VERMONT

State of Vermont
Agency of Administration
Office of the Secretary
Pavilion Office Building
109 State Street, 5th Floor
Montpelier, VT 05609-0201
www.aoa.vermont.gov

[phone] 802-828-3322

Kristin L. Clouser, Secretary

Report to the Vermont Legislature

REQUIRED STUDY FOR A LONGEVITY INCENTIVE FOR GROUP F MEMBERS OF THE VERMONT STATE EMPLOYEES' RETIREMENT SYSTEM THAT REDUCES FUTURE EMPLOYER PENSION COSTS

REPORT DATE
December 15, 2022

PURSUANT TO
Sec. E.100.3 of Act No. 185 (2022)

PREPARED BY
Sean Brown, Agency of Administration Chief Operating Officer
In consultation with the Vermont State Treasurer

ON BEHALF OF
Kristin L. Clouser, Secretary of Administration

SUBMITTED TO
Joint Public Pension Oversight Committee
Senate Committee on Appropriations
Senate Committee on Government Operations
House Committee on Appropriations
House Committee on Government Operations

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Introduction

The following was requested by Act No. 185 (2022):

> Sec. E.100.3 PENSION OVERSIGHT
>
> (a) The Secretary of Administration, in consultation with the State Treasurer, shall study and recommend criteria for a longevity incentive for Group F members of the Vermont State Employees' Retirement System that reduces future employer pension costs. As part of the study, the Secretary shall identify the following:
>
> (1) a baseline of recent member retirement behavior relative to assumptions during the five most recently completed fiscal years;
>
> (2) a method for targeting incentives to encourage more employees to retire at later ages than currently assumed;
>
> (3) the amount and structure of proposed incentives; and
>
> (4) whether additional funds are required to support the proposed incentive program.
>
> (b) On or before December 15, 2022, the Secretary shall submit a report on the study described in subsection (a) of this section to the Joint Public Pension Oversight Committee, and the House and Senate Committees on Appropriations and on Government Operations.

Baseline of Recent Member Retirement Behavior[1]

While the number varies from year to year, on average 21.5% of eligible employees retired when eligible to do so each year between SFY17-SFY21[2], the five most recently completed fiscal years with available data. This number increases to approximately 28% when an incentive is provided to entice employees to retire, which occurred in SFY10 and SFY16[3].

[1] The workforce data referenced in this study is from the State of Vermont Workforce Report for Fiscal Year 2021. https://humanresources.vermont.gov/sites/humanresources/files/documents/DHR-Workforce_Report.pdf

[2] See Table 41 on page 49 of the report.

[3] Id.

Current Member Retirement Eligibility Projections

Approximately 1,751 employees are projected to be eligible to retire between SFY22-SFY26[4]. Applying the historical pattern of retirement described in the prior section, it expected that approximately 1,000 of these employees will retire during this time period, an average of 200[5] per year.

Method for Targeting Incentives

The Treasurer's Office worked with Segal to model the costs and benefits associated with adding a financial incentive for employees to delay retirement; Segal performed two analyses.

The first[6] examined increasing the Maximum Retirement Benefit from 50% of Average Final Compensation (AFC) to between 53%-60% of AFC for employees that delayed retirement between one to six years. While the analysis demonstrated short term actuarial savings due to delayed retirement, increasing the AFC produced larger, long term actuarial costs to the system making this method of incentive not financially viable.

The second[7] analysis examined the payment of a financial incentive outside of the pension system to induce employees to work longer, thereby delaying retirement and providing actuarial savings to the pension plan. The analysis projected a nominal benefit to the pension plan in several areas, including actuarial accrued liability, the actuarial determined contribution for SFY23 and the projected amortization contribution plan for each year between SFY23-SFY38.

This analysis assumed that an additional 200 employees would delay retirement in year 1, and 100 of those employees would continue to delay retirement in year 2. As discussed above, it is expected that an average of 194 employees will retire each year between SFY22-SFY26, thus it is not possible to meet the retirement assumptions that produced the nominal benefits to the pension plan and the state.

It is important to note Segal's analysis did not identify or evaluate the amount of an incentive payment necessary for employees to delay retirement. Both the 2010 and 2016 incentives to encourage members to retire early from active state service had a maximum payment of $15,000 per member. Assuming this same level of incentive induces similar behavior for

[4] See Table 38 on page 46 of the report.
[5] This aligns with the historical average number of employees who retire each year. The past several years have not followed the historical trend with a larger number of employees retiring, most likely due to the baby boom bubble.
[6] Please see Attachment A
[7] Please see Attachments B & C

employees to continue working and delay retirement, providing the incentive to 300 employees would cost the state approximately $4.5M, making it cost prohibitive to pursue this strategy.

