

REPORT ON THE  
SIXTY-SEVENTH ACTUARIAL VALUATION  
OF THE STATE TEACHERS'  
RETIREMENT SYSTEM OF VERMONT  
PREPARED AS OF JUNE 30, 2014

OCTOBER 29, 2014



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October 29, 2014

Board of Trustees  
State Teachers' Retirement System of Vermont  
Montpelier, Vermont 05609

Dear Board Members:

Section 1942, subsection (n), of Title 16, Chapter 55, Vermont Statutes Annotated, relating to the State Teachers' Retirement System of Vermont, provides in part that the actuary shall make annual valuations of the system.

The sixty-seventh actuarial valuation of the system, prepared as of June 30, 2014, has now been completed and the results are presented in this report, together with our recommendations in regard to contributions payable by the State. The Table of Contents, which immediately follows, outlines the material contained in this report.

On the basis of the current valuation, we recommend that a normal contribution of 1.70% of covered compensation and a payment of \$62,589,336 towards the liquidation of the unfunded accrued liability be made. Base on the reported payroll, the total contribution amounts to \$72,526,280 for the year beginning July 1, 2014. Schedule G provides the estimated contributions for the following two fiscal years.

The Board may use this report for the review of the operation of the system and as a source of information for the State financial statements. Use of this report for any other purpose, or by anyone other than the Board or staff serving the system, may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. No one may make any representations or warranties based on any statements or conclusions contained in this report without Buck Consultants' prior written consent.

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

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

Respectfully submitted,

David L. Driscoll, F.S.A., E.A., M.A.A.A.  
Principal, Consulting Actuary

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REPORT ON THE SIXTY-SEVENTH ACTUARIAL VALUATION OF THE  
STATE TEACHERS' RETIREMENT SYSTEM OF VERMONT  
PREPARED AS OF JUNE 30, 2014

SECTION I - SUMMARY OF PRINCIPAL RESULTS

1. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized below:

Valuation Date	June 30, 2013	June 30, 2014
Active members		
Vested	7,822	7,720
Not vested	<u>2,279</u>	<u>2,232</u>
Total	10,101	9,952
Compensation	\$563,623,421	\$567,073,601
Average age	46.61	46.53
Average service	13.09	13.15
Average compensation	\$55,799	\$56,981
Retired members and beneficiaries		
Number	7,743	8,086
Annual retirement allowances	\$138,079,875	\$147,409,221
Inactive members	2,322	2,416
Terminated vested members	751	740
Adjusted assets for valuation	\$1,552,924,370	\$1,610,285,523
Unfunded actuarial accrued liability	\$1,013,910,285	\$1,076,763,810
Annual actuarial accrued liability contribution	\$59,740,310	\$62,589,336
Normal contribution rate	1.89%	1.70%

2. Comments on the results of the valuation are given in Section IV and further discussion of the contribution levels is provided in Section V.
3. Schedule B outlines the full set of actuarial assumptions and methods employed in the current valuation. There have been no changes in the assumptions since the last valuation. The assumptions now in use were based on an experience study covering the period from July 1, 2005, through June 30, 2010. The mortality assumptions now in use were adopted by the Board on the basis of this study. The review of assumptions in the next experience study will take account of the requirement added to the latest revision of Actuarial Standard of Practice No. 35 to consider future longevity improvements in the selection of mortality assumptions. It is beyond the scope of the valuation to evaluate the possible effect such a change might have.
4. Schedule C outlines the benefit provisions taken into account in the valuation. There have been no changes in benefit provisions since the last valuation, save for an increase in required contributions for certain members effective July 1, 2014.
5. An analysis of the actuarial experience of the System during the past fiscal year is presented in Section IV of this report. Some aspects of this experience are presented in graphs included in Section VI of this report.
6. Schedule F shows a graph of projected benefit payments over the next ten years.
7. Schedule G shows projected state contributions to the System for the two following fiscal years.

SECTION II - MEMBER DATA

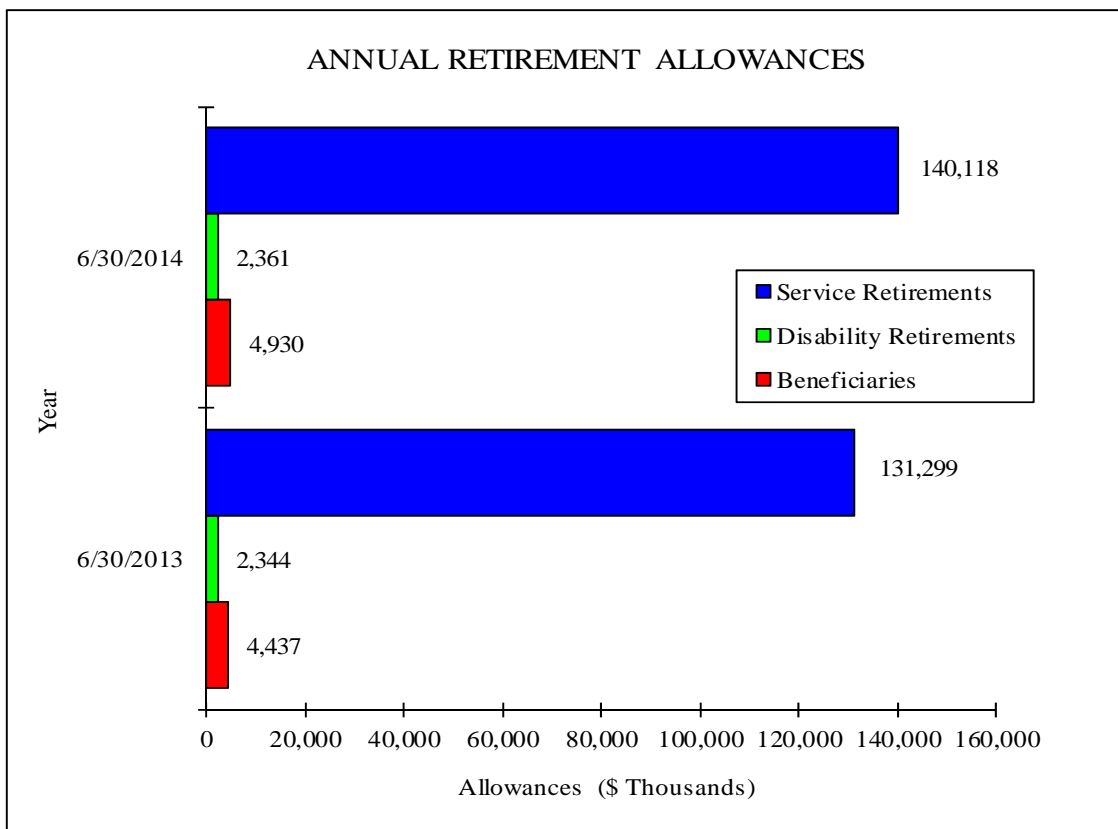
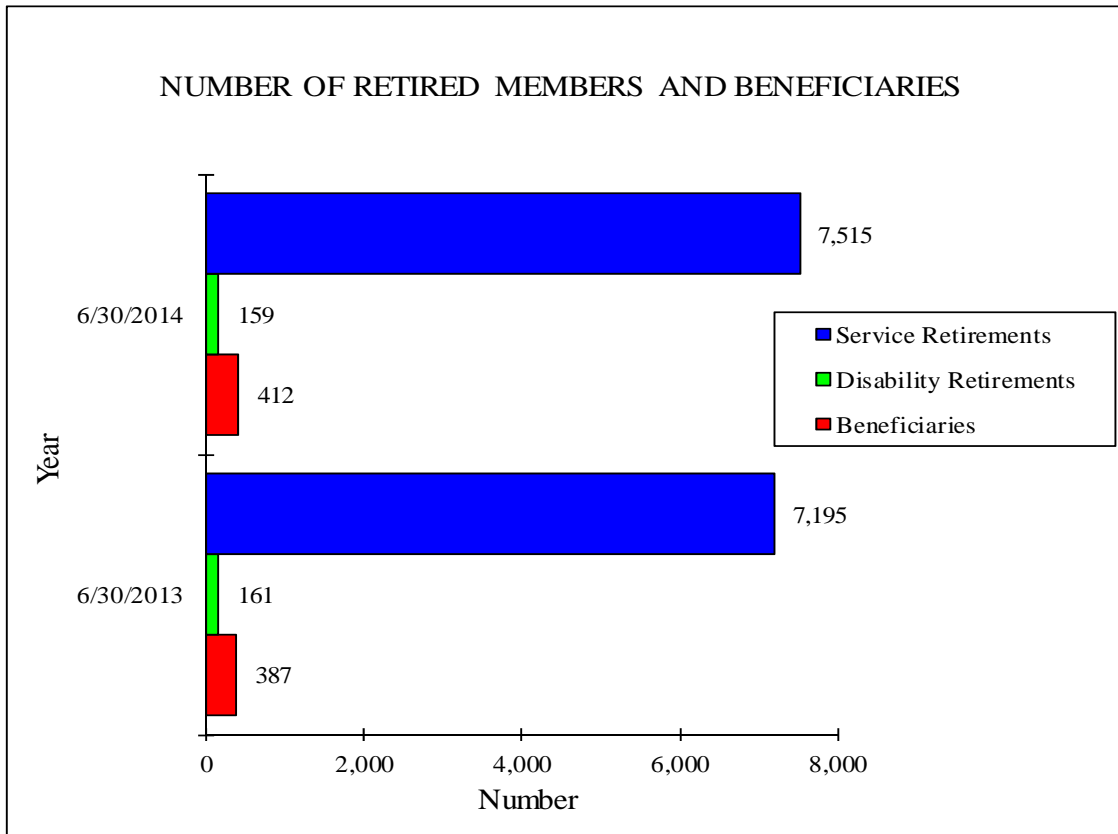
1. Member data were furnished by the Retirement Division of the State Treasurer's Office. Buck did not audit the data, although they were reviewed for reasonableness and consistency with prior data. The accuracy of the results of the valuation is dependent upon the accuracy of the data.
2. Schedule D presents tables that summarize active members, by age and service and service pensioners, disability pensioners and beneficiaries by annual benefit levels.
3. The following tables provide a summary of membership of the system:

