

Vermont Municipal Employees' Retirement System

Information Required Under
Governmental Accounting Standards Board
Statement No. 67 as of June 30, 2015

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November 16, 2015

Board of Trustees
Vermont Municipal Employees' Retirement System
Montpelier, Vermont 05609

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GASB 67 Report as of June 30, 2015

Dear Board Members:

This actuarial valuation report provides information concerning the Vermont Municipal Employees' Retirement System (VMERS) in accordance with the Governmental Accounting Standards Board (GASB) Statement No. 67 (GASB 67). This Statement is an amendment of Statement No. 25, Financial Reporting for Defined Benefit Pension Systems and Note Disclosures for Defined Contribution Systems. Information is provided herein for the fiscal year ending June 30, 2015.

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 67 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 VMERS' audited financial statements. 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 July 1, 2014, 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

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

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Section I – GASB 67 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, 2015, are as follows:

Total pension liability	\$	612,999,552
System fiduciary net position		<u>(535,903,742)</u>
Net pension liability	\$	77,095,810
System fiduciary net position as a percentage of the total pension liability		87.42%

Actuarial Assumptions

The total pension liability as of June 30, 2015 was determined by rolling forward the total pension liability as of June 30, 2014 to June 30, 2015, using the actuarial assumptions outlined in Section II. Except for the expected rate of return on assets, 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. The 7.95% expected rate of return on assets was adopted by the Board at a meeting held on July 27, 2015.

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. For funding valuations performed through July 1, 2014, 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 3.6.4 of Actuarial Standard of Practice No. 27 as an alternative to a single assumed rate of return, was employed.

Best estimates of arithmetic real rates of return for each major asset class included in the target asset allocation as of June 30, 2015 are summarized in the following table:

<u>Asset Class</u>	<u>Long-Term Expected Real Rate of Return</u>
Equity	8.61%
Fixed Income	1.91%
Alternatives	6.93%
Multi-strategy	4.88%

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%.

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 7.95%. 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 67. We believe this assumption is reasonable for the purposes of the measurements required by GASB 67. 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 7.95%, as well as what the net pension liability would be if it were calculated using a discount rate that is one-percentage-point lower (6.95%) or one-percentage-point higher (8.95%) than the current rate:

	<u>1% Decrease (6.95%)</u>	<u>Current Discount Rate (7.95%)</u>	<u>1% Increase (8.95%)</u>
Net Pension Liability	\$153,993,790	\$77,095,810	\$12,633,306



Schedules of Required Supplementary Information

Schedule of Changes in the Net Pension Liability and Related Ratios

FYE June 30, 2015

Total pension liability

Service cost	\$	24,366,167
Interest		46,058,159
Changes of benefit terms		0
Differences between expected and actual experience		3,046,272
Changes of assumptions		19,192,039
Benefit payments		<u>(23,315,175)</u>
Net change in total pension liability	\$	69,347,462
Total pension liability-beginning	\$	543,652,090
Total pension liability-ending (a)	\$	612,999,552

System fiduciary net pension

Contributions - employers	\$	14,136,067
Contributions – members		13,587,975
Net investment income		(2,358,518)
Benefit payments, including refunds of member contributions		(23,315,175)
Administrative expenses		(950,625)
Other		<u>278,541</u>
Net change in System fiduciary net position	\$	1,378,265
System fiduciary net position-beginning	\$	534,525,477
System fiduciary net position-ending (b)	\$	<u>535,903,742</u>
System's net pension liability-ending (a)-(b)	\$	77,095,810

System fiduciary net position as a percentage of the total pension liability 87.42%

Covered payroll as of July 1, 2014 actuarial valuation \$ 230,969,202
 Net pension liability as a percentage of covered payroll 33.38%

Notes to Schedule:

Benefit changes since June 30, 2014: None

Changes of assumptions since June 30, 2014: The discount rate used to measure the net pension liability was lowered from 8.15% to 7.95%, due to the adoption by the Board of Trustees of a 7.95% expected future rate of return on assets for funding purposes.



Schedule of Employer Contributions

	<u>FYE June 30, 2015</u>
Actuarially determined contribution	\$ 14,136,067
Contributions related to the actuarially determined contribution	<u>14,136,067</u>
Contribution deficiency (excess)	\$ 0

Notes to Schedule

Valuation date: Actuarially determined contributions are calculated as of the first day of each fiscal year (i.e., July 1).

