

Vermont Municipal Employees' Retirement System

Information Required Under
Governmental Accounting Standards Board
Statement No. 67 as of June 30, 2016

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November 25, 2016

Board of Trustees
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GASB 67 Report as of June 30, 2016

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, 2016.

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, 2016.

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, 2015, 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, 2016

Net Pension Liability

The components of the net pension liability as of June 30, 2016, are as follows:

Total pension liability	\$	675,711,281
System fiduciary net position		<u>(547,015,114)</u>
Net pension liability	\$	128,696,167
System fiduciary net position as a percentage of the total pension liability		80.95%

Actuarial Assumptions

The total pension liability as of June 30, 2016, was determined by rolling forward the total pension liability as of June 30, 2015, to June 30, 2016, 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, 2014. The recommended assumption changes based on this experience study were adopted by the Board at its October 29, 2015, Board meeting, and were effective for the June 30, 2015, 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. Best estimates of arithmetic real rates of return for each major asset class included in the target asset allocation as of June 30, 2016 are summarized in the following table:

<u>Asset Class</u>	<u>Long-Term Expected Real Rate of Return</u>
Equity	8.54%
Fixed Income	2.36%
Alternatives	8.35%
Multi-strategy	4.90%

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. In determining the discount rate, to the extent assets had been projected to be insufficient to provide for payment of all benefits when due, unfunded benefits would have been discounted using the S&P Municipal Bond 20 Year High Grade Rate Index, the yield to maturity of which was 2.71% on June 30, 2016. Demonstration of the appropriateness of the use of 7.95% as the discount rate in these calculations has been provided to the Office of the State Treasurer under separate cover.

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:

	1% Decrease (6.95%)	Current Discount Rate (7.95%)	1% Increase (8.95%)
Net Pension Liability	\$ 213,648,481	\$ 128,696,167	\$ 57,566,063



Schedules of Required Supplementary Information

Schedule of Changes in the Net Pension Liability and Related Ratios

FYE June 30, 2016

Total pension liability

Service cost	\$ 25,264,340
Interest	49,744,271
Changes of benefit terms	0
Differences between expected and actual experience	1,088,020
Changes of assumptions	12,203,982
Benefit payments	<u>(25,588,884)</u>
Net change in total pension liability	\$ 62,711,729
Total pension liability-beginning	\$ 612,999,552
Total pension liability-ending (a)	\$ 675,711,281

System fiduciary net pension

Contributions - employers	\$ 15,235,742
Contributions – members	15,226,948
Net investment income	6,776,933
Benefit payments, including refunds of member contributions	(25,588,884)
Administrative expenses	(755,013)
Other	<u>215,646</u>
Net change in System fiduciary net position	\$ 11,111,372
System fiduciary net position-beginning	\$ 535,903,742
System fiduciary net position-ending (b)	<u>\$ 547,015,114</u>
System's net pension liability-ending (a)-(b)	\$ 128,696,167

System fiduciary net position as a percentage of the total pension liability 80.95%

Covered payroll as of July 1, 2015 \$ 249,810,907
 Net pension liability as a percentage of covered payroll 51.52%

Notes to Schedule:

Benefit changes since June 30, 2015: None

Changes of assumptions since June 30, 2015: The actuarial assumptions regarding the incidence of mortality, terminations, retirements, and disabilities were changed in accordance the findings of an experience study covering the five-year period ending June 30, 2014.



Schedule of Employer Contributions

	<u>FYE 2015</u>	<u>FYE 2016</u>
Actuarially determined contribution	\$14,136,067	\$15,235,742
Contributions related to the actuarially determined contribution	<u>14,136,067</u>	<u>15,235,742</u>
Contribution deficiency (excess)	0	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, 2015 actuarial valuation are shown in Section II.

Schedule of Investment Returns

	<u>FYE 2014</u>	<u>FYE 2015</u>	<u>FYE 2015</u>
Annual money-weighted rate of return, net of investment expenses	14.13%	(0.51%)	1.56%

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

7.95% per annum.

Salary Increases

5% per year.

Deaths

Groups A, B, and C

RP-2000 Tables for Employees and Healthy Annuitants projected 10 years from the valuation date with Scale BB with a 60% Blue collar and 40% White collar adjustment.

Group D

RP-2000 Tables for Employees and Healthy Annuitants projected 10 years from the valuation date with Scale BB with a 100% Blue Collar adjustment.