THE NUMBER AND ANNUAL ALLOWANCES OF RETIRED MEMBERS  
AND BENEFICIARIES AS OF JUNE 30, 2014

Group	Number	Annual Allowances
Service Retirements	7,515	\$140,118,478
Disability Retirements	159	\$2,360,914
Beneficiaries of Deceased Members	412	\$4,929,829
TOTAL	8,086	\$147,409,221

THE NUMBER AND ANNUAL COMPENSATION OF  
ACTIVE MEMBERS AS OF JUNE 30, 2014

Group	Number	Annual Compensation
Group A	10	\$719,598
Group C	9,942	\$566,354,003
TOTAL	9,952	\$567,073,601



SECTION III – ASSETS

1. The asset values and cash flow amounts shown below were taken from reports supplied by the Office of the State Treasurer. The information contained in the reports has not yet been audited but is believed to be sufficiently accurate for purposes of this valuation.
2. For actuarial purposes, the assets are valued using a method that reflects the market value of assets through gradual recognition of return on assets that differ from the assumed rate of return, provided the adjusted asset value is within 20% of the market value. The following shows the development of the valuation assets.

Assets for valuation purposes, June 30, 2013			\$1,552,924,370
Cash flow during year (net of investment income)			
Contributions paid	\$	105,637,497	
Benefit payouts		(140,846,837)	
Expenses		(33,310,262)	
Net			(68,519,602)
Expected investment income (6.25%)			102,110,985
Preliminary asset value			\$1,586,515,753
Market value, June 30, 2014	\$	1,705,364,604	
Preliminary asset value		1,586,515,753	
Unrecognized appreciation	\$	118,848,851	
Adjustment		x 20%	\$ 23,769,770
Assets for valuation purposes, June 30, 2014			\$1,610,285,523

3. The assets for valuation purposes are 94.4% of market value.
4. The investment rate of return for the year ending June 30, 2014, is 8.29%, based on the valuation assets.



SECTION IV - COMMENTS ON VALUATION

1. Schedule A of the report contains the valuation balance sheet, which shows the present and prospective assets and liabilities of the system as of June 30, 2014.
2. The adjusted assets of the system amount to \$1,610,285,523.
3. The actuarial accrued liability for current retired members, terminated vested members and beneficiaries amounts to \$1,620,831,146, and the actuarial accrued liability for current active and inactive members amounts to \$1,066,218,187, for a total actuarial accrued liability of \$2,687,049,333. Therefore, after subtracting assets of \$1,610,285,523, the unfunded actuarial accrued liability is \$1,076,763,810.
4. The State's contributions consist of a normal contribution and an accrued liability contribution. The accrued liability contribution represents the amount necessary to liquidate the unfunded accrued liability as of June 30, 2014, over a 24-year period from that date in installments that increase by 5% per year. Normal contributions represent the contributions needed to fund the benefits earned during the year. Under the Entry Age Normal funding method, the normal contribution as of June 30, 2014, is \$9,936,944, or 1.70% of members' compensation.
5. The valuation reflects Act No. 179 of 2014, which provides that, effective July 1, 2014, the member contribution rate for teachers who have completed fewer than five years of service as of that date will increase from 5% to 6% of compensation.
6. The expected unfunded actuarial accrued liability as of June 30, 2014, may be compared to the actual actuarial accrued liability to determine the gain or loss during the year. The following table presents a summary of the approximate effects of major experience factors affecting the system's unfunded actuarial accrued liability since June 30, 2013.

1. Unfunded liability, 6/30/2013	\$1,013,910,285
2. Total Normal cost	36,150,845
3. Contribution	(105,637,497)
4. Interest on 1, 2 and 3	62,377,678
5. Changes in Actuarial Assumptions	0
6. Changes in System Provisions	0
7. Restart of Select and Ultimate Interest Rate Set	46,354,354
8. Expected unfunded liability, 6/30/2014	1,053,155,665
9. Accrued liability, 6/30/2014	2,687,049,333
10. Actuarial value of assets, 6/30/2014	1,610,285,523
11. Actual unfunded liability, 9. – 10.	1,076,763,810
12. Total gain/(loss), 8. - 11.	(\$23,608,145)

Sources of gain/(loss)	
Investment experience	\$ 30,931,768
Expenses (investments)	(7,194,449)
Expenses other than investment expenses	(27,156,759)
Retirement experience	(7,255,861)
Termination experience	(32,110,423)
Disability experience	(128,073)
Mortality among active participants	538,760
Mortality among retirees, beneficiaries and terminated vested participants.	(3,042,048)
Salary experience	2,246,986
COLA experience	7,796,599
New entrants with prior service	(2,701,719)
Other (Data corrections, service purchases, etc)	14,467,074
Total	\$ (23,608,145)

SECTION V - CONTRIBUTIONS PAYABLE UNDER THE SYSTEM

1. Section 1942, Subsection (n), of Title 16, Chapter 55, Vermont Statutes Annotated, relating to the State Teachers' Retirement System of Vermont, indicates that the actuary shall submit to the Board of Trustees his recommendation as to the contributions payable by the State based on annual valuations of the assets and liabilities of the system.
2. On the basis of the results of the current valuation, the actuary recommends that the Board of Trustees certify the following contributions for the fiscal year commencing July 1, 2014:

