

# Vermont State Employees' Retirement System

Information Required Under  
Governmental Accounting Standards Board  
Statement No. 68 as of June 30, 2015

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July 31, 2015

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**GASB 68 Report as of June 30, 2015**

Dear Board Members:

This actuarial valuation report provides information concerning the Vermont State Employees' Retirement System (VSERS) in accordance with the Governmental Accounting Standards Board (GASB) Statement No. 68 (GASB 68). This Statement is an amendment of Statement No. 27, *Accounting and Financial Reporting for Pensions*, and is effective for the fiscal year ending June 30, 2015.

This report covers the retirement [Section 401(a)] portion of the System. The retiree medical benefits payable under the System will be addressed in a separate report prepared in accordance with GASB Statement No. 45.

We certify that the information contained in this report has been prepared in accordance with generally accepted actuarial principles and practices. To the best of our knowledge, the information fairly presents the actuarial position of the System in accordance with the requirements of GASB 68 as of June 30, 2015.

The Board of Trustees and staff of the State Treasurer's office may use this report for the review of the operation of the System. The report may also be used in the preparation of audited financial statements of VSERS and the State of Vermont. Use of this report for any other purpose or by anyone other than the Board of Trustees, the staff of the State Treasurer's office or its auditors 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 System 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 System provisions or applicable law. An analysis of the potential range of such future differences is beyond the scope of this report.



In preparing the actuarial results, we have relied upon information provided by State Treasurer's office staff regarding System provisions, participants, assets, contributions and other matters used in the actuarial valuation. Although we did not audit the data, we reviewed the data for reasonableness and consistency with the prior year's information. The accuracy of the results presented herein is dependent on the accuracy of the data.

This valuation was prepared based on the actuarial assumptions and methods used in the June 30, 2013 actuarial valuation of the System, except as noted herein. In our opinion, the actuarial assumptions used are appropriate for purposes of the valuation and are reasonably related to the experience of the System and to reasonable long-term expectations.

This report was prepared under my supervision and in accordance with all applicable Actuarial Standards of Practice. I am a Fellow of the Society of Actuaries, an Enrolled Actuary and a Member of the American Academy of Actuaries. I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

I am available to discuss this report with you at your convenience.

Buck Consultants, LLC

*David L. Driscoll*

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David L. Driscoll, FSA, EA, MAAA  
Principal and Consulting Actuary

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## Section I – GASB 68 Information

### Notes to the Financial Statements for the Year Ended June 30, 2015

#### Net Pension Liability

The components of the net pension liability as of June 30, 2014, are as follows:

Total pension liability	\$	2,008,887,949
System fiduciary net position		<u>(1,657,245,868)</u>
Net pension liability	\$	351,642,081
System fiduciary net position as a percentage of the total pension liability		82.50%

**Pension Expense.** For the period ending June 30, 2015, pension expense was as follows (based on a measurement date of June 30, 2014)

Component	Amount
Service Cost	\$39,368,808
Interest Cost on Total Pension Liability	156,634,668
Differences Between Expected and Actual Experience	-
Changes of Assumptions	-
Plan Changes	-
Contributions - Member	(31,745,692)
Projected Earnings On Plan Investments	(91,384,000)
Differences Between Projected And Actual Earnings*	(22,467,550)
Administrative Expense	1,158,183
Other	(453,853)
Total	\$51,110,564

#### Actuarial Assumptions

The total pension liability as of June 30, 2014 was determined by rolling forward the total pension liability as of June 30, 2013 to June 30, 2014 using the actuarial assumptions outlined in Section II. These assumptions were selected on the basis of the experience study that was performed for the five-year period ending June 30, 2010. The recommended assumption changes based on this experience study were adopted by the Board at its May 24, 2011 Board meeting, and were effective for the June 30, 2011 actuarial valuation.

#### Actuarial Cost Method

Entry Age Normal – Level Percentage of Pay

#### Asset Valuation Method

Invested assets are reported at fair value.

The long-term expected rate of return on System investments was determined using best-estimate ranges of expected future nominal rates of return (expected returns, net of investment expense and inflation) developed for each major asset class using an econometric model that forecasts a variety of economic environments and then calculates asset class returns based on functional relationships between the economic variables and the asset classes. These best estimate ranges were combined to produce forecasts of the short, intermediate, and longer term horizons by weighting the expected future nominal rates of return by the target asset allocation percentage. The various time horizons in the forecast are intended to capture more recent economic and capital market conditions as well as other plausible environments that could develop in the future over economic cycles. To reflect this in the rate-of-return assumption, a Select and Ultimate assumption setting approach, which is cited in Section 3.8.4 of Actuarial Standard of Practice No. 27 as an alternative to a single assumed rate of return, is employed.

Best estimates of arithmetic real rates of return for each major asset class included in the target asset allocation as of June 30, 2014 are summarized in the following table:

<u>Asset Class</u>	<u>Long-Term Expected Real Rate of Return</u>
Equity	6.70%
Fixed Income	2.94%
Alternatives	6.26%
Multi-strategy	5.98%

Nominal long-term expected rates of return for these asset classes are equal to the sum of the above expected long-term real rates and the expected long-term inflation rate of 3.0%.