The methods and assumptions used to calculate the actuarially determined contribution in the July 1, 2014 actuarial valuation are shown in Section II.

Schedule of Investment Returns

	<u>FYE June 30, 2014</u>	<u>FYE June 30, 2015</u>
Annual money-weighted rate of return, net of investment expenses	14.13%	(0.51%)

**Vermont Municipal Employees' Retirement System
GASB 67 Valuation - June 30, 2015**



Table 1

Projection of Fiduciary Net Position
(000's omitted)

Fiscal Year Ending June 30	Interest Rate	Beginning Fiduciary Net Position	Current	Current	Contributions Less Normal Cost			Projected Investment Earnings	Ending Fiduciary Net Position
			Participant Member Contributions	Participant Employer Contributions	For Future New Entrants	Benefit Administrative Payments	Expenses		
2015	6.25%	534,525	13,588	14,136	1,715	41,300	951	33,014	554,727
2016	6.75%	554,727	10,841	11,322	3,142	25,980	980	37,389	590,461
2017	7.00%	590,461	10,125	10,560	4,492	28,609	1,009	41,179	627,199
2018	7.50%	627,199	9,501	9,904	5,836	31,489	1,039	46,772	666,684
2019	7.75%	666,684	8,968	9,338	7,173	34,465	1,070	51,286	707,913
2020	8.25%	707,913	8,459	8,796	8,544	37,989	1,102	57,865	752,487
2021	8.25%	752,487	7,964	8,273	9,961	41,577	1,135	61,412	797,385
2022	8.25%	797,385	7,526	7,802	11,380	45,347	1,169	64,983	842,560
2023	8.50%	842,560	7,076	7,324	12,865	49,181	1,204	70,655	890,096
2024	8.50%	890,096	6,666	6,881	14,377	52,987	1,240	74,563	938,356
2025	8.50%	938,356	6,277	6,463	15,948	56,830	1,277	78,535	987,472
2026	8.50%	987,472	5,879	6,037	17,569	60,807	1,315	82,576	1,037,411
2027	8.50%	1,037,411	5,471	5,608	19,246	64,804	1,354	86,688	1,088,266
2028	8.50%	1,088,266	5,085	5,204	20,957	68,565	1,395	90,891	1,140,443
2029	8.50%	1,140,443	4,728	4,826	22,697	72,297	1,437	95,211	1,194,171
2030	8.75%	1,194,171	4,397	4,477	24,467	76,086	1,480	102,596	1,252,542
2031	9.00%	1,252,542	4,060	4,122	26,300	79,617	1,524	110,674	1,316,557
2032	9.00%	1,316,557	3,751	3,798	28,192	82,884	1,570	116,345	1,384,189
2033	9.00%	1,384,189	3,450	3,485	30,151	86,140	1,617	122,346	1,455,864
2034	9.00%	1,455,864	3,147	3,175	32,172	89,248	1,666	128,720	1,532,164
2035	9.00%	1,532,164	2,859	2,882	34,267	93,248	1,716	135,475	1,612,683
2036	9.00%	1,612,683	2,597	2,615	36,493	95,672	1,767	142,687	1,699,636
2037	9.00%	1,699,636	2,345	2,362	38,792	97,769	1,820	150,498	1,794,044
2038	9.00%	1,794,044	2,103	2,123	41,190	99,413	1,875	159,004	1,897,176
2039	9.00%	1,897,176	1,893	1,912	43,670	100,741	1,931	168,315	2,010,294
2040	9.00%	2,010,294	1,703	1,721	46,231	101,667	1,989	178,549	2,134,842
2041	9.00%	2,134,842	1,522	1,541	48,918	102,159	2,049	189,836	2,272,451
2042	9.00%	2,272,451	1,359	1,379	51,709	102,354	2,110	202,318	2,424,752
2043	9.00%	2,424,752	1,209	1,229	54,628	102,517	2,173	216,131	2,593,259
2044	9.00%	2,593,259	1,066	1,088	57,675	102,211	2,238	231,429	2,780,068
2045	9.00%	2,780,068	935	958	60,798	101,512	2,305	248,395	2,987,337
2046	9.00%	2,987,337	811	835	63,992	100,244	2,374	267,232	3,217,589
2047	9.00%	3,217,589	701	726	67,317	99,001	2,445	288,143	3,473,030
2048	9.00%	3,473,030	595	619	70,808	97,436	2,518	311,343	3,756,441
2049	9.00%	3,756,441	504	526	74,447	95,551	2,594	337,082	4,070,855
2050	9.00%	4,070,855	422	442	78,249	93,349	2,672	365,632	4,419,579
2051	9.00%	4,419,579	346	364	82,230	90,949	2,752	397,288	4,806,107
2052	9.00%	4,806,107	279	295	86,389	88,357	2,835	432,363	5,234,241
2053	9.00%	5,234,241	217	231	90,743	85,580	2,920	471,200	5,708,132
2054	9.00%	5,708,132	167	179	95,290	82,477	3,008	514,179	6,232,462
2055	9.00%	6,232,462	127	137	100,043	79,259	3,098	561,712	6,812,124
2056	9.00%	6,812,124	91	100	105,230	75,840	3,191	614,253	7,452,767
2057	9.00%	7,452,767	64	71	110,668	72,288	3,287	672,300	8,160,295
2058	9.00%	8,160,295	44	49	116,370	68,593	3,386	736,385	8,941,164
2059	9.00%	8,941,164	29	33	122,356	64,860	3,488	807,086	9,802,320
2060	9.00%	9,802,320	18	21	128,642	61,133	3,593	885,025	10,751,300
2061	9.00%	10,751,300	10	12	135,241	57,431	3,701	970,881	11,796,312
2062	9.00%	11,796,312	6	7	142,173	53,738	3,812	1,065,395	12,946,342