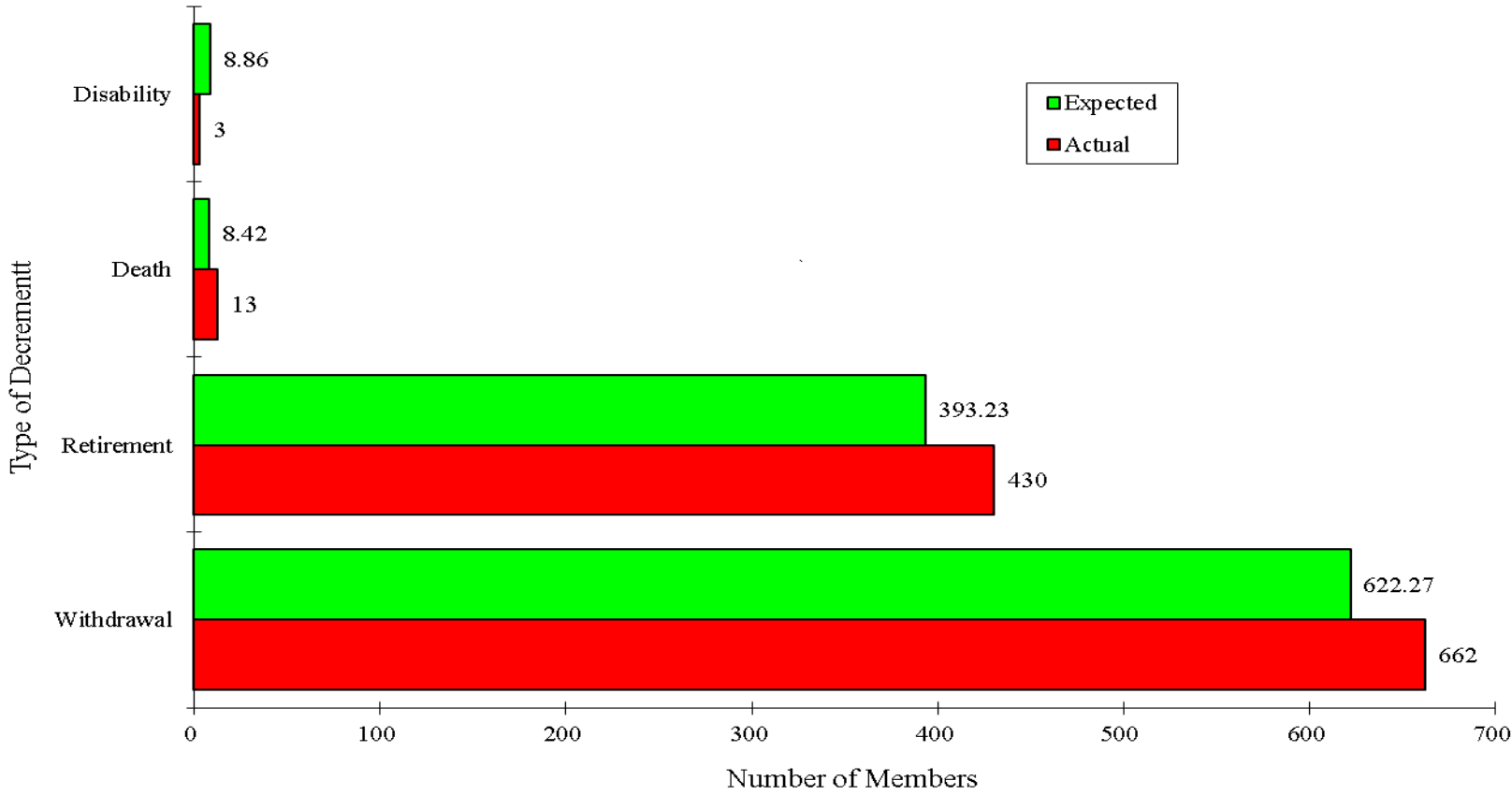
Normal contribution	\$9,936,944
Accrued liability contribution	<u>62,589,336</u>
Total	\$72,526,280

SECTION VI – EXPERIENCE

1. Records are maintained whereby the actual experience of the system may be compared with the expected experience based on the tables adopted by the Board of Trustees. This experience is reviewed periodically, in accordance with the applicable statutes, and any change suggested by the cumulative experience of the system will be recommended to the Board.
2. The active service and salary experience for the latest year is summarized in graphs on the following pages.

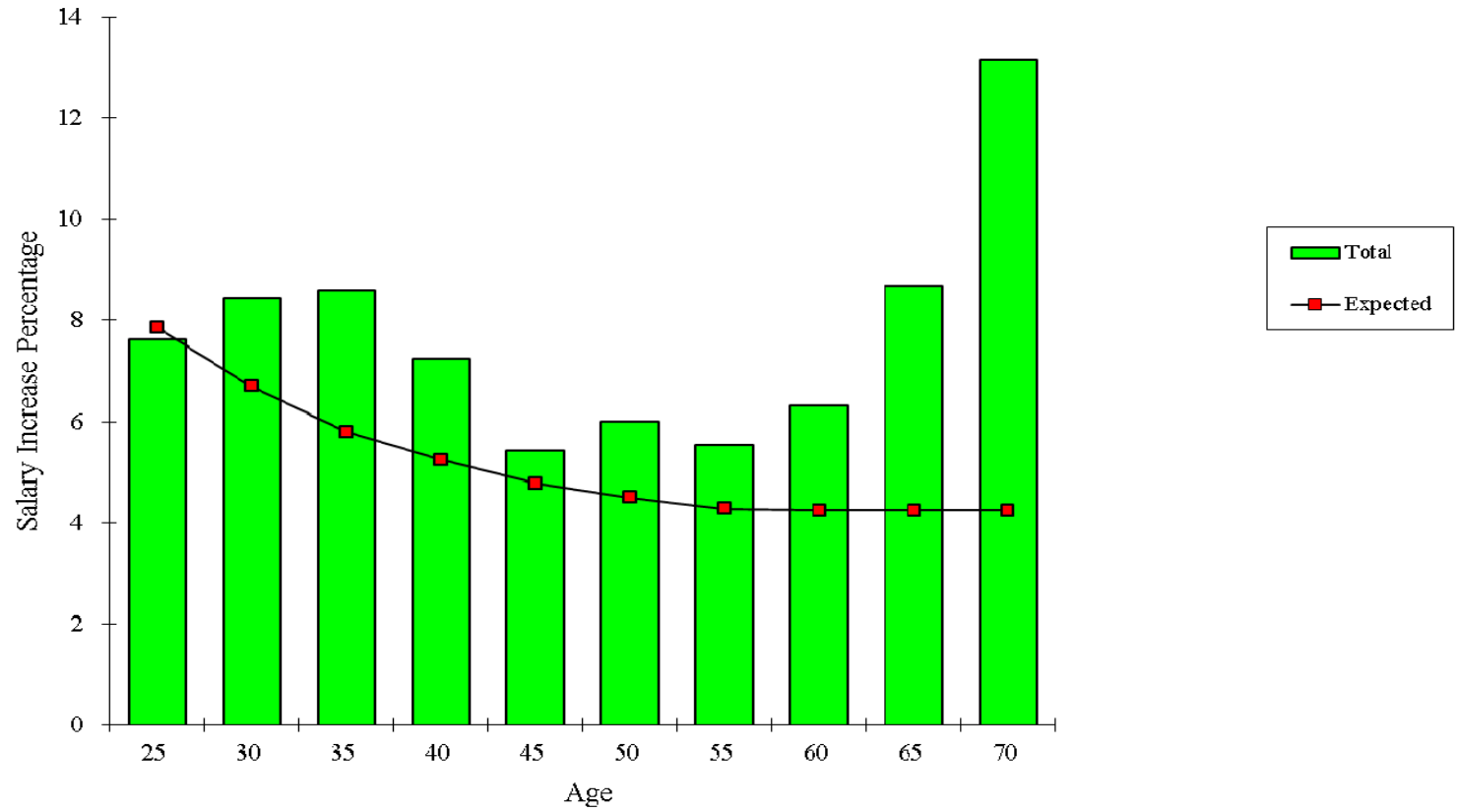
### ACTIVE SERVICE EXPERIENCE

July 1, 2013  
through June 30, 2014



### GROUP C SALARY EXPERIENCE

JULY 1, 2013 THROUGH JUNE 30, 2014



SECTION VII - ACCOUNTING INFORMATION

1. Governmental Accounting Standards Board Statement No. 25 (GASB 25) is amended and replaced by Governmental Accounting Standards Board Statement No. 67 (GASB 67) effective for the fiscal year ending June 30, 2014, and a separate actuarial valuation report presenting the amounts required for disclosure under GASB 67 was prepared as of June 30, 2014.

