

Vermont State Employees' Retirement System

**Actuarially Determined Contribution for the Fiscal
Year Ending June 30, 2020**



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November 12, 2018

Office of the Vermont State Treasurer
109 State Street
Montpelier, Vermont 05609

Dear Board Members:

We are pleased to submit this Actuarial Funding Valuation as of June 30, 2017, which includes the projected Unfunded Actuarial Accrued Liability as of June 30, 2019 and the Actuarially Determined Contribution for the fiscal year ending June 30, 2020. This report was based on the census data and financial information provided and/or affirmed by the Vermont State Employees' Retirement System, and the terms of the Plan. In addition, it is also based on the current funding and asset allocation, and assumes contributions would be fully funded and invested similar to the pension plan. The actuarial calculations were completed under the supervision of Yori Rubinson, FSA MAAA, Vice President and Retiree Health Actuary.

If you have any questions, please feel free to call me. We look forward to discussing this material with you at your convenience.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

By: *Daniel A. Levin*
Daniel A. Levin, FSA MAAA FCA CEBS
Senior Vice President

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**SECTION 1: Executive Summary for the Vermont State Employees' Retirement System
Actuarially Determined Contribution for the Fiscal Year Ending June 30, 2020**

Important Information about Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the defining future uncertain obligations of a postretirement health plan. As such, it will never forecast the precise future stream of benefit payments. It is an estimated forecast – the actual cost of the plan will be determined by the benefits and expenses paid, not by the actuarial valuation.

In order to prepare a valuation, Segal Consulting (“Segal”) relies on a number of input items. These include:

- **Plan of benefits** Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. For example, a plan may require the award of a Social Security disability pension as a condition for receiving a disability pension from the plan and subsequent health benefits. If so, changes in the Social Security law or administration may change the plan’s costs without any change in the terms of the plan itself. It is important for the Vermont State Employees’ Retirement System to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
- **Participant data** An actuarial valuation for a plan is based on data provided to the actuary by the plan. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. For most plans, it is not possible or desirable to take a snapshot of the actual work force on the valuation date. In any event, the actuarial valuation is based on a future work force that is presumed to be the same as the active population included in the valuation, but in fact, employment varies from year to year, sometimes quite considerably. It is not necessary to have perfect data for an actuarial valuation: the valuation is an estimated forecast, not a prediction. The uncertainties in other factors are such that even perfect data does not produce a “perfect” result. Notwithstanding the above, it is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
- **Assets** Part of the cost of a plan will be paid from existing assets – the balance will need to come from future contributions and investment income. The valuation is based on the asset values as of the valuation date, typically reported by the auditor. Some plans include assets, such as private equity holdings, real estate, or hedge funds, that are not subject to valuation by reference to transactions in the marketplace. A snapshot as of a single date may not be an appropriate value for determining a single year’s contribution requirement, especially in volatile markets. Plan sponsors often use an “actuarial value of assets” that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
- **Actuarial assumptions** In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year, as well as forecasts of the plan’s benefits for each of those events. The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved on the plan’s assets or, if there are no assets, a rate of return on high quality fixed income investments. All of these factors are uncertain and unknowable. Thus, there will be a range of reasonable assumptions, and the results may vary materially based on which assumptions the actuary selects within that range. That is, there is no right answer (except with hindsight). It is important for any user of an actuarial valuation to understand and accept this constraint. The actuarial model may use approximations and estimates that will have an immaterial impact on our results and will have no impact on the actual cost of the plan. In addition, the actuarial assumptions may change over time, and while this can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.

**SECTION 1: Executive Summary for the Vermont State Employees' Retirement System
Actuarially Determined Contribution for the Fiscal Year Ending June 30, 2020**

Given the above, the user of Segal's actuarial valuation (or other actuarial calculations) needs to keep the following in mind:

- The actuarial valuation is prepared for use by the Vermont State Employees' Retirement System. It includes information and calculations needed to determine the Actuarially Determined Contribution (ADC) and Actuarial Accrued Liability (AAL). Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial snapshot is a measurement at a specific date – it is not a prediction of a plan's future financial condition.
- Critical events for a plan include, but are not limited to, decisions about changes in benefits and contributions. The basis for such decisions needs to consider many factors such as the risk of changes in employment levels, variation in claims and investment losses, not just the current valuation results.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Vermont State Employees' Retirement System should look to their other advisors for expertise in these areas.
- While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.
- Segal's report shall be deemed to be final and accepted by the Vermont State Employees' Retirement System upon delivery and review. The Vermont State Employees' Retirement System should notify Segal immediately of any questions or concerns about the final content.