*Discount rate:* The discount rate used to measure the total pension liability was 8.22%. The projection of cash flows used to determine the discount rate assumed that contributions will continue to be made in accordance with the current funding policy. Based on these assumptions, the fiduciary net position was projected to be available to make all projected future benefit payments to current System members. The assumed discount rate has been determined in accordance with the method prescribed by GASB 68. We believe this assumption is reasonable for the purposes of the measurements required by GASB 68. Tables 1 and 2 provide additional details regarding the determination of the discount rate.

*Sensitivity of the net pension liability to changes in the discount rate:* The following presents the net pension liability, calculated using the discount rate of 8.22%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (7.22%) or 1-percentage-point higher (9.22%) than the current rate:

	<u>1% Decrease (7.22%)</u>	<u>Current Discount Rate (8.22%)</u>	<u>1% Increase (9.22%)</u>
Net Pension Liability	\$ 587,187,698	\$ 351,642,081	\$ 153,107,469

**Schedules of Required Supplementary Information**

**Schedule of Changes in the Net Pension Liability and Related Ratios**

	<b><u>FYE June 30, 2014</u></b>
<b>Total pension liability</b>	
Service cost	\$ 39,368,808
Interest	156,634,668
Changes of benefit terms	0
Differences between expected and actual experience	0
Changes of assumptions	0
Benefit payments	<u>(104,492,554)</u>
Net change in total pension liability	\$ 91,510,922
Total pension liability-beginning	\$ 1,917,377,027
Total pension liability-ending (a)	\$ 2,008,887,949
<b>System fiduciary net pension</b>	
Contributions - employers	\$ 56,482,985
Contributions – members	31,745,692
Net investment income	203,721,748
Benefit payments, including refunds of member contributions	(104,492,554)
Administrative expenses	(1,158,183)
Other	<u>453,853</u>
Net change in System fiduciary net position	\$ 186,753,541
System fiduciary net position-beginning	\$ 1,470,492,327
System fiduciary net position-ending (b)	<u>\$ 1,657,245,868</u>
System's net pension liability-ending (a)-(b)	\$ 351,642,087
System fiduciary net position as a percentage of the total pension liability	82.50%
Covered payroll as of June 30, 2013 actuarial valuation	\$ 416,766,302
Net pension liability as a percentage of covered payroll	84.37%

**Notes to Schedule:**

*Benefit changes since June 30, 2013: None*

*Changes of assumptions since June 30, 2013: None*



**Schedule of Employer Contributions**

	<u>FYE June 30, 2014</u>
Actuarially determined contribution	\$ 42,786,326
Contributions related to the actuarially determined contribution	<u>56,482,985</u>
Contribution deficiency (excess)	\$ (13,696,659)

**Notes to Schedule**

Valuation date: Actuarially determined contributions are calculated as of the June 30 preceding by twelve months the start of the fiscal year in which contributions are made. That is, the contribution calculated in the June 30, 2012 actuarial valuation will be made during the fiscal year ended June 30, 2014.

The methods and assumptions used to calculate the actuarially determined contribution in the June 30, 2013 actuarial valuation are shown in Section II.

**Schedule of Investment Returns**

	<u>FYE June 30, 2014</u>
Annual money-weighted rate of return, net of investment expenses	<b>14.05%</b>

**Vermont State Employees' Retirement System  
GASB 68 Valuation - June 30, 2015**



Table 1

Projection of Fiduciary Net Position  
(000's omitted)

