17,949,812	5.50%
2027	3,792,757	99,755,611	15,257,910	(113,616)	18,937,051	5.50%
2028	3,963,431	90,835,029	16,128,774	(113,616)	19,978,589	5.50%
2029	4,141,785	80,309,223	17,049,242	(113,616)	21,077,412	5.50%
2030	4,328,166	68,004,480	18,022,120	(113,616)	22,236,669	5.50%
2031	4,522,933	53,731,037	19,050,369	(113,616)	23,459,686	5.50%
2032	4,726,465	37,281,719	20,137,120	(113,616)	24,749,969	5.50%
2033	4,939,156	18,430,444	18,430,444	(113,616)	23,255,984	-6.04%
2034	5,161,418	-	-	(113,616)	5,047,802	-78.29%

Amortization of Unfunded Liability as of July 1, 2015

Year	Type	Original Amort. Amount	Percentage Increasing	Original # of Years	Current Amort. Amount	Years Remaining
2004	ERI - Town	38,902	4.00%	19	62,283	7
2004	ERI - Housing	4,102	4.00%	19	6,567	7
2006	ERI2003 - Town	15,910	4.00%	16	23,551	6
2016	Fresh Start	N/A	N/A	18	N/A	18

Notes on Amortization of Unfunded Liability

Year is the year the amortization base was established.
Type is the reason for the creation of the base. Examples are Gain/(Loss) or Fresh Start.
Original Amortization Amount is the annual amortization amount when the base was established.
Percentage Increasing is the percentage that the Original Amortization Amount increases per year.
Original # of Years is the number of years over which the base is being amortized.
Current Amortization Amount is the amortization payment amount for this year.
Years Remaining is the number of years left to amortize the base.

* Unfunded Liability for Fiscal Years 2017-19 includes the following deferred gains from asset smoothing:

2017: $1,290,620
2018: $3,230,277
2019: $1,929,974

** Fresh Start amortization is set to be the amount needed to result in an adjusted payment which is 5.50% higher than the prior fiscal year for the next 17 years with a 6.04% decrease year 18

Assumptions and Methodology Summary

The principal actuarial assumptions used in this valuation are the same as the assumptions used in the previous valuation, except where noted, and are summarized in the following table:

Valuation Date	January 1, 2014 Valuation
Interest Rate	7.50% (same as prior valuation).
Salary Increase	4.00% Ultimate rate, plus the following steps and longevity: • Group 1 and 2: 3.50% for the first 7 years of service • Group 4: .75% in year 5, 1.75% in year 10, 2.75% in year 15, 3.75% in year 20, and 4.75 in year 25
COLA	3% of $15,000
COLA Frequency	Granted every year
Mortality	RP-2000 table (sex-distinct) projected using Generational Mortality and scale BB. The healthy employee table is used for actives, and the healthy annuitants table is used for retirees and beneficiaries. For members retired under an Accidental Disability (job-related), 40% of deaths are assumed to be from the same cause as the disability. Disabled mortality used RP-2000 table for healthy annuitants (sex-distinct) projected with Generational Mortality and scale BB, ages set forward 2 years. (Prior valuation used RP2000 with 18 year projection.)
Overall Disability	Groups 1 and 2 55% ordinary disability 45% accidental disability Group 4 10% ordinary disability 90% accidental disability
Retirement Rates	Groups 1 and 2 Ages 55 – 70 Group 4 Ages 50 – 65
Administrative Expense	$368,711 budget estimated for FY 2016 provided by Arlington Retirement Board.

Assets

a.	Cash	$	430,723.44
b.	Short Term Investments		3,297,328.91
c.	Pooled Alternative Investments		4,777,827.66
d.	PRIT Fund		121,439,430.15
e.	Sub-Total:	$	129,945,310.16
f.	Interest Due and Accrued		151.76
g.	Accounts Receivable		181.09
h.	Accounts Payable		.00
i.	Sub-Total:	$	332.85
j.	Market Value of Assets [(e) + (i)]	$	129,945,643.01

- We were furnished with the System's annual report by the Board. The market value of assets as of December 31, 2013 (adjusted for payables and receivables) is $129,945,643.01.

- The asset allocation is approximately 22% fixed income, cash, receivables and payables and 78% equities and alternative investments. Historically, 10 to 11% has been the expected long-term rate of return for equities, and 6% to 7% has been the expected long-term rate of return for fixed income securities. Many economists and investment professionals are projecting lower returns of 6.25% to 11.2% for equities (Domestic, Developed Market and Emerging Market) and 3.65 to 6.00% for fixed income securities. In light of these projections, as well as historical investment returns, the 7.50% interest rate assumption is within the reasonable assumption range. We encourage close monitoring for changes in investment performance against expectations.

