Vermont State Teachers' Retirement System

Actuarial Valuation and Review

As of June 30, 2022

This report has been prepared at the request of the Board to assist in administering the Vermont State Teachers' Retirement System. The measurements shown in this actuarial valuation may not be applicable for other purposes.

Segal

Segal

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October 25, 2022

Board of Trustees
Vermont State Teachers' Retirement System
Montpelier, Vermont 05609

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of June 30, 2022, of the Vermont State Teachers' Retirement System (VSTRS). This report summarizes the actuarial data used in the valuation, analyzes the preceding year's experience, and establishes the funding requirement for the fiscal year ending June 30, 2024.

This report was prepared in accordance with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board, at the request of the Board to assist in administering the Retirement System. The census information and financial information on which our calculations were based was prepared by the Office of the State Treasurer. That assistance is gratefully acknowledged.

Segal does not audit the data provided. The accuracy and comprehensiveness of the data is the responsibility of those supplying the data. To the extent we can, however, Segal does review the data for reasonableness and consistency. Based on our review of the data, we have no reason to doubt the substantial accuracy of the information on which we have based this report and we have no reason to believe there are facts or circumstances that would affect the validity of these results.

The measurements shown in this actuarial valuation 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; and changes in plan provisions or applicable law.

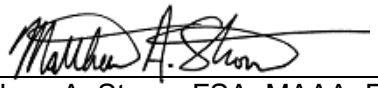
The actuarial calculations were directed under the supervision of Kathleen A. Riley, FSA, MAAA, EA and Matthew A. Strom, FSA, MAAA, EA. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. The assumptions used in this actuarial valuation were selected by the Board based upon our

analysis and recommendations. In our opinion, the assumptions are reasonable and take into account the experience of the Plan and reasonable expectations.

We look forward to reviewing this report and to answering any questions at the next Board meeting.

Sincerely,
Segal

Kathleen A. Riley, FSA, MAAA, EA
Senior Vice President and Chief Actuary



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

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Section 1: Actuarial Valuation Summary

Purpose and basis

This report was prepared by Segal to present a valuation of the System as of June 30, 2022, pursuant to section 1942, subsection (n), of Title 16, Chapter 55, Vermont Statutes Annotated, relating to the Vermont State Teachers' Retirement System. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits.

The contribution requirements presented in this report are based on:

- The benefit provisions of the System, as administered by the Board;
- The characteristics of covered active members, inactive members, and retired members and beneficiaries as of June 30, 2022, provided by the Office of the State Treasurer;
- The unaudited assets of the System as of June 30, 2022, provided by the Office of the State Treasurer;
- Economic assumptions regarding future salary increases, inflation, and investment earnings;
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.; and
- The funding policy prescribed by State statute.

Certain disclosure information required by GASB Statements No. 67 and 68 as of June 30, 2022, for the System is provided in separate reports.

