

REPORT ON THE
SIXTY-SIXTH ACTUARIAL VALUATION
OF THE STATE TEACHERS'
RETIREMENT SYSTEM OF VERMONT
PREPARED AS OF JUNE 30, 2013

OCTOBER 23, 2013

October 23, 2013

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-sixth actuarial valuation of the system, prepared as of June 30, 2013, 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 1.89% of covered compensation and a payment of \$59,740,310 towards the liquidation of the unfunded accrued liability be made. Base on the reported payroll, the total contribution amounts to \$70,392,793 for the year beginning July 1, 2013. Schedule G provides the estimated contributions for the following two fiscal years.

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

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

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REPORT ON THE SIXTY-SIXTH ACTUARIAL VALUATION OF THE
STATE TEACHERS' RETIREMENT SYSTEM OF VERMONT
PREPARED AS OF JUNE 30, 2013

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, 2012	June 30, 2013
Active members		
Vested	7,941	7,822
Not vested	<u>2,321</u>	<u>2,279</u>
Total	10,262	10,101
Compensation	\$561,179,272	\$563,623,421
Average age	46.87	46.61
Average service	13.06	13.09
Average compensation	\$54,685	\$55,799
Retired members and beneficiaries		
Number	7,376	7,743
Annual retirement allowances	\$128,765,217	\$138,079,875
Inactive members	2,193	2,322
Terminated vested members	793	751
Adjusted assets for valuation	\$1,517,410,471	\$1,552,924,370
Unfunded actuarial accrued liability	\$945,502,316	\$1,013,910,285
Annual actuarial accrued liability contribution	\$54,374,594	\$59,740,310
Normal contribution rate	1.92%	1.89%

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.
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

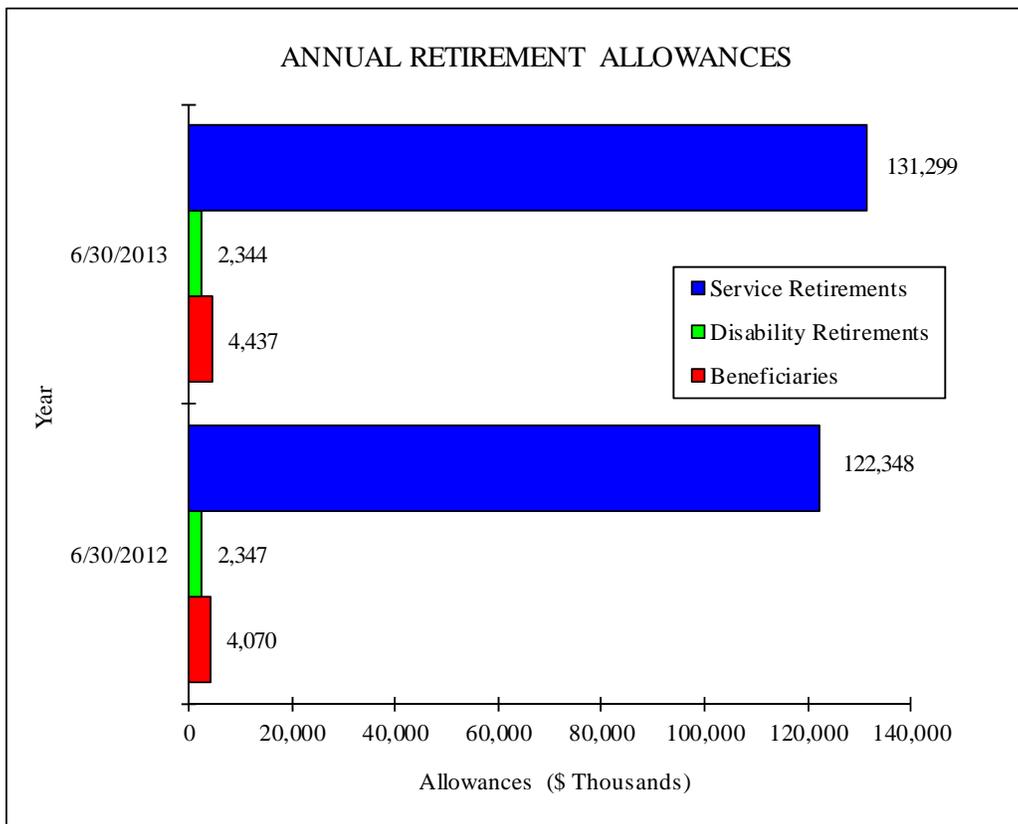
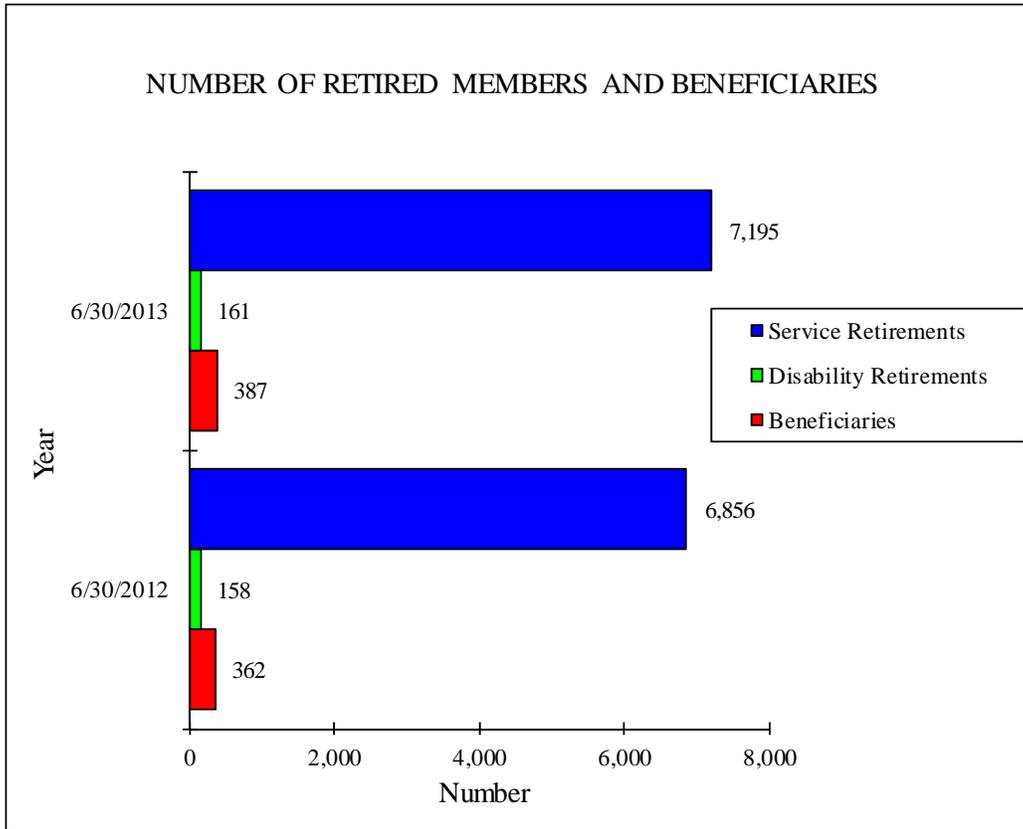
1. Member data were furnished by the Retirement Division of the State Treasurer's Office. Buck did not audit the data, although they were reviewed for reasonableness and consistency with prior data. The results of the valuation are dependent upon the accuracy of the data.
2. Schedule D presents tables 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, 2013