Fiscal Year	Interest	Beginning	Member	Employer	Benefit	Administrative	Projected	Ending
Ending	Rate	Fiduciary	Contributions	Contributions	Payments	Expenses	Investment	Fiduciary
June 30		Net Position					Earnings	Net Position
2014	6.25%	1,470,494	25,929	42,532	128,637	0	90,054	1,500,372
2015	6.75%	1,500,372	25,085	43,011	112,761	0	99,792	1,555,499
2016	7.00%	1,555,499	24,596	43,735	118,664	0	107,153	1,612,319
2017	7.50%	1,612,319	19,673	48,932	124,918	0	118,850	1,674,857
2018	7.75%	1,674,857	19,219	49,674	131,845	0	127,408	1,739,312
2019	8.25%	1,739,312	18,699	50,347	139,565	0	140,642	1,809,435
2020	8.25%	1,809,435	17,461	51,879	147,279	0	146,127	1,877,623
2021	8.25%	1,877,623	16,938	52,512	155,563	0	151,422	1,942,932
2022	8.50%	1,942,932	16,481	53,496	163,410	0	161,259	2,010,759
2023	8.50%	2,010,759	16,016	54,554	171,449	0	166,715	2,076,594
2024	8.50%	2,076,594	15,548	55,721	179,644	0	171,998	2,140,218
2025	8.50%	2,140,218	15,058	57,031	187,874	0	177,098	2,201,531
2026	8.50%	2,201,531	14,507	58,372	196,261	0	181,993	2,260,142
2027	8.50%	2,260,142	13,980	59,949	204,465	0	186,677	2,316,283
2028	8.50%	2,316,283	13,465	61,692	212,401	0	191,170	2,370,210
2029	8.50%	2,370,210	12,929	63,595	220,077	0	195,491	2,422,148
2030	8.75%	2,422,148	12,422	65,704	227,342	0	205,547	2,478,478
2031	9.00%	2,478,478	11,822	67,861	235,093	0	216,220	2,539,289
2032	9.00%	2,539,289	11,263	70,269	242,309	0	221,457	2,599,969
2033	9.00%	2,599,969	10,696	72,858	249,272	0	226,701	2,660,951
2034	9.00%	2,660,951	10,081	75,598	256,121	0	231,981	2,722,490
2035	9.00%	2,722,490	9,494	78,567	262,292	0	237,353	2,785,612
2036	9.00%	2,785,612	8,918	81,769	268,097	0	242,894	2,851,095
2037	9.00%	2,851,095	8,298	85,113	273,445	0	248,672	2,919,733
2038	9.00%	2,919,733	7,663	88,677	278,589	0	254,751	2,992,235
2039	9.00%	2,992,235	6,989	3,639	283,695	0	257,278	2,976,446
2040	9.00%	2,976,446	6,381	3,254	287,840	0	255,631	2,953,872
2041	9.00%	2,953,872	5,806	2,920	291,203	0	253,411	2,924,805
2042	9.00%	2,924,805	5,274	2,633	294,042	0	250,634	2,889,304
2043	9.00%	2,889,304	4,770	2,370	296,127	0	247,313	2,847,630
2044	9.00%	2,847,630	4,271	2,111	297,608	0	243,464	2,799,868
2045	9.00%	2,799,868	3,798	1,892	298,564	0	239,093	2,746,087
2046	9.00%	2,746,087	3,321	1,654	299,050	0	234,200	2,686,211
2047	9.00%	2,686,211	2,864	1,428	298,727	0	228,795	2,620,571
2048	9.00%	2,620,571	2,430	1,228	297,996	0	222,892	2,549,125
2049	9.00%	2,549,125	2,033	1,022	296,113	0	216,518	2,472,584
2050	9.00%	2,472,584	1,663	841	293,567	0	209,717	2,391,238
2051	9.00%	2,391,238	1,337	681	289,878	0	202,537	2,305,915
2052	9.00%	2,305,915	1,062	541	285,192	0	195,046	2,217,372
2053	9.00%	2,217,372	811	415	279,657	0	187,304	2,126,245
2054	9.00%	2,126,245	608	309	273,060	0	179,379	2,033,481
2055	9.00%	2,033,481	454	229	265,460	0	171,355	1,940,059
2056	9.00%	1,940,059	311	153	257,393	0	163,293	1,846,423
2057	9.00%	1,846,423	217	104	248,409	0	155,255	1,753,589
2058	9.00%	1,753,589	135	63	238,989	0	147,309	1,662,107
2059	9.00%	1,662,107	82	38	228,964	0	139,514	1,572,777
2060	9.00%	1,572,777	40	18	218,591	0	131,928	1,486,172
2061	9.00%	1,486,172	16	7	207,804	0	124,607	1,402,997

**Vermont State Employees' Retirement System  
GASB 68 Valuation - June 30, 2015**



Table 1  
(continued)  
Projection of Fiduciary Net Position  
(000's omitted)