Conclusion[8]

Considering the potential cost of an incentive, historical employee retirement behavior, and limited, if any, impact to the pension plan, an incentive provided to employees to delay retirement is not advised. While recent history demonstrates financial incentives were successful in increasing the rate of retirement from 21.5% to 28%[9] for eligible employees, it is unclear what impact an incentive would have on convincing eligible employees to delay their planned retirement. In fact, the data indicates that most employees already work past their normal retirement date. Also, the number of employees that are anticipated to retire in the next five years is not large enough to achieve more than a nominal net benefit to the pension plan and state, and it is not realistic to expect an incentive will prevent almost all retirements over the next several years. Importantly, when the cost of an incentive is considered, there is virtually no financial benefit to the state. Finally, most employees already work past their normal retirement date and these employees will most likely avail themselves of any incentive at a significant cost to the state, incentivizing behavior that would have occurred notwithstanding an incentive.

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[8] The Agency of Administration consulted with Treasurer Pearce in the preparation of this report. While we mostly agree on the underlying retirement data, Treasurer Pearce does not agree with this report's conclusion. She will be submitting an addendum to the Legislature that reflects a differing conclusion.

[9] It is very likely these retirement incentives are contributing to the current actuarial pressures in the pension plan.

Attachment A

Segal

Matthew A. Strom FSA, MAAA, EA
Senior Vice President, Actuary
mstrom@segalco.com

101 North Wacker Drive
Suite 500
Chicago, IL 60606-1724
www.segalco.com

February 24, 2022

Via Email

Ms. Beth Pearce
Vermont Retirement Systems
Office of the State Treasurer
109 State Street
Montpelier, Vermont 05609

Re: Impact of Longevity Incentives 1 and 2

Dear Beth:

As requested, we have calculated the impact of potential changes to plan provisions and adding a financial incentive for certain Group F members of the Vermont State Employees' Retirement System (VSERS)[1]. Using the Universes described below, we modeled the costs associated with increasing maximum retirement benefits and adding a financial incentive to delay retirement behavior over the next three years. The results of the June 30, 2021, actuarial valuation, projected forward on an open group basis, are used as a baseline.

The results of our analysis are shown in the attached exhibits and discussed in this letter.

We have calculated the impact on current active members (as defined in the Universes below) as of the June 30, 2021, valuation date, as well as all expected new hires of each Universe, respectively.

Universes of Members – The following Universes of active members define two cohorts of members eligible for Longevity Incentive 1 and Longevity Incentive 2, respectively:

Universe	Description of Members Included
Long-1	Active members in Group F, hired before July 1, 2008.
Long-2	Active members in Group F

[1] For purposes of this analysis, we have excluded all members identified in "Universe 2," which are assumed to move to a newly-created Group G structure. For additional information regarding members identified in Universe 2, please refer to the February 4th communication "Impact of Creating New VSERS 'Group G' Based on Employees Identified in Universes 1 and 2".

- **Identification of members in each universe**
  - For both Longevity Incentive 1 and Longevity Incentive 2, all 796 members previously identified in "Universe 2" (and assumed to move to a newly-created Group G) were excluded from this analysis.

Scenarios – The following plan changes and financial incentive scenarios were prepared:

Description of Changes	PC-1	PC-2	PC-3	PC-4	Cash-1
Increase the Maximum Retirement Benefit to **53%** of AFC.	✓				
Increase the Maximum Retirement Benefit to **55%** of AFC.		✓			
Increase the Maximum Retirement Benefit to **57%** of AFC.			✓		
Increase the Maximum Retirement Benefit to **60%** of AFC.				✓	
Financial incentive paid outside of the System that will have no impact on pension assets or a members' pension benefit.					✓

- **Additional assumptions**
  - **PC-1 to PC-4**: Assume that 85% of the eligible workforce will not change their behavior, and that the remaining 15% of the eligible workforce will delay retirement, reflective of the increase in the maximum retirement benefit as a percentage of Average Final Compensation (AFC), as follows:

	Number of Years Retirement Delayed						
Scenario	No Change	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years
PC-1	85%	10%	5%	-	-	-	-
PC-2	85%	-	10%	5%	-	-	-
PC-3	85%	-	10%	-	5%	-	-
PC-4	85%	-	-	10%	-	-	5%

    - A schedule of retirement rates reflecting the assumed behavior above is included in the appendix.
  - **Cash-1**: Assume that the financial incentive will have the following impact on the retirement behavior of the eligible workforce over the next three years: 100 members take the incentive and delay retirement the first year, 67 members take the incentive and delay retirement the second year, and 33 members take the incentive and delay retirement in the third year.
    - Incentive payments are assumed to be made by the State and are not reflected in these projections.
    - A schedule of retirement rates reflecting the assumed behavior above is included in the appendix.

Methodology and Analysis

The current retirement rate assumptions for VSERS Group F are age-based and apply to active members that meet any of the retirement eligibility criteria applicable to Group F[2]. Using the behavior assumptions discussed with and confirmed by the Office of the State Treasurer, we modified the current retirement rate schedules to reflect the expected retirement patterns under PC-1 to PC-4 and Cash-1.