Valuation highlights

1. Segal strongly recommends an actuarial funding policy that targets 100% funding of the actuarial accrued liability. Generally, this implies payments that are ultimately at least enough to cover normal cost, interest on the unfunded actuarial accrued liability and the principal balance. The funding policy set in the Vermont State Pension Code meets this standard. Section 1944, subsection (c)(4), of Title 16, Chapter 55, Vermont Statutes Annotated calls for annual payments on the unfunded actuarial accrued liability to be made over a closed period ending on June 30, 2038. The amount of each annual payment is calculated assuming that the amortization period will remain closed and that the amortization amount will increase annually at the rate of 3% over the preceding year.
2. Actual employer contributions made during the fiscal year ending June 30, 2022, were $325.2 million, or 165.8% of the actuarially determined contribution (ADC) of $196.2 million. This $325.2 million includes $125 million of additional funding from the State as a result of Act 114, which is outlined in "*Changes from prior valuation*" below. In the prior fiscal year, actual employer contributions were $134.5 million, or 101.8% of the prior year's actuarially determined contribution.
3. The ADC for the fiscal year ending June 30, 2023, of $205.2 million, calculated as part of the June 30, 2021, actuarial valuation, was recertified to $195.0 million at the June 9, 2022, board meeting to reflect the additional funding and benefit changes from Act 114 and Act 173.
4. The rate of return on the market value of assets was −8.85% for the July 1, 2021, to June 30, 2022, plan year. The return on the actuarial value of assets was 5.70% for the same period due to the recognition of prior years' investment gains and losses. This resulted in an actuarial loss when measured against the assumed rate of return of 7.00%. We advise the Board to continue to monitor actual and anticipated investment returns relative to the assumed long-term rate of return on investments.
5. The actuarial value of assets is 105.0% of the market value of assets, compared to the prior year where the actuarial value of assets was 90.5% of the market value of assets. The investment experience in the past years has only been partially recognized in the actuarial value of assets. As the deferred net loss is recognized in future years, the cost of the System is likely to increase more than expected unless the net loss is offset by future experience. The recognition of the deferred market losses of $118.0 million will also have an impact on the future funded percentage. If the net deferred losses were recognized immediately in the actuarial value of assets, the preliminary actuarially determined contribution rate would increase from 26.05% to 27.41% of payroll.
6. The actuarial loss from investment experience is $29.5 million.
7. The net experience loss from sources other than investment experience was approximately $48.7 million, or 1.1% of the actuarial accrued liability. Of this $48.7 million loss, $28.7 million is due to the higher-than-expected actual 2023 COLA. The remaining $20.0 million loss is relatively consistent with the non-COLA related loss of $23.1 million from the prior year. Additional detail regarding this loss is shown in *Section 2, Other experience*.

Changes from prior valuation

8. In 2022, the Vermont General Assembly enacted Act No. 114 (S.286) and Act No. 173 (H.572), which amended various public pension and other postemployment benefits. As it relates to the Vermont State Teachers' Retirement System, Act 114 and Act 173:

   - Increased the contribution rates of active members beginning in fiscal 2023;
   - Modified the cost-of-living-adjustment (COLA) formula and structure; and
   - Provided a one-time payment of $125 million in general funds towards the unfunded liability in fiscal 2022 and, beginning in fiscal 2024, provides for annual funding of an additional payment to the actuarially determined contribution, in the amount of $9 million in fiscal 2024, $12 million in fiscal 2025, and $15 million in fiscal 2026 and all subsequent years until the fund reaches 90% funded.

   The changes above that impacted the liabilities of the System (excluding the one-time payment of $125 million) resulted in a decrease in unfunded actuarial accrued liability of $30.8 million as of June 30, 2022.

   Act 114 also established the Post-Retirement Adjustment Allowance Account to provide supplemental cost-of-living adjustments when the System is 80% funded and the amount in the Account exceeds the present value of the benefit. No liability is included in this valuation for this benefit.

9. The funded percentage (the ratio of the actuarial value of assets to actuarial accrued liability) is 57.3%, compared to the prior year's funded percentage of 52.9%. This percentage is one measure of funding status and its history is a measure of funding progress. Using the market value of assets, the funded percentage is 54.5%, compared to 58.5% as of the prior valuation date. These measurements are not necessarily appropriate for assessing the sufficiency of System assets to cover the estimated cost of settling the System's benefit obligation or the need for or the amount of future contributions.

10. The results of this June 30, 2022, actuarial valuation are used to determine the actuarially determined contribution for the fiscal year ending June 30, 2024, and to estimate the actuarially determined contribution for the fiscal year ending June 30, 2025. The actuarially determined contribution for fiscal 2024 is $194.3 million, a decrease of $0.7 million from fiscal year 2023. Last year's estimate of the actuarially determined contribution for fiscal 2024 is $17.0 million more than this year's actual amount. This is due to the implementation of Act 114 and Act 173 and the larger than assumed actual employer contributions, partially offset by investment losses on an actuarial basis and demographic losses. The estimated fiscal 2025 actuarially determined contribution is $197.8 million.

11. The unfunded actuarial accrued liability is $1.832 billion, which is a decrease of $117.9 million since the prior valuation.