Fiscal Year	Beginning						Projected	Ending
Ending	Interest	Fiduciary	Member	Employer	Benefit	Administrative	Investment	Fiduciary
June 30	Rate	Net Position	Contributions	Contributions	Payments	Expenses	Earnings	Net Position
2062	9.00%	1,402,997	5	2	196,736	0	117,608	1,323,876
2063	9.00%	1,323,876	2	1	185,471	0	110,983	1,249,391
2064	9.00%	1,249,391	0	0	174,145	0	104,777	1,180,023
2065	9.00%	1,180,023	0	0	162,794	0	99,034	1,116,263
2066	9.00%	1,116,263	0	0	151,485	0	93,794	1,058,572
2067	9.00%	1,058,572	0	0	140,268	0	89,095	1,007,399
2068	9.00%	1,007,399	0	0	129,196	0	84,977	963,181
2069	9.00%	963,181	0	0	118,324	0	81,476	926,333
2070	9.00%	926,333	0	0	107,707	0	78,628	897,254
2071	9.00%	897,254	0	0	97,401	0	76,464	876,317
2072	9.00%	876,317	0	0	87,464	0	75,017	863,870
2073	9.00%	863,870	0	0	77,949	0	74,316	860,238
2074	9.00%	860,238	0	0	68,908	0	74,387	865,717
2075	9.00%	865,717	0	0	60,390	0	75,256	880,582
2076	9.00%	880,582	0	0	52,442	0	76,943	905,084
2077	9.00%	905,084	0	0	45,098	0	79,472	939,458
2078	9.00%	939,458	0	0	38,385	0	82,861	983,934
2079	9.00%	983,934	0	0	32,322	0	87,131	1,038,742
2080	9.00%	1,038,742	0	0	26,914	0	92,302	1,104,130
2081	9.00%	1,104,130	0	0	22,156	0	98,396	1,180,370
2082	9.00%	1,180,370	0	0	18,028	0	105,440	1,267,782
2083	9.00%	1,267,782	0	0	14,495	0	113,462	1,366,749
2084	9.00%	1,366,749	0	0	11,519	0	122,500	1,477,730
2085	9.00%	1,477,730	0	0	9,049	0	132,597	1,601,279
2086	9.00%	1,601,279	0	0	7,028	0	143,806	1,738,056
2087	9.00%	1,738,056	0	0	5,399	0	156,187	1,888,845
2088	9.00%	1,888,845	0	0	4,104	0	169,815	2,054,556
2089	9.00%	2,054,556	0	0	3,086	0	184,774	2,236,244
2090	9.00%	2,236,244	0	0	2,297	0	201,161	2,435,108
2091	9.00%	2,435,108	0	0	1,691	0	219,085	2,652,502
2092	9.00%	2,652,502	0	0	1,231	0	238,671	2,889,942
2093	9.00%	2,889,942	0	0	886	0	260,056	3,149,112
2094	9.00%	3,149,112	0	0	630	0	283,392	3,431,874
2095	9.00%	3,431,874	0	0	442	0	308,849	3,740,281
2096	9.00%	3,740,281	0	0	306	0	336,612	4,076,587
2097	9.00%	4,076,587	0	0	208	0	366,884	4,443,263
2098	9.00%	4,443,263	0	0	140	0	399,888	4,843,011
2099	9.00%	4,843,011	0	0	93	0	435,867	5,278,784
2100	9.00%	5,278,784	0	0	61	0	475,088	5,753,811
2101	9.00%	5,753,811	0	0	39	0	517,841	6,271,614
2102	9.00%	6,271,614	0	0	25	0	564,444	6,836,033
2103	9.00%	6,836,033	0	0	16	0	615,242	7,451,259
2104	9.00%	7,451,259	0	0	10	0	670,613	8,121,862
2105	9.00%	8,121,862	0	0	6	0	730,967	8,852,823
2106	9.00%	8,852,823	0	0	4	0	796,754	9,649,573
2107	9.00%	9,649,573	0	0	2	0	868,461	10,518,033
2108	9.00%	10,518,033	0	0	1	0	946,623	11,464,654
2109	9.00%	11,464,654	0	0	1	0	1,031,819	12,496,472

**Vermont State Employees' Retirement System  
GASB 68 Valuation - June 30, 2015**



Table 2

Projection of Fiduciary Net Position  
(000's omitted)

Fiscal Year	Ending June 30	Interest Rate	Beginning Fiduciary Net Position	Benefit Payments	Present Value of Benefit Payments				
					Benefit Payments		Funded Portion at select and ultimate rates	Unfunded Portion at 3.66%	Using Single Discount Rate of 8.22%
				Funded Portion	Unfunded Portion				
2014	6.25%	1,470,494	128,637	128,637	0	124,796	0	123,653	
2015	6.75%	1,500,372	112,761	112,761	0	102,477	0	100,155	
2016	7.00%	1,555,499	118,664	118,664	0	100,787	0	97,389	
2017	7.50%	1,612,319	124,918	124,918	0	98,696	0	94,732	
2018	7.75%	1,674,857	131,845	131,845	0	96,677	0	92,387	
2019	8.25%	1,739,312	139,565	139,565	0	94,538	0	90,365	
2020	8.25%	1,809,435	147,279	147,279	0	92,160	0	88,113	
2021	8.25%	1,877,623	155,563	155,563	0	89,925	0	85,997	
2022	8.50%	1,942,932	163,410	163,410	0	87,061	0	83,471	
2023	8.50%	2,010,759	171,449	171,449	0	84,188	0	80,922	
2024	8.50%	2,076,594	179,644	179,644	0	81,301	0	78,347	
2025	8.50%	2,140,218	187,874	187,874	0	78,365	0	75,710	
2026	8.50%	2,201,531	196,261	196,261	0	75,450	0	73,080	
2027	8.50%	2,260,142	204,465	204,465	0	72,446	0	70,349	
2028	8.50%	2,316,283	212,401	212,401	0	69,362	0	67,527	
2029	8.50%	2,370,210	220,077	220,077	0	66,239	0	64,650	
2030	8.75%	2,422,148	227,342	227,342	0	62,920	0	61,710	
2031	9.00%	2,478,478	235,093	235,093	0	59,693	0	58,964	
2032	9.00%	2,539,289	242,309	242,309	0	56,445	0	56,156	
2033	9.00%	2,599,969	249,272	249,272	0	53,272	0	53,380	
2034	9.00%	2,660,951	256,121	256,121	0	50,216	0	50,679	
2035	9.00%	2,722,490	262,292	262,292	0	47,180	0	47,956	
2036	9.00%	2,785,612	268,097	268,097	0	44,243	0	45,293	
2037	9.00%	2,851,095	273,445	273,445	0	41,399	0	42,686	
2038	9.00%	2,919,733	278,589	278,589	0	38,695	0	40,184	
2039	9.00%	2,992,235	283,695	283,695	0	36,151	0	37,811	
2040	9.00%	2,976,446	287,840	287,840	0	33,651	0	35,448	
2041	9.00%	2,953,872	291,203	291,203	0	31,233	0	33,137	
2042	9.00%	2,924,805	294,042	294,042	0	28,933	0	30,918	
2043	9.00%	2,889,304	296,127	296,127	0	26,733	0	28,771	
2044	9.00%	2,847,630	297,608	297,608	0	24,648	0	26,718	
2045	9.00%	2,799,868	298,564	298,564	0	22,685	0	24,767	
2046	9.00%	2,746,087	299,050	299,050	0	20,846	0	22,922	
2047	9.00%	2,686,211	298,727	298,727	0	19,104	0	21,157	
2048	9.00%	2,620,571	297,996	297,996	0	17,484	0	19,502	
2049	9.00%	2,549,125	296,113	296,113	0	15,939	0	17,906	
2050	9.00%	2,472,584	293,567	293,567	0	14,497	0	16,403	
2051	9.00%	2,391,238	289,878	289,878	0	13,133	0	14,966	
2052	9.00%	2,305,915	285,192	285,192	0	11,854	0	13,605	
2053	9.00%	2,217,372	279,657	279,657	0	10,664	0	12,327	
2054	9.00%	2,126,245	273,060	273,060	0	9,553	0	11,122	
2055	9.00%	2,033,481	265,460	265,460	0	8,520	0	9,991	
2056	9.00%	1,940,059	257,393	257,393	0	7,579	0	8,951	
2057	9.00%	1,846,423	248,409	248,409	0	6,711	0	7,982	
2058	9.00%	1,753,589	238,989	238,989	0	5,923	0	7,096	
2059	9.00%	1,662,107	228,964	228,964	0	5,206	0	6,282	
2060	9.00%	1,572,777	218,591	218,591	0	4,560	0	5,541	
2061	9.00%	1,486,172	207,804	207,804	0	3,977	0	4,868	