As Segal Consulting has no discretionary authority with respect to the management or assets of the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Plan.

**SECTION 1: Executive Summary for the Vermont State Employees' Retirement System
Actuarially Determined Contribution for the Fiscal Year Ending June 30, 2020**

Purpose

This report presents the results of our actuarial funding valuation of the Vermont State Employees' Retirement System as of June 30, 2017. Methods used to determine the Actuarially Determined Contribution (ADC) were defined by the Vermont State Employees' Retirement System.

Highlights of the Valuation

- The ADC for the fiscal year ending June 30, 2020 is \$87,804,585 assuming a 3.87% rate of return and \$60,687,584 assuming a 7.50% rate of return.
- The Normal Cost and Unfunded Actuarial Accrued Liability were determined using the Projected Unit Credit actuarial cost method.
- Assets were projected forward assuming the System contributes the amount of expected benefit payments for the fiscal year ending June 30, 2019.
- The Unfunded Actuarial Accrued Liability was amortized using a closed 29 year amortization period calculated as a level percent of projected payroll, with an assumed annual payroll growth rate of 3.50%.

**SECTION 1: Executive Summary for the Vermont State Employees' Retirement System
Actuarially Determined Contribution for the Fiscal Year Ending June 30, 2020**

SUMMARY OF VALUATION RESULTS

Rate of Return	3.58%	7.50%
Unfunded Actuarial Accrued Liability as of June 30, 2018		
Actuarial Accrued Liability	\$1,633,194,151	\$904,920,202
Health Care Fund Assets ¹	<u>23,307,439</u>	<u>24,189,513</u>
Unfunded Actuarial Accrued Liability	\$1,609,886,712	\$880,730,689
Funded Ratio	1.43%	2.67%
Actuarially Determined Contribution (ADC) for Year Ending June 30, 2019		
Normal Cost	\$45,921,632	\$16,319,997
Amortization of the unfunded actuarial accrued liability	<u>54,266,264</u>	<u>48,235,394</u>
Total Actuarially Determined Contribution (beginning of year)	\$100,187,896	\$64,555,391
Projected payroll	\$532,613,700	\$532,613,700
ADC as a percentage of pay	18.81%	12.12%
Rate of Return		
	3.87%	7.50%
Unfunded Actuarial Accrued Liability as of June 30, 2019		
Actuarial Accrued Liability	\$1,350,553,363	\$813,199,509
Health Care Fund Assets ²	<u>22,613,449</u>	<u>23,403,734</u>
Unfunded Actuarial Accrued Liability	\$1,327,939,914	\$789,795,775
Funded Ratio	1.67%	2.88%
Actuarially Determined Contribution (ADC) for Year Ending June 30, 2020		
Normal Cost	\$39,689,215	\$16,628,979
Amortization of the unfunded actuarial accrued liability	<u>48,115,370</u>	<u>44,058,605</u>
Total Actuarially Determined Contribution (beginning of year)	\$87,804,585	\$60,687,584
Projected payroll	\$587,738,415	\$587,738,415
ADC as a percentage of pay	14.94%	10.33%

¹June 30, 2017 market value projected to June 30, 2018

²June 30, 2018 market value projected to June 30, 2019

**SECTION 1: Executive Summary for the Vermont State Employees' Retirement System
Actuarially Determined Contribution for the Fiscal Year Ending June 30, 2020**

November 12, 2018

Actuarial Certification

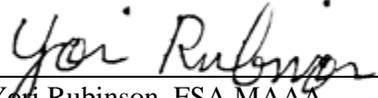
This is to certify that Segal Consulting, a Member of The Segal Group, Inc. has conducted an actuarial valuation of certain benefit obligations of the Vermont State Employees' Retirement System other postemployment benefit programs as of June 30, 2018, in accordance with generally accepted actuarial principles and practices.