**Vermont Municipal Employees' Retirement System
GASB 67 Valuation - June 30, 2015**



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

Fiscal Year Ending	Interest Rate	Current	Current	Contributions			Projected Investment	Ending Fiduciary Net Position	
		Beginning Fiduciary Net Position	Participant Member Contributions	Participant Employer Contributions	Less Normal Cost For Future New Entrants	Benefit Administrative Payments			Expenses
2063	9.00%	12,946,342	3	4	149,451	50,123	3,926	1,169,372	14,211,123
2064	9.00%	14,211,123	2	2	157,097	46,599	4,044	1,283,688	15,601,270
2065	9.00%	15,601,270	1	1	165,131	43,182	4,165	1,409,300	17,128,356
2066	9.00%	17,128,356	0	0	173,231	39,875	4,290	1,547,235	18,804,657
2067	9.00%	18,804,657	0	0	181,722	36,692	4,419	1,698,610	20,643,878
2068	9.00%	20,643,878	0	0	190,625	33,641	4,552	1,864,661	22,660,971
2069	9.00%	22,660,971	0	0	199,964	30,727	4,689	2,046,733	24,872,252
2070	9.00%	24,872,252	0	0	0	27,951	4,830	2,237,059	27,076,530
2071	9.00%	27,076,530	0	0	0	25,318	4,975	2,435,554	29,481,791
2072	9.00%	29,481,791	0	0	0	22,831	5,124	2,652,130	32,105,966
2073	9.00%	32,105,966	0	0	0	20,491	5,278	2,888,402	34,968,599
2074	9.00%	34,968,599	0	0	0	18,300	5,436	3,146,129	38,090,992
2075	9.00%	38,090,992	0	0	0	16,257	5,599	3,427,227	41,496,363
2076	9.00%	41,496,363	0	0	0	14,363	5,767	3,733,786	45,210,020
2077	9.00%	45,210,020	0	0	0	12,615	5,940	4,068,085	49,259,549
2078	9.00%	49,259,549	0	0	0	11,012	6,118	4,432,605	53,675,025
2079	9.00%	53,675,025	0	0	0	9,550	6,302	4,830,054	58,489,227
2080	9.00%	58,489,227	0	0	0	8,224	6,491	5,263,383	63,737,894
2081	9.00%	63,737,894	0	0	0	7,029	6,686	5,735,807	69,459,986
2082	9.00%	69,459,986	0	0	0	5,960	6,887	6,250,833	75,697,972
2083	9.00%	75,697,972	0	0	0	5,010	7,094	6,812,285	82,498,153
2084	9.00%	82,498,153	0	0	0	4,173	7,307	7,424,328	89,911,001
2085	9.00%	89,911,001	0	0	0	3,441	7,526	8,091,507	97,991,541
2086	9.00%	97,991,541	0	0	0	2,808	7,752	8,818,774	106,799,755
2087	9.00%	106,799,755	0	0	0	2,265	7,985	9,611,527	116,401,031
2088	9.00%	116,401,031	0	0	0	1,805	8,225	10,475,651	126,866,652
2089	9.00%	126,866,652	0	0	0	1,420	8,472	11,417,563	138,274,324
2090	9.00%	138,274,324	0	0	0	1,101	8,726	12,444,256	150,708,753
2091	9.00%	150,708,753	0	0	0	841	8,988	13,563,355	164,262,279
2092	9.00%	164,262,279	0	0	0	632	9,258	14,783,170	179,035,559
2093	9.00%	179,035,559	0	0	0	467	9,536	16,112,760	195,138,316
2094	9.00%	195,138,316	0	0	0	339	9,822	17,562,001	212,690,156
2095	9.00%	212,690,156	0	0	0	241	10,117	19,141,658	231,821,455
2096	9.00%	231,821,455	0	0	0	168	10,421	20,863,465	252,674,331
2097	9.00%	252,674,331	0	0	0	115	10,734	22,740,212	275,403,694
2098	9.00%	275,403,694	0	0	0	76	11,056	24,785,842	300,178,405
2099	9.00%	300,178,405	0	0	0	50	11,388	27,015,553	327,182,520
2100	9.00%	327,182,520	0	0	0	32	11,730	29,445,909	356,616,666
2101	9.00%	356,616,666	0	0	0	20	12,082	32,094,967	388,699,531
2102	9.00%	388,699,531	0	0	0	12	12,444	34,982,409	423,669,485
2103	9.00%	423,669,485	0	0	0	7	12,817	38,129,689	461,786,350
2104	9.00%	461,786,350	0	0	0	4	13,202	41,560,190	503,333,334
2105	9.00%	503,333,334	0	0	0	2	13,598	45,299,401	548,619,135
2106	9.00%	548,619,135	0	0	0	1	14,006	49,375,105	597,980,234
2107	9.00%	597,980,234	0	0	0	1	14,426	53,817,586	651,783,392
2108	9.00%	651,783,392	0	0	0	0	14,859	58,659,851	710,428,384
2109	9.00%	710,428,384	0	0	0	0	15,305	63,937,881	774,350,960
2110	9.00%	774,350,960	0	0	0	0	15,764	69,690,892	844,026,088
2111	9.00%	844,026,088	0	0	0	0	16,237	75,961,633	919,971,484
2112	9.00%	919,971,484	0	0	0	0	16,724	82,796,697	1,002,751,458