2. GASB Statement No. 27 requires the development of Annual Pension Cost and Net Pension Obligation. This development is shown in the following table:

DEVELOPMENT OF PENSION COST AND NET PENSION OBLIGATION (NPO)

Year Ending June 30	Annual Required Contribution	Interest on NPO	Amortization of NPO	Pension Cost (1)+(2)-(3)	Actual Contribution	Change in NPO (4)-(5)	NPO Balance
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1997	30,954,237	5,496,997	4,228,309	32,222,925	18,080,000	14,142,925	78,813,479
1998	33,519,949	6,699,146	5,320,758	34,898,337	18,106,581	16,791,756	95,605,235
1999	27,232,542	8,126,445	6,679,063	28,679,924	18,080,000	10,599,924	106,205,159
2000	23,573,184	9,027,439	7,696,429	24,904,194	18,586,240	6,317,954	112,523,113
2001	20,882,521	9,564,465	8,481,287	21,965,699	19,143,827	2,821,872	115,344,985
2002	21,965,322	9,804,324	9,069,835	22,699,811	20,446,282	2,253,529	117,598,514
2003	23,197,088	9,995,874	9,679,438	27,711,317	20,446,282	7,267,035	124,865,549
2004	29,608,892	9,989,244	10,799,409	28,798,727	24,446,282	4,352,445	129,217,994
2005	43,592,332	10,337,440	11,445,481	42,484,291	24,446,282	18,038,009	147,256,003
2006	49,923,599	11,780,480	13,862,402	47,841,677	24,985,506	22,856,171	170,112,174
2007	38,200,000	14,034,254	17,120,008	35,114,246	38,496,410	(3,382,164)	166,730,009
2008	40,749,097	13,755,226	8,874,356	45,629,967	40,955,566	4,674,401	171,404,411
2009	37,077,050	14,140,864	9,326,363	41,891,551	37,349,818	4,541,733	175,946,144
2010	41,503,002	14,515,557	9,798,491	46,220,068	41,920,603	4,299,465	180,245,609
2011	48,233,006	14,870,263	9,807,425	53,295,844	50,268,131	3,027,713	183,273,322
2012	51,241,932	11,454,583	10,301,984	52,394,531	56,152,011	(3,757,480)	179,515,842
2013	60,182,755	11,219,740	10,323,707	61,078,789	65,086,320	(4,007,531)	175,508,311
2014	68,352,825	10,969,269	10,341,051	68,981,043	72,668,412	(3,687,369)	171,820,942

3. The Annual Required Contribution for fiscal year 2014 is derived as follows:

\$11,259,501 Normal cost component of FY 2014 recommended contribution reported in the 2012 actuarial valuation report.

\$57,093,324 Amortization of unfunded liability in the FY 2014 recommended contribution reported in the 2012 actuarial valuation report.

\$68,352,825 Total



SCHEDULE A

VALUATION BALANCE SHEET  
SHOWING THE ASSETS AND LIABILITIES OF THE  
STATE TEACHERS' RETIREMENT SYSTEM OF VERMONT  
PREPARED AS OF JUNE 30, 2014

VALUATION BALANCE SHEET  
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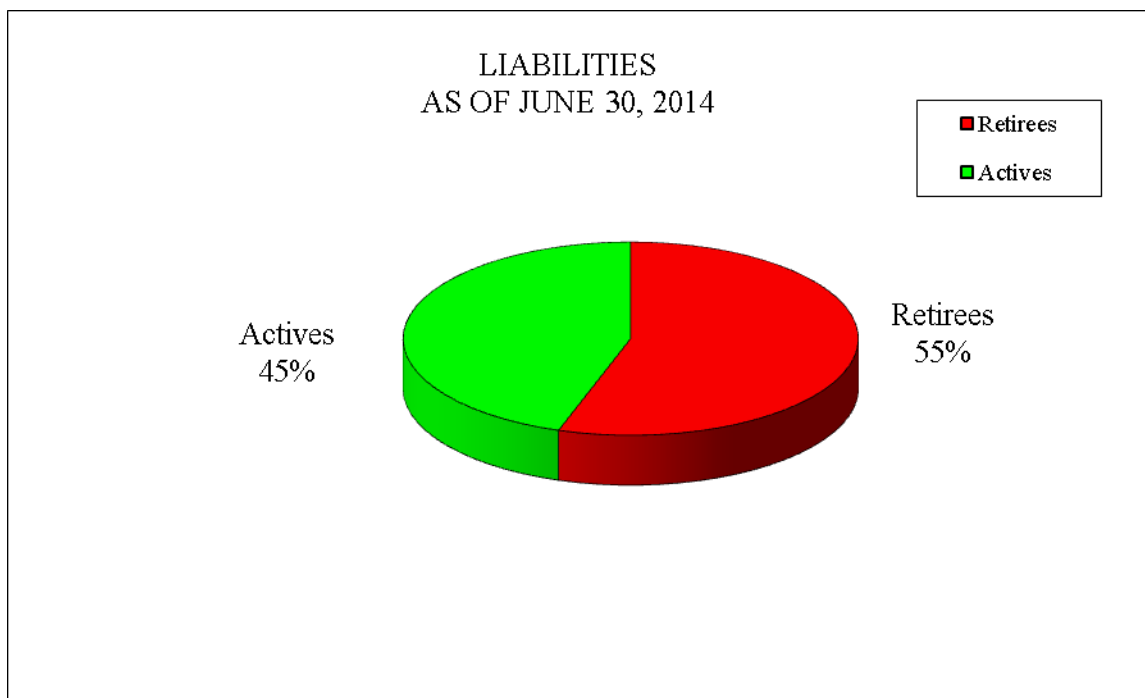
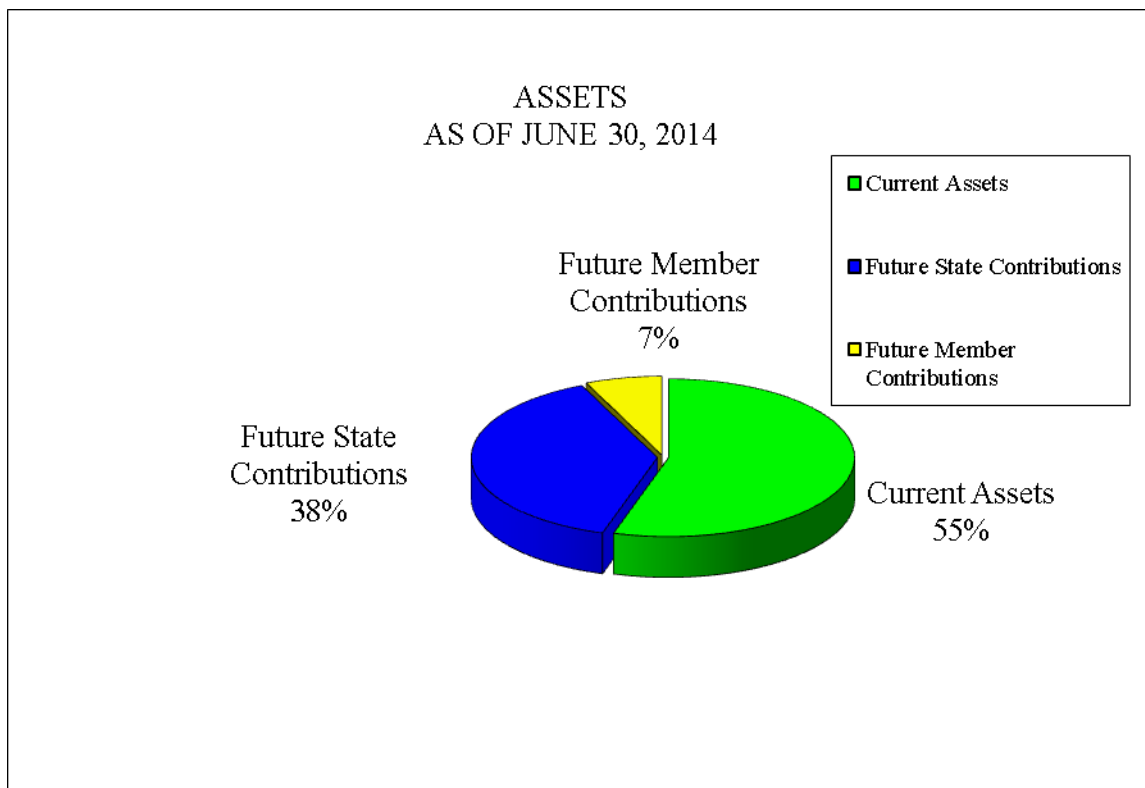
ASSETS

Adjusted assets of the system		\$1,610,285,523
Present value of prospective contributions		
Members	\$203,065,863	
State		
Accrued liability contributions	1,076,763,810	
Normal contributions	<u>50,473,174</u>	
Total prospective contributions		<u>\$1,330,302,847</u>
Total assets		<u>\$2,940,588,370</u>

LIABILITIES

Actuarial present value of benefits payable on account of present retired members, terminated vested members and beneficiaries		\$1,620,831,146
Actuarial present value of benefits expected to become payable on account of active and inactive members		<u>1,319,757,224</u>
Total liabilities		<u>\$2,940,588,370</u>

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SCHEDULE B

OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

## OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

**INTEREST RATE:** A select-and-ultimate interest rate set, specified below. The interest rate set is restarted every year.