The post-retirement mortality assumption was chosen to recognize improved longevity experience after the valuation date.

Future Expenses

A provision for expenses 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

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% per year.

Withdrawal

Service	Male	Female
0	22.5%	30.0%
1	16.2%	22.0%
2	13.5%	18.0%
3	12.15%	15.0%
4	10.8%	12.0%
5	9.0%	10.0%
6	8.1%	9.0%
7	7.2%	8.0%
8	7.2%	6.0%
9	6.3%	6.0%
10	3.6%	5.0%

Disability

Group A

Age	Males			Females		
	0-4 years of service	5-34 years of service	35+ years of service	0-4 years of service	5-34 years of service	35+ years of service
25	0.010%	0.010%	0.010%	0.0050%	0.0050%	0.0050%
30	0.013%	0.013%	0.013%	0.0065%	0.0065%	0.0065%
35	0.017%	0.017%	0.017%	0.0085%	0.0085%	0.0085%
40	0.030%	0.030%	0.030%	0.0150%	0.0150%	0.0150%
45	0.050%	0.050%	0.050%	0.0250%	0.0250%	0.0250%
50	0.090%	0.090%	0.090%	0.0450%	0.0450%	0.0450%
55	0.180%	0.180%	0.000%	0.0900%	0.0900%	0.0000%
60	0.315%	0.315%	0.000%	0.1575%	0.1575%	0.0000%
65	0.315%	0.000%	0.000%	0.1575%	0.0000%	0.0000%



Groups B, C, and D

Age	Males		Females	
	0-4 years of service	5+ years of service	0-4 years of service	5+ years of service
25	0.010%	0.010%	0.0050%	0.0050%
30	0.013%	0.013%	0.0065%	0.0065%
35	0.017%	0.017%	0.0085%	0.0085%
40	0.030%	0.030%	0.0150%	0.0150%
45	0.050%	0.050%	0.0250%	0.0250%
50	0.090%	0.090%	0.0450%	0.0450%
55	0.180%	0.000%	0.0900%	0.0000%
60	0.315%	0.000%	0.1575%	0.0000%
65	0.315%	0.000%	0.1575%	0.0000%

Retirement

Age	Group A		Group B		Group C		Group D	
	Males	Females	Males	Females	Males	Females	0-20 years of service	20+ years of service
50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%
51	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.0
52	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0
53	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0
54	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0
55	3.0	4.9	4.9	4.9	30.0	0.0	15.0	15.0
56	7.5	7.7	4.9	4.9	10.0	5.0	10.0	10.0
57	5.0	7.0	4.9	8.4	5.0	5.0	10.0	10.0
58	5.0	4.9	4.9	8.4	20.0	25.0	10.0	10.0
59	7.2	7.0	4.9	4.9	20.0	5.0	10.0	10.0
60	7.2	4.9	4.9	8.4	10.0	5.0	15.0	15.0
61	12.0	10.5	14.0	10.5	10.0	5.0	10.0	10.0
62	28.0	10.5	36.0	17.5	40.0	5.0	25.0	25.0
63	21.0	22.5	24.0	14.0	10.0	20.0	25.0	25.0
64	21.0	25.0	18.0	14.0	20.0	20.0	25.0	25.0
65	56.0	25.0	48.0	28.0	35.0	35.0	100.0	100.0
66	15.0	20.0	30.0	18.0	35.0	35.0	100.0	100.0
67	20.0	30.0	30.0	14.0	35.0	35.0	100.0	100.0
68	20.0	20.0	30.0	14.0	35.0	35.0	100.0	100.0
69	20.0	20.0	30.0	14.0	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

Vermont Municipal Employees' Retirement System
GASB 67 Valuation - June 30, 2016



Rates shown are for participants with 5 or more years of service (unless otherwise indicated). For participants with less than five years of service, 0% is assumed.

Data for Valuation

In preparing the actuarial valuation as of July 1, 2015, 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, 2015

Retired members or beneficiaries currently receiving benefits	2,539
Inactive members	1,958
Active members	6,685
Terminated vested members	837

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.

Vermont Municipal Employees' Retirement System
GASB 67 Valuation - June 30, 2016



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 – 4.875% effective July 1, 2016. Group C – 10.00% effective January 1, 2016 Group D – 11.35% effective July 1, 2016
Retirement Stipend	\$25 per month payable at the option of the Board to retirees.