**Vermont State Employees' Retirement System  
GASB 68 Valuation - June 30, 2015**



Table 2  
(continued)  
Projection of Fiduciary Net Position  
(000's omitted)

Fiscal Year	Ending June 30	Interest Rate	Beginning Fiduciary Net Position	Benefit Payments	Benefit Payments		Present Value of Benefit Payments		
					Funded Portion	Unfunded Portion	Funded Portion at select and ultimate rates	Unfunded Portion at 3.66%	Using Single Discount Rate of 8.22%
2062	9.00%	1,402,997	196,736	196,736	0	3,454	0	4,258	
2063	9.00%	1,323,876	185,471	185,471	0	2,988	0	3,709	
2064	9.00%	1,249,391	174,145	174,145	0	2,573	0	3,218	
2065	9.00%	1,180,023	162,794	162,794	0	2,207	0	2,780	
2066	9.00%	1,116,263	151,485	151,485	0	1,884	0	2,390	
2067	9.00%	1,058,572	140,268	140,268	0	1,601	0	2,045	
2068	9.00%	1,007,399	129,196	129,196	0	1,353	0	1,740	
2069	9.00%	963,181	118,324	118,324	0	1,136	0	1,473	
2070	9.00%	926,333	107,707	107,707	0	949	0	1,239	
2071	9.00%	897,254	97,401	97,401	0	787	0	1,035	
2072	9.00%	876,317	87,464	87,464	0	649	0	859	
2073	9.00%	863,870	77,949	77,949	0	530	0	707	
2074	9.00%	860,238	68,908	68,908	0	430	0	578	
2075	9.00%	865,717	60,390	60,390	0	346	0	468	
2076	9.00%	880,582	52,442	52,442	0	276	0	375	
2077	9.00%	905,084	45,098	45,098	0	217	0	298	
2078	9.00%	939,458	38,385	38,385	0	170	0	235	
2079	9.00%	983,934	32,322	32,322	0	131	0	183	
2080	9.00%	1,038,742	26,914	26,914	0	100	0	140	
2081	9.00%	1,104,130	22,156	22,156	0	76	0	107	
2082	9.00%	1,180,370	18,028	18,028	0	56	0	80	
2083	9.00%	1,267,782	14,495	14,495	0	42	0	60	
2084	9.00%	1,366,749	11,519	11,519	0	30	0	44	
2085	9.00%	1,477,730	9,049	9,049	0	22	0	32	
2086	9.00%	1,601,279	7,028	7,028	0	16	0	23	
2087	9.00%	1,738,056	5,399	5,399	0	11	0	16	
2088	9.00%	1,888,845	4,104	4,104	0	8	0	11	
2089	9.00%	2,054,556	3,086	3,086	0	5	0	8	
2090	9.00%	2,236,244	2,297	2,297	0	4	0	5	
2091	9.00%	2,435,108	1,691	1,691	0	2	0	4	
2092	9.00%	2,652,502	1,231	1,231	0	2	0	2	
2093	9.00%	2,889,942	886	886	0	1	0	2	
2094	9.00%	3,149,112	630	630	0	1	0	1	
2095	9.00%	3,431,874	442	442	0	0	0	1	
2096	9.00%	3,740,281	306	306	0	0	0	0	
2097	9.00%	4,076,587	208	208	0	0	0	0	
2098	9.00%	4,443,263	140	140	0	0	0	0	
2099	9.00%	4,843,011	93	93	0	0	0	0	
2100	9.00%	5,278,784	61	61	0	0	0	0	
2101	9.00%	5,753,811	39	39	0	0	0	0	
2102	9.00%	6,271,614	25	25	0	0	0	0	
2103	9.00%	6,836,033	16	16	0	0	0	0	
2104	9.00%	7,451,259	10	10	0	0	0	0	
2105	9.00%	8,121,862	6	6	0	0	0	0	
2106	9.00%	8,852,823	4	4	0	0	0	0	
2107	9.00%	9,649,573	2	2	0	0	0	0	
2108	9.00%	10,518,033	1	1	0	0	0	0	
2109	9.00%	11,464,654	1	1	0	0	0	0	

