

Vermont Municipal Employees' Retirement System

Information Required Under
Governmental Accounting Standards Board
Statement No. 67 as of June 30, 2014

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October 14, 2014

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

GASB 67 Report as of June 30, 2014

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 effective for the fiscal year ending June 30, 2014.

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, 2014.

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 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

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, 2014

Net Pension Liability

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

Total pension liability	\$	543,652,090
System fiduciary net position		<u>(534,525,477)</u>
Net pension liability	\$	9,126,613
System fiduciary net position as a percentage of the total pension liability		98.32%

Actuarial Assumptions

The total pension liability as of June 30, 2014 was determined by rolling forward the total pension liability as of July 1, 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 31, 2011 Board meeting, and were effective for the July 1, 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 real 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 3.6.4 of Actuarial Standard of Practice No. 27 as an alternative to a single assumed rate of return, is employed.

Best estimates of arithmetic 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 8.23%. 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.

Because the funding policy of the System is based on the collection of contributions that are fixed as a rate of compensation of covered members from both members themselves and their employers, these projections incorporate the excess of contributions over normal cost (determined under the System's funding method) for future new members over the time period until the payment of the last expected benefit payment for current System members. The projection of future new entrants was based on an assumption of a constant active membership and the employment of new entrants whose characteristics matched those of new entrants observed in the past five years.

In the projection of future cash outflows of the System, it was assumed that administrative expenses payable from System assets would amount to approximately \$773,000 in fiscal 2014 and rise by about 3% per annum.

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 8.23%, as well as what the net

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pension liability would be if it were calculated using a discount rate that is one percentage point lower (7.23%) or one percentage point higher (9.23%) than the current rate:

	1% Decrease <u>(7.23%)</u>	Current Discount Rate <u>(8.23%)</u>	1% Increase <u>(9.23%)</u>
Net Pension Liability	\$ 76,886,343	\$ 9,126,613	\$ (47,721,737)



Schedules of Required Supplementary Information

Schedule of Changes in the Net Pension Liability and Related Ratios

FYE June 30, 2014

Total pension liability

Service cost	\$ 22,519,428
Interest	42,139,031
Changes of benefit terms	0
Differences between expected and actual experience	0
Changes of assumptions	0
Benefit payments	<u>(20,601,380)</u>
Net change in total pension liability	\$ 44,057,079
Total pension liability-beginning	\$ 499,595,011
Total pension liability-ending (a)	\$ 543,652,090

System fiduciary net pension

Contributions - employers	\$ 12,805,737
Contributions – members	13,233,728
Net investment income	64,346,116
Benefit payments, including refunds of member contributions	(20,601,380)
Administrative expenses	(588,022)
Other	<u>2,142,868</u>
Net change in System fiduciary net position	\$ 71,339,047
System fiduciary net position-beginning	\$ 463,186,430
System fiduciary net position-ending (b)	<u>\$ 534,525,477</u>
System's net pension liability-ending (a)-(b)	\$ 9,126,613

System fiduciary net position as a percentage of the total pension liability 98.32%

Covered payroll as of July 1, 2013 actuarial valuation	\$ 220,371,643
Net pension liability as a percentage of covered payroll	4.14%

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	\$ 12,805,737
Contributions related to the actuarially determined contribution	<u>12,805,737</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, 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	14.13%

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Table 1

Projection of Fiduciary Net Position
(000's omitted)