Group	Number	Annual Allowances
Service Retirements	7,195	\$131,298,730
Disability Retirements	161	\$2,343,960
Beneficiaries of Deceased Members	387	\$4,437,185
TOTAL	7,743	\$138,079,875

THE NUMBER AND ANNUAL COMPENSATION OF
ACTIVE MEMBERS AS OF JUNE 30, 2013

Group	Number	Annual Compensation
Group A	13	\$900,448
Group C	10,088	\$562,722,973
TOTAL	10,101	\$563,623,421



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, 2012			\$ 1,517,410,471
Cash flow during year (net of investment income)			
Contributions paid	\$	97,722,641	
Benefit payouts		(131,254,070)	
Expenses		(30,778,502)	
Net			(64,309,931)
Expected investment income (6.25%)			99,467,032
Preliminary asset value			\$ 1,552,567,572
Market value, June 30, 2013	\$	1,554,351,563	
Preliminary asset value		1,552,567,572	
Unrecognized appreciation	\$	1,783,991	
Adjustment		x 20%	\$ 356,798
Assets for valuation purposes, June 30, 2013			\$ 1,552,924,370

3. The assets for valuation purposes are 99.9% of market value.
4. The investment rate of return for the year ending June 30, 2013, is 6.72%, 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, 2013.
2. The adjusted assets of the system amount to \$1,552,924,370.
3. The actuarial accrued liability for current retired members, terminated vested members and beneficiaries amounts to \$1,533,804,217, and the actuarial accrued liability for current active and inactive members amounts to \$1,033,030,438, for a total actuarial accrued liability of \$2,566,834,655. Therefore, after subtracting assets of \$1,552,924,370, the unfunded actuarial accrued liability is \$1,013,910,285.
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, 2013, over a 25-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, 2013, is \$10,652,483, or 1.89% of members' compensation.
5. The expected unfunded actuarial accrued liability as of June 30, 2013, 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, 2012.

1. Unfunded liability, 6/30/2012	\$945,502,316
2. Total Normal cost	36,673,377
3. Contribution	(97,722,641)
4. Interest on 1, 2 and 3	58,378,429
5. Changes in Actuarial Assumptions	0
6. Changes in System Provisions	0
7. Restart of Select and Ultimate Interest Rate Set	44,499,276
8. Expected unfunded liability, 6/30/2013	987,330,757
9. Accrued liability, 6/30/2013	2,566,834,655
10. Actuarial value of assets, 6/30/2013	1,552,924,370
11. Actual unfunded liability, 9. - 10.	1,013,910,285
12. Total gain/(loss), 8. - 11.	(\$26,579,528)

Sources of gain/(loss)	
Investment experience	\$ 6,995,361
Expenses (investments)	(6,638,563)
Expenses other than investment expenses	(25,101,767)
Retirement experience	(10,034,162)
Termination experience	(38,871,116)
Disability experience	(698,282)
Mortality among active participants	(542,116)
Mortality among retirees, beneficiaries and terminated vested participants.	(4,309,308)
Salary experience	26,621,253
COLA experience	18,895,595
New entrants with prior service	(2,106,997)
Other (Data corrections, service purchases, etc)	9,210,574
Total	\$ (26,579,528)

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, 2013:

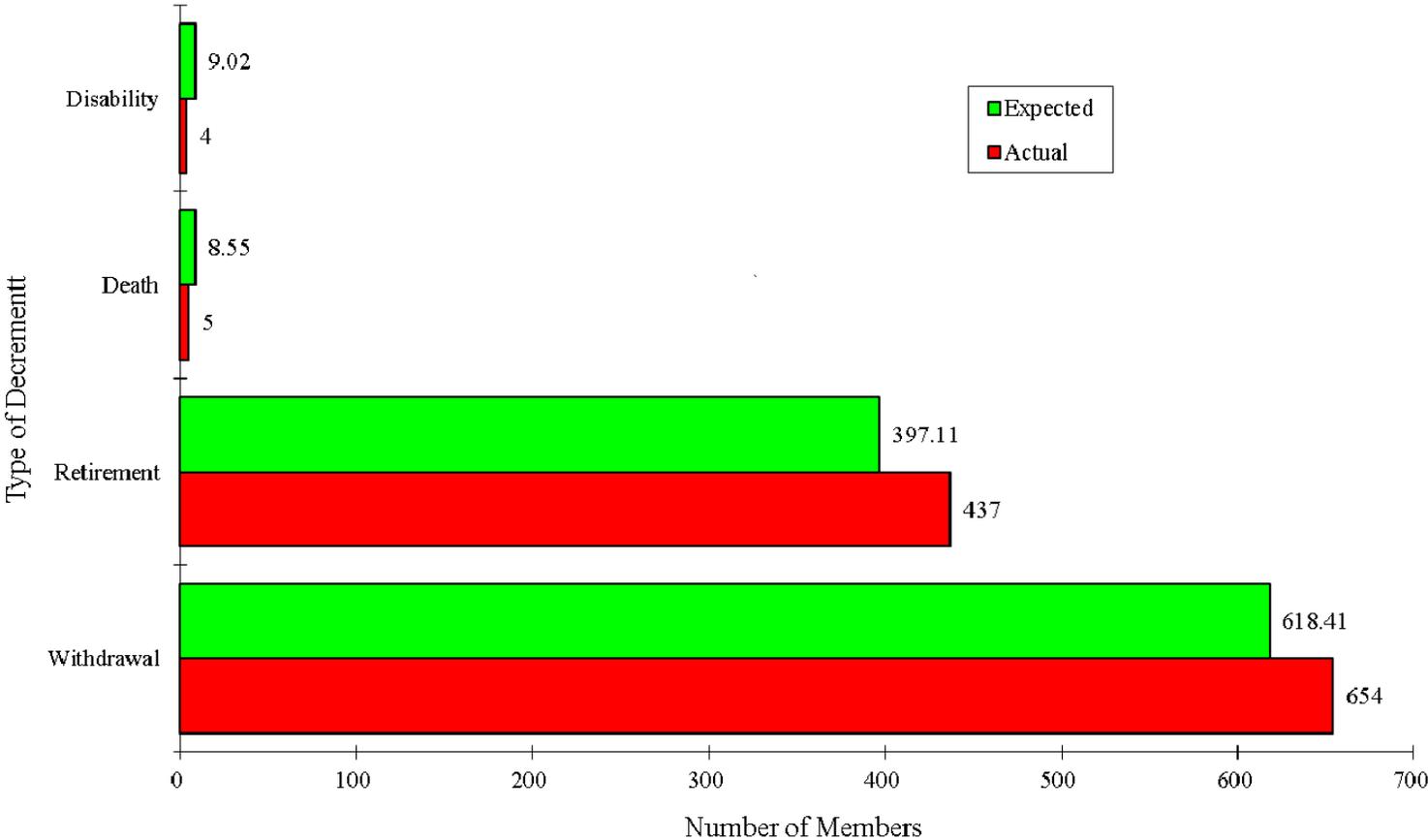
Normal contribution	\$10,652,483
Accrued liability contribution	<u>59,740,310</u>
Total	\$70,392,793

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.

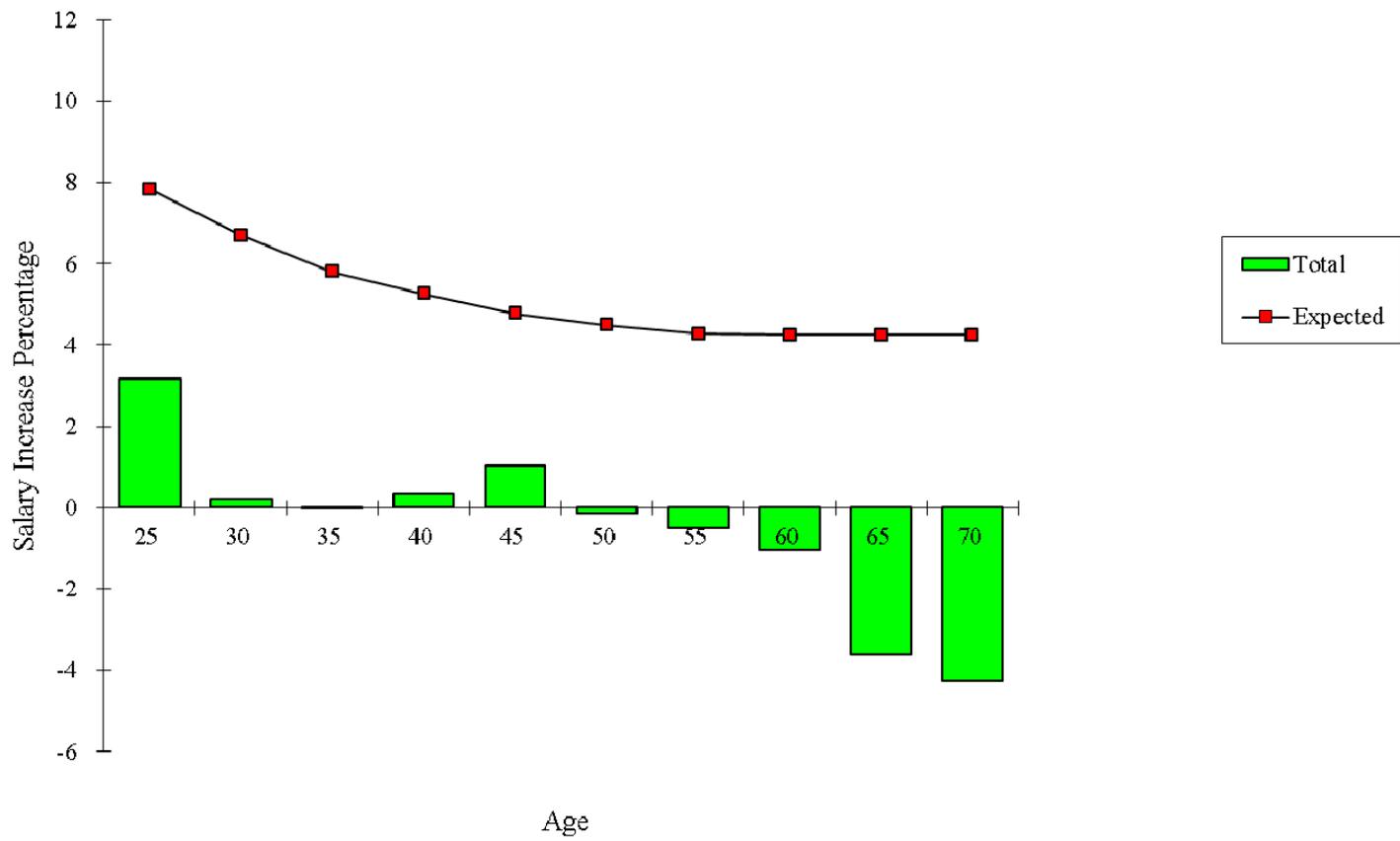
ACTIVE SERVICE EXPERIENCE

July 1, 2012
through June 30, 2013



GROUP C SALARY EXPERIENCE

JULY 1, 2012 THROUGH JUNE 30, 2013



SECTION VII - ACCOUNTING INFORMATION

1. Based on our interpretation of Statement No. 25 of the Governmental Accounting Standards Board (GASB), we are providing the following Schedule of Funding Progress for accounting purposes.