The actuarial valuation is completed on an annual basis and is based on the plan of benefits and participant, premium, claims and expense data provided by the System or from vendors employed by the System. Segal Consulting does not audit the data provided. The accuracy and comprehensiveness of the data is the responsibility of those supplying the data. Segal, however, does review the data for reasonableness and consistency.

The actuarial computations made are for purposes of determining the Actuarially Defined Contribution (ADC) and projected Actuarial Accrued Liability (AAL). Determinations for purposes other than this may be significantly different from the results reported here. Accordingly, additional determinations may be needed for other purposes, such as meeting financial accounting requirements, judging benefit security at termination of the plan, or determining short-term cash flow requirements.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: retiree group benefits program experience or rates of return on assets differing from that anticipated by the assumptions; changes in assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in retiree group benefits program provisions or applicable law. Retiree group benefits models necessarily rely on the use of approximations and estimates, and are sensitive to changes in these approximations and estimates. Small variations in these approximations and estimates may lead to significant changes in actuarial measurements. The scope of the assignment did not include performing an analysis of the potential change of such future measurements except where noted.

To the best of our knowledge, this report is complete and accurate and in our opinion presents the information necessary to determine the ADC and AAL with respect to the benefit obligations addressed. The signing actuary is a member of the Society of Actuaries, the American Academy of Actuaries, and other professional actuarial organizations and meets their "General Qualification Standards for Statements of Actuarial Opinions" to render the actuarial opinion contained herein.



Yori Rubinson, FSA MAAA
Vice President and Retiree Health Actuary

**SECTION 2: Valuation Results for the Vermont State Employees' Retirement System
Actuarially Determined Contribution for the Fiscal Year Ending June 30, 2020**

EXHIBIT 1: Unfunded Actuarial Accrued Liability

The actuarial accrued liability is the portion of the actuarial value of total projected benefits allocated to periods prior to the valuation date by the actuarial cost method. The chart below shows the portion covered by retiree contributions and the portion covered by accumulated plan assets.

Actuarial Accrued Liability (AAL) and Unfunded AAL (UAAL)	June 30, 2018		June 30, 2019	
	3.58%	7.50%	3.87%	7.50%
Participant Category				
Current retirees, beneficiaries, and dependents	\$707,178,861	\$474,236,101	\$565,489,224	\$400,801,689
Current active members	<u>926,015,290</u>	<u>430,684,101</u>	<u>785,064,139</u>	<u>412,397,820</u>
Total actuarially accrued liability	\$1,633,194,151	\$904,920,202	\$1,350,553,363	\$813,199,509
Effect of Retiree Contributions				
Actuarial accrued liability before reduction for retiree contributions	\$2,041,839,858	\$1,138,669,699	\$1,733,025,786	\$1,043,967,873
Less projected retiree contributions	<u>408,645,707</u>	<u>233,749,497</u>	<u>382,472,423</u>	<u>230,768,364</u>
Net employer actuarial accrued liability	\$1,633,194,151	\$904,920,202	\$1,350,553,363	\$813,199,509
Assets	<u>23,307,439¹</u>	<u>24,189,513¹</u>	<u>22,613,449²</u>	<u>23,403,734²</u>
Unfunded actuarial accrued liability	\$1,609,886,712	\$880,730,689	\$1,327,939,914	\$789,795,775
Funded Ratio	1.43%	2.67%	1.67%	2.88%

¹June 30, 2017 market value projected to June 30, 2018

²June 30, 2018 market value projected to June 30, 2019

**SECTION 2: Valuation Results for the Vermont State Employees' Retirement System
Actuarially Determined Contribution for the Fiscal Year Ending June 30, 2020**

EXHIBIT 2: Actuarially Determined Contribution

The Actuarially Determined Contribution (ADC) is the recommended contribution for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent valuation available when the contribution for the reporting period was adopted. The ADC for the fiscal year ending June 30, 2020 is based on both the valuation as of June 30, 2017 and the assets as of June 30, 2018 each projected to June 30, 2019 using standard actuarial techniques.

The Vermont State Employees' Retirement System has elected to define the ADC as adding the Normal Cost of the plan to an amortization payment, both with adjustments to the start of the accounting period.