- Actuarial value of assets (AVA) of $123,494,772 is based on a four-year smoothing method. Investment gains or losses above or below the expected rate of investment return are recognized over 4 years, 25% per year. The AVA must be no more than 110% of the market value of assets and no less than 90% of the market value of assets.

- Future contributions will be affected by the deferred net gains. At the time of the next valuation, as of January 1, 2015, there will be $1,290,620 of net gains recognized. Another $3,230,277 will be recognized in 2016, and a final $1,929,974 will be recognized in 2017. These unrecognized net gains have been reflected in the funding schedule shown on page 11 of this report.

Calculation of Valuation Assets as of January 1, 2014

FOUR-YEAR ASSET SMOOTHING

1. Market value of assets including receivable/payable as of 01/01/2014 $129,945,643

2. Phase-in of asset gains and losses

	Plan Year (1)	Original Amount (2)	Percent Unrecognized (3)	Amount Unrecognized (2) x (3)
a.	2013	$7,719,896	75%	$5,789,922
b.	2012	$5,201,214	50%	$2,600,607
c.	2011	($7,758,629)	25%	($1,939,657)
d.	2010	$5,077,216	0%	$0
e.	Total			$6,450,871

3. Valuation assets without corridor as of 01/01/2014 (1. - 2.e.) $123,494,772

4. Corridor Check
   a. 90% of Market Value $116,951,079
   b. 110% of Market Value $142,940,207

5. Valuation assets with corridor as of 01/01/2014 3. within Corridor $123,494,772

6. Calculation of return on valuation assets

   a. Valuation assets as of 01/01/2013 $116,431,256

   b. ER contribs + EE contribs - Ben Pymts - Expenses $(4,169,224)

   c. Actual return on valuation assets 5. - (6.a. + 6.b.) $11,232,740

   d. Weighted value of valuation assets $114,346,644

   e. Return on valuation assets 6.c. / 6.d. 9.8%

   f. Annualized return on assets 9.8%

Disclosure Information Under GASB Statement 25

SCHEDULES OF FUNDING PROGRESS
(Dollars In Thousands)

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 % of Covered Payroll (B-A)/C
1/1/2014	$123,495	$250,412	$126,917	49%	$31,804	399%
1/1/2013	$116,431	$236,967	$120,536	49%	$30,010	402%
1/1/2012	$111,307	$229,785	$118,478	48%	$28,611	414%
1/1/2011	$121,403	$222,496	$101,093	55%	$28,637	353%
1/1/2010	$115,704	$211,647	$95,943	55%	$28,904	332%

NOTES TO SCHEDULES

Additional information as of the latest actuarial valuation follows:

Valuation Date	1/1/2014
Actuarial cost method	Entry Age Normal
Amortization method	Level 6.00% increase of contribution amount
Remaining amortization period	18 years for the fresh start base
Asset valuation method	Market value adjusted by accounts payable and receivables adjusted to phase in over 4 years investment gains or losses above or below the expected rate of investment return. The actuarial value of assets must be no less than 90% of the adjusted market value nor more than 110% of the adjusted market value. Market value of assets is $129,945,643.01
<u>Actuarial assumptions:</u>	
Investment Rate of Return	7.50% per year
Projected Salary Increases	<u>Group 1 and 2:</u> 7.50% first 7 years of service <u>Group 4:</u> 4.75% in year 5, 5.75% in year 10, 6.75% in year 15, 7.75% in year 20 and 8.75% in year 25 <u>Ultimate Rate:</u> 4.00%

PERAC Information Disclosure

The most recent actuarial valuation of the System was prepared by Stone Consulting, Inc. as of January 1, 2014

The normal cost for employees on that date was:	$2,901,794	9.1% of payroll
The normal cost for the employer was:	$1,842,616	5.8% of payroll

The actuarial liability for active members was:	$91,897,852	
The actuarial liability for retired members was (includes inactives):	$158,513,996	
Total actuarial accrued liability:	$250,411,848	
System assets as of that date:	$123,494,772	($129,945,643.01 Market Value)
Unfunded actuarial accrued liability:	$126,917,076	

The ratio of system's assets to total actuarial liability was:	49%

As of that date the total covered employee payroll was:	$31,803,519

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

Investment Return:	7.50% per annum
Rate of Salary Increase:	Select and ultimate rate (4.00% ultimate rate)