SCHEDULE OF FUNDING PROGRESS

(Dollar amounts in thousands)

Year Ending June 30	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a)/c)
2013	\$1,552,924	\$2,566,834	\$1,013,910	60.5%	\$563,623	179.9%
2012	1,517,410	2,462,913	945,502	61.6%	561,179	168.5%
2011	1,486,698	2,331,806	845,108	63.8%	547,748	154.3%
2010	1,410,368	2,122,191	711,823	66.5%	562,150	126.6%
2009	1,374,079	2,101,838	727,759	65.4%	561,588	129.6%
2008	1,605,462	1,984,967	379,505	80.9%	535,807	70.8%
2007	1,541,860	1,816,650	274,790	84.9%	515,573	53.3%
2006	1,427,393	1,686,502	259,108	84.6%	499,044	51.9%
2005	1,354,006	1,492,150	138,144	90.7%	468,858	29.5%
2004	1,284,833	1,424,661	139,829	90.2%	453,517	30.8%
2003	1,218,001	1,358,822	140,821	89.6%	437,239	32.2%
2002	1,169,294	1,307,202	137,908	89.5%	418,904	32.9%
2001	1,116,846	1,254,341	137,496	89.0%	403,258	34.1%
2000	1,037,466	1,174,087	136,621	88.4%	387,999	35.2%
1999	931,056	1,065,754	134,698	87.4%	372,299	36.2%
1998	821,977	955,694	133,717	86.0%	357,899	37.4%
1997	717,396	849,179	131,783	84.5%	364,695	36.1%

Please note: the System's funding method was changed from Entry Age Normal with Frozen Initial Liability to Entry Age Normal effective with the 2006 actuarial valuation.

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)
1996	29,884,559	3,967,206	4,374,228	29,477,537	11,480,000	17,997,537	64,670,554
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

3. The Annual Required Contribution for fiscal year 2013 is derived as follows:

\$10,303,147 Normal cost component of FY 2013 recommended contribution reported in the 2011 actuarial valuation report.

\$49,879,608 Amortization of unfunded liability in FY 2013 recommended contribution reported in the 2011 actuarial valuation report.

\$60,182,755 Total

SCHEDULE A

VALUATION BALANCE SHEET
SHOWING THE ASSETS AND LIABILITIES OF THE
STATE TEACHERS' RETIREMENT SYSTEM OF VERMONT
PREPARED AS OF JUNE 30, 2013

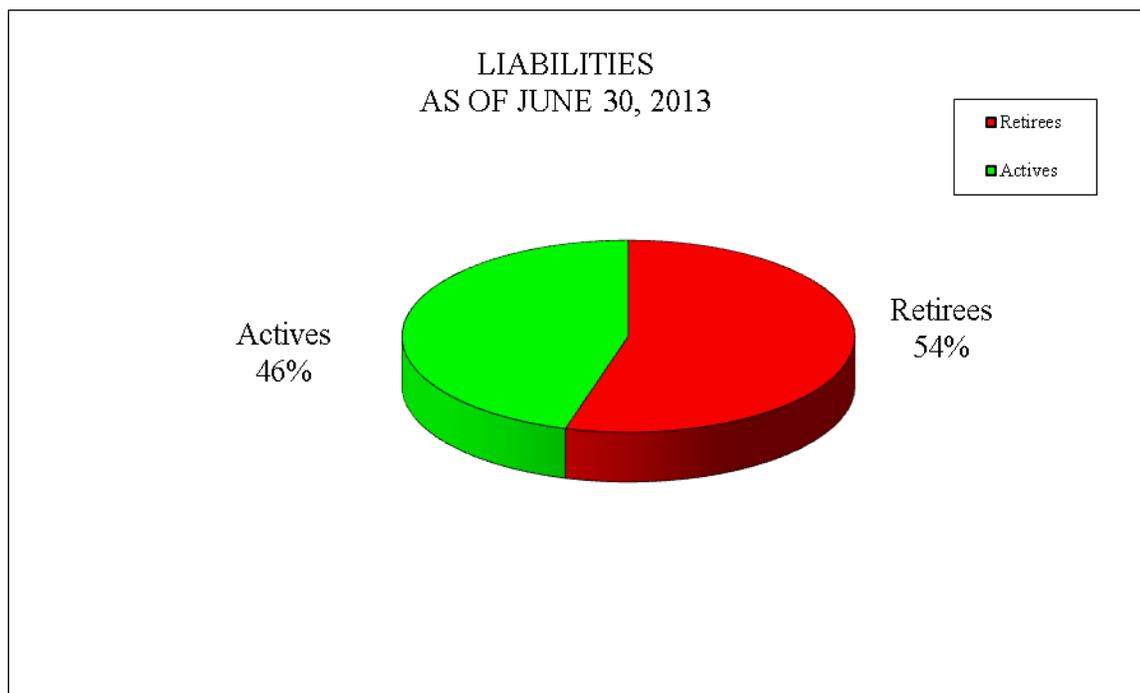
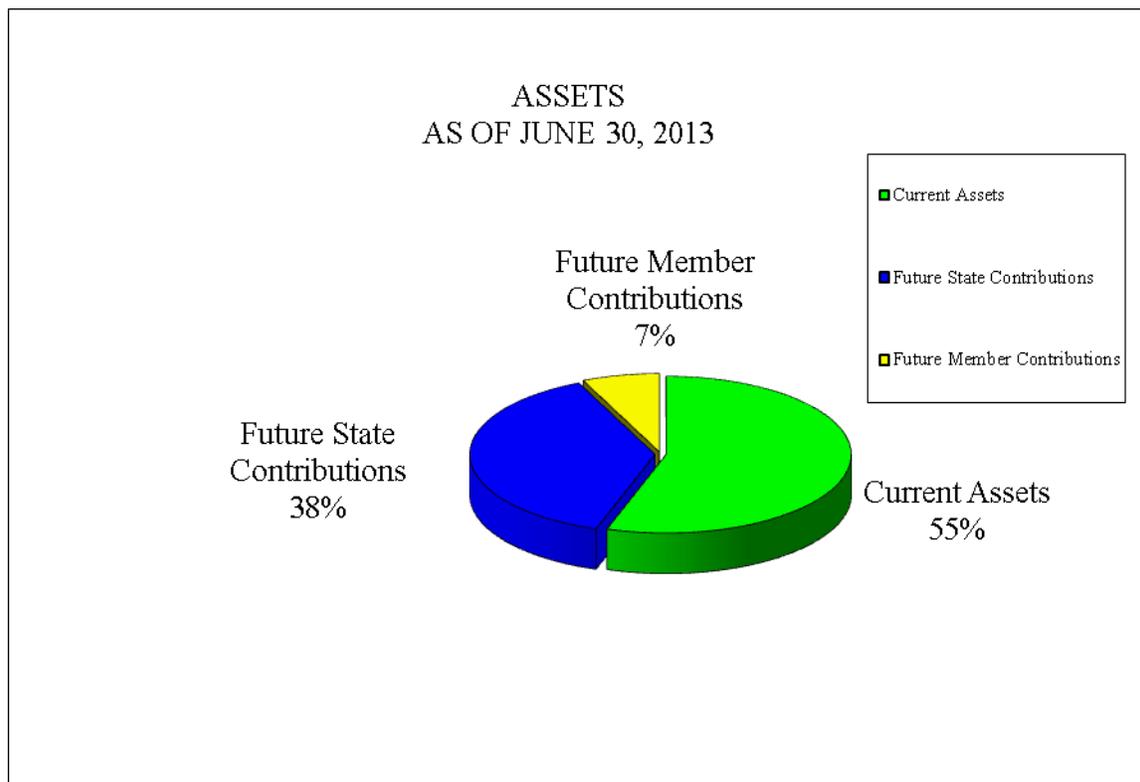
VALUATION BALANCE SHEET
 SHOWING THE ASSETS AND LIABILITIES OF THE
 STATE TEACHERS' RETIREMENT SYSTEM OF VERMONT
 PREPARED AS OF JUNE 30, 2013