Risk

12. It is important to note that this actuarial valuation is based on financial and demographic data as of June 30, 2022. The Plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the plan year. Moreover, this actuarial valuation does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after June 30, 2022, due to COVID-19. Segal is available to prepare projections of potential outcomes of market conditions and other demographic experience upon request.
13. Since the actuarial valuation results are dependent on a given set of assumptions, there is a risk that emerging results may differ significantly as actual experience proves to be different from the assumptions. We have included a discussion of various risks that may affect the System in *Section 2, Risk*.

GASB

14. This report constitutes an actuarial valuation for the purpose of determining the actuarially determined contribution under the System's funding policy and measuring the progress of that funding policy. The Net Pension Liability and Pension Expense under Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68, for inclusion in the plan and employer's financial statements as of June 30, 2022, and June 30, 2023, will be provided separately. The actuarially determined contribution in this valuation is expected to be used as the actuarially determined contribution for GASB financial reporting.

Summary of key valuation results

		2022	2021
Actuarially determined employer contributions:	• Actuarially determined employer contributions for fiscal 2024 (and 2023)	$194,281,051	$205,161,651[1]
	• Estimated actuarially determined employer contributions for fiscal 2025 (and 2024)	197,755,630	211,316,499
Actuarial accrued liability for plan year beginning July 1:	• Retired members and beneficiaries	$2,666,085,733	$2,543,976,588
	• Deferred members as reported by the System	55,951,644	51,335,850
	• Inactive members as reported by the System	71,859,278	91,865,729
	• Active members	1,495,902,699	1,454,836,493
	• Total	4,289,799,354	4,142,014,660
	• Employer normal cost for plan year beginning July 1	36,386,369	40,915,500
Assets for plan year beginning July 1:	• Market value of assets (MVA)	$2,339,412,945	$2,422,793,508
	• Actuarial value of assets (AVA)	2,457,374,321	2,191,650,755
	• Actuarial value of assets as a percentage of market value of assets	105.04%	90.46%
Funded status for plan year beginning July 1:	• Unfunded actuarial accrued liability based on MVA	$1,950,386,409	$1,719,221,152
	• Funded percentage on MVA basis	54.53%	58.49%
	• Unfunded actuarial accrued liability based on AVA	$1,832,425,033	$1,950,363,905
	• Funded percentage on AVA basis	57.28%	52.91%
	• Remaining amortization period (years)	16	17
Key assumptions:	• Investment return	7.00%	7.00%
	• Inflation rate	2.30%	2.30%
Demographic data for plan year beginning July 1:	• Number of retired members and beneficiaries	10,295	10,106
	• Number of deferred members as reported by the System	938	911
	• Number of inactive members as reported by the System	2,932	2,915
	• Number of active members	10,387	9,955
	• Total payroll	$701,566,613	$657,934,953
	• Average payroll	67,543	66,091
	• Total monthly benefits for all retired members and beneficiaries	19,619,042	18,591,034
	• Average monthly benefit for all retired members and beneficiaries	1,906	1,840

[1] The actuarially determined contribution for the fiscal year ending June 30, 2023, of $205,161,651 calculated as part of the June 30, 2021, actuarial valuation, was recertified to $194,961,651 at the June 9, 2022, board meeting to reflect the additional funding and benefit changes from Act 114 and Act 173.

Important information about actuarial valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the System will be determined by the actual benefits and expenses paid and the actual investment experience of the System.

In order to prepare a valuation, Segal relies on a number of input items. These include:

Plan provisions	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. It is important 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.
Member information	An actuarial valuation for a plan is based on data provided to the actuary by the State. 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. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Financial information	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 Office of the State Treasurer. 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 members 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 members in each year, as well as forecasts of the Plan's benefits for each of those events. In addition, the benefits forecasted for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that is expected to be achieved on the plan's assets. 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 are selected 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. In addition, the actuarial assumptions may change over time, and while this may have a significant impact on the reported results, it does not mean that the previous assumptions were unreasonable or wrong.

Section 1: Actuarial Valuation Summary

Models	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. 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 user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

The actuarial valuation is prepared at the request of the System and Board. Segal is not responsible for the use or misuse of its report, particularly by any other party.
An actuarial valuation is a measurement at a specific date — it is not a prediction of a plan's future financial condition. Accordingly, Segal did not perform an analysis of the potential range of financial measurements, except where otherwise noted.
Actuarial results in this report are not rounded, but that does not imply precision.
If the System is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
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 System should look to its 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 System upon delivery and review. Trustees should notify Segal immediately of any questions or concerns about the final content.