The Normal Cost and Actuarial Accrued Liability are determined using a rate of return of 3.58% and 7.50% for the fiscal year ending June 30, 2019 and a rate of return of 3.87% and 7.50% for the fiscal year ending June 30, 2020. The Unfunded Actuarial Accrued Liability is amortized using a closed 30 year amortization period beginning July 1, 2018 calculated as a level percent of payroll, with an annual payroll growth rate of 3.50%.

<u>Year Ending June 30, 2019</u>				
Rate of Return	3.58%	% of Payroll	7.50%	% of Payroll
Normal Cost	\$45,921,632	8.62%	\$16,319,997	3.06%
Amortization of Unfunded Liability	<u>54,266,264</u>	<u>10.19%</u>	<u>48,235,394</u>	<u>9.06%</u>
Total Actuarially Determined Contribution (beginning of year)	\$100,187,896	18.81%	\$64,555,391	12.12%
Projected Payroll	\$532,613,700		\$532,613,700	

<u>Year Ending June 30, 2020</u>				
Rate of Return	3.87%	% of Payroll	7.50%	% of Payroll
Normal Cost	\$39,689,215	6.75%	\$16,628,979	2.83%
Amortization of Unfunded Liability	<u>48,115,370</u>	<u>8.19%</u>	<u>44,058,605</u>	<u>7.50%</u>
Total Actuarially Determined Contribution (beginning of year)	\$87,804,585	14.94%	\$60,687,584	10.33%
Projected Payroll	\$587,738,415		\$587,738,415	

**SECTION 3: Census Data for the Vermont State Employees' Retirement System
Actuarially Determined Contribution for the Fiscal Year Ending June 30, 2020**

EXHIBIT A

Summary of Participant Data

June 30, 2017

June 30, 2016

Retirees Enrolled in Health Care:

Number of retirees	4,680	4,590
Average age of retirees	70.4	70.1
Number of spouses and dependents (excluding children)	2,312	2,256
Average age of spouses	66.4	67.1

Surviving Spouses Enrolled in Health Care:

Number	198	205
Average age	75.3	75.3

Active Participants:

Number	8,941	8,813
Average age	46.2	46.3
Average years of service	11.2	11.4
Average expected retirement age	63.0	63.0

The ADC for the fiscal year ending June 30, 2020 was based on census data as of June 30, 2017.

The ADC for the fiscal year ending June 30, 2019 was based on census data as of June 30, 2016.

**SECTION 4: Supporting Information for the Vermont State Employees' Retirement System
Actuarially Determined Contribution for the Fiscal Year Ending June 30, 2020**

EXHIBIT I

Actuarial Assumptions and Methods

Data:	Detailed census data, claim experience, and summary plan descriptions for postretirement welfare benefits were provided and/or affirmed by the Vermont State Employees' Retirement System.
Actuarial Cost Method:	Projected Unit Credit
Asset Valuation Method:	Market Value of \$21,770,915 as of June 30, 2018 projected to June 30, 2019 assuming the System contributes the amount of expected benefit payments for the fiscal year ending June 30, 2019
Amortization Method:	Level Percentage of Payroll, Closed
Remaining Amortization Period:	29 years remaining as of July 1, 2019
Payroll Increase Rate:	3.50%
Measurement Dates:	June 30, 2019
Actuarial Valuation Date:	June 30, 2017
Rate of Return:	7.50% based on the assumed long-term rate of return for the Vermont State Employees' Retirement System assets and 3.87% based on the index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher as of June 30, 2018
Demographic Assumptions:	<p>Some of the demographic assumptions used in this valuation (including mortality, disability, turnover, and retirement), in addition to the assumed salary scale are the same as used in the Vermont State Employees' Retirement System Actuarial Valuation and Review as of June 30, 2018 completed by Segal Consulting. These assumptions were reviewed as part of the pension valuation process, and we have no reason to doubt their reasonableness for use in this valuation.</p> <p>The remaining demographic assumptions, such as enrollment elections, percent married, and relative ages of spouses were based on the experience of the Plan and the experience of similar plans.</p>