For PC-1 to PC-4, based on an expectation that individuals retiring at very early ages would not delay retirement, we did not modify the retirement assumption prior to age 55. Under the assumption that older members may delay retirement as a result of the increased maximum retirement benefit, we changed the 100% retirement rate assumption from age 70 to age 72.

For Cash-1, based on an expectation that 100 members take the incentive and delay retirement the first year, 67 members take the incentive and delay retirement the second year, and 33 members take the incentive and delay retirement the third year, we applied uniform adjustments to the current retirement rates over the next three years to reflect these anticipated retirement counts, and then for all subsequent years we assumed that the retirement patterns would be consistent with the current retirement assumptions. Effectively, this works out to be similar to the impact of 200 members delaying retirement for one year.

Estimated Impact of Plan Changes

In general, if active members retire later than assumed, the System will experience actuarial gains (i.e., a decrease in UAL and employer contribution requirement) relative to the baseline. While increasing the maximum retirement benefit in scenarios PC-1 to PC-4 is assumed to delay the retirement behavior of eligible members, the increase in actuarial accrued liabilities due to the higher maximum retirement benefit outweighs the decrease in actuarial accrued liabilities due to the anticipated delayed retirement behavior, ultimately producing larger actuarial costs to the System.

Estimated Impact of Financial Incentives to Delay Retirement

Because the financial incentive from Cash-1 would not include any direct reduction in pension assets and no direct increase in members' pension benefits, the primary impact to VSERS will arise from active members retiring later than currently assumed, ultimately producing lower actuarial costs to the System.

[2] Normal Retirement: Age 62 or 20 years of service. For members hired after June 30, 2008, age 65 or a sum of age plus service greater than or equal to 87. Early Retirement: Age 55 with 5 years of service.

Disclosure

If actual experience differs from the underlying assumptions, the estimated changes may be higher or lower than the amounts shown in our analysis. For example, if members who take advantage of these longevity incentives delay retirement relatively less than assumed, the change in projected employer contributions may be different than illustrated. Or if members that become eligible for retirement at different ages have a non-uniform tendency to take advantage of these incentives, the projected employer contributions could be different than illustrated below.

This analysis was prepared in accordance with generally accepted actuarial principles and practices at the request of the Office of the State Treasurer. Please refer to our June 30, 2021, Actuarial Valuation and Review reports for VSERS for the data, assumptions, and plan of benefits underlying these calculations.

The measurements shown in these actuarial calculations may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic 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 plan provisions or applicable law.

Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Deterministic cost projections are based on a proprietary forecasting model. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

The actuarial calculations were directed under my supervision. I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of my knowledge, the information supplied in this report is complete and accurate. In my opinion, each assumption is reasonable (taking into account the experience of the plan and reasonable expectations) and the assumptions, in combination, offer my best estimate of anticipated experience under the plan.

Please let me know if you have any questions or need any additional information.

Sincerely,

Matthew A. Strom, FSA, MAAA, EA
Senior Vice President and Actuary

cc: Kathleen Riley, Segal

Segal

Results

VSERS Group G – Scenario Descriptions

Universe	Description of Members Included
Long-1	Active members in Group F, hired before July 1, 2008.
Long-2	Active members in Group F.

Description of Changes	PC-1	PC-2	PC-3	PC-4	Cash-1
Increase the Maximum Retirement Benefit to **53%** of AFC.	✓				
Increase the Maximum Retirement Benefit to **55%** of AFC.		✓			
Increase the Maximum Retirement Benefit to **57%** of AFC.			✓		
Increase the Maximum Retirement Benefit to **60%** of AFC.				✓	
Financial incentive paid outside of the System that will have no impact on pension assets or a members' pension benefit.					✓

See discussion in the letter for more information on these member universes and potential changes.

VSERS – Longevity Incentive 1 – Scenarios PC-1 to PC-4

Maximum retirement benefit of 53%, 55%, 57%, and 60% of AFC

2021 Valuation ($ in millions)	Baseline	Long-1 + PC-1	Long-1 + PC-2	Long-1 + PC-3	Long-1 + PC-4
Actuarial Accrued Liability:	$3,280.9	$3,298.0	$3,308.5	$3,318.8	$3,330.3
Change from Baseline Valuation:		$17.1	$27.6	$37.9	$49.4
Funded Percentage on Actuarial Value of Assets Basis:	67.6%	67.2%	67.0%	66.8%	66.6%
Change from Baseline Valuation:		-0.4%	-0.6%	-0.8%	-1.0%
Total Normal Cost*:	$72.5	$72.9	$73.1	$73.2	$73.4
Change from Baseline Valuation:		$0.4	$0.6	$0.7	$0.9
Actuarially Determined Contribution for Fiscal 2023:	$125.9	$127.9	$129.0	$130.1	$131.3
Change from Baseline Valuation:		$2.0	$3.1	$4.2	$5.4

* Total normal cost as of July 1, 2021, adjusted for timing.