SCHEDULE OF FUNDING PROGRESS (Dollars in $000's)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)/c)
1/1/2014	$123,495	$250,412	$126,917	49%	$31,804	399%
1/1/2013	$116,431	$236,967	$120,536	49%	$30,010	402%
1/1/2012	$111,307	$229,785	$118,478	48%	$28,611	414%
1/1/2011	$121,403	$222,496	$101,093	55%	$28,637	353%
1/1/2010	$115,704	$211,647	$95,943	55%	$28,904	332%

Actuarial Methods and Assumptions

ACTUARIAL METHODS

Actuarial Cost Method

The Entry Age Normal Actuarial Cost Method has been used in this valuation. Under this method, the normal cost is the amount calculated as the level percentage of compensation necessary to fully fund the prospective benefits from each member's entry age to retirement age.

The actuarial accrued liability represents the theoretical accumulation of all prior years' normal costs for the plan members as if the program had always been in effect. The unfunded actuarial accrued liability is the excess of the actuarial accrued liability over plan assets.

Asset Valuation Method

Market value of assets (adjusted by payables and receivables) adjusted to phase in investment gains or losses above or below the expected rate of investment return over a four-year rolling period. The phase-in is 25% for year one, 50% for year two, 75% for year three and 100% for year four. The actuarial value of assets may be no less than 90%, or more than 110% of the market value of assets plus payables and receivables.

Fiscal Year Adjustment

The actuarial results are adjusted by the valuation interest rate and salary scale to the beginning of Fiscal Year 2016. The unfunded actuarial accrued liability is rolled forward with normal cost and further adjusted by anticipated contributions and interest.

ACTUARIAL ASSUMPTIONS

Investment Return

7.50% per year net of investment expenses.

Regular Interest Rate Credited to Annuity Savings Account

2% per year.

Salary Increases

Select and ultimate salary assumption –3.50% steps for groups 1 and 2 during the first 7 years of service, longevity increases of .75% in year 5, 1.75% in year 10, 2.75% in year 15, 3.75% in year 20, and 4.75% in year 25 for group 4. Ultimate rate of 4.00%.

Actuarial Methods and Assumptions (Continued)

Salary Adjustment

Active members who were employed prior to the dates listed below will be provided a lump-sum payment of a certain percentage of their final 3-year average regular compensation upon termination. This was to recognize that annual increases were not consistently provided during their term of employment. The Retirement Board deems the lump-sum payment regular compensation. For valuation purposes the following percentage increases were used:

- Hired prior to July 1, 1984: 7.1%
- Hired between July 1, 1984 and December 31, 1992: 2.0%

Withdrawal Prior to Retirement

The rates shown at the following sample ages illustrate the withdrawal assumption. Withdrawal rates are set to zero if the retirement rate at that age is nonzero, and follow the following rates:

Service	Group 1 and 2	Group 4
0	15%	1.5%
1	12%	1.5%
2	10%	1.5%
3	9%	1.5%
4	8%	1.5%
5	7.6%	1.5%
10	5.4%	1.5%
15	3.3%	0.0%
20	2.0%	0.0%
25	1.0%	0.0%
30+	0.0%	0.0%

Disability Prior to Retirement

The rates shown at the following sample ages illustrate the disability assumption:

Age	Group 1 and 2	Group 4
20	0.01%	0.10%
25	0.02%	0.20%
30	0.03%	0.30%
35	0.06%	0.30%
40	0.10%	0.30%
45	0.15%	1.00%
50	0.19%	1.25%
55	0.24%	1.20%
60	0.28%	0.85%

Disability is assumed to be 55% ordinary and 45% accidental for Group 1 and 2 and 10% ordinary and 90% accidental for Group 4.