Fiscal Year	Interest	Beginning	Current	Current	Contributions	Benefit	Administrative	Projected	Ending
Ending	Rate	Fiduciary	Participant	Participant	less normal cost	Payments	Expenses	Investment	Fiduciary
June 30		Net Position	Member	Employer	for future			Earnings	Net Position
			Contributions	Contributions	new entrants				
2014	6.25%	463,186	11,097	11,455	0	37,298	773	28,472	476,139
2015	6.75%	476,139	10,354	10,953	1,969	22,909	796	32,125	507,835
2016	7.00%	507,835	9,750	10,324	3,568	25,466	820	35,457	540,648
2017	7.50%	540,648	9,208	9,739	5,040	28,107	845	40,366	576,049
2018	7.75%	576,049	8,701	9,200	6,477	30,981	870	44,360	612,935
2019	8.25%	612,935	8,244	8,705	7,894	34,147	896	50,155	652,890
2020	8.25%	652,890	7,808	8,232	9,322	37,631	923	53,330	693,028
2021	8.25%	693,028	7,372	7,765	10,781	41,043	951	56,525	733,477
2022	8.50%	733,477	6,981	7,338	12,240	44,702	980	61,549	775,904
2023	8.50%	775,904	6,578	6,905	13,750	48,422	1,009	65,028	818,733
2024	8.50%	818,733	6,205	6,499	15,276	52,079	1,039	68,546	862,141
2025	8.50%	862,141	5,838	6,101	16,850	55,822	1,070	72,112	906,150
2026	8.50%	906,150	5,455	5,689	18,497	59,677	1,102	75,726	950,738
2027	8.50%	950,738	5,066	5,280	20,199	63,501	1,135	79,393	996,041
2028	8.50%	996,041	4,705	4,894	21,936	67,021	1,169	83,137	1,042,523
2029	8.50%	1,042,523	4,363	4,529	23,722	70,409	1,204	86,991	1,090,515
2030	8.75%	1,090,515	4,049	4,196	25,548	73,807	1,240	93,653	1,142,914
2031	9.00%	1,142,914	3,733	3,857	27,443	76,921	1,277	100,962	1,200,710
2032	9.00%	1,200,710	3,442	3,550	29,388	79,766	1,315	106,096	1,262,105
2033	9.00%	1,262,105	3,159	3,248	31,403	82,627	1,354	111,557	1,327,491
2034	9.00%	1,327,491	2,873	2,954	33,497	85,092	1,395	117,398	1,397,725
2035	9.00%	1,397,725	2,604	2,676	35,670	87,084	1,437	123,701	1,473,855
2036	9.00%	1,473,855	2,359	2,422	37,910	88,737	1,480	130,554	1,556,883
2037	9.00%	1,556,883	2,127	2,187	40,229	90,362	1,524	138,035	1,647,575
2038	9.00%	1,647,575	1,899	1,957	42,642	91,462	1,570	146,233	1,747,274
2039	9.00%	1,747,274	1,703	1,758	45,129	92,214	1,617	155,263	1,857,296
2040	9.00%	1,857,296	1,528	1,580	47,708	92,815	1,666	165,234	1,978,865
2041	9.00%	1,978,865	1,356	1,406	50,399	92,981	1,716	176,269	2,113,598
2042	9.00%	2,113,598	1,206	1,255	53,192	92,885	1,767	188,507	2,263,105
2043	9.00%	2,263,105	1,069	1,116	56,105	92,612	1,820	202,088	2,429,052
2044	9.00%	2,429,052	938	984	59,144	92,088	1,875	217,166	2,613,321
2045	9.00%	2,613,321	817	862	62,313	91,195	1,931	233,916	2,818,103
2046	9.00%	2,818,103	707	750	65,628	89,830	1,989	252,540	3,045,909
2047	9.00%	3,045,909	609	648	69,086	88,479	2,049	273,243	3,298,967
2048	9.00%	3,298,967	513	551	72,709	86,769	2,110	296,242	3,580,103
2049	9.00%	3,580,103	431	465	76,492	84,844	2,173	321,785	3,892,259
2050	9.00%	3,892,259	358	388	80,449	82,807	2,238	350,134	4,238,543
2051	9.00%	4,238,543	289	314	84,596	80,529	2,305	381,573	4,622,481
2052	9.00%	4,622,481	228	249	88,936	78,066	2,374	416,418	5,047,872
2053	9.00%	5,047,872	173	192	93,485	75,376	2,445	455,014	5,518,916
2054	9.00%	5,518,916	131	147	98,235	72,462	2,518	497,739	6,040,187
2055	9.00%	6,040,187	97	108	103,212	69,478	2,594	544,997	6,616,529
2056	9.00%	6,616,529	67	77	108,430	66,324	2,672	597,230	7,253,338
2057	9.00%	7,253,338	46	54	113,893	63,047	2,752	654,922	7,956,454
2058	9.00%	7,956,454	31	37	119,618	59,712	2,835	718,597	8,732,190
2059	9.00%	8,732,190	19	24	125,621	56,369	2,920	788,820	9,587,384
2060	9.00%	9,587,384	11	14	131,921	53,049	3,008	866,206	10,529,479
2061	9.00%	10,529,479	5	6	138,530	49,749	3,098	951,426	11,566,600