Year 1: 6.25%	Year 10: 8.50%
Year 2: 6.75%	Year 11: 8.50%
Year 3: 7.00%	Year 12: 8.50%
Year 4: 7.50%	Year 13: 8.50%
Year 5: 7.75%	Year 14: 8.50%
Year 6: 8.25%	Year 15: 8.50%
Year 7: 8.25%	Year 16: 8.75%
Year 8: 8.25%	Year 17 and later: 9.00%
Year 9: 8.50%	

**SEPARATIONS BEFORE NORMAL RETIREMENT:** Representative values of the assumed annual rates of withdrawal, vested retirement, early retirement, disability and death are as follows:

Age	Withdrawal and Vested Retirement		Disability				Death	
			Current Valuation		Prior Valuation			
	Males	Females	Males	Females	Males	Females	Males	Females
25	20.00%	20.00%	.010%	.015%	.010%	.015%	.02%	.02%
30	12.00	14.00	.015	.015	.015	.015	.02	.02
35	8.00	11.30	.020	.015	.020	.015	.02	.02
40	6.50	8.60	.030	.020	.030	.020	.05	.02
45	5.80	6.00	.053	.045	.053	.045	.05	.04
50	5.40	5.00	.067	.070	.180	.180	.07	.06
55	5.40	4.84	.088	.095	.440	.390	.07	.10
59	5.40	4.84	.234	.142	1.170	.710	.09	.14
60	5.40	4.84	.294	.168	1.470	.840	.09	.15
61	5.40	4.84	.366	.202	1.830	1.010	.297	.17

Age	Reduced Early Retirement		Full Early Retirement	
	Grandfathered	Non-Grandfathered	Grandfathered	Non-Grandfathered
50	-	-	40.00%	25.00%
55	8.75%	8.75%	20.00	20.00
56	6.25	6.25	10.00	10.00
57	6.25	6.25	10.00	10.00
58	6.25	6.25	10.00	10.00
59	6.25	6.25	10.00	10.00
60	12.50	12.50	30.00	17.00
61	12.50	12.50	17.00	17.00

**SERVICE RETIREMENTS:** Occur between ages 62 (60 for Group A) and 70. The assumed rates of service retirement are as follows:

Age	Annual Rate of Retirement	
	Grandfathered	Non-Grandfathered
62	25.0%	20.0%
63	20.0	20.0
64	20.0	20.0
65	30.0	30.0
66	30.0	30.0
67	30.0	30.0
68	20.0	20.0
69	30.0	30.0
70	100.0	100.0

**SALARY INCREASES:** Representative values of the assumed annual rates of future salary increase are as follows:

Age	Annual Rate of Salary Increase
25	8.40%
30	7.05
35	6.15
40	5.45
45	4.95
50	4.60
55	4.35
60	4.25
64	4.25

**DEATHS AFTER RETIREMENT:** The 1995 Buck Mortality Tables set back three years for males and one year for females, for retirees, terminated vested members and beneficiaries; the RP-2000 Disabled Life Table with projection to 2016 using Scale AA for disabled retirees. The tables used contain a margin to reflect anticipated mortality improvement after the valuation date.

**INFLATION:** The separately stated assumptions for investment return, salary increases and cost of living adjustments are consistent with an expected annual inflation rate of 3.00% to 3.25% per year.

**FUTURE EXPENSES:** No provision made.

**SPOUSE'S AGE:** Husbands are assumed to be three years older than their wives.

**PERCENT MARRIED:** 85% of the male members and 35% of the female members are assumed to be married.

**COST-OF-LIVING ADJUSTMENTS:** Assumed to occur on January 1 following one year of retirement at the rate of 3% per annum for Group A members and 1.5% per annum for Group C member (beginning at age 62 for Group C members who elect reduced early retirement).

**INACTIVE MEMBERS:** A liability equal to 350% of accumulated contributions of inactive members is included in the valuation liabilities.

**ACTUARIAL COST METHOD:** The individual entry age normal actuarial cost method was used. For actuarial valuations prior to June 30, 2006, the entry age normal method with frozen initial liability was used.

**ASSET VALUATION METHOD:** The amount of the assets for valuation purposes equals the preliminary asset value plus 20% of the difference between the market and preliminary asset values. The preliminary asset value is equal to the previous year's asset value (for valuation purposes) adjusted for contributions less benefit payments and expenses and expected investment income. If necessary, a further adjustment is made to ensure that the valuation assets are within 20% of the market value.

**MEMBER DATA:** 344 members terminated on June 30, 2014 and retired on July 1, 2014 were included with a valuation status as members receiving benefits. 511 members who were active on June 30, 2014 and terminated on July 1, 2014, were included with a valuation status as inactive. For those terminated members with at least five years of service, the system will automatically vest them six years after their termination if they do not withdraw.

**HEALTH AND MEDICAL BENEFITS FOR RETIREES:** Not included in this valuation.

SCHEDULE C

BRIEF SUMMARY OF PRINCIPAL PLAN PROVISIONS  
AS INTERPRETED FOR VALUATION PURPOSES



BRIEF SUMMARY OF PRINCIPAL PLAN PROVISIONS  
AS INTERPRETED FOR VALUATION PURPOSES

Effective Date	July 1, 1947.
Creditable Service	Service as a member plus purchased service.
Average Final Compensation (AFC)	Average annual compensation during highest 3 successive years.
Membership	Immediate upon employment.
Grandfathered status	Group C members who were within five years of normal retirement eligibility as defined prior to July 1, 2010, are “grandfathered”

GROUP A

GROUP C

Service Retirement Allowance

Eligibility

Age 60 or 30 years of creditable service.

Grandfathered: Age 62 or 30 years of creditable service for.

Non-Grandfathered: Age 65 or age plus creditable service equal 90.

	<u>GROUP A</u>	<u>GROUP C</u>
Amount of Allowance	Member annuity based on accumulated contributions plus a pension which, with member annuity, equals 1/60 of AFC times creditable service.	<p>Grandfathered:</p> <p>Member annuity based on accumulated contributions plus a pension which, with member annuity, equals 1/80 of AFC times creditable service prior to July 1, 1990 plus 1/60 of AFC times creditable service after July 1, 1990.</p> <p>Non Grandfathered:</p> <p>Member annuity based on accumulated contributions plus a pension which, with member annuity, equals 1/80 of AFC times creditable service prior to July 1, 1990 plus 1/60 of AFC times creditable service after July 1, 1990 up to 20 years of service, plus 1/50 of AFC for years of service after 20.</p> <p>If member already has 20 or more years of service on June 30, 2010, the 1/50 will be applied to all service accrued after July 1, 2010.</p>
Minimum	\$6,600 after 30 years of creditable service (pro-rata portion if less than 30 years).	N/A

	<u>GROUP A</u>	<u>GROUP C</u>
Maximum	None	Grandfathered: 50% of AFC up to June 30, 2010. May continue to accrue up to 53.34% of AFC with service earned after July 1, 2010.  Non-Grandfathered: 60% of AFC.
Early Retirement Allowance		
Eligibility	Age 55.	Age 55 and 5 years of creditable service.
Amount of Allowance	Actuarial equivalent of service allowance using AFC and creditable service at early retirement.	Grandfathered: Accrued normal benefit reduced 6% for each year under age 62.  Non-Grandfathered: Accrued normal benefit reduced by actuarial reduction from normal retirement age.
Vested Retirement Allowance		
Eligibility	5 years of creditable service.	5 years of creditable service.
Amount of Allowance	Commencing at age 60 calculated as a service allowance using AFC and creditable service at termination.	Commencing at age 62, calculated as a service allowance using AFC and creditable service at termination.
Disability Retirement Allowance		
Eligibility	Total and permanent disability after 5 years of creditable service (5 years preceding retirement served in State).	Total and permanent disability after 5 years of creditable service (5 years preceding retirement served in State).

	<u>GROUP A</u>	<u>GROUP C</u>
Amount of Allowance	Calculated as a service allowance based on AFC and creditable service at disability retirement, subject to a 25% of AFC minimum.	Calculated as a service allowance based on AFC and creditable service at disability retirement, subject to a 25% of AFC minimum.
Death Benefits		
Eligibility	Age 60 or 30 years of creditable service; 10 years of creditable service if in service at death.	Age 55 and 5 years of creditable service or 10 years of creditable service.
Amount of Allowance	Accrued allowance paid under 100% survivorship option. If the eligibility requirements are not met or if beneficiary so elects, the member's accumulated contributions are paid to the beneficiary or estate. Certain children's benefits may also be payable.	Accrued allowance paid under 100% survivorship option. If the eligibility requirements are not met or if beneficiary so elects, the member's accumulated contributions are paid to the beneficiary or estate. Certain children's benefits may also be payable.
Return of Contributions	If no other beneficiary is payable, a terminated member receives his accumulated contributions with interest.	If no other beneficiary is payable, a terminated member receives his accumulated contributions with interest.
Options	The allowance may be paid in various optional forms at the election of the member.	The allowance may be paid in various optional forms at the election of the member.