ASSETS

Adjusted assets of the system		\$1,552,924,370
Present value of prospective contributions		
Members	\$190,126,390	
State		
Accrued liability contributions	1,013,910,285	
Normal contributions	<u>58,534,446</u>	
Total prospective contributions		<u>\$1,262,571,121</u>
Total assets		<u>\$2,815,495,491</u>

LIABILITIES

Actuarial present value of benefits payable on account of present retired members, terminated vested members and beneficiaries		\$1,533,804,217
Actuarial present value of benefits expected to become payable on account of active and inactive members		<u>1,281,691,274</u>
Total liabilities		<u>\$2,815,495,491</u>



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: 351 members terminated on June 30, 2013 and retired on July 1, 2013 were included with a valuation status as members receiving benefits. 409 members who were active on June 30, 2013 and terminated on July 1, 2013, 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.
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	<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.
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, 2013

TABLE 1
THE NUMBER AND ANNUAL COMPENSATION OF
ACTIVE MEMBERS DISTRIBUTED BY AGE AND SERVICE
AS OF JUNE 30, 2013

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 & 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	140	4,647,756	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	140	4,647,756
25 to 29	575	22,184,902	137	6,020,267	0	0	0	0	0	0	0	0	0	0	0	0	0	0	712	28,205,169
30 to 34	480	19,571,738	506	24,127,883	98	5,037,614	0	0	0	0	0	0	0	0	0	0	0	0	1,084	48,737,235
35 to 39	300	12,242,654	444	22,714,330	434	24,252,452	63	3,781,053	0	0	0	0	0	0	0	0	0	0	1,241	62,990,489
40 to 44	234	9,968,760	351	18,250,052	358	20,822,191	355	22,885,495	45	3,021,944	0	0	0	0	0	0	0	0	1,343	74,948,442
45 to 49	179	8,044,042	270	14,898,069	286	16,956,827	237	15,647,507	209	14,182,779	62	4,222,592	0	0	0	0	0	0	1,243	73,951,816
50 to 54	164	7,291,493	224	12,236,521	256	14,910,791	246	15,556,086	228	15,044,962	256	17,353,144	47	3,240,969	0	0	0	0	1,421	85,633,966
55 to 59	116	5,441,812	182	9,552,167	255	14,796,453	249	15,303,657	216	14,677,015	267	18,426,029	222	15,741,785	60	4,294,010	0	0	1,567	98,232,928
60 to 64	66	3,310,304	112	6,222,270	161	9,499,606	169	10,489,194	187	12,303,736	156	10,730,230	132	9,427,276	122	8,734,948	26	1,877,002	1,131	72,594,566
65 to 69	21	790,306	20	1,106,881	27	1,450,415	22	1,540,640	22	1,411,260	27	1,825,864	15	1,115,254	19	1,390,257	18	1,380,938	191	12,011,815
70 & up	4	101,335	5	327,630	5	241,476	2	134,158	2	132,842	1	63,431	1	77,480	4	301,247	4	289,640	28	1,669,239
TOTAL	2,279	93,595,102	2,251	115,456,070	1,880	107,967,825	1,343	85,337,790	909	60,774,538	769	52,621,290	417	29,602,764	205	14,720,462	48	3,547,580	10,101	563,623,421

TABLE 2
 THE NUMBER AND ANNUAL COMPENSATION OF
 ACTIVE MEMBERS DISTRIBUTED BY AGE AND SERVICE
 AS OF JUNE 30, 2013

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 & 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	1	50,075	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	50,075
50 to 54	0	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	58,360	1	53,821	2	131,530	0	0	0	0	0	0	4	243,711
60 to 64	0	0	0	0	0	0	0	0	0	0	0	0	3	214,207	2	119,503	1	85,565	6	419,275	6	419,275
65 to 69	0	0	0	0	0	0	0	0	0	0	0	0	0	1	79,185	1	108,202	2	187,387	2	187,387	
70 & up	0	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	1	50,075	0	0	1	58,360	1	53,821	5	345,737	3	198,688	2	193,767	13	900,448	13	900,448