**SECTION 4: Supporting Information for the Vermont State Employees' Retirement System
Actuarially Determined Contribution for the Fiscal Year Ending June 30, 2020**

Salary Increase Rate:

<u>Age</u>	<u>Annual Rate of Salary Increase (%)</u>
25	6.21%
30	5.66%
35	5.26%
40	4.92%
45	4.36%
50	3.70%
55	3.50%
60	3.50%

Mortality Rates:

Death in Active Service:

- Groups A/F/F*/DC 101% of RP-2006 blended 30% Blue Collar Employee, 70% Healthy Employee with generational projection using Scale SSA-2017.
- Group C RP-2006 Blue Collar Employee with generational projection using Scale SSA-2017.
- Group D RP-2006 Healthy Employee with generational projection using Scale SSA-2017.

Healthy Post-retirement:

- Groups A/F/F*/DC 101% of RP-2006 blended 30% Blue Collar Annuitant, 70% Healthy Annuitant with generational projection using Scale SSA-2017.
- Group C RP-2006 Blue Collar Annuitant with generational projection using Scale SSA-2017.
- Group D RP-2006 Healthy Annuitant with generational projection using Scale SSA-2017.

Disabled Post-retirement:

- All Groups RP-2006 Disabled Mortality Table with generational projection using Scale SSA-2017.

The tables with the generational projection to the ages of participants as of the measurement date reasonably reflect the mortality experience of the Plan as of the measurement date. The mortality tables were then adjusted to future years using a generational projection with Scale SSA-2017 to reflect future mortality improvement.

**SECTION 4: Supporting Information for the Vermont State Employees' Retirement System
Actuarially Determined Contribution for the Fiscal Year Ending June 30, 2020**

Separation from Service before Retirement (Due to Withdrawal and Disability):

Representative values of the assumed annual rates of withdrawal and disability are as follows:

Age	Rate (%)				
	Withdrawal*		Disability**		
	Groups A/D/F/F*/DC	Group C	Groups A/D/F/F*/DC	Group C	
25	4.91%	4.32%	8.64%	0.02%	0.08%
30	3.93	4.32	8.64	0.02	0.10
35	3.28	4.32	8.64	0.03	0.13
40	3.04	N/A	N/A	0.04	0.20
45	2.69	N/A	N/A	0.06	0.32
50	2.25	N/A	N/A	0.11	0.55
55	1.83	N/A	N/A	0.18	0.91
60	3.90	N/A	N/A	0.28	1.46

*Withdrawal rates are increased during the first 10 years of service.

**All DC disabilities are assumed to be “non-duty”.

**SECTION 4: Supporting Information for the Vermont State Employees' Retirement System
Actuarially Determined Contribution for the Fiscal Year Ending June 30, 2020**

Retirement Rates:

Once eligible for a retirement benefit under the pension plan (Group A: age 65 with 5 years of service, age 62 with 20 years of service, or any age with 30 years of service; Group C: age 55 or age 50 with 20 years of service; Group D: age 55 with 5 years of service or any age with 30 years of service; Group F: age 62, age 55 with 5 years of service, or any age with 30 years of service; Group F* and DC: age 65, 87 points, or age 55 with 5 years of service), the following rates apply:

Retirement Group F/F*/DC					
<u>Age</u>	<u>Male</u>	<u>Female</u>	<u>Age</u>	<u>Male</u>	<u>Female</u>
50	16.0%	6.0%	60	5.6%	5.6%
51	16.0	8.0	61	11.2	11.2
52	8.0	9.0	62	22.4	22.4
53	8.0	9.0	63	17.5	14.0
54	8.0	10.0	64	17.5	14.0
55	4.0	5.0	65	25.0	20.0
56	3.4	4.2	66	15.0	15.0
57	4.5	5.6	67	17.5	17.5
58	5.0	6.3	68	17.5	17.5
59	5.6	5.6	69	20.0	20.0
			70	100.0	100.0

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

Missing Participant Data:

A missing census item for a given participant was assumed to equal the average value of that item over all other participants of the same status for whom the item is known.

Participation and Coverage Election:

80% of active employees eligible to retire and receive subsidized postretirement welfare coverage were assumed to participate in the plan. 70% of terminated vested participants are assumed to elect coverage upon receiving pension benefits. Deferred pension benefits are assumed to commence at age 50 for Group C and age 55 for Group F* and DC Plan participants.