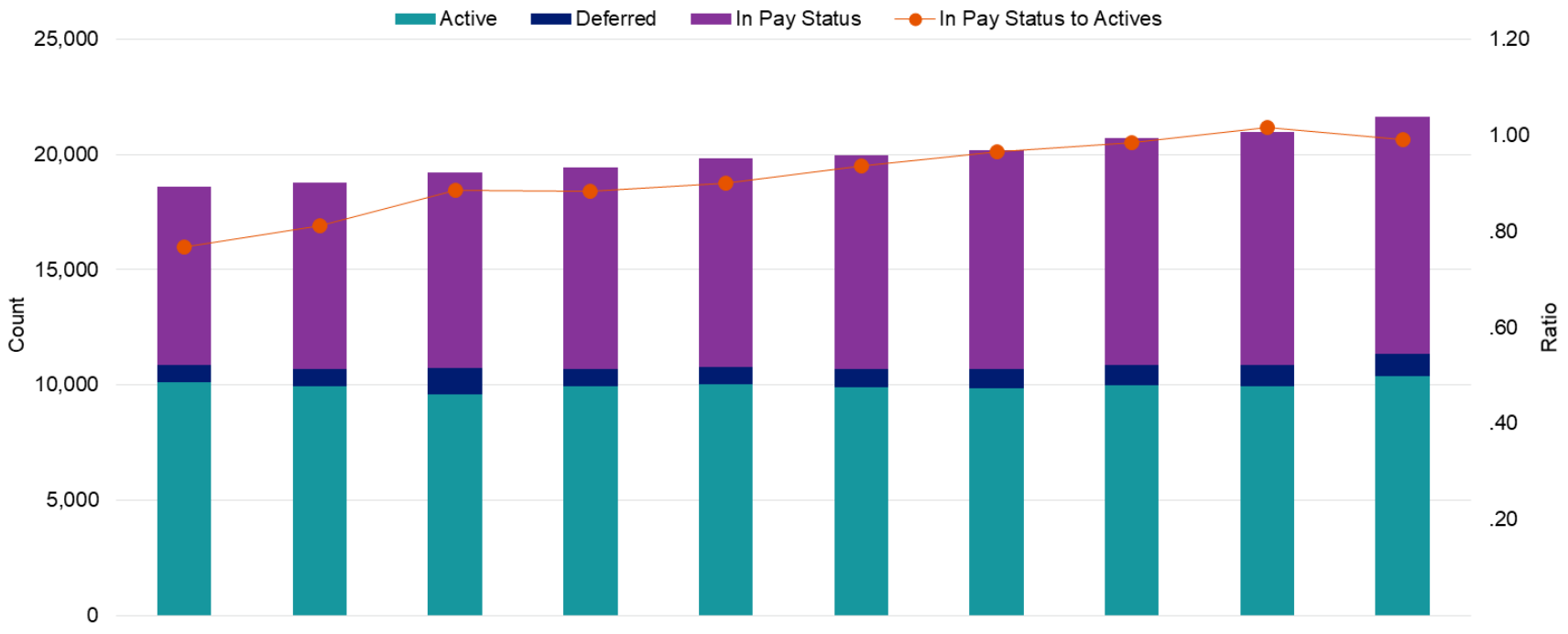
As Segal has no discretionary authority with respect to the management or assets of the System, it is not a fiduciary in its capacity as actuaries and consultants with respect to the System.

Section 2: Actuarial Valuation Results

Member data

This section presents a summary of significant statistical data on covered members.