Actuarial Methods and Assumptions
(Continued)

Rates of Retirement

The rates shown at the following ages illustrate the assumption regarding the incidence of retirement, once the member has achieved 10 years of service:

				Hired after 4/1/2012		
Age	Group 1& 2 Male	Group 1 & 2 Female	Group 4	Group 1& 2 Male	Group 1 & 2 Female	Group 4
50	1%	1.5%	2%	0%	0%	1.5%
51	1%	1.5%	2%	0%	0%	1.5%
52	1%	2.0%	2%	0%	0%	1.5%
53	1%	2.5%	2%	0%	0%	1.5%
54	2%	2.5%	7.5%	0%	0%	5%
55	2%	5.5%	15%	0%	0%	10%
56	2.5%	6.5%	10%	0%	0%	7%
57	2.5%	6.5%	10%	0%	0%	20%
58	5%	6.5%	10%	0%	0%	10%
59	6.5%	6.5%	15%	0%	0%	15%
60	12%	5%	20%	25%	30%	20%
61	20%	13%	20%	20%	13%	20%
62	30%	15%	25%	30%	15%	25%
63	25%	12.5%	25%	25%	12.5%	25%
64	22%	18%	30%	22%	18%	30%
65	40%	15%	100%	40%	15%	100%
66	25%	20%	N/A	25%	20%	N/A
67	25%	20%	N/A	25%	20%	N/A
68	30%	25%	N/A	30%	25%	N/A
69	30%	20%	N/A	30%	20%	N/A
70	100%	100%	N/A	100%	100%	N/A

Mortality

The RP-2000 table (sex-distinct) projected with Generational Mortality and scale BB. (Prior valuation used RP-2000 mortality table with 18 year projection). During employment the healthy employee mortality table is used. Post-employment the healthy annuitant table is used. In-service death is assumed to be 55% accidental for group 1 and 2 and 90% accidental for group 4.

Disabled Life Mortality

The RP-2000 table for healthy annuitants (sex-distinct) projected with Generational Mortality and scale BB, set-forward by 2 years. Death is assumed to be due to the same cause as the disability 40% of the time. (Prior valuation used RP-2000 mortality table with 18 year projection).

Actuarial Methods and Assumptions
(Continued)

Family Composition

Members assumed married with 2 dependent children – one male and one female both age 15; age difference between member and spouse assumed to be 3 years (the male being the older).

Cost-of-Living Increases

A 3% COLA on the first $15,000 of a member's retirement allowance is assumed to be granted every year.

Administrative Expenses

Estimated budgeted amount of $368,711 for the Fiscal Year 2016 excluding investment management fees and custodial fee is added to the Normal Cost.

Step Increases

Step increases are assumed to be part of the salary increase assumption.

Credited Service

All service is assumed to be due to employment with the municipality.

Contribution Timing

Contributions are assumed to be made at the beginning of the fiscal year.

Total Payroll Increase

The total payroll is assumed to increase at 4.50% per year.

Valuation Date

January 1, 2014.

Summary of Principal Provisions

1. PARTICIPANT

Participation is mandatory for all full-time employees whose employment commences before age 65. There are three classes of members in the retirement system:

- Group 1: general employees
- Group 2: employees in specified hazardous occupations (e.g., electricians)
- Group 4: police and firefighters

2. MEMBER CONTRIBUTIONS

Member contributions vary depending upon date hired as follows:

Date of Hire	Member Contribution Rate
Prior to 1975	5% of Pay
1975 – 1983	7% of Pay
1984 – June 30, 1996	8% of Pay
After June 30, 1996	9% of Pay

Members hired after 1978 contribute an additional 2% of pay over $30,000.

3. PAY

a. Pay

Gross regular compensation excluding bonuses, overtime, severance pay, unused sick pay, and other similar compensation.

b. Average Pay

The average of pay during the 3 consecutive years that produce the highest average or, if greater, during the last three years (whether or not consecutive) preceding retirement.

4. CREDITED SERVICE

Period during which an employee contributes to the retirement system plus certain periods of military service and "purchased" service.

5. SERVICE RETIREMENT

a. Eligibility

Completion of 20 years of credited service or attainment of age 55 and completion of 10 years of credited service. If hired prior to 1978 or a member of group 4, attainment of age 55.

Summary of Principal Provisions (Continued)

b. Retirement Allowance

Determined as the product of the member's benefit percentage, average pay and credited service, where the benefit percentage is shown below (maximum allowance of 80% of average pay):

Benefit Percentage	Group 1	Group 2	Group 4
2.5%	65+	60+	55+
2.4	64	59	54
2.3	63	58	53
2.2	62	57	52
2.1	61	56	51
2.0	60	55	50
1.9	59	N/A	49
1.8	58	N/A	48
1.7	57	N/A	47
1.6	56	N/A	46
1.5	55	N/A	45
	Hired after April 1, 2012*		
2.5%	67+	62+	57+
2.35	66	61	56
2.20	65	60	55
2.05	64	59	54
1.90	63	58	53
1.75	62	57	52
1.60	61	56	51
1.45	60	55	50

*Reduction is .125% for each year early instead of .15% per year for employees with over 30 years of service.