100% of eligible future retirees are assumed to elect life insurance upon retirement. 75% of non-DC Plan current retirees are assumed to have life insurance coverage. Life insurance coverage for current DC retirees is based on the data provided.

35% of eligible future retirees covering a spouse are assumed to elect the Premium Reduction Option. No terminated vested participants were assumed to elect the Premium Reduction Option. Current retiree Premium Reduction Option status was based on the provided demographic data.

**SECTION 4: Supporting Information for the Vermont State Employees' Retirement System
Actuarially Determined Contribution for the Fiscal Year Ending June 30, 2020**

Dependents: Demographic data was used for spouses of current retirees when available. For future retirees and current spouses for which information is not available, male employees are assumed to be two years older than wives and female employees are assumed to be one year younger than husbands. Of those future retirees who elect to continue their health coverage at retirement, 70% of males and 60% of females were assumed to have an eligible spouse who also opts for health coverage at that time. Spouses of retirees electing PRO are assumed to elect coverage for their lifetime. Spouses of retirees not electing PRO are assumed to drop coverage upon death of retiree.

Per Capita Cost Development: Per capita claims costs were based on the monthly required premium equivalents as of January 1, 2019 calculated by Milliman. Premiums for Total Choice and Select Care POS were weighted by actual active, retiree and dependent enrollment, separately for non-Medicare and Medicare. Premiums were trended to the midpoint of the valuation year at assumed trend rates. Actuarial factors were then applied to the weighted average cost to estimate individual retiree and spouse costs by age and by gender.

Per Capita Health Costs: Medical and prescription drug claims costs for the year beginning July 1, 2018, including administrative fees, are shown in the table below for retirees and for spouses at selected ages. These costs are net of deductibles and other benefit plan cost sharing provisions.

Age	Medical & Prescription Drug			
	Retiree		Spouse	
	Male	Female	Male	Female
50	\$11,236	\$12,798	\$7,848	\$10,276
55	13,343	13,776	10,502	11,894
60	15,846	14,849	14,059	13,795
64	18,180	15,752	17,747	15,527
65	3,818	3,245	3,818	3,245
70	4,425	3,497	4,425	3,497
75	4,769	3,765	4,769	3,765

Administrative Expenses: An additional administrative expense load of 10% is added to death benefit claims.

**SECTION 4: Supporting Information for the Vermont State Employees' Retirement System
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Health Care Cost Trend Rates: Health care trend measures the anticipated overall rate at which health plan costs are expected to increase in future years. The rates shown below are “net” and are applied to the net per capita costs shown above. The trend shown for a particular plan year is the rate that is applied to that year’s cost to yield the next year’s projected cost.

Year Ending June 30,	Rate (%)	
	Pre-Medicare Health Costs	Medicare Health Costs
2019	7.150	7.300
2020	6.925	7.075
2021	6.700	6.850
2022	6.475	6.625
2023	6.250	6.400
2024	6.025	6.175
2025	5.800	5.950
2026	5.575	5.725
2027	5.350	5.500
2028	5.125	5.275
2029	4.900	5.050
2030	4.675	4.825
2031	4.500	4.600
2032+	4.500	4.500

The trend rate assumptions were developed using Segal’s internal guidelines, which are established each year using data sources such as the 2019 Segal Health Trend Survey, internal client results, trends from other published surveys prepared by the S&P Dow Jones Indices, consulting firms and brokers, and CPI statistics published by the Bureau of Labor Statistics.

Retiree Contribution Increase Rate: Retiree contributions were assumed to increase with health trend. Retiree contribution rates were based on premiums effective January 1, 2019, trended to the valuation date. Premiums for Total Choice and Select Care POS were weighted by actual retiree and dependent enrollment, separately for non-Medicare and Medicare.

**SECTION 4: Supporting Information for the Vermont State Employees' Retirement System
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Health Care Reform Assumption: The Plan is assumed to be in compliance with the Patient Protection and Affordable Care Act (PPACA) and the Health Care and Education Reconciliation Act (HCERA) of 2010 as of the valuation date. The valuation includes the projected effect of the Act's provision which imposes an excise tax on high cost employer-sponsored health coverage beginning in 2022. The excise tax limit is assumed to increase by 2.5% each year after 2018.