Member Population as of June 30



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
In Pay Status	7,743	8,086	8,484	8,763	9,021	9,269	9,514	9,843	10,106	10,295
Deferred[1]	751	740	1,163	747	763	787	819	887	911	938
Active	10,101	9,952	9,585	9,919	10,028	9,892	9,862	9,996	9,955	10,387
Ratio[2]	0.77	0.81	0.89	0.88	0.90	0.94	0.96	0.98	1.02	0.99

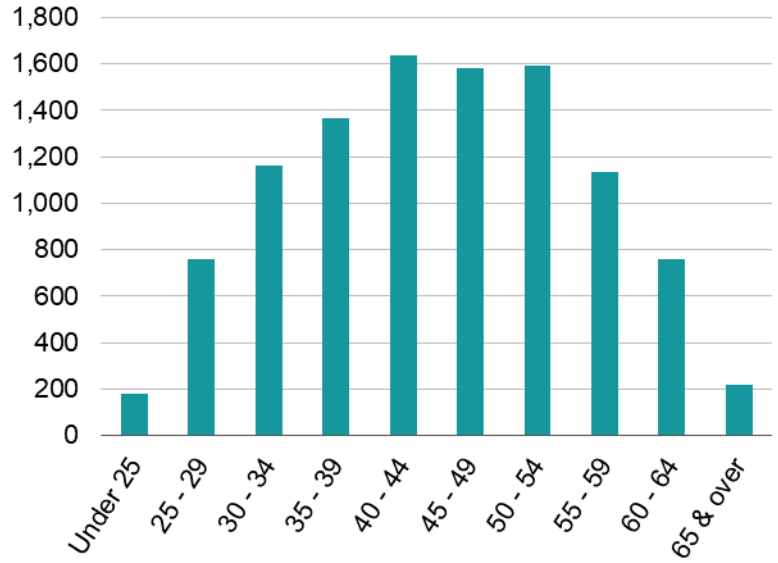
[1] Excludes inactive members as reported by the System.
[2] Effective for the June 30, 2022, actuarial valuation, all historical ratios were updated to reflect the ratio of in pay status members to active members.

Active members

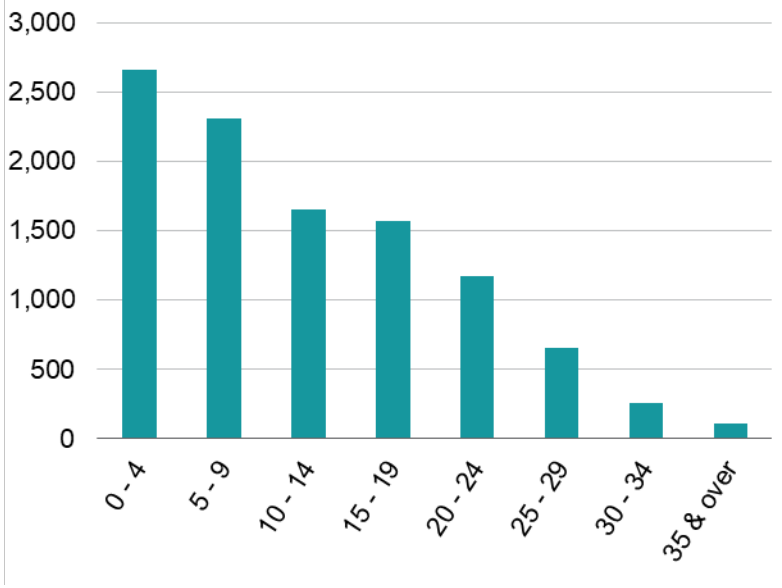
As of June 30	2022	2021	Change
Active members	10,387	9,955	4.3%
Average age	45.2	45.3	−0.1
Average years of creditable service	12.1	12.3	−0.2
Average payroll	$67,543	$66,091	2.2%

Distribution of Active Members as of June 30, 2022

Actives by Age



Actives by Years of Service



Inactive and deferred members

In this year's valuation, there were 2,932 inactive members as reported by the System. A member is reported as inactive if they have withdrawn from active employment within the six-year period preceding the valuation date, or if they withdrew prior to the six-year period preceding the valuation date, but do not have a vested right to a deferred or immediate vested benefit and have not taken a refund of their employee contributions.