	<u>GROUP A</u>	<u>GROUP C</u>
Post-retirement Adjustments	On each December 31 allowances in payment for at least one year are adjusted for cost-of-living changes based on the Consumer Price Index, but not in excess of 5%.	On each December 31, allowances in payment for at least one year are adjusted for cost-of-living changes based on one-half of the increase in the Consumer Price Index, but not in excess of 5%. For members receiving a reduced early retirement allowance, the adjustment will not apply before age 62.
Contributions		
Members	5.5% of earnable compensation. Contributions stop after 25 years of creditable service.	5% of earnable compensation for participants with at least five years of service as of July 1, 2014.  6% of earnable compensation for participants who have not completed five years of service as of July 1, 2014.
State	Normal and accrued liability contributions actuarially determined to keep the system financially sound.	Normal and accrued liability contributions actuarially determined to keep the system financially sound.

SCHEDULE D

SUMMARY TABLES OF MEMBER DATA AS OF JUNE 30, 2014

TABLE 1  
THE NUMBER AND ANNUAL COMPENSATION OF  
ACTIVE MEMBERS DISTRIBUTED BY AGE AND SERVICE  
AS OF JUNE 30, 2014

AGE	<i>0 to 4</i>		<i>5 to 9</i>		<i>10 to 14</i>		<i>15 to 19</i>		<i>20 to 24</i>		<i>25 to 29</i>		<i>30 to 34</i>		<i>35 to 39</i>		<i>40 &amp; up</i>		<i>Total</i>	
	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 to 24	143	5,053,568	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	143	5,053,568
25 to 29	589	23,371,767	131	5,838,398	0	0	0	0	0	0	0	0	0	0	0	0	0	0	720	29,210,165
30 to 34	475	19,582,720	494	23,962,388	108	5,873,888	0	0	0	0	0	0	0	0	0	0	0	0	1,077	49,418,996
35 to 39	293	12,793,662	439	22,610,153	385	22,442,243	89	5,388,149	0	0	0	0	0	0	0	0	0	0	1,206	63,234,207
40 to 44	230	10,286,735	317	16,868,010	408	24,113,102	362	23,434,386	55	3,920,789	0	0	0	0	0	0	0	0	1,372	78,623,022
45 to 49	179	7,642,350	276	15,508,280	243	14,584,504	283	18,491,082	213	14,755,650	61	4,323,678	0	0	0	0	0	0	1,255	75,305,544
50 to 54	136	6,159,210	223	12,224,933	239	14,559,950	238	15,555,234	204	14,070,990	245	16,794,126	51	3,708,475	0	0	0	0	1,336	83,072,918
55 to 59	108	4,860,460	162	8,918,283	252	14,822,820	233	14,533,710	190	12,936,587	252	17,876,557	195	14,152,811	54	4,010,804	0	0	1,446	92,112,032
60 to 64	55	2,931,767	107	5,593,254	154	9,276,932	198	12,391,338	177	11,967,949	154	10,634,939	143	10,276,176	129	9,423,952	28	2,063,291	1,145	74,559,598
65 to 69	18	677,279	25	1,469,339	30	1,696,903	27	1,933,539	25	1,555,040	28	2,034,486	22	1,742,832	21	1,572,047	26	2,015,443	222	14,696,908
70 & up	6	234,599	1	25,944	7	355,631	1	68,306	3	202,444	1	63,246	1	77,821	2	171,117	8	587,536	30	1,786,644
TOTAL	2,232	93,594,116	2,175	113,018,982	1,826	107,725,973	1,431	91,795,744	867	59,409,449	741	51,727,032	412	29,958,115	206	15,177,920	62	4,666,270	9,952	567,073,601

TABLE 2  
THE NUMBER AND ANNUAL COMPENSATION OF  
ACTIVE MEMBERS DISTRIBUTED BY AGE AND SERVICE  
AS OF JUNE 30, 2014

GROUP A

AGE	<i>0 to 4</i>		<i>5 to 9</i>		<i>10 to 14</i>		<i>15 to 19</i>		<i>20 to 24</i>		<i>25 to 29</i>		<i>30 to 34</i>		<i>35 to 39</i>		<i>40 &amp; up</i>		<i>Total</i>		
	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 to 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 to 39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 to 44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 to 49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50 to 54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 to 59	0	0	0	0	0	0	0	0	1	59,739	0	0	2	128,003	0	0	0	0	3	187,742	
60 to 64	0	0	0	0	0	0	0	0	0	0	1	59,554	3	199,155	1	77,821	0	0	5	336,530	
65 to 69	0	0	0	0	0	0	0	0	0	0	0	0	1	84,094	0	0	1	111,232	2	195,326	
70 & up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	1	59,739	1	59,554	6	411,252	1	77,821	1	111,232	10	719,598	



TABLE 3  
THE NUMBER AND ANNUAL COMPENSATION OF  
ACTIVE MEMBERS DISTRIBUTED BY AGE AND SERVICE  
AS OF JUNE 30, 2014

GROUP C

AGE	<i>0 to 4</i>		<i>5 to 9</i>		<i>10 to 14</i>		<i>15 to 19</i>		<i>20 to 24</i>		<i>25 to 29</i>		<i>30 to 34</i>		<i>35 to 39</i>		<i>40 &amp; up</i>		<i>Total</i>		
	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 to 24	143	5,053,568	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	143	5,053,568	
25 to 29	589	23,371,767	131	5,838,398	0	0	0	0	0	0	0	0	0	0	0	0	0	0	720	29,210,165	
30 to 34	475	19,582,720	494	23,962,388	108	5,873,888	0	0	0	0	0	0	0	0	0	0	0	0	1,077	49,418,996	
35 to 39	293	12,793,662	439	22,610,153	385	22,442,243	89	5,388,149	0	0	0	0	0	0	0	0	0	0	1,206	63,234,207	
40 to 44	230	10,286,735	317	16,868,010	408	24,113,102	362	23,434,386	55	3,920,789	0	0	0	0	0	0	0	0	1,372	78,623,022	
45 to 49	179	7,642,350	276	15,508,280	243	14,584,504	283	18,491,082	213	14,755,650	61	4,323,678	0	0	0	0	0	0	1,255	75,305,544	
50 to 54	136	6,159,210	223	12,224,933	239	14,559,950	238	15,555,234	204	14,070,990	245	16,794,126	51	3,708,475	0	0	0	0	1,336	83,072,918	
55 to 59	108	4,860,460	162	8,918,283	252	14,822,820	233	14,533,710	189	12,876,848	252	17,876,557	193	14,024,808	54	4,010,804	0	0	1,443	91,924,290	
60 to 64	55	2,931,767	107	5,593,254	154	9,276,932	198	12,391,338	177	11,967,949	153	10,575,385	140	10,077,021	128	9,346,131	28	2,063,291	1,140	74,223,068	
65 to 69	18	677,279	25	1,469,339	30	1,696,903	27	1,933,539	25	1,555,040	28	2,034,486	21	1,658,738	21	1,572,047	25	1,904,211	220	14,501,582	
70 & up	6	234,599	1	25,944	7	355,631	1	68,306	3	202,444	1	63,246	1	77,821	2	171,117	8	587,536	30	1,786,644	
TOTAL	2,232	93,594,116	2,175	113,018,982	1,826	107,725,973	1,431	91,795,744	866	59,349,710	740	51,667,478	406	29,546,863	205	15,100,099	61	4,555,038	9,942	566,354,003	