Projected Amortization Payment for the Plan Years Ending June 30 ($ in millions)

Year	Baseline	Long-1 + PC-1	Long-1 + PC-2	Long-1 + PC-3	Long-1 + PC-4
2023	$89.1	$90.6	$91.6	$92.5	$93.5
2024	87.7	89.3	90.3	91.3	92.4
2025	86.1	87.7	88.8	89.8	90.9
2026	84.7	86.5	87.5	88.6	89.7
2027	83.7	85.5	86.5	87.6	88.8
2028	82.8	84.6	85.8	86.9	88.1
2029	82.1	84.0	85.1	86.3	87.5
2030	81.5	83.5	84.6	85.8	87.1
2031	81.0	83.0	84.2	85.4	86.7
2032	80.5	82.6	83.8	85.1	86.4
2033	80.0	82.1	83.4	84.7	86.1
2034	79.3	81.4	82.8	84.1	85.5
2035	78.3	80.5	81.9	83.2	84.7
2036	76.8	79.0	80.4	81.8	83.3
2037	74.1	76.4	77.8	79.2	80.8
2038	68.9	71.2	72.7	74.1	75.7

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VSERS – Longevity Incentive 2 – Scenario Cash-1

Financial incentive paid outside of the System that will have no impact on pension assets/members' pension benefit

2021 Valuation ($ in millions)	Baseline	Long-2 + Cash-1
Actuarial Accrued Liability:	$3,280.9	$3,277.9
Change from Baseline Valuation:		($3.0)
Funded Percentage on Actuarial Value of Assets Basis:	67.6%	67.6%
Change from Baseline Valuation:		0.0%
Total Normal Cost*:	$72.5	$72.5
Change from Baseline Valuation:		$0.0
Actuarially Determined Contribution for Fiscal 2023:	$125.9	$125.6
Change from Baseline Valuation:		($0.3)

* Total normal cost as of July 1, 2021, adjusted for timing.

Projected Amortization Payment for the Plan Years Ending June 30 ($ in millions)

Year	Baseline	Long-2 + Cash-1
2023	$89.1	$88.8
2024	87.7	87.4
2025	86.1	85.8
2026	84.7	84.5
2027	83.7	83.4
2028	82.8	82.5
2029	82.1	81.8
2030	81.5	81.2
2031	81.0	80.7
2032	80.5	80.2
2033	80.0	79.6
2034	79.3	78.9
2035	78.3	77.9
2036	76.8	76.3
2037	74.1	73.6
2038	68.9	68.4

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Appendix

Retirement Rates

For retirement from active status, the following retirement rates were developed based on professional judgement to reflect anticipated changes in retirement patterns resulting from the changes in the maximum retirement benefit and from adding a financial incentive. The following guidelines were used as a basis for adjusting the existing Group F retirement rates for purposes of Longevity Incentive 1 and Longevity Incentive 2:

- A higher maximum retirement benefit would tend to delay the pattern of retirement.
- When adding a financial incentive, retirement rates in the next three years were adjusted uniformly to reflect 100 fewer retirements the first year, 67 fewer retirements the second year, and 33 fewer retirements the third year, relative to the baseline. The retirement rates for the second and third year were adjusted upward to arrive at the desired number of retirements in this scenario. For all subsequent years after the third year, retirement patterns are assumed to remain consistent with the current Group F retirement assumptions.
- Rates for remaining members would not materially change when these scenarios are applied to members in each Universe, respectively.

Rates applied to eligible members under Longevity Incentive 1:

	Group F		Max Benefit 53% of AFC		Max Benefit 55% of AFC		Max Benefit 57% of AFC		Max Benefit 60% of AFC	
Age	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
55	5.0%	5.0%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%
56	5.0%	5.0%	4.75%	4.75%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%
57	5.0%	5.0%	5.00%	5.00%	4.75%	4.75%	4.75%	4.75%	4.25%	4.25%
58	5.0%	7.5%	5.00%	7.13%	5.00%	7.13%	4.74%	6.87%	4.75%	6.88%
59	7.5%	7.5%	7.13%	7.37%	7.13%	7.13%	7.13%	7.13%	6.87%	6.87%
60	7.5%	7.5%	7.37%	7.50%	7.13%	7.37%	7.13%	7.37%	6.86%	6.86%
61	15.0%	12.5%	13.88%	11.75%	13.75%	11.75%	13.74%	11.62%	13.50%	11.61%
62	25.0%	25.0%	23.11%	22.86%	22.38%	22.38%	22.24%	22.38%	22.24%	22.24%
63	17.5%	15.0%	18.07%	15.82%	16.73%	14.36%	16.71%	14.35%	15.86%	13.73%
64	20.0%	15.0%	20.07%	15.59%	20.20%	15.82%	19.74%	15.51%	18.68%	14.34%
65	22.5%	20.0%	21.98%	19.25%	22.20%	19.84%	21.59%	19.09%	21.82%	19.71%
66	25.0%	30.0%	24.48%	28.22%	24.11%	27.75%	24.58%	28.40%	23.19%	27.25%
67	25.0%	30.0%	24.85%	29.43%	24.48%	28.22%	24.30%	28.20%	23.89%	27.57%
68	25.0%	30.0%	25.00%	30.00%	24.85%	29.43%	24.67%	29.05%	24.81%	28.86%
69	25.0%	30.0%	25.00%	30.00%	25.00%	30.00%	24.83%	29.30%	24.45%	28.96%
70	100.0%	100.0%	92.50%	92.50%	92.50%	92.50%	92.50%	92.50%	92.50%	92.50%
71	100.0%	100.0%	92.50%	92.50%	92.50%	92.50%	92.50%	92.50%	92.50%	92.50%
72	100.0%	100.0%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