## Section II – Actuarial Assumptions and Methods

**NOTE:** These assumptions are used in the determination of VSERS' funding requirements. Except as noted in Section I, they are also used for determining liabilities under GASB 68.

### GROUPS A, D AND F

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 FROM SERVICE: Representative values of the assumed annual rates of withdrawal, vested retirement, disability and death are as follows:

Age	Withdrawal and Vested Retirement <sup>1</sup>	Disability
25	4.1%	.03%
30	3.3	.04
35	2.7	.05
40	2.5	.08
45	2.2	.13
50	1.9	.21
55	N/A	.35
59	N/A	.52
60	N/A	.57
61	N/A	.62

<sup>1</sup> Increased during first 10 years of service.

ACTIVE SERVICE MORTALITY: RP-2000 Table for Employees using Scale AA to 2016



GROUPS A, D AND F

Retirement-Group F*			
Male Employee		Female Employee	
Age	Rate	Age	Rate
50	20.0%	50	6.0%
51	20.0	51	6.0
52	10.0	52	8.0
53	10.0	53	9.0
54	10.0	54	10.0
55	5.0	55	5.0
56	4.2	56	4.2
57	5.6	57	5.6
58	6.3	58	6.3
59	7.0	59	7.0
60	7.0	60	7.0
61	14.0	61	14.0
62	28.0	62	28.0
63	17.5	63	17.5
64	17.5	64	17.5
65	25.0	65	25.0
66	15.0	66	15.0
67	17.5	67	17.5
68	17.5	68	17.5
69	20.0	69	20.0
70	100.0	70	100.0

\* All Group A and D members are assumed to retire when first eligible.

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

Age	Annual Rate of Salary Increase	Age	Annual Rate of Salary Increase
25	7.79%	50	5.70%
30	7.33%	55	5.20%
35	7.00%	60	4.67%
40	6.75%	64	4.50%
45	6.27%		

GROUPS A, D AND F

Salary increases of several classes of employees in Groups D and F are assumed to follow the schedule shown below:

Annual Rate of Salary Adjustment				
Fiscal Year	Group D Judiciary	Group F Non Exempt Non Judiciary	Group F Exempt Non Judiciary	Group F Exempt Judiciary
2013	4.6%	3%	5%	4.6%
2014	N/A	Valuation Salary Scale less 1.7%	N/A	N/A
2015	N/A	N/A	N/A	N/A

**DEATHS AFTER RETIREMENT:**

For service retirees and beneficiaries, the RP-2000 Mortality Tables for Employees and Healthy Annuitants projected with Scale AA to 2010.

For disabled retirees, the RP-2000 Combined Mortality Tables for Employees and Healthy Annuitants with a three-year set-forward.

The post-retirement mortality assumption was chosen to recognize improved longevity experienced as well as that expected prior to the next review of assumptions.

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

**FUTURE EXPENSES:** No provision made; expenses of the system are paid by the State.

**ACTUARIAL COST METHOD:** The costs of the System have been determined in accordance with the individual entry age normal actuarial cost method.

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

**PERCENT MARRIED:** 75.4% (71.4% for Group F) of male members and 64.0% (63.1% for Group F) of female members are assumed to be married.

**COST-OF-LIVING ADJUSTMENTS:** Assumed to occur at the rate of 3% per annum for Groups A and D and 1½% per annum for Group F (beginning at age 62 for deferred retirements). For Group F employees retiring after July 1, 2009, the cost-of-living-adjustment is assumed to increase from 1.5% to 3% per annum effective January 1, 2014.

**INACTIVE MEMBERS:** Valuation liability equals 250% of accumulated contributions.

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

**ASSET VALUATION METHOD:** The amount of the assets for funding valuation purposes equals the preliminary asset value plus 20% of the difference between 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 plus expected investment income. If necessary, a further adjustment is made to ensure that the valuation assets are within 20% of the market value.