TABLE 4

SUMMARY OF RETIRED MEMBER AND BENEFICIARY DATA  
BY LEVEL OF ANNUAL ALLOWANCE AS OF JUNE 30, 2014

## ALL TEACHERS

Allowance Level	Service Pensioners		Disability Pensioners		Beneficiaries	
	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance
0 - 500	5	\$ 1,109	-	\$ -	-	\$ -
501 - 1,000	14	11,215	-	-	-	-
1,001 - 1,500	27	34,066	-	-	3	4,206
1,501 - 2,000	49	87,225	-	-	7	11,717
2,001 - 2,500	89	201,446	-	-	8	17,743
2,501 - 3,000	117	323,499	-	-	7	19,230
3,001 - 3,500	118	385,985	-	-	9	29,271
3,501 - 4,000	120	450,815	-	-	13	48,377
4,001 - 4,500	161	684,209	-	-	10	41,894
4,501 - 5,000	144	687,458	-	-	10	46,913
5,001 - 5,500	149	783,829	-	-	6	30,872
5,501 - 6,000	123	706,951	-	-	12	68,739
6,001 - 6,500	129	807,170	1	6,396	12	75,921
6,501 - 7,000	135	911,595	2	13,625	19	127,754
7,001 - 7,500	133	965,499	1	7,387	9	65,270
7,501 - 8,000	121	938,239	4	30,966	10	78,199
8,001 - 8,500	112	924,351	2	16,924	14	115,981
8,501 - 9,000	108	946,857	5	44,355	15	131,266
9,001 - 9,500	128	1,181,617	5	46,610	19	175,314
9,501 - 10,000	120	1,169,601	7	68,032	6	58,555
10,001 - 10,500	101	1,034,691	8	81,657	19	194,463
10,501 - 11,000	131	1,407,985	11	118,095	13	139,726
11,001 - 11,500	120	1,351,004	6	67,321	7	78,361
11,501 - 12,000	106	1,243,095	9	104,503	14	164,171
12,001 - 12,500	93	1,136,151	5	61,413	18	221,295
12,501 - 13,000	87	1,109,633	5	64,286	11	139,250
13,001 - 13,500	81	1,070,047	10	133,210	11	145,744
13,501 - 14,000	90	1,239,347	4	54,879	7	95,976
14,001 - 14,500	93	1,325,307	5	71,188	3	43,108
14,501 - 15,000	90	1,329,477	8	118,421	6	88,335
15,001 - 15,500	92	1,405,493	5	76,836	9	137,760
15,501 - 16,000	90	1,416,300	2	31,709	7	108,995
16,001 - 16,500	93	1,510,783	5	81,737	10	162,989
16,501 - 17,000	94	1,576,151	1	16,662	5	83,737
17,001 - 17,500	91	1,568,112	5	86,045	7	120,903
17,501 - 18,000	107	1,898,595	4	70,796	9	158,886
18,001 - 18,500	104	1,899,378	3	54,756	6	109,581
18,501 - 19,000	91	1,708,359	2	37,344	3	56,006
19,001 - 19,500	105	2,021,369	5	96,500	5	96,475
19,501 - 20,000	94	1,857,449	4	78,740	3	59,371
20,001 - 20,500	112	2,269,482	-	-	4	81,107
20,501 - 21,000	114	2,365,962	2	41,657	4	83,098

TABLE 4, continued  
SUMMARY OF RETIRED MEMBER AND BENEFICIARY DATA  
BY LEVEL OF ANNUAL ALLOWANCE AS OF JUNE 30, 2014

## ALL TEACHERS

Allowance Level	Service Pensioners		Disability Pensioners		Beneficiaries	
	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance
21,001 - 21,500	126	2,678,037	3	63,622	1	21,248
21,501 - 22,000	125	2,718,140	5	108,889	5	109,030
22,001 - 22,500	135	3,007,296	3	66,678	2	44,385
22,501 - 23,000	149	3,392,640	2	45,511	1	22,670
23,001 - 23,500	115	2,672,113	1	23,227	1	23,444
23,501 - 24,000	132	3,133,857	-	-	3	71,880
24,001 - 24,500	117	2,836,641	-	-	-	-
24,501 - 25,000	98	2,425,340	-	-	-	-
25,001 - 25,500	119	3,005,328	-	-	2	50,366
25,501 - 26,000	120	3,091,124	-	-	1	25,661
26,001 - 26,500	116	3,045,467	1	26,416	-	-
26,501 - 27,000	108	2,887,264	1	26,991	4	107,503
27,001 - 27,500	123	3,353,756	-	-	1	27,106
27,501 - 28,000	99	2,746,124	1	27,935	1	27,963
28,001 - 28,500	125	3,532,301	1	28,026	3	84,301
28,501 - 29,000	105	3,019,032	-	-	1	28,780
29,001 - 29,500	79	2,311,307	-	-	1	29,421
29,501 - 30,000	101	3,004,740	-	-	1	29,511
30,001 - 30,500	72	2,180,426	1	30,074	-	-
30,501 - 31,000	70	2,153,040	1	30,550	2	61,753
31,001 - 31,500	74	2,309,749	-	-	-	-
31,501 - 32,000	65	2,063,392	-	-	2	63,279
32,001 - 32,500	69	2,222,964	-	-	-	-
32,501 - 33,000	62	2,031,511	2	65,493	-	-
33,001 - 33,500	62	2,061,329	-	-	1	33,258
33,501 - 34,000	53	1,788,726	-	-	-	-
34,001 - 34,500	57	1,950,077	-	-	4	136,971
34,501 - 35,000	42	1,461,165	-	-	-	-
35,001 - 35,500	49	1,727,284	1	35,452	-	-
35,501 - 36,000	40	1,429,861	-	-	2	71,597
36,001 - 36,500	36	1,304,905	-	-	-	-
36,501 - 37,000	28	1,028,369	-	-	-	-
37,001 - 37,500	31	1,154,433	-	-	-	-
37,501 - 38,000	37	1,396,354	-	-	-	-
38,001 - 38,500	25	956,017	-	-	-	-
38,501 - 39,000	21	814,522	-	-	-	-
39,001 - 39,500	11	431,824	-	-	-	-
39,501 - 40,000	16	636,230	-	-	-	-
Over 40,000	222	10,208,887	-	-	3	143,143
Total	7,515	\$ 140,118,478	159	\$ 2,360,914	412	\$ 4,929,829

TABLE 5  
SERVICE PENSIONERS  
AGE/SERVICE DISTRIBUTION WITH AVERAGE ALLOWANCE AS OF JUNE 30, 2014

	Service at termination										Total	
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45+		
< 45	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0
45-49	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0
50-54	5	0	0	0	0	0	19	0	0	0	0	24
	35,665	0	0	0	0	0	30,442	0	0	0	0	31,530
55-59	51	8	24	21	19	1	169	4	0	0	0	297
	21,284	3,047	5,032	7,871	10,654	12,685	30,673	52,396	0	0	0	23,584
60-64	229	98	234	184	167	65	601	115	6	0	0	1,699
	23,753	5,010	6,865	12,173	17,137	25,738	29,121	34,183	38,009	0	0	21,173
65-69	108	139	369	287	344	202	729	189	27	0	0	2,394
	18,933	5,360	7,248	12,288	18,566	24,464	27,245	32,483	35,684	0	0	19,751
70-74	33	62	229	199	209	132	412	124	21	4	0	1,425
	5,404	5,981	7,184	10,932	15,525	20,078	24,493	30,920	30,942	33,551	0	17,526
75-79	20	30	110	110	127	85	153	71	10	2	0	718
	2,826	5,687	6,892	10,872	14,062	18,996	23,660	28,706	32,630	39,237	0	16,218
80-84	14	24	72	63	70	67	98	65	11	1	0	485
	2,251	4,986	6,061	9,604	13,014	14,825	20,508	23,730	25,150	68,464	0	14,421
85-89	7	13	49	55	43	23	65	28	11	0	0	294
	3,230	4,081	5,159	7,686	11,267	14,359	19,754	19,630	23,543	0	0	12,444
90-94	11	13	18	23	22	24	24	3	3	1	0	142
	3,199	3,847	5,308	7,568	10,140	11,386	16,299	16,487	22,751	16,223	0	9,692
95+	0	4	8	6	5	6	4	3	1	0	0	37
	0	5,707	7,040	10,325	10,508	14,827	18,802	23,537	25,546	0	0	12,269
Total Pensioners	478	391	1,113	948	1,006	605	2,274	602	90	8	0	7,515
Average Allowance	18,979	5,236	6,870	11,147	16,056	20,790	26,647	30,505	31,078	37,170	0	18,645