TABLE 3
THE NUMBER AND ANNUAL COMPENSATION OF
ACTIVE MEMBERS DISTRIBUTED BY AGE AND SERVICE
AS OF JUNE 30, 2013

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 & 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	140	4,647,756	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	140	4,647,756
25 to 29	575	22,184,902	137	6,020,267	0	0	0	0	0	0	0	0	0	0	0	0	0	0	712	28,205,169
30 to 34	480	19,571,738	506	24,127,883	98	5,037,614	0	0	0	0	0	0	0	0	0	0	0	0	1,084	48,737,235
35 to 39	300	12,242,654	444	22,714,330	434	24,252,452	63	3,781,053	0	0	0	0	0	0	0	0	0	0	1,241	62,990,489
40 to 44	234	9,968,760	351	18,250,052	358	20,822,191	355	22,885,495	45	3,021,944	0	0	0	0	0	0	0	0	1,343	74,948,442
45 to 49	179	8,044,042	270	14,898,069	285	16,906,752	237	15,647,507	209	14,182,779	62	4,222,592	0	0	0	0	0	0	1,242	73,901,741
50 to 54	164	7,291,493	224	12,236,521	256	14,910,791	246	15,556,086	228	15,044,962	256	17,353,144	47	3,240,969	0	0	0	0	1,421	85,633,966
55 to 59	116	5,441,812	182	9,552,167	255	14,796,453	249	15,303,657	215	14,618,655	266	18,372,208	220	15,610,255	60	4,294,010	0	0	1,563	97,989,217
60 to 64	66	3,310,304	112	6,222,270	161	9,499,606	169	10,489,194	187	12,303,736	156	10,730,230	129	9,213,069	120	8,615,445	25	1,791,437	1,125	72,175,291
65 to 69	21	790,306	20	1,106,881	27	1,450,415	22	1,540,640	22	1,411,260	27	1,825,864	15	1,115,254	18	1,311,072	17	1,272,736	189	11,824,428
70 & up	4	101,335	5	327,630	5	241,476	2	134,158	2	132,842	1	63,431	1	77,480	4	301,247	4	289,640	28	1,669,239
TOTAL	2,279	93,595,102	2,251	115,456,070	1,879	107,917,750	1,343	85,337,790	908	60,716,178	768	52,567,469	412	29,257,027	202	14,521,774	46	3,353,813	10,088	562,722,973

TABLE 4

SUMMARY OF RETIRED MEMBER AND BENEFICIARY DATA
BY LEVEL OF ANNUAL ALLOWANCE AS OF JUNE 30, 2013

ALL TEACHERS

Allowance Level	Service Pensioners		Disability Pensioners		Beneficiaries	
	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance
0 - 500	5	\$ 1,098	-	\$ -	-	\$ -
501 - 1,000	15	12,094	-	-	-	-
1,001 - 1,500	26	32,973	-	-	5	7,147
1,501 - 2,000	51	90,804	-	-	5	8,609
2,001 - 2,500	86	194,545	-	-	8	17,656
2,501 - 3,000	120	330,370	-	-	7	19,450
3,001 - 3,500	109	355,182	-	-	11	35,469
3,501 - 4,000	129	485,477	-	-	14	51,983
4,001 - 4,500	161	684,769	-	-	9	37,543
4,501 - 5,000	141	673,342	-	-	10	47,138
5,001 - 5,500	137	719,298	-	-	6	31,565
5,501 - 6,000	120	688,326	-	-	10	57,448
6,001 - 6,500	125	780,780	1	6,333	15	95,147
6,501 - 7,000	133	898,117	2	13,491	14	94,143
7,001 - 7,500	124	900,468	2	14,793	9	64,946
7,501 - 8,000	119	923,222	3	23,143	10	77,882
8,001 - 8,500	101	832,522	2	16,716	15	123,482
8,501 - 9,000	117	1,024,247	4	35,065	14	122,762
9,001 - 9,500	122	1,124,645	6	55,569	16	147,088
9,501 - 10,000	117	1,140,123	8	77,707	11	108,147
10,001 - 10,500	107	1,098,994	7	71,401	15	153,882
10,501 - 11,000	118	1,268,460	10	106,474	12	129,416
11,001 - 11,500	119	1,338,871	13	146,427	9	101,364
11,501 - 12,000	97	1,141,653	4	46,708	10	116,569
12,001 - 12,500	83	1,015,064	4	48,805	21	257,613
12,501 - 13,000	90	1,150,152	6	76,541	9	114,782
13,001 - 13,500	78	1,033,124	10	132,322	10	132,412
13,501 - 14,000	95	1,308,026	6	82,409	5	68,078
14,001 - 14,500	87	1,239,172	7	99,951	4	57,219
14,501 - 15,000	85	1,254,281	6	88,502	6	88,183
15,001 - 15,500	97	1,481,268	5	76,074	9	137,776
15,501 - 16,000	85	1,339,690	3	47,031	5	78,811
16,001 - 16,500	88	1,430,528	6	97,423	8	129,350
16,501 - 17,000	93	1,558,021	1	16,907	8	134,197
17,001 - 17,500	92	1,586,919	4	68,832	8	138,136
17,501 - 18,000	100	1,773,340	4	70,407	5	89,026
18,001 - 18,500	102	1,860,453	5	91,097	4	72,896
18,501 - 19,000	100	1,875,878	2	37,886	4	75,043
19,001 - 19,500	95	1,828,621	5	96,261	4	77,070
19,501 - 20,000	106	2,096,216	2	39,266	2	39,321
20,001 - 20,500	118	2,392,156	-	-	4	81,222
20,501 - 21,000	111	2,304,374	4	83,063	2	41,305