GROUP C

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 RETIREMENT: Representative values of the assumed annual rates of withdrawal, vested retirement, disability and death are as follows:

Age	Withdrawal and Vested Retirement <sup>1</sup>		Disability <sup>1</sup>
	Men Employee	Female Employee	
25	3.60%	7.20%	.15%
30	3.60%	7.20%	.20
35	3.60%	7.20%	.27
40			.40
45			.65
50			1.09
55			1.82
60			2.93

ACTIVE SERVICE MORTALITY<sup>2</sup>: RP-2000 Table for Employees using Scale AA to 2016

- <sup>1</sup> Increased during first 5 years of service.
- <sup>2</sup> 20% of disabilities and 30% of deaths assumed to be accidental.

EARLY AND NORMAL RETIREMENT RATES: All members are assumed to retire when first eligible to do so.

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

Age	Annual Rate of Salary Increase
25	7.79%
30	7.33
35	7.00
40	6.75
45	6.27
50	5.70
55	5.20
60	4.67

GROUP C

Salary increases over these three fiscal years are assumed to follow the schedule shown below:

Annual Rate of Salary Adjustment		
Fiscal Year	Non Exempt Non State Police	Non Exempt State Police
2013	3%	3%
2014	Valuation Salary Scale less 1.7%	Valuation Salary Scale less 2.4%
2015	N/A	N/A

**DEATHS AFTER RETIREMENT:**

For service retirees and beneficiaries, the RP-2000 Mortality Tables for Employees and Healthy Annuitants projected with Scale AA to 2010.

For disabled retirees, the RP-2000 Combined Mortality Tables for Employees and Healthy Annuitants with a three-year set-forward.

The post-retirement mortality assumption was chosen to recognize improved longevity experienced as well as that expected prior to the next review of assumptions.

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

**FUTURE EXPENSES:** No provision made; expenses of the system are paid by the State.

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

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

**PERCENT MARRIED:** 73.3% of male members and 61.0% of female members are assumed to be married.

**COST-OF-LIVING ADJUSTMENTS:** Assumed to occur at the rate of 3% per annum.

**INACTIVE MEMBERS:** Liability equals 250% of accumulated contributions.

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

**ASSET VALUATION METHOD:** The amount of the assets used for funding valuation purposes equals the preliminary asset value plus 20% of the difference between 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 plus expected investment income. If necessary, a further adjustment is made to ensure that the valuation assets are within 20% of the market value.

Data for Valuation

In preparing the actuarial valuation as of June 30, 2013, the actuary relied on data and assets provided by the staff of the State Treasurer's office. While not verifying the data at their source, the actuary has performed tests for consistency and reasonableness.

The following is a summary of System participants as of June 30, 2013:

Retired members or beneficiaries currently receiving benefits	5,795
Inactive members	796
Active members	8,158
Terminated vested members	741

### Section III – Summary of System Provisions

Effective Date	July 1, 1972 (for consolidated system).
Statutory Authority	Chapter 16, Title 3 of the Vermont Statutes Annotated
Creditable Service	Service as a member plus purchased service.
Membership	Group A - General employees who did not join noncontributory system on July 1, 1981.  Group C - State police and motor vehicle inspectors.  Group D - Judges.  Group F - All other general employees.
Average Final Compensation (AFC)	Groups A and F - average annual compensation during highest 3 consecutive years.  Group C - average annual compensation during highest 2 consecutive years.  Group D - annual compensation at retirement.
Service Retirement Allowance	
Eligibility	Group A – Earlier of age 65, with five years of service for members hired after July 1, 2004, and age 62 with 20 years of service.  Group C - Age 55.  Group D - Age 62 with 5 years of service.  Group F - Age 62 or 30 years of service. For members hired after June 30, 2008, age 65 or a sum of age plus service greater than or equal to 87.
Amount	Group A - 1.67% of AFC times service.  Group C - 2.5% of AFC times service up to 20 years.  Group D - 3.33% of AFC times service up to 30 years.  Group F - 1.25% of AFC times service prior to January 1, 1991, plus 1.67% of AFC times service after 1990, up to a maximum benefit of 50% of AFC. For members hired on or after July 1, 2008, the maximum benefit is 60% of AFC.

The above amounts include the portion of the allowance provided by member contributions.

Early Retirement Allowance

Eligibility

Groups A and D - Age 55 with 5 years of service or 30 years of service.

Group C - Age 50 with 20 years of service.

Group F - Age 55 with 5 years of service.

Amount

Group A - Actuarial equivalent of normal retirement allowance. For members with 30 years of service, there is no reduction.

Group C - Same as normal retirement allowance.

Group D - Normal allowance reduced by 3% for each year commencement precedes age 62.