**Vermont Municipal Employees' Retirement System
GASB 67 Valuation - June 30, 2015**



Table 2

Fiscal Year		Projection of Fiduciary Net Position (000's omitted)				Present Value of Benefit Payments	
		Beginning Fiduciary Net Position	Benefit Payments	Benefit Payments		Unfunded Portion at 3.73%	Using Single Discount Rate of 7.95%
Ending June 30	Interest Rate			Funded Portion	Unfunded Portion		
2015	6.25%	534,525	41,300	41,300	0	0	39,750
2016	6.75%	554,727	25,980	25,980	0	0	23,164
2017	7.00%	590,461	28,609	28,609	0	0	23,629
2018	7.50%	627,199	31,489	31,489	0	0	24,092
2019	7.75%	666,684	34,465	34,465	0	0	24,427
2020	8.25%	707,913	37,989	37,989	0	0	24,942
2021	8.25%	752,487	41,577	41,577	0	0	25,288
2022	8.25%	797,385	45,347	45,347	0	0	25,549
2023	8.50%	842,560	49,181	49,181	0	0	25,669
2024	8.50%	890,096	52,987	52,987	0	0	25,619
2025	8.50%	938,356	56,830	56,830	0	0	25,453
2026	8.50%	987,472	60,807	60,807	0	0	25,229
2027	8.50%	1,037,411	64,804	64,804	0	0	24,907
2028	8.50%	1,088,266	68,565	68,565	0	0	24,412
2029	8.50%	1,140,443	72,297	72,297	0	0	23,845
2030	8.75%	1,194,171	76,086	76,086	0	0	23,246
2031	9.00%	1,252,542	79,617	79,617	0	0	22,534
2032	9.00%	1,316,557	82,884	82,884	0	0	21,731
2033	9.00%	1,384,189	86,140	86,140	0	0	20,921
2034	9.00%	1,455,864	89,248	89,248	0	0	20,080
2035	9.00%	1,532,164	93,248	93,248	0	0	19,435
2036	9.00%	1,612,683	95,672	95,672	0	0	18,471
2037	9.00%	1,699,636	97,769	97,769	0	0	17,486
2038	9.00%	1,794,044	99,413	99,413	0	0	16,471
2039	9.00%	1,897,176	100,741	100,741	0	0	15,461
2040	9.00%	2,010,294	101,667	101,667	0	0	14,454
2041	9.00%	2,134,842	102,159	102,159	0	0	13,455
2042	9.00%	2,272,451	102,354	102,354	0	0	12,488
2043	9.00%	2,424,752	102,517	102,517	0	0	11,586
2044	9.00%	2,593,259	102,211	102,211	0	0	10,701
2045	9.00%	2,780,068	101,512	101,512	0	0	9,845
2046	9.00%	2,987,337	100,244	100,244	0	0	9,006
2047	9.00%	3,217,589	99,001	99,001	0	0	8,240
2048	9.00%	3,473,030	97,436	97,436	0	0	7,512
2049	9.00%	3,756,441	95,551	95,551	0	0	6,824
2050	9.00%	4,070,855	93,349	93,349	0	0	6,176
2051	9.00%	4,419,579	90,949	90,949	0	0	5,574
2052	9.00%	4,806,107	88,357	88,357	0	0	5,016
2053	9.00%	5,234,241	85,580	85,580	0	0	4,501
2054	9.00%	5,708,132	82,477	82,477	0	0	4,018
2055	9.00%	6,232,462	79,259	79,259	0	0	3,577
2056	9.00%	6,812,124	75,840	75,840	0	0	3,171
2057	9.00%	7,452,767	72,288	72,288	0	0	2,800
2058	9.00%	8,160,295	68,593	68,593	0	0	2,461
2059	9.00%	8,941,164	64,860	64,860	0	0	2,156