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Rates applied to eligible members under Longevity Incentive 2:

	Group F		Financial Incentive Year 1		Financial Incentive Year 2		Financial Incentive Year 3		Financial Incentive Years 4+	
Age	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
55	5.0%	5.0%	2.76%	2.76%	5.20%	5.20%	5.40%	5.40%	5.00%	5.00%
56	5.0%	5.0%	2.76%	2.76%	5.20%	5.20%	5.40%	5.40%	5.00%	5.00%
57	5.0%	5.0%	2.76%	2.76%	5.20%	5.20%	5.40%	5.40%	5.00%	5.00%
58	5.0%	7.5%	2.76%	4.14%	5.20%	7.80%	5.40%	8.10%	5.00%	7.50%
59	7.5%	7.5%	4.14%	4.14%	7.80%	7.80%	8.10%	8.10%	7.50%	7.50%
60	7.5%	7.5%	4.14%	4.14%	7.80%	7.80%	8.10%	8.10%	7.50%	7.50%
61	15.0%	12.5%	8.29%	6.91%	15.60%	13.00%	16.20%	13.50%	15.00%	12.50%
62	25.0%	25.0%	13.81%	13.81%	26.00%	26.00%	27.00%	27.00%	25.00%	25.00%
63	17.5%	15.0%	9.67%	8.29%	18.20%	15.60%	18.90%	16.20%	17.50%	15.00%
64	20.0%	15.0%	11.05%	8.29%	20.80%	15.60%	21.60%	16.20%	20.00%	15.00%
65	22.5%	20.0%	12.43%	11.05%	23.40%	20.80%	24.30%	21.60%	22.50%	20.00%
66	25.0%	30.0%	13.81%	16.58%	26.00%	31.20%	27.00%	32.40%	25.00%	30.00%
67	25.0%	30.0%	13.81%	16.58%	26.00%	31.20%	27.00%	32.40%	25.00%	30.00%
68	25.0%	30.0%	13.81%	16.58%	26.00%	31.20%	27.00%	32.40%	25.00%	30.00%
69	25.0%	30.0%	13.81%	16.58%	26.00%	31.20%	27.00%	32.40%	25.00%	30.00%
70	100.0%	100.0%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Attachment B

Segal

Matthew A. Strom FSA, MAAA, EA
Senior Vice President, Actuary
mstrom@segalco.com

101 North Wacker Drive
Suite 500
Chicago, IL 60606-1724
www.segalco.com

March 10, 2022

Via Email

Ms. Beth Pearce
Vermont Retirement Systems
Office of the State Treasurer
109 State Street
Montpelier, Vermont 05609

Re: Impact of Longevity Incentive 2 – Updated Methodology

Dear Beth:

As requested, we have calculated the impact of adding a financial incentive for certain Group F members of the Vermont State Employees' Retirement System (VSERS)[1]. Using the Universe described below, we modeled the costs associated with adding a financial incentive to delay retirement behavior of long service members over the next two years. The results of the June 30, 2021, actuarial valuation, projected forward on an open group basis, are used as a baseline.

As a follow-up to our letter dated February 24th, 2022, this analysis reflects an alternative methodology for Longevity Incentive 2. Specifically, we assumed that the financial incentive will have the following impact on the retirement behavior of long service members within the eligible workforce over the next two years: 200 members take the incentive and delay retirement the first year and 100 members take the incentive and delay retirement for a second year.

The results of our analysis are shown in the attached exhibits and discussed in this letter.

We have calculated the impact on current active members (as defined in the Universe below) as of the June 30, 2021, valuation date, as well as all expected new hires of the Universe below.

[1] For purposes of this analysis, we have excluded all members identified in "Universe 2," which are assumed to move to a newly-created Group G structure. For additional information regarding members identified in Universe 2, please refer to the February 4th communication "Impact of Creating New VSERS 'Group G' Based on Employees Identified in Universes 1 and 2".