TABLE 4, continued
SUMMARY OF RETIRED MEMBER AND BENEFICIARY DATA
BY LEVEL OF ANNUAL ALLOWANCE AS OF JUNE 30, 2013

ALL TEACHERS

Allowance Level	Service Pensioners		Disability Pensioners		Beneficiaries	
	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance
21,001 - 21,500	129	2,742,151	2	42,574	1	21,038
21,501 - 22,000	125	2,719,955	6	130,307	5	108,439
22,001 - 22,500	126	2,803,520	2	44,642	2	44,692
22,501 - 23,000	147	3,341,060	2	45,644	-	-
23,001 - 23,500	120	2,790,809	-	-	1	23,098
23,501 - 24,000	125	2,968,463	-	-	2	47,322
24,001 - 24,500	103	2,496,051	-	-	-	-
24,501 - 25,000	102	2,523,894	-	-	2	49,745
25,001 - 25,500	120	3,029,915	-	-	-	-
25,501 - 26,000	114	2,935,404	-	-	-	-
26,001 - 26,500	117	3,071,098	-	-	-	-
26,501 - 27,000	100	2,676,842	1	26,724	3	79,765
27,001 - 27,500	111	3,023,296	-	-	1	27,106
27,501 - 28,000	100	2,776,702	1	27,659	3	83,318
28,001 - 28,500	111	3,133,628	-	-	2	56,469
28,501 - 29,000	87	2,500,247	-	-	1	28,987
29,001 - 29,500	84	2,456,695	-	-	-	-
29,501 - 30,000	79	2,349,116	1	29,776	-	-
30,001 - 30,500	66	1,994,798	1	30,248	1	30,483
30,501 - 31,000	78	2,398,741	-	-	-	-
31,001 - 31,500	58	1,814,210	-	-	2	62,653
31,501 - 32,000	62	1,967,981	-	-	-	-
32,001 - 32,500	55	1,772,347	2	64,684	-	-
32,501 - 33,000	60	1,964,651	-	-	1	32,929
33,001 - 33,500	48	1,595,532	-	-	-	-
33,501 - 34,000	59	1,991,023	-	-	2	67,750
34,001 - 34,500	31	1,061,723	-	-	-	-
34,501 - 35,000	40	1,389,956	-	-	-	-
35,001 - 35,500	46	1,621,768	1	35,098	1	35,266
35,501 - 36,000	27	965,352	-	-	1	35,622
36,001 - 36,500	29	1,049,618	-	-	-	-
36,501 - 37,000	27	992,511	-	-	-	-
37,001 - 37,500	33	1,229,997	-	-	-	-
37,501 - 38,000	25	943,600	-	-	-	-
38,001 - 38,500	14	535,985	-	-	-	-
38,501 - 39,000	14	541,092	-	-	-	-
39,001 - 39,500	13	510,600	-	-	-	-
39,501 - 40,000	16	635,277	-	-	-	-
Over 40,000	190	8,715,459	-	-	3	141,227
Total	7,195	\$ 131,298,730	161	\$ 2,343,960	387	\$ 4,437,185

TABLE 5
SERVICE PENSIONERS
AGE/SERVICE DISTRIBUTION WITH AVERAGE ALLOWANCE AS OF JUNE 30, 2013

	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
45-49	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
50-54	13	0	0	0	0	0	20	1	0	0	34
	30,248	0	0	0	0	0	28,653	44,301	0	0	29,723
55-59	60	11	31	26	20	1	207	6	0	0	362
	22,801	2,941	5,254	8,427	10,681	12,685	30,135	34,184	0	0	23,347
60-64	213	88	244	189	183	77	628	138	6	0	1,766
	22,210	4,729	6,611	12,160	16,884	24,662	28,358	33,781	38,019	0	20,807
65-69	108	118	360	260	309	167	670	169	24	1	2,186
	19,161	5,389	6,992	11,667	17,603	23,509	26,345	31,832	33,926	33,564	18,984
70-74	38	46	179	184	202	122	341	110	20	2	1,244
	9,555	5,575	7,070	10,629	15,099	19,245	23,881	29,594	30,802	30,969	17,135
75-79	19	30	109	100	111	82	154	67	14	2	688
	2,734	5,666	6,712	10,819	13,172	17,433	22,862	26,425	32,776	56,450	15,683
80-84	12	27	65	64	75	59	89	59	10	0	460
	2,294	4,737	5,509	9,312	12,488	15,091	19,297	23,232	22,618	0	13,588
85-89	9	11	44	55	40	25	63	27	9	0	283
	3,361	3,829	5,179	7,599	10,586	12,764	20,242	19,744	24,154	0	12,320
90-94	8	14	23	20	19	27	20	5	2	2	140
	2,884	3,942	5,267	7,297	9,764	11,683	14,465	19,119	19,258	21,448	9,376
95+	0	4	7	5	6	3	2	3	1	1	32
	0	5,622	7,529	12,440	14,017	17,120	21,263	23,359	25,168	25,246	13,621
Total Pensioners	480	349	1,062	903	965	563	2,194	585	86	8	7,195
Average Allowance	18,869	5,039	6,639	10,864	15,424	19,878	26,098	29,720	30,518	34,568	18,249

TABLE 6
DISABILITY PENSIONERS
AGE/SERVICE DISTRIBUTION WITH AVERAGE ALLOWANCE AS OF JUNE 30, 2013

	Service at termination										Total
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45+	
< 45	0	2	0	0	0	0	0	0	0	0	2
	0	10,151	0	0	0	0	0	0	0	0	10,151
45-49	0	1	2	1	2	0	0	0	0	0	6
	0	11,507	11,733	16,274	12,824	0	0	0	0	0	12,816
50-54	0	1	0	1	2	0	0	0	0	0	4
	0	9,290	0	17,499	16,582	0	0	0	0	0	14,988
55-59	0	1	9	7	6	2	0	0	0	0	25
	0	11,106	12,449	10,875	22,070	21,673	0	0	0	0	15,001
60-64	1	5	12	12	6	3	0	0	0	0	39
	17,177	11,795	10,676	15,312	20,451	20,869	0	0	0	0	14,701
65-69	1	4	6	3	11	7	1	0	0	0	33
	14,848	15,345	10,985	13,459	15,164	22,106	29,776	0	0	0	16,177
70-74	0	1	7	6	6	5	1	0	0	0	26
	0	18,470	12,437	11,708	14,871	18,186	16,019	0	0	0	14,306
75-79	0	0	1	2	2	2	0	0	0	0	7
	0	0	10,627	10,335	9,919	19,561	0	0	0	0	12,894
80-84	1	0	0	4	2	5	0	0	0	0	12
	11,094	0	0	14,514	7,998	15,383	0	0	0	0	13,505
85-89	0	0	2	2	0	1	2	0	0	0	7
	0	0	8,352	10,409	0	18,413	12,212	0	0	0	11,480
90-94	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
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	15	39	38	37	25	4	0	0	0	161
Average Allowance	14,373	12,735	11,382	13,258	16,373	19,443	17,555	0	0	0	14,559