2060	9.00%	9,802,320	61,133	61,133	0	0	1,882
2061	9.00%	10,751,300	57,431	57,431	0	0	1,638
2062	9.00%	11,796,312	53,738	53,738	0	0	1,420

**Vermont Municipal Employees' Retirement System
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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	Unfunded	Unfunded	Using Single
					Portion	Portion	Portion at 3.73%	Discount Rate of 7.95%
2063	9.00%	12,946,342	50,123	50,123	0	0	1,227	
2064	9.00%	14,211,123	46,599	46,599	0	0	1,056	
2065	9.00%	15,601,270	43,182	43,182	0	0	907	
2066	9.00%	17,128,356	39,875	39,875	0	0	776	
2067	9.00%	18,804,657	36,692	36,692	0	0	661	
2068	9.00%	20,643,878	33,641	33,641	0	0	562	
2069	9.00%	22,660,971	30,727	30,727	0	0	475	
2070	9.00%	24,872,252	27,951	27,951	0	0	400	
2071	9.00%	27,076,530	25,318	25,318	0	0	336	
2072	9.00%	29,481,791	22,831	22,831	0	0	281	
2073	9.00%	32,105,966	20,491	20,491	0	0	233	
2074	9.00%	34,968,599	18,300	18,300	0	0	193	
2075	9.00%	38,090,992	16,257	16,257	0	0	159	
2076	9.00%	41,496,363	14,363	14,363	0	0	130	
2077	9.00%	45,210,020	12,615	12,615	0	0	106	
2078	9.00%	49,259,549	11,012	11,012	0	0	86	
2079	9.00%	53,675,025	9,550	9,550	0	0	69	
2080	9.00%	58,489,227	8,224	8,224	0	0	55	
2081	9.00%	63,737,894	7,029	7,029	0	0	43	
2082	9.00%	69,459,986	5,960	5,960	0	0	34	
2083	9.00%	75,697,972	5,010	5,010	0	0	27	
2084	9.00%	82,498,153	4,173	4,173	0	0	20	
2085	9.00%	89,911,001	3,441	3,441	0	0	16	
2086	9.00%	97,991,541	2,808	2,808	0	0	12	
2087	9.00%	106,799,755	2,265	2,265	0	0	9	
2088	9.00%	116,401,031	1,805	1,805	0	0	7	
2089	9.00%	126,866,652	1,420	1,420	0	0	5	
2090	9.00%	138,274,324	1,101	1,101	0	0	3	
2091	9.00%	150,708,753	841	841	0	0	2	
2092	9.00%	164,262,279	632	632	0	0	2	
2093	9.00%	179,035,559	467	467	0	0	1	
2094	9.00%	195,138,316	339	339	0	0	1	
2095	9.00%	212,690,156	241	241	0	0	1	
2096	9.00%	231,821,455	168	168	0	0	0	
2097	9.00%	252,674,331	115	115	0	0	0	
2098	9.00%	275,403,694	76	76	0	0	0	
2099	9.00%	300,178,405	50	50	0	0	0	
2100	9.00%	327,182,520	32	32	0	0	0	
2101	9.00%	356,616,666	20	20	0	0	0	
2102	9.00%	388,699,531	12	12	0	0	0	
2103	9.00%	423,669,485	7	7	0	0	0	
2104	9.00%	461,786,350	4	4	0	0	0	
2105	9.00%	503,333,334	2	2	0	0	0	
2106	9.00%	548,619,135	1	1	0	0	0	
2107	9.00%	597,980,234	1	1	0	0	0	
2108	9.00%	651,783,392	0	0	0	0	0	
2109	9.00%	710,428,384	0	0	0	0	0	
2110	9.00%	774,350,960	0	0	0	0	0	
2111	9.00%	844,026,088	0	0	0	0	0	
2112	9.00%	919,971,484	0	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 67.