Universe of Members – The following Universe of active members defines a possible cohort that would be eligible for Longevity Incentive 2:

Universe	Description of Members Included
Long-2	Longest service active members in Group F that as a cohort, under the June 30, 2021, actuarial valuation retirement assumptions, will produce at least 200 expected retirements in the first year and at least 100 expected retirements in the second year.

Identification of members in the universe

- For Longevity Incentive 2, all 796 members previously identified in "Universe 2" (and assumed to move to a newly-created Group G) were excluded from this analysis.

Scenario – The following financial incentive scenario was prepared:

Description of Changes	Cash-1
Financial incentive paid outside of the System that will have no impact on pension assets or a members' pension benefit.	✓

Additional assumptions

- **Cash-1**: Assume that the financial incentive will have the following impact on the retirement behavior of long service members within the eligible workforce over the next two years: 200 members take the incentive and delay retirement the first year and 100 members take the incentive and delay retirement for a second year, relative to the baseline.
  - To reflect the anticipated changes in retirement behavior above, adjusted retirement rates over the next two years were developed based on professional judgement using the following guidelines as a basis:
    - Retirement rates for the first year were set to 0% across all ages. Effectively, this represents 200 long service members within the eligible workforce delaying retirement the first year.
    - Retirement rates for the second year were adjusted upward to arrive at the desired number of retirements, effectively representing 100 long service members within the eligible workforce delaying retirement for a second year.
    - For all subsequent years after the second year, retirement patterns are assumed to remain consistent with the current Group F retirement assumptions.
    - Rates for remaining members would not materially change when these scenarios are applied to members in the Universe.
  - Incentive payments are assumed to be made by the State and are not reflected in these projections.

Methodology and Analysis

The current retirement rate assumptions for VSERS Group F are age-based and apply to active members that meet any of the retirement eligibility criteria applicable to Group F[2]. Using the behavior assumptions discussed with and confirmed by the Office of the State Treasurer, we modified the current retirement rate schedules to reflect the expected retirement patterns under Cash-1.

For Cash-1, based on an expectation that 200 long service members take the incentive and delay retirement the first year and 100 long service members take the incentive and delay retirement for a second year, we applied uniform adjustments to the current retirement rates over the next two years to reflect these anticipated retirement counts, and then for all subsequent years we assumed that the retirement patterns would be consistent with the current retirement assumptions. Effectively, this works out to be similar to the impact of 300 long service members delaying retirement for one year.

Because the financial incentive from Cash-1 would not include any direct reduction in pension assets and no direct increase in members' pension benefits, the primary impact to VSERS will arise from active members retiring later than currently assumed, ultimately producing lower actuarial costs to the System.

Disclosure

If actual experience differs from the underlying assumptions, the estimated changes may be higher or lower than the amounts shown in our analysis. For example, if members who take advantage of this longevity incentive delay retirement relatively less than assumed, the change in projected employer contributions may be different than illustrated.

This analysis was prepared in accordance with generally accepted actuarial principles and practices at the request of the Office of the State Treasurer. Please refer to our June 30, 2021, Actuarial Valuation and Review reports for VSERS for the data, assumptions, and plan of benefits underlying these calculations.

The measurements shown in these actuarial calculations may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic 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 plan provisions or applicable law.

[2] Normal Retirement: Age 62 or 20 years of service. For members hired after June 30, 2008, age 65 or a sum of age plus service greater than or equal to 87. Early Retirement: Age 55 with 5 years of service.

Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Deterministic cost projections are based on a proprietary forecasting model. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

The actuarial calculations were directed under my supervision. I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of my knowledge, the information supplied in this report is complete and accurate. In my opinion, each assumption is reasonable (taking into account the experience of the plan and reasonable expectations) and the assumptions, in combination, offer my best estimate of anticipated experience under the plan.

Please let me know if you have any questions or need any additional information.

Sincerely,

Matthew A. Strom, FSA, MAAA, EA
Senior Vice President and Actuary

cc: Kathleen Riley, Segal

Results

VSERS Group G – Scenario Descriptions

Universe	Description of Members Included
Long-2	Longest service active members in Group F that as a cohort, under the June 30, 2021, actuarial valuation retirement assumptions, will produce at least 200 expected retirements in the first year and at least 100 expected retirements in the second year.

Description of Changes	Cash-1
Financial incentive paid outside of the System that will have no impact on pension assets or a members' pension benefit.	✓

See discussion in the letter for more information on this member universe and potential change.