TABLE 6  
DISABILITY PENSIONERS  
AGE/SERVICE DISTRIBUTION WITH AVERAGE ALLOWANCE AS OF JUNE 30, 2014

Attained Age	Service at termination										Total
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45+	
< 45	0	1	0	0	0	0	0	0	0	0	1
	0	10,846	0	0	0	0	0	0	0	0	10,846
45-49	0	1	0	0	2	0	0	0	0	0	3
	0	11,622	0	0	12,952	0	0	0	0	0	12,509
50-54	2	1	2	2	1	0	0	0	0	0	8
	27,221	9,383	11,850	17,056	15,814	0	0	0	0	0	17,181
55-59	0	1	7	4	6	2	0	0	0	0	20
	0	11,217	12,860	10,536	22,205	21,782	0	0	0	0	16,009
60-64	0	7	13	9	6	2	0	0	0	0	37
	0	11,189	11,733	14,030	20,162	20,003	0	0	0	0	14,003
65-69	0	5	6	6	11	7	1	0	0	0	36
	0	15,842	10,043	16,354	16,283	21,678	30,074	0	0	0	16,626
70-74	0	1	9	6	6	5	0	0	0	0	27
	0	18,655	12,385	11,887	14,894	20,660	0	0	0	0	14,596
75-79	0	0	1	3	3	3	1	0	0	0	11
	0	0	10,733	10,724	10,520	18,661	16,180	0	0	0	13,330
80-84	1	0	0	3	2	2	0	0	0	0	8
	11,205	0	0	14,337	8,078	15,240	0	0	0	0	12,606
85-89	0	0	1	1	0	2	2	0	0	0	6
	0	0	7,591	13,281	0	16,997	12,334	0	0	0	13,256
90-94	0	0	1	1	0	0	0	0	0	0	2
	0	0	9,363	7,812	0	0	0	0	0	0	8,588
95+	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
Total Pensioners	3	17	40	35	37	23	4	0	0	0	159
Average Allowance	21,882	12,897	11,641	13,379	16,543	19,960	17,731	0	0	0	14,848

SCHEDULE E

AMORTIZATION SCHEDULE FOR THE UNFUNDED ACTUARIAL  
ACCRUED LIABILITY

AMORTIZATION SCHEDULE FOR THE UNFUNDED ACTUARIAL  
ACCRUED LIABILITY

Date	Balance	Contribution (Year Following)
6/30/2014	1,076,763,810	62,589,336
6/30/2015	1,079,545,937	65,718,803
6/30/2016	1,084,514,691	69,004,743
6/30/2017	1,089,051,658	72,454,981
6/30/2018	1,095,607,610	76,077,730
6/30/2019	1,101,546,464	79,881,616
6/30/2020	1,109,312,610	83,875,697
6/30/2021	1,113,563,890	88,069,482
6/30/2022	1,113,802,551	92,472,956
6/30/2023	1,112,152,855	97,096,604
6/30/2024	1,105,546,789	101,951,434
6/30/2025	1,093,322,254	107,049,005
6/30/2026	1,074,748,834	112,401,456
6/30/2027	1,049,021,382	118,021,529
6/30/2028	1,015,253,041	123,922,605
6/30/2029	972,467,633	130,118,735
6/30/2030	921,866,482	136,624,672
6/30/2031	862,194,120	143,455,906
6/30/2032	790,019,229	150,628,701
6/30/2033	703,859,979	158,160,136
6/30/2034	602,083,347	166,068,143
6/30/2035	482,890,617	174,371,550
6/30/2036	344,301,530	183,090,127
6/30/2037	184,136,963	192,244,634
6/30/2038	0	0

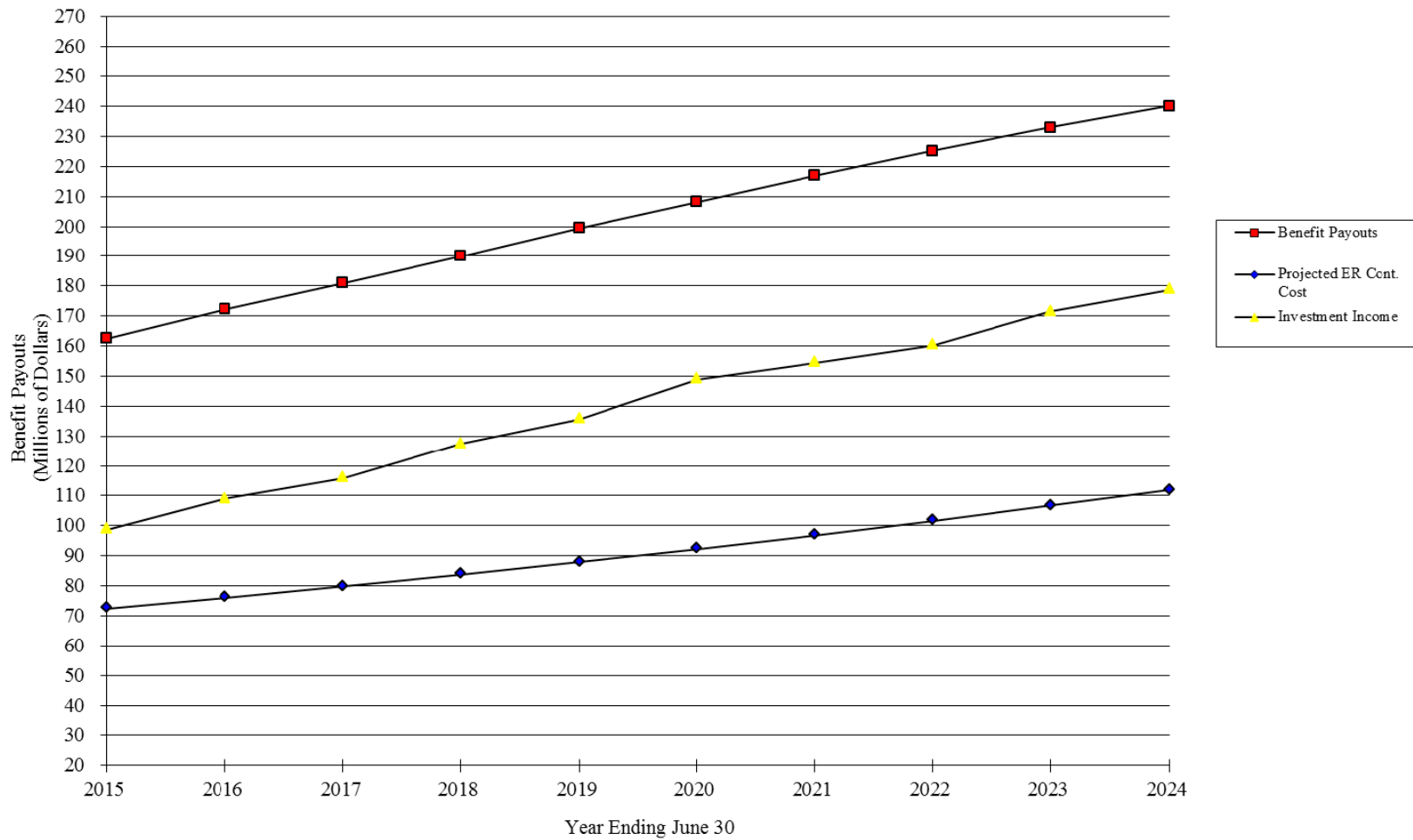
SCHEDULE F

PROJECTED BENEFIT PAYOUTS AND  
CONTRIBUTIONS FOR THE PERIOD  
JULY 1, 2015 THROUGH JUNE 30, 2024



### PROJECTED BENEFIT PAYOUTS AND CONTRIBUTIONS

JULY 1, 2015 THROUGH JUNE 30, 2024



SCHEDULE G

PROJECTION OF CONTRIBUTIONS FOR FOLLOWING TWO FISCAL YEARS

**PROJECTION OF CONTRIBUTIONS FOR FOLLOWING TWO FISCAL YEARS**

On the basis of the June 30, 2014, actuarial valuation, the recommended contribution for the fiscal year ending June 30, 2015, is \$72,526,280, based on the following:

Payroll	\$567,073,601
Normal rate	1.70%
Accrued liability contribution	\$62,589,336

On this basis, the projected contributions for the following two fiscal years are as follows:

Fiscal Year	Projected Payroll	Normal Rate	CONTRIBUTIONS		
			Normal	Accrued Liability	Total
2016	\$592,591,913	1.70%	\$10,384,106	\$ 65,718,803	\$ 76,102,909
2017	619,258,549	1.70%	10,851,391	69,004,743	79,856,134

In these projections, we assumed that total payroll would increase by 4½% each year.