Assumption Changes since Prior Valuation:

The short-term rate of return was increased from 3.58% to 3.87%.

The percentage of non-DC Plan current retirees assumed to have life insurance coverage was increased from 65% to 75%.

Future male retirees were assumed to be two years older than their spouses, decreased from three years. Future female retirees were assumed to be one year younger than their spouses, decreased from three years.

The percentage of future retirees assumed to have a spouse electing coverage was increased from 60% to 70% for male retirees and from 50% to 60% for female retirees.

The claims cost development methodology was modified for non-Medicare participants.

The per capita valuation-year claims and retiree contribution rates were updated.

The assumed health trend rates were modified.

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Exhibit II

Summary of Plan

This exhibit summarizes the major benefit provisions as included in the valuation. To the best of our knowledge, the summary represents the substantive plans as of the measurement date. It is not intended to be, nor should it be interpreted as, a complete statement of all benefit provisions.

Eligibility:

Group A: Employees in active service as of June 30, 1981 and elected to continue to make contributions, or were hired between July 1, 1981 and June 30, 1984 and elected to enroll in Group A. Closed to new enrollment.

- Retirement: Attainment of age 55 with 5 years of service or any age with 30 years of service.

Group C: State police officers and public safety employees assigned to law enforcement duties.

- Retirement: Attainment of age 55, age 50 with 20 years of service, or any age with 30 years of service.
- Terminated Vested: Participants who terminate with 20 or more years of service can receive medical benefits upon receiving DB pension benefits.

Group D: Supreme court justices, and superior and district court judges. Probate judges appointed prior to July 1, 1987 are also covered by this plan.

- Retirement: Attainment of age 55 with 5 years of service or any age with 30 years of service.

Group F: State employees hired after January 1, 1991 and before July 1, 2008

- Retirement: Attainment of age 55 and 5 years of service or any age with 30 years of service.
- Terminated Vested: Not eligible

Group F*: State employees hired on or after July 1, 2008

- Retirement: Attainment of age 55 and 5 years of service
- Terminated Vested: 20 or more years of service can receive medical upon receiving DB pension benefits

Defined Contribution (DC) Pension: Exempt state employees.

- Retirement: Attainment of age 55 and 5 years of service.
- Terminated Vested: 20 or more years of service can receive medical upon receiving DC pension benefits

Non-Duty Disability Medical Benefits: Not available to DC pension participants. 5 years of service for all other groups.

Life Insurance Benefit: 20 or more years of continuous service (no terminated vested benefits for life insurance)

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Benefit Types:	Medical and prescription drug coverage is provided for all retirees. Life insurance is provided for all retirees. Retirees pay the full cost for dental benefits.
Duration of Coverage:	Lifetime.
Spousal Benefits:	Same benefits as for retirees except no life insurance.
Spousal Coverage:	Lifetime.

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Premiums: The VSERS insurance premiums effective January 1, 2019 are shown below.

	Total Choice	Total Premium
Retiree Under 65		
Retiree Only		\$1,038.07
Retiree & 1 dependent		2,076.14
Retiree & 2 or more dependents		2,854.68
Retiree & 1 Medicare dependent		1,407.40
Retiree & 1 Medicare dependent Dependent Declines EGWP		1,216.27
Retiree & 2 or more dependents with 1 Medicare dependent		1,870.59
Retiree & 2 or more dependents with 1 Medicare dependent Dependent Declines EGWP		1,679.46
Retiree & 2 or more dependents with dependents all Medicare Dependent Decline EGWP		1,297.19
Retiree Over 65 or Medicare Eligible		
Retiree only – Medicare		\$369.33
Retiree only – Medicare Declines EGWP		178.19
Retiree & 1 dependent – both Medicare		738.66
Retiree & 1 dependent – both Medicare Retiree Declines EGWP		547.41
Retiree & 1 dependent – both Medicare Dependent Declines EGWP		547.41
Retiree & 1 dependent – both Medicare Both Decline EGWP		356.39
Retiree Medicare & 1 dependent not		1,407.40
Retiree Medicare & 1 dependent not Retiree Declines EGWP		1,216.27
Retiree Medicare & 2 or more dependents not		1,870.59
Retiree Medicare & 2 or more dependents not Retiree declines EGWP		1,679.46
Retiree Medicare & 2 or more dependents with 1 Medicare Dependent		1,201.85
Retiree Medicare & 2 or more dependents with 1 Medicare Dependent Dep. Declines EGWP		1,010.72
Retiree Medicare & 2 or more dependents w/ 1 Medicare Dependent Both Decline EGWP		819.58
Retiree Medicare & 2 dependents – all Medicare eligible		1,107.99