VSERS – Longevity Incentive 2 – Scenario Cash-1

Financial incentive paid outside of the System that will have no impact on pension assets/members' pension benefit

2021 Valuation ($ in millions)	Baseline	Long-2 + Cash-1
Actuarial Accrued Liability:	$3,280.9	$3,273.6
Change from Baseline Valuation:		($7.3)
Funded Percentage on Actuarial Value of Assets Basis:	67.6%	67.7%
Change from Baseline Valuation:		0.1%
Total Normal Cost*:	$72.5	$72.5
Change from Baseline Valuation:		$0.0
Actuarially Determined Contribution for Fiscal 2023:	$125.9	$125.2
Change from Baseline Valuation:		($0.7)

* Total normal cost as of July 1, 2021, adjusted for timing.

Projected Amortization Payment for the Plan Years Ending June 30 ($ in millions)

Year	Baseline	Long-2 + Cash-1
2023	$89.1	$88.4
2024	87.7	87.0
2025	86.1	85.4
2026	84.7	84.0
2027	83.7	82.9
2028	82.8	82.0
2029	82.1	81.3
2030	81.5	80.7
2031	81.0	80.1
2032	80.5	79.6
2033	80.0	79.0
2034	79.3	78.3
2035	78.3	77.3
2036	76.8	75.7
2037	74.1	73.1
2038	68.9	67.9

Segal

Attachment C

Segal

Matthew A. Strom FSA, MAAA, EA
Senior Vice President, Actuary
mstrom@segalco.com

101 North Wacker Drive
Suite 500
Chicago, IL 60606-1724
www.segalco.com

November 30, 2022

Via Email

Ms. Beth Pearce
Vermont Retirement Systems
Office of the State Treasurer
109 State Street
Montpelier, Vermont 05609

Re: Impact of Longevity Incentive

Dear Beth:

As requested, we have provided a baseline of recent member retirement behavior for all Group F members of the Vermont State Employees' Retirement System (VSERS) relative to the actuarial assumptions during the five most recently completed fiscal years and calculated the impact of adding a financial incentive for certain Group F members of VSERS. Using the Universe described on the following page, we modeled the costs associated with adding a financial incentive to delay retirement behavior of long service members over the next two years. Specifically, we assumed that the financial incentive will have the following impact on the retirement behavior of long service members within the eligible workforce[1] over the next two years: 200 members take the incentive and delay retirement the first year and 100 members take the incentive and delay retirement for a second year, relative to the baseline. The results of the June 30, 2022, actuarial valuation, projected forward on an open group basis, are used as a baseline.

The results of our analysis are shown in the attached exhibits and discussed in this letter.

We have calculated the impact on current active members (as defined in the Universe on the following page) as of the June 30, 2022, valuation date, as well as all expected new hires of the Universe described on the following page.

[1] For purposes of this analysis, all Group G eligible members were excluded from the eligible workforce.

Baseline of recent member retirement behavior – The following table illustrates a baseline of actual retirement behavior for Group F members of VSERS relative to the expected retirement behavior per the actuarial assumptions, from Fiscal Year 2018 through Fiscal Year 2022:

Fiscal Year	Expected Retirements	Actual Retirements	Ratio of Actual to Expected
2018	283	297	105%
2019	283	319	113%
2020[2]	275	226	82%
2021	337	331	98%
2022	328	306	93%

Universe of members – The following Universe of active members defines a possible cohort that would be eligible for the Longevity Incentive:

Universe	Description of Members Included
Uni-1	Longest service active members in Group F that as a cohort, under the June 30, 2022, actuarial valuation retirement assumptions, will produce at least 200 expected retirements in the first year and at least 100 expected retirements in the second year.

Identification of members in the universe

- The "Employee ID of Group G Eligibles" data file provided by the Office of the State Treasurer on November 16, 2022, was used to identify all members that will be eligible to transfer to Group G.
- This file identified 828 members that will be eligible to transfer to Group G. All 828 members that will be eligible to transfer to Group G were excluded from Uni-1.

Longevity incentive scenario – The following financial incentive scenario was prepared:

Scenario	Description of Changes
Cash-1	A financial incentive paid outside of the System that will have no impact on pension assets or a members' pension benefit.

Additional assumptions

- For purposes of this analysis, "200 expected retirements in the **first year**" and "100 expected retirements in the **second year**" are assumed to be the fiscal years ending June 30, 2023, and June 30, 2024, respectively.
- Assume that the financial incentive will have the following impact on the retirement behavior of long service members within the eligible workforce over the next two years: 200 members take the incentive and delay retirement the first year and 100 members take the incentive and delay retirement for a second year, relative to the baseline.

[2] In Fiscal Year 2020, the actuarial assumptions for retirement were updated to reflect the recommended assumptions from the Actuarial Experience Study dated September 24, 2020 (as prepared by Segal), which were adopted by the Board. Expected retirements for Fiscal Years 2021 and 2022 are based on the updated retirement assumption.