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

Fiscal Year	Ending	Interest	Beginning	Current	Current	Contributions	Benefit	Administrative	Projected	Ending
June 30	Rate	Fiduciary	Participant	Participant	less normal cost	for future	Payments	Expenses	Investment	Fiduciary
		Net Position	Member	Employer	new entrants				Earnings	Net Position
			Contributions	Contributions						
2062	9.00%	11,566,600	3	3	145,463	46,484	3,191	1,045,212	12,707,606	
2063	9.00%	12,707,606	1	2	152,739	43,302	3,287	1,148,358	13,962,117	
2064	9.00%	13,962,117	0	1	160,380	40,206	3,386	1,261,733	15,340,639	
2065	9.00%	15,340,639	0	0	168,398	37,209	3,488	1,386,280	16,854,620	
2066	9.00%	16,854,620	0	0	176,820	34,314	3,593	1,523,032	18,516,565	
2067	9.00%	18,516,565	0	0	185,661	31,529	3,701	1,673,114	20,340,111	
2068	9.00%	20,340,111	0	0	194,943	28,860	3,812	1,837,755	22,340,137	
2069	9.00%	22,340,137	0	0	204,691	26,311	3,926	2,018,294	24,532,884	
2070	9.00%	24,532,884	0	0	0	23,885	4,044	2,206,730	26,711,685	
2071	9.00%	26,711,685	0	0	0	21,585	4,165	2,402,918	29,088,853	
2072	9.00%	29,088,853	0	0	0	19,413	4,290	2,616,953	31,682,103	
2073	9.00%	31,682,103	0	0	0	17,372	4,419	2,850,430	34,510,742	
2074	9.00%	34,510,742	0	0	0	15,463	4,552	3,105,086	37,595,812	
2075	9.00%	37,595,812	0	0	0	13,686	4,689	3,382,814	40,960,252	
2076	9.00%	40,960,252	0	0	0	12,041	4,830	3,685,680	44,629,060	
2077	9.00%	44,629,060	0	0	0	10,526	4,975	4,015,933	48,629,492	
2078	9.00%	48,629,492	0	0	0	9,140	5,124	4,376,026	52,991,254	
2079	9.00%	52,991,254	0	0	0	7,879	5,278	4,768,634	57,746,731	
2080	9.00%	57,746,731	0	0	0	6,741	5,436	5,196,670	62,931,224	
2081	9.00%	62,931,224	0	0	0	5,720	5,599	5,663,312	68,583,216	
2082	9.00%	68,583,216	0	0	0	4,811	5,767	6,172,024	74,744,662	
2083	9.00%	74,744,662	0	0	0	4,008	5,940	6,726,582	81,461,296	
2084	9.00%	81,461,296	0	0	0	3,306	6,118	7,331,102	88,782,973	
2085	9.00%	88,782,973	0	0	0	2,698	6,302	7,990,071	96,764,045	
2086	9.00%	96,764,045	0	0	0	2,176	6,491	8,708,382	105,463,760	
2087	9.00%	105,463,760	0	0	0	1,733	6,686	9,491,368	114,946,709	
2088	9.00%	114,946,709	0	0	0	1,362	6,887	10,344,841	125,283,300	
2089	9.00%	125,283,300	0	0	0	1,054	7,094	11,275,138	136,550,291	
2090	9.00%	136,550,291	0	0	0	804	7,307	12,289,169	148,831,349	
2091	9.00%	148,831,349	0	0	0	602	7,526	13,394,464	162,217,684	
2092	9.00%	162,217,684	0	0	0	443	7,752	14,599,231	176,808,720	
2093	9.00%	176,808,720	0	0	0	320	7,985	15,912,419	192,712,834	
2094	9.00%	192,712,834	0	0	0	226	8,225	17,343,783	210,048,166	
2095	9.00%	210,048,166	0	0	0	156	8,472	18,903,955	228,943,493	
2096	9.00%	228,943,493	0	0	0	104	8,726	20,604,526	249,539,189	
2097	9.00%	249,539,189	0	0	0	68	8,988	22,458,128	271,988,261	
2098	9.00%	271,988,261	0	0	0	43	9,258	24,478,534	296,457,494	
2099	9.00%	296,457,494	0	0	0	27	9,536	26,680,753	323,128,684	
2100	9.00%	323,128,684	0	0	0	16	9,822	29,081,148	352,199,995	
2101	9.00%	352,199,995	0	0	0	9	10,117	31,697,554	383,887,423	
2102	9.00%	383,887,423	0	0	0	5	10,421	34,549,409	418,426,406	
2103	9.00%	418,426,406	0	0	0	3	10,734	37,657,904	456,073,572	
2104	9.00%	456,073,572	0	0	0	1	11,056	41,046,135	497,108,650	
2105	9.00%	497,108,650	0	0	0	1	11,388	44,739,277	541,836,538	
2106	9.00%	541,836,538	0	0	0	0	11,730	48,764,772	590,589,580	
2107	9.00%	590,589,580	0	0	0	0	12,082	53,152,530	643,730,028	
2108	9.00%	643,730,028	0	0	0	0	12,444	57,935,155	701,652,739	
2109	9.00%	701,652,739	0	0	0	0	12,817	63,148,182	764,788,104	