SCHEDULE E

AMORTIZATION SCHEDULE FOR THE UNFUNDED ACTUARIAL
ACCRUED LIABILITY

AMORTIZATION SCHEDULE FOR THE UNFUNDED ACTUARIAL
ACCRUED LIABILITY

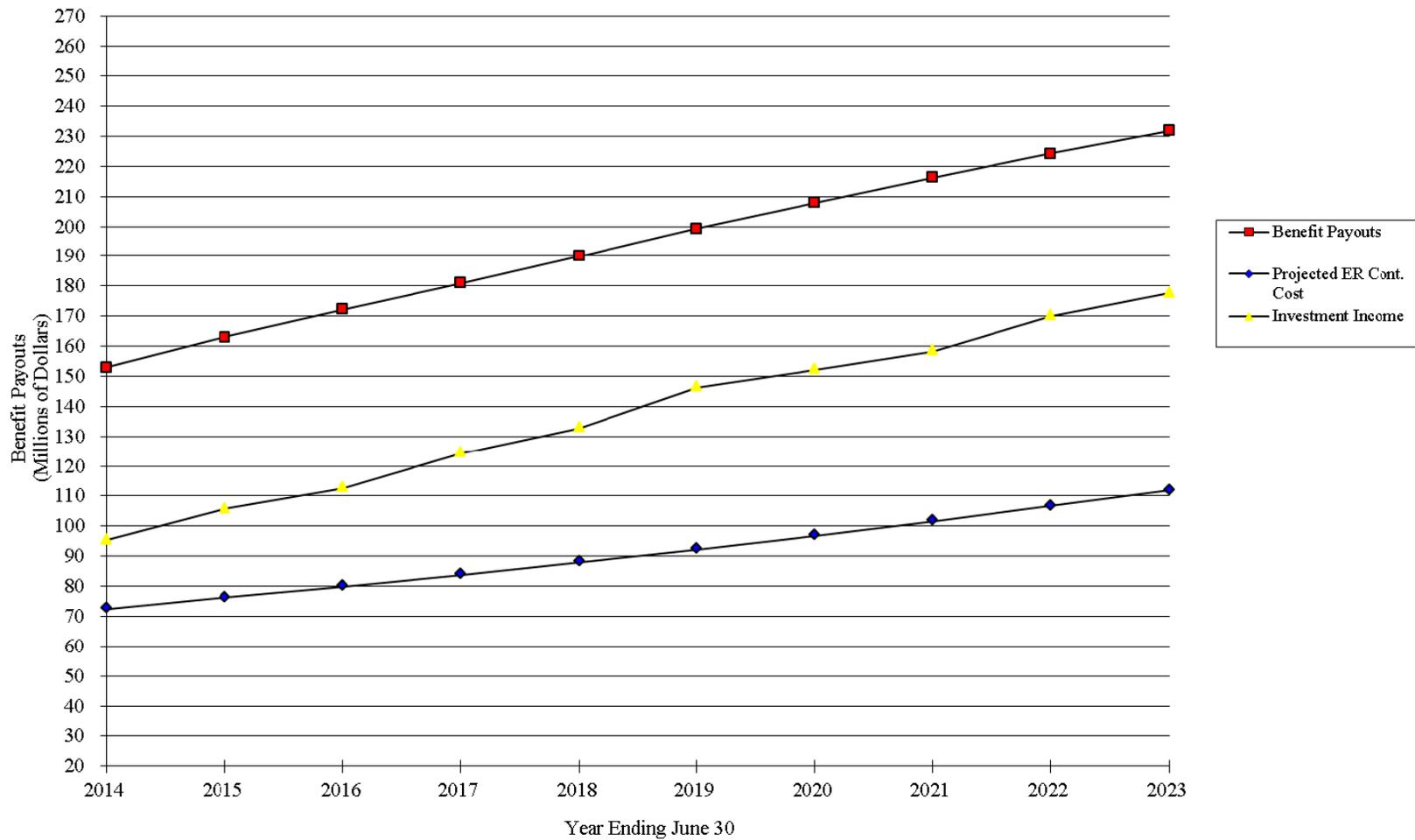
Date	Balance	Contribution (Year Following)
6/30/2013	1,013,910,285	59,740,310
6/30/2014	1,017,539,368	62,727,326
6/30/2015	1,023,495,949	65,863,692
6/30/2016	1,029,276,974	69,156,877
6/30/2017	1,037,315,870	72,614,721
6/30/2018	1,045,093,128	76,245,457
6/30/2019	1,055,067,855	80,057,730
6/30/2020	1,062,053,223	84,060,617
6/30/2021	1,065,611,996	88,263,648
6/30/2022	1,067,925,368	92,676,830
6/30/2023	1,066,022,194	97,310,672
6/30/2024	1,059,323,409	102,176,206
6/30/2025	1,047,189,693	107,285,016
6/30/2026	1,028,915,801	112,649,267
6/30/2027	1,003,724,377	118,281,730
6/30/2028	970,759,219	124,195,817
6/30/2029	931,504,833	130,405,608
6/30/2030	884,934,660	136,925,888
6/30/2031	827,652,892	143,772,182
6/30/2032	758,369,470	150,960,791
6/30/2033	675,661,931	158,508,831
6/30/2034	577,962,674	166,434,273
6/30/2035	463,545,042	174,755,987
6/30/2036	330,508,109	183,493,786
6/30/2037	176,760,052	192,668,457
6/30/2038	0	0

SCHEDULE F

PROJECTED BENEFIT PAYOUTS AND
CONTRIBUTIONS FOR THE PERIOD
JULY 1, 2014 THROUGH JUNE 30, 2023

PROJECTED BENEFIT PAYOUTS AND CONTRIBUTIONS

JULY 1, 2014 THROUGH JUNE 30, 2023



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, 2013, actuarial valuation, the recommended contribution for the fiscal year ending June 30, 2014, is \$70,392,793, based on the following:

Payroll	\$563,623,421
Normal rate	1.89%
Accrued liability contribution	\$59,740,310

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
2015	\$588,986,475	1.89%	\$11,131,844	\$ 62,727,326	\$ 73,859,170
2016	615,490,866	1.89%	11,632,777	65,863,692	77,496,469

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