- To reflect the anticipated changes in retirement behavior above, adjusted retirement rates over the next two years were developed based on professional judgement using the following guidelines as a basis:
  - Retirement rates for the first year were set to 0% across all ages. Effectively, this represents 200 long service members within the eligible workforce delaying retirement the first year.
  - Retirement rates for the second year were adjusted upward to arrive at the desired number of retirements, effectively representing 100 long service members within the eligible workforce delaying retirement for a second year.
  - For all subsequent years after the second year, retirement patterns are assumed to remain consistent with the current Group F retirement assumptions.
  - Rates for remaining members would not materially change when this scenario is applied to members in the Universe described above.
- Incentive payments are assumed to be made by the State and are not reflected in these projections.

Methodology and Analysis

The current retirement rate assumptions for VSERS Group F are age-based and apply to active members that meet any of the retirement eligibility criteria applicable to Group F[3]. Using the behavior assumptions discussed with and confirmed by the Office of the State Treasurer, we modified the current retirement rate schedules to reflect the expected retirement patterns under the Longevity Incentive scenario.

Based on an expectation that 200 long service members take the incentive and delay retirement the first year and 100 long service members take the incentive and delay retirement for a second year, we applied uniform adjustments to the current retirement rates over the next two years to reflect these anticipated retirement counts, and then for all subsequent years we assumed that the retirement patterns would be consistent with the current retirement assumptions.

Because the financial payment from the Longevity Incentive would not include any direct reduction in pension assets nor any direct increase in members' pension benefits, the primary impact to VSERS will arise from active members retiring later than currently assumed, ultimately producing lower actuarial costs to the System.

Risk

If actual experience differs from the underlying assumptions, the estimated changes may be higher or lower than the amounts shown in our analysis. For example, if members who take advantage of this incentive delay retirement relatively less than assumed, the changes may be less than illustrated.

[3] Normal Retirement: Age 62 or 20 years of service. For members hired after June 30, 2008, age 65 or a sum of age plus service greater than or equal to 87. Early Retirement: Age 55 with 5 years of service.

Disclosure

This analysis was prepared in accordance with generally accepted actuarial principles and practices at the request of the Office of the State Treasurer. Please refer to our June 30, 2022, Actuarial Valuation and Review report for VSERS for the data, assumptions, and plan of benefits underlying these calculations.

The measurements shown in these actuarial calculations may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic 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 plan provisions or applicable law.

Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Deterministic cost projections are based on a proprietary forecasting model. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

The actuarial calculations were directed under my supervision. I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of my knowledge, the information supplied in this report is complete and accurate. The assumptions used in the actuarial valuation were selected by the Board based upon my analysis and recommendations. In my opinion, the assumptions are reasonable and take into account the experience of the System and reasonable expectations.

Please let me know if you have any questions or need any additional information.

Sincerely,

Matthew A. Strom, FSA, MAAA, EA
Senior Vice President and Actuary

cc: Kathleen Riley, Segal

Segal

Results

VSERS Group F – Scenario Descriptions

Universe	Description of Members Included
Uni-1	Longest service active members in Group F that as a cohort, under the June 30, 2022, actuarial valuation retirement assumptions, will produce at least 200 expected retirements in the first year and at least 100 expected retirements in the second year.

Scenario	Description of Changes
Cash-1	Financial incentive paid outside of the System that will have no impact on pension assets or a members' pension benefit.

See discussion in the letter for more information on this member universe and potential change.

VSERS Group F – Longevity Incentive

Financial incentive paid outside of the System that will have no impact on pension assets/members' pension benefit

2022 Valuation ($ in millions)	Baseline	Uni-1 + Cash-1
Actuarial Accrued Liability:	$3,444.1	$3,437.7
Change from Baseline Valuation:		($6.4)
Funded Percentage on Actuarial Value of Assets Basis:	69.9%	70.0%
Change from Baseline Valuation:		0.1%
Total Normal Cost*:	$74.1	$74.1
Change from Baseline Valuation:		$0.0**
Actuarially Determined Contribution for Fiscal 2024:	$121.9	$121.2
Change from Baseline Valuation:		($0.7)

* Total normal cost as of July 1, 2022, adjusted for timing.
** The change in total normal cost is a decrease of $37,000, which rounds to the $0.0M shown.

Projected Amortization Payment for the Plan Years Ending June 30 ($ in millions)

Year	Baseline	Uni-1 + Cash-1	Change from Baseline
2024	$87.9	$87.3	($0.6)
2025	96.1	95.4	(0.7)
2026	101.1	100.5	(0.6)
2027	105.8	105.1	(0.7)
2028	110.4	109.7	(0.7)
2029	115.0	114.3	(0.7)
2030	119.8	119.0	(0.8)
2031	124.6	123.8	(0.8)
2032	129.5	128.6	(0.9)
2033	134.4	133.4	(1.0)
2034	139.2	138.3	(0.9)
2035	144.2	143.2	(1.0)
2036	149.2	148.2	(1.0)
2037	154.3	153.3	(1.0)
2038	159.3	158.4	(0.9)