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Select Care POS	Total Premium
Retiree Under 65	
Retiree Only	\$868.79
Retiree & 1 dependent	1,737.56
Retiree & 2 or more dependent	2,389.15
Retiree & 1 Medicare dependent	1,167.78
Retiree & 1 Medicare dependent Dependent Declines EGWP	976.65
Retiree & 2 or more dependents with 1 Medicare dependent	1,555.44
Retiree & 2 or more dependents with 1 Medicare dependent Dependent Declines EGWP	1,364.31
Retiree & 2 or more dependents with dependents all Medicare Dependents Decline EGWP	982.03
Retiree Over 65 or Medicare Eligible	
Retiree only – Medicare	\$298.99
Retiree only – Medicare Declines EGWP	107.86
Retiree & 1 dependent – both Medicare	597.97
Retiree & 1 dependent – both Medicare Retiree Declines EGWP	406.84
Retiree & 1 dependent – both Medicare Dependent Declines EGWP	406.84
Retiree & 1 dependent – both Medicare Both Decline EGWP	215.70
Retiree Medicare & I dependent not	1,167.78
Retiree Medicare & I dependent not Retiree Declines EGWP	976.65
Retiree Medicare & 2 or more dependents not	1,555.44
Retiree Medicare & 2 or more dependents not Retiree Declines EGWP	1,364.31
Retiree Medicare & 2 or more dependents with 1 Medicare dependent	985.64
Retiree Medicare & 2 or more dependents with 1 Medicare dependent Dep. Declines EGWP	794.50
Retiree Medicare & 2 or more dependents with 1 Medicare dependent Both Decline EGWP	603.36
Retiree Medicare & 2 Dependents – all Medicare eligible	896.97

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Retiree Contributions: Retirees and spouses pay premium costs in excess of the VSERS subsidy.

	Subsidy
Groups A, C, D, F	80%
Group F* and Defined Contribution (hired July 1, 2008 or later):	
Less than 10 years of service	0%
10-14 years of service	40%
15-19 years of service	60%
20+ years of service	80%

Premium Reduction Option: Participants in Groups A, C, D, F, or F* retiring on or after January 1, 2007 with a VSERS premium subsidy have a one-time option to reduce the VSERS subsidy percentage during the retiree's life so that a surviving spouse may continue to receive the same VSERS subsidy for the spouse's lifetime. If the retirees elects the joint and survivor pension option but not the Premium Reduction Option, spouses are covered for the spouse's lifetime but pay 100% of the plan premium after the retiree's death.

This option is not available to Defined Contribution participants.

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Benefit Descriptions:

Medical	TotalChoice Plan	SelectCare POS Plan	
		<u>In-Network</u>	<u>Out-of-Network</u>
Annual deductible	\$300 per person, \$600 per family	None	\$500 per person, \$1,000 per family
Maximum annual copays (after deductible is met)	\$750 per person, \$2,250 per family	None	\$2,000 per person, \$6,000 per family
Coinsurance	80%	100%	70%
Prescription Drugs			
Annual deductible		\$50 per person, \$150 per family	
Coinsurance			
Generic		10%	
Preferred Brand		20%	
Non-Preferred Brand		40%	
Annual maximum out-of-pocket		\$800 per covered member	
Life Insurance		\$10,000 for retiree only	

Plan Changes Since Prior Valuation: Effective January 1, 2019 SelectCare Plan medical copays were modified. In addition, the pharmacy deductible and maximum pharmacy out of pocket cost increased for both the SelectCare Plan and the Total Choice Plan.