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Table 2

Projection of Fiduciary Net Position
(000's omitted)

Fiscal Year	Ending Interest June 30 Rate	Beginning Fiduciary Net Position	Benefit Payments	Benefit Payments		Present Value of Benefit Payments		
				Funded	Unfunded	Funded Portion	Unfunded	Using Single
				Portion	Portion	at select and ultimate rates	Portion at 3.66%	Discount Rate of 8.23%
2014	6.25%	463,186	37,298	37,298	0	36,184	0	35,851
2015	6.75%	476,139	22,909	22,909	0	20,820	0	20,345
2016	7.00%	507,835	25,466	25,466	0	21,629	0	20,895
2017	7.50%	540,648	28,107	28,107	0	22,207	0	21,308
2018	7.75%	576,049	30,981	30,981	0	22,717	0	21,700
2019	8.25%	612,935	34,147	34,147	0	23,130	0	22,098
2020	8.25%	652,890	37,631	37,631	0	23,548	0	22,500
2021	8.25%	693,028	41,043	41,043	0	23,725	0	22,673
2022	8.50%	733,477	44,702	44,702	0	23,816	0	22,816
2023	8.50%	775,904	48,422	48,422	0	23,777	0	22,834
2024	8.50%	818,733	52,079	52,079	0	23,569	0	22,691
2025	8.50%	862,141	55,822	55,822	0	23,284	0	22,471
2026	8.50%	906,150	59,677	59,677	0	22,942	0	22,195
2027	8.50%	950,738	63,501	63,501	0	22,500	0	21,821
2028	8.50%	996,041	67,021	67,021	0	21,887	0	21,278
2029	8.50%	1,042,523	70,409	70,409	0	21,192	0	20,654
2030	8.75%	1,090,515	73,807	73,807	0	20,427	0	20,003
2031	9.00%	1,142,914	76,921	76,921	0	19,531	0	19,261
2032	9.00%	1,200,710	79,766	79,766	0	18,581	0	18,454
2033	9.00%	1,262,105	82,627	82,627	0	17,658	0	17,662
2034	9.00%	1,327,491	85,092	85,092	0	16,684	0	16,805
2035	9.00%	1,397,725	87,084	87,084	0	15,664	0	15,890
2036	9.00%	1,473,855	88,737	88,737	0	14,644	0	14,960
2037	9.00%	1,556,883	90,362	90,362	0	13,681	0	14,075
2038	9.00%	1,647,575	91,462	91,462	0	12,704	0	13,162
2039	9.00%	1,747,274	92,214	92,214	0	11,751	0	12,261
2040	9.00%	1,857,296	92,815	92,815	0	10,851	0	11,402
2041	9.00%	1,978,865	92,981	92,981	0	9,973	0	10,554
2042	9.00%	2,113,598	92,885	92,885	0	9,140	0	9,741
2043	9.00%	2,263,105	92,612	92,612	0	8,360	0	8,973
2044	9.00%	2,429,052	92,088	92,088	0	7,627	0	8,244
2045	9.00%	2,613,321	91,195	91,195	0	6,929	0	7,543
2046	9.00%	2,818,103	89,830	89,830	0	6,262	0	6,864
2047	9.00%	3,045,909	88,479	88,479	0	5,658	0	6,247
2048	9.00%	3,298,967	86,769	86,769	0	5,091	0	5,660
2049	9.00%	3,580,103	84,844	84,844	0	4,567	0	5,113
2050	9.00%	3,892,259	82,807	82,807	0	4,089	0	4,611
2051	9.00%	4,238,543	80,529	80,529	0	3,648	0	4,143
2052	9.00%	4,622,481	78,066	78,066	0	3,245	0	3,711
2053	9.00%	5,047,872	75,376	75,376	0	2,874	0	3,310
2054	9.00%	5,518,916	72,462	72,462	0	2,535	0	2,940
2055	9.00%	6,040,187	69,478	69,478	0	2,230	0	2,605
2056	9.00%	6,616,529	66,324	66,324	0	1,953	0	2,297
2057	9.00%	7,253,338	63,047	63,047	0	1,703	0	2,018
2058	9.00%	7,956,454	59,712	59,712	0	1,480	0	1,766
2059	9.00%	8,732,190	56,369	56,369	0	1,282	0	1,540
2060	9.00%	9,587,384	53,049	53,049	0	1,107	0	1,339
2061	9.00%	10,529,479	49,749	49,749	0	952	0	1,160