INTEREST RATE: 7.95% per annum. Through July 1, 2014, a select-and-ultimate interest rate set was used, as specified below. The interest rate set was 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%	

SALARY INCREASES: 5% per year.

DEATHS:

Active participants – 50% of the probabilities in the 1995 Buck Mortality Tables for Males and Females

Non-disabled retirees and terminated vested participants – The 1995 Buck Mortality Tables with no set-back for males and one-year set-back for females

Disabled retirees – RP-2000 Disabled Life Tables

Beneficiaries – 1995 Buck Mortality Tables for Males and Females

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

FUTURE EXPENSES: An expense adjustment based on actual expenses for the previous year is reflected in the development of recommended employer contribution levels.

ACTUARIAL COST METHOD: Projected benefit cost method. The unfunded accrued liability is amortized in installments increasing by 5% per year.

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

PERCENT MARRIED: 85% of male members and 50% of female members are assumed to be married.

COST-OF-LIVING ADJUSTMENTS TO BENEFITS OF TERMINATED VESTED AND RETIRED PARTICIPANTS: Assumed to occur at the rate of 1.5% per annum for Group A members and 1.8% per annum for members of Groups B, C and D.



ASSET VALUATION METHOD (for funding purposes): A smoothing method is used, under which the value of assets for actuarial purposes equals market value less a five-year phase-in of the differences between actual and assumed investment return. The value of assets for actuarial purposes may not differ from the market value of assets by more than 20%.

INACTIVE MEMBERS: A liability of 200% of accumulated contributions with interest is maintained for inactive participants.

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

Withdrawal

Service	Male	Female
0	25.0%	30.0%
1	18.0%	22.0%
2	15.0%	18.0%
3	13.5%	15.0%
4	12.0%	12.0%
5	10.0%	10.0%
6	9.0%	9.0%
7	8.0%	8.0%
8	8.0%	6.0%
9	7.0%	6.0%
10	4.0%	5.0%

Disability		
Age	Male	Female
25	0.01%	0.01%
30	0.01%	0.01%
35	0.02%	0.02%
40	0.03%	0.03%
45	0.05%	0.05%
50	0.09%	0.09%
55	0.18%	0.18%
60	0.32%	0.32%