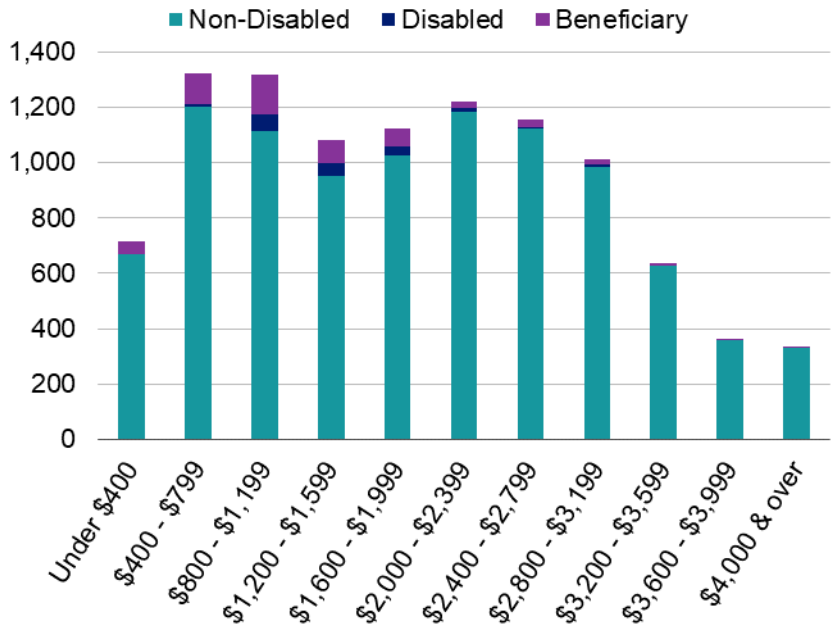
In addition, there were 938 deferred members as reported by the System. A member is reported as deferred if they have withdrawn from active employment prior to the six-year period preceding the valuation date and have a vested right to a deferred or immediate vested benefit.

Retired members and beneficiaries

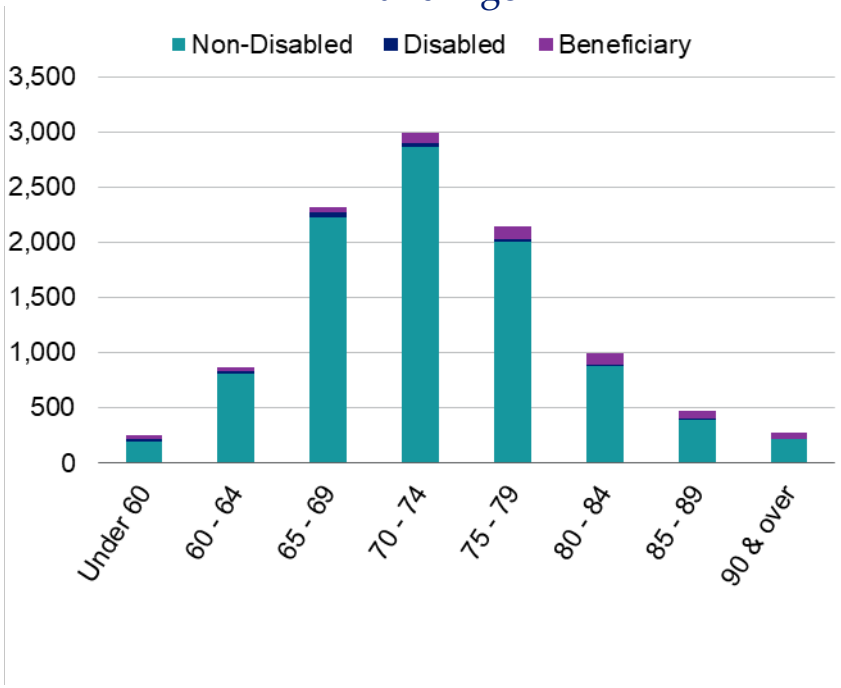
As of June 30	2022	2021	Change
Retired members (including disability)	9,758	9,573	1.9%
Average age	73.2	72.8	0.4
Average amount	$1,939	$1,874	3.5%
Beneficiaries	537	533	0.8%
Total monthly amount	$19,619,042	$18,591,034	5.5%