In addition, veterans receive an additional $15 per year for each year of credited service up to 20 years

6. DEFERRED VESTED RETIREMENT

a. Eligibility

Completion of 10 years of credited service (for elected and appointed members, 6 years in the event of involuntary termination).

b. Retirement Allowance

Determined in the same manner as 5b, with the benefit payable at age 55, unless deferred until later at the member's option. Member contributions with interest may be withdrawn after separation from service. If contributions are withdrawn, eligibility for retirement benefits is forfeited. Members who voluntarily terminate with at least ten years of creditable service, or are involuntarily terminated, will receive 100% of the regular interest that has accrued to their Annuity Savings Account. Members who voluntarily terminate with less than ten years of service will receive interest on their Annuity Savings Account at the annual rate of 3%.

Summary of Principal Provisions
(Continued)

7. ORDINARY DISABILITY RETIREMENT

a. Eligibility

Non-job related disability after completion of 10 years of credited service.

b. Retirement Allowance

Determined in the same manner as 5b. with the benefit payable immediately. Veterans receive 50% of pay (during final year) plus an annuity based on accumulated member contributions with interest.

8. ACCIDENTAL DISABILITY RETIREMENT

a. Eligibility

Disabled as a result of an accident in the performance of duties. No age or service requirement.

b. Retirement Allowance

72% of pay plus an annuity based on accumulated member contributions with interest. Also, a dependent's allowance per year for each child. Total allowance not to exceed 100% of pay (75% for members hired after 1987).

9. NON-OCCUPATIONAL DEATH

a. Eligibility

Dies while in active service, but not due to occupational injury. 2 years of service.

b. Retirement Allowance

Benefit as if Option C had been elected (see below). Minimum monthly benefits provided as follows: spouse - $250, first child - $120, each additional child - $90.

10. OCCUPATIONAL DEATH

a. Eligibility

Dies as a result of an occupational injury.

b. Benefit Amount

Accumulated deductions are paid out in a lump sum and a yearly pension equal to 72% of pay. Also, a dependent's allowance per year for each child.

Summary of Principal Provisions
(Continued)

11. COST-OF-LIVING INCREASES

An increase of up to 3% applied to the first $15,000 of annual benefit. Funded by the Municipality from Fiscal Year 1999. Percentage increase is voted on each year by the Retirement Board. Cost-of-living increases granted during Fiscal Year 1982 through Fiscal 1998 are reimbursed by the Commonwealth.

12. OPTIONAL FORMS OF PAYMENT

- Option A

Allowance payable monthly for the life of the member.

- Option B

Allowance payable monthly for the life of the member with a guarantee of remaining member contributions with interest.

- Option C

Allowance payable monthly for the life of the member with 66-2/3% continuing to the member's beneficiary upon the member's death. If the beneficiary predeceases the member, the allowance amount "pops up" to the non-reduced amount.

Glossary of Terms

- Present Value of Benefits

  Represents the dollar value today of all benefits expected to be earned by current members if all actuarial assumptions are exactly realized.

- Actuarial Cost Method

  The procedure that is used to allocate the present value of benefits between the liability that is attributable to past service (Actuarial Accrued Liability) and that attributable to future service.

- Actuarial Assumptions

  Estimates are made as to the occurrence of certain events that determine the level of benefits to be paid and how long they will be provided. The more important actuarial assumptions include the investment return on assets, salary increases and the rates of turnover, disability, retirement and mortality.

- Actuarial Accrued Liability

The portion of the Present Value of Benefits that is attributable to past service.

- Normal Cost

The portion of the Present Value of Benefits that is attributable to benefits to be earned in the coming year.

- Actuarial Assets

Market value of assets (adjusted by payables and receivables) adjusted to phase in investment gains or losses above or below the expected rate of investment return over a four-year rolling period. The phase-in is 25% for year one, 50% for year two, 75% for year three and 100% for year four. The actuarial value of assets may be no less than 90%, or more than 110% of the market value of assets plus payables and receivables.

- Unfunded Actuarial Accrued Liability

That portion of the Actuarial Accrued Liability not covered by System Assets.

- PERAC

Public Employee Retirement Administration Commission, a division of the State government which has regulatory authority over the administration of the retirement system.

- PRIT

Pension Reserves Investment Trust Fund is the state controlled and administered fund for the investment of assets for members of the retirement system.

- GASB

Government Accounting Standards Board (issues guidance for disclosure of retirement system liabilities).