Retirement

Age	Group A		Group B		Group C		Group D	
	Male	Female	Male	Female	Male	Female	Male	Female
50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%	40.0%
51	0.0	0.0	0.0	0.0	0.0	0.0	35.0	35.0
52	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0
53	0.0	0.0	0.0	0.0	0.0	0.0	25.0	25.0
54	0.0	0.0	0.0	0.0	0.0	0.0	20.0	20.0
55	5.0	7.0	7.0	7.0	30.0	0.0	15.0	15.0
56	5.0	7.0	7.0	7.0	10.0	5.0	10.0	10.0
57	5.0	7.0	7.0	7.0	5.0	5.0	10.0	10.0
58	5.0	7.0	7.0	7.0	20.0	25.0	10.0	10.0
59	12.0	7.0	7.0	7.0	20.0	5.0	10.0	10.0
60	12.0	7.0	7.0	7.0	10.0	5.0	15.0	15.0
61	12.0	7.0	20.0	15.0	10.0	5.0	10.0	10.0
62	20.0	7.0	30.0	25.0	40.0	5.0	25.0	25.0
63	15.0	15.0	20.0	20.0	10.0	20.0	25.0	25.0
64	15.0	25.0	15.0	20.0	20.0	20.0	25.0	25.0
65	40.0	25.0	40.0	40.0	35.0	35.0	100.0	100.0
66	15.0	20.0	25.0	15.0	35.0	35.0	100.0	100.0
67	20.0	20.0	25.0	20.0	35.0	35.0	100.0	100.0
68	20.0	20.0	25.0	20.0	35.0	35.0	100.0	100.0
69	20.0	20.0	25.0	20.0	35.0	35.0	100.0	100.0
70	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Data for Valuation

In preparing the actuarial valuation as of July 1, 2014, 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 July 1, 2014:

Retired members or beneficiaries currently receiving benefits	2,359
Inactive members	1,817
Active members	6,664
Terminated vested members	692

Section III – Summary of System Provisions

Effective Date	July 1, 1975
Creditable Service	Service as a member plus purchased service.
Membership	Full time employees of participating municipalities. Municipality elects coverage under Groups A, B, C or D provisions.
Average Final Compensation (AFC)	Group A - average annual compensation during highest 5 consecutive years. Groups B and C - average annual compensation during highest 3 consecutive years. Group D - average annual compensation during highest 2 consecutive years.
Service Retirement Allowance	
Eligibility	Group A – The earlier of age 65 with 5 years of service or age 55 with 35 years of service. Group B – The earlier of age 62 with 5 years of service or age 55 with 30 years of service. Groups C and D - Age 55 with 5 years of service.
Amount	Group A - 1.4% of AFC times service. Group B - 1.7% of AFC times service as Group B member plus percentage earned as Group A member times AFC. Group C - 2.5% of AFC times service as a Group C member plus percentage earned as a Group A or B member times AFC. Group D - 2.5% of AFC times service as a Group D member plus percentage earned as a Group A, B or C member times AFC. Maximum benefit is 60% of AFC for Groups A and B and 50% of AFC for Groups C and D. The above amounts include the portion of the allowance provided by member contributions.

Early Retirement Allowance

Eligibility	Age 55 with 5 years of service for Groups A and B; age 50 with 20 years of service for Group D.
Amount	Normal allowance based on service and AFC at early retirement, reduced by 6% for each year commencement precedes Normal Retirement Age for Group A and B members, and payable without reduction to Group D members

Vested Retirement Allowance

Eligibility	5 years of service.
Amount	Allowance beginning at normal retirement age based on AFC and service at termination. The AFC is to be adjusted annually by one-half of the percentage change in the Consumer Price Index, subject to the limits on "Post-Retirement Adjustments" described below.

Disability Retirement Allowance

Eligibility	5 years of service and disability as determined by Retirement Board.
Amount	Immediate allowance based on AFC and service to date of disability; children's benefit of 10% of AFC payable to up to three minor children (or children up to age 23 if enrolled in full-time studies) of a disabled Group D member.

Death Benefit

Eligibility	Death after 5 years of service.
Amount	For Groups A, B and C, reduced early retirement allowance under 100% survivor option commencing immediately or, if greater, survivor's benefit under disability annuity computed as of date of death. For Group D, 70% of the unreduced accrued benefit plus children's benefit.

Optional Benefit and Death after Retirement

For Groups A, B and C, lifetime allowance or actuarially equivalent 50% or 100% joint and survivor allowance with refund of contribution guarantee. For Group D, lifetime allowance or 70% contingent annuitant option with no reduction.

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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	Allowances in payment for at least one year increased on each January 1 by one-half of the percentage increase in consumer price index but not more than 2% for Group A and 3% for Groups B, C and D.
Member Contributions	Group A – 2.5% effective July 1, 2000 (reduced from 3.0%). Group B – 4.75% effective July 1, 2014 (increased from 4.625%). Group C – 9.625% effective July 1, 2014 and 9.75% effective January 1, 2015 (increased from 9.5%). Group D – 11.25% effective July 1, 2014 (increased from 11.125%).
Retirement Stipend	\$25 per month payable at the option of the Board to retirees.