Distribution of Pensioners as of June 30, 2022

Pensioners by Type and Monthly Amount



Pensioners by Type and Age



Historical plan population

Member Data Statistics: 2013 – 2022

	Active Members			Retired Members[1]		
As of June 30	Count	Average Age	Average Service	Count	Average Age	Average Monthly Amount
2013	10,101	46.6	13.1	7,356	- -	$1,514
2014	9,952	46.5	13.2	7,674	69.7	1,547
2015	9,585	46.2	12.9	8,006	70.0	1,614
2016	9,919	45.9	12.7	8,259	70.8	1,641
2017	10,028	45.8	12.6	8,581	71.2	1,683
2018	9,892	45.7	12.6	8,809	71.7	1,726
2019	9,862	45.7	12.7	9,040	72.1	1,771
2020	9,996	45.4	12.4	9,340	72.5	1,830
2021	9,955	45.3	12.3	9,573	72.8	1,874
2022	10,387	45.2	12.1	9,758	73.2	1,939

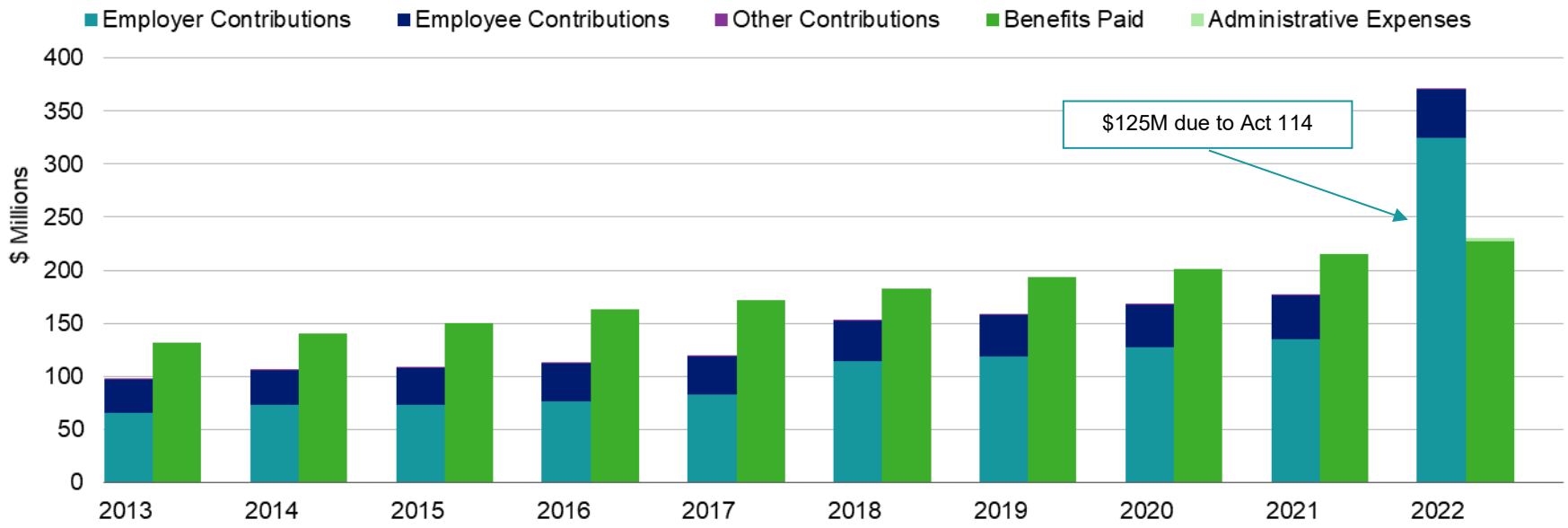
[1] Not including beneficiaries.

Financial information

Retirement plan funding anticipates that, over the long term, both contributions and investment earnings (less investment fees and administrative expenses) will be needed to cover benefit payments. Retirement plan assets change as a result of the net impact of these income and expense components. Benefits have exceeded employer and member contributions for all years shown except for 2022 (due to the additional one-time payment of $125 million per Act 114).

Additional financial information, including a summary of these transactions for the valuation year, is presented in *Section 3, Exhibits C, D* and *E*.

Comparison of Contributions to Benefits Paid
for Years Ended June 30, 2013 – 2022



Section 2: Actuarial Valuation Results