Group F - For members hired prior to July 1, 2008, no reduction if 30 years of service; otherwise normal allowance reduced by 6% for each year commencement precedes age 62. For members hired on or after July 1, 2008, no reduction if combination of years and service equal to 87; otherwise reduced from age 65 based on the following table

<u>Years of Service</u>	<u>Reduction in Benefit</u>
35	One eighth of 1% per year
30	One quarter of 1% per year
25	One third of 1% per year
20	Five twelfths of 1% per year
Less than 20	Five ninths of 1% per year

Vested Retirement Allowance

Eligibility

All Groups - 5 years of service.

Allowance beginning at normal retirement age based on AFC and service at termination.

Ordinary Disability Retirement

Allowance

Eligibility

All Groups - 5 years of service and incapacitated, not work related, for performance of duty.

Amount	Immediate allowance based on service to date of disability. Benefit is the greater of 25% of AFC and unreduced accrued benefit as of date of disability.
Accidental Disability Retirement Allowance	
Eligibility	All Groups - incapacitated as a result of work related accident.
Amount	Groups A, D and F - immediate allowance based on service projected to normal retirement. Benefit is the greater of 25% of AFC and unreduced accrued benefit as of date of disability.  Group C - Immediate allowance equal to 50% of AFC with additional 10% of AFC for each dependent child (up to 30%).
Ordinary Disability Retirement Allowance	
Eligibility	All Groups - 5 years of service and incapacitated, not work related, for performance of duty.
Amount	Immediate allowance based on service to date of disability. Benefit is the greater of 25% of AFC and unreduced accrued benefit as of date of disability.
Accidental Disability Retirement Allowance	
Eligibility	All Groups - incapacitated as a result of work related accident.
Amount	Groups A, D and F - immediate allowance based on service projected to normal retirement. Benefit is the greater of 25% of AFC and unreduced accrued benefit as of date of disability.  Group C - Immediate allowance equal to 50% of AFC with additional 10% of AFC for each dependent child (up to 30%).

Ordinary Death Benefit

Eligibility	Groups A and F - Death after eligibility for early retirement or 10 years of service.  Group C - Death after normal retirement age or 10 years of service.  Group D - Death after normal retirement age or 10 years of service.
Amount	Groups A, D and F – maximum of reduced allowance under 100% survivor option and disability allowance under 100% disability survivor option, commencing immediately.  Group C - 70% of the allowance which would have been payable to the member plus additional allowance equal to 10% of AFC for each dependent child (up to 30%).

Accidental Death Benefit

Eligibility	All Groups - Death as a result of work related accident.
Amount	Groups A, D and F - Allowance equal to 25% of AFC payable to spouse.  Group C - Allowance equal to 35% of AFC payable to spouse plus 10% of AFC for each dependent child (up to 30%).

Optional Benefit and Death after Retirement

Lifetime allowance or actuarially equivalent allowance with survivor benefit as elected by member upon retirement.

Upon death of a Group C member, an allowance equal to 70% of the member's allowance is continued to the surviving spouse.

Refund of Contribution

Upon termination, if the member so elects or if no other benefit is payable, the member's accumulated contributions are refunded.

Post-Retirement Adjustments

Groups A, C and D - allowances in payment for at least one year increased on each January 1 by the percentage increase in Consumer Price Index but not more than 5%.

Group F – Same, but increase is based on half of the Consumer Price Index increase. Increase is based on the full Consumer Price index Increase starting in 2014 for employees retiring after July 1, 2008.

Member Contributions

Groups A and D – 6.40% (until June 30, 2016).

Group C – 8.28% (until June 30, 2016).

Group F  
– 6.40% through June 30, 2016  
– 5.10% from July 1, 2016 through June 30, 2019  
– 4.85% thereafter



## Section IV – Deferred Outflows and Inflows

**VERMONT STATE EMPLOYEES' RETIREMENT SYSTEM**

**GASB 68 Information as of June 30, 2015**

**Differences Between Projected And Actual Earnings**

Measurement Year	2013	2014	20XX	Outflows	Inflows	Total
Amount Established	(112,337,748)					
Recognition Period	5.00	5.00				
Annual Recognition	(22,467,550)					
	89,870,198					
Amount Recognized						
2014	(22,467,550)			-	(22,467,550)	(22,467,550)
2015	(22,467,550)			-	(22,467,550)	(22,467,550)
2016	(22,467,550)			-	(22,467,550)	(22,467,550)
2017	(22,467,550)			-	(22,467,550)	(22,467,550)
2018	(22,467,548)			-	(22,467,548)	(22,467,548)
2019	-			-	-	-
2020	-			-	-	-
2021	-			-	-	-
2022	-			-	-	-
2023	-			-	-	-
2024	-			-	-	-
2025	-			-	-	-
2026	-			-	-	-
Deferred Balance						
2014	(89,870,198)			-	(89,870,198)	(89,870,198)
2015	(67,402,648)			-	(67,402,648)	(67,402,648)
2016	(44,935,098)			-	(44,935,098)	(44,935,098)
2017	(22,467,548)			-	(22,467,548)	(22,467,548)
2018	-			-	-	-
2019	-			-	-	-
2020	-			-	-	-
2021	-			-	-	-
2022	-			-	-	-
2023	-			-	-	-
2024	-			-	-	-
2025	-			-	-	-
2026	-			-	-	-