**Vermont Municipal Employees' Retirement System
GASB 67 Valuation - June 30, 2014**



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 8.23%
2062	9.00%	11,566,600	46,484	46,484	0	816	0	1,002
2063	9.00%	12,707,606	43,302	43,302	0	697	0	862
2064	9.00%	13,962,117	40,206	40,206	0	594	0	739
2065	9.00%	15,340,639	37,209	37,209	0	504	0	632
2066	9.00%	16,854,620	34,314	34,314	0	427	0	539
2067	9.00%	18,516,565	31,529	31,529	0	360	0	457
2068	9.00%	20,340,111	28,860	28,860	0	302	0	387
2069	9.00%	22,340,137	26,311	26,311	0	253	0	326
2070	9.00%	24,532,884	23,885	23,885	0	210	0	273
2071	9.00%	26,711,685	21,585	21,585	0	174	0	228
2072	9.00%	29,088,853	19,413	19,413	0	144	0	190
2073	9.00%	31,682,103	17,372	17,372	0	118	0	157
2074	9.00%	34,510,742	15,463	15,463	0	97	0	129
2075	9.00%	37,595,812	13,686	13,686	0	78	0	105
2076	9.00%	40,960,252	12,041	12,041	0	63	0	86
2077	9.00%	44,629,060	10,526	10,526	0	51	0	69
2078	9.00%	48,629,492	9,140	9,140	0	40	0	56
2079	9.00%	52,991,254	7,879	7,879	0	32	0	44
2080	9.00%	57,746,731	6,741	6,741	0	25	0	35
2081	9.00%	62,931,224	5,720	5,720	0	20	0	27
2082	9.00%	68,583,216	4,811	4,811	0	15	0	21
2083	9.00%	74,744,662	4,008	4,008	0	12	0	16
2084	9.00%	81,461,296	3,306	3,306	0	9	0	12
2085	9.00%	88,782,973	2,698	2,698	0	7	0	9
2086	9.00%	96,764,045	2,176	2,176	0	5	0	7
2087	9.00%	105,463,760	1,733	1,733	0	4	0	5
2088	9.00%	114,946,709	1,362	1,362	0	3	0	4
2089	9.00%	125,283,300	1,054	1,054	0	2	0	3
2090	9.00%	136,550,291	804	804	0	1	0	2
2091	9.00%	148,831,349	602	602	0	1	0	1
2092	9.00%	162,217,684	443	443	0	1	0	1
2093	9.00%	176,808,720	320	320	0	0	0	1
2094	9.00%	192,712,834	226	226	0	0	0	0
2095	9.00%	210,048,166	156	156	0	0	0	0
2096	9.00%	228,943,493	104	104	0	0	0	0
2097	9.00%	249,539,189	68	68	0	0	0	0
2098	9.00%	271,988,261	43	43	0	0	0	0
2099	9.00%	296,457,494	27	27	0	0	0	0
2100	9.00%	323,128,684	16	16	0	0	0	0
2101	9.00%	352,199,995	9	9	0	0	0	0
2102	9.00%	383,887,423	5	5	0	0	0	0
2103	9.00%	418,426,406	3	3	0	0	0	0
2104	9.00%	456,073,572	1	1	0	0	0	0
2105	9.00%	497,108,650	1	1	0	0	0	0
2106	9.00%	541,836,538	0	0	0	0	0	0
2107	9.00%	590,589,580	0	0	0	0	0	0
2108	9.00%	643,730,028	0	0	0	0	0	0
2109	9.00%	701,652,739	0	0	0	0	0	0

Section II – Actuarial Assumptions and Methods

NOTE: These assumptions are used in the determination of VMERS' funding requirements. Except as noted in Section I, they are also used for determining liabilities under GASB 67.

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%	

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

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

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.

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%).
Employer Contributions	Group A – 4.0% Group B – 5.375% (changed from 5.125%) effective July 1, 2014. Group C – 6.875% from July 1, 2014, to December 31, 2014 (changed from 6.625%) and then 7.0% effective January 1, 2015. Group D – 9.75% % effective July 1, 2014 (increased from 9.625%).
Retirement Stipend	\$25 per month payable at the option of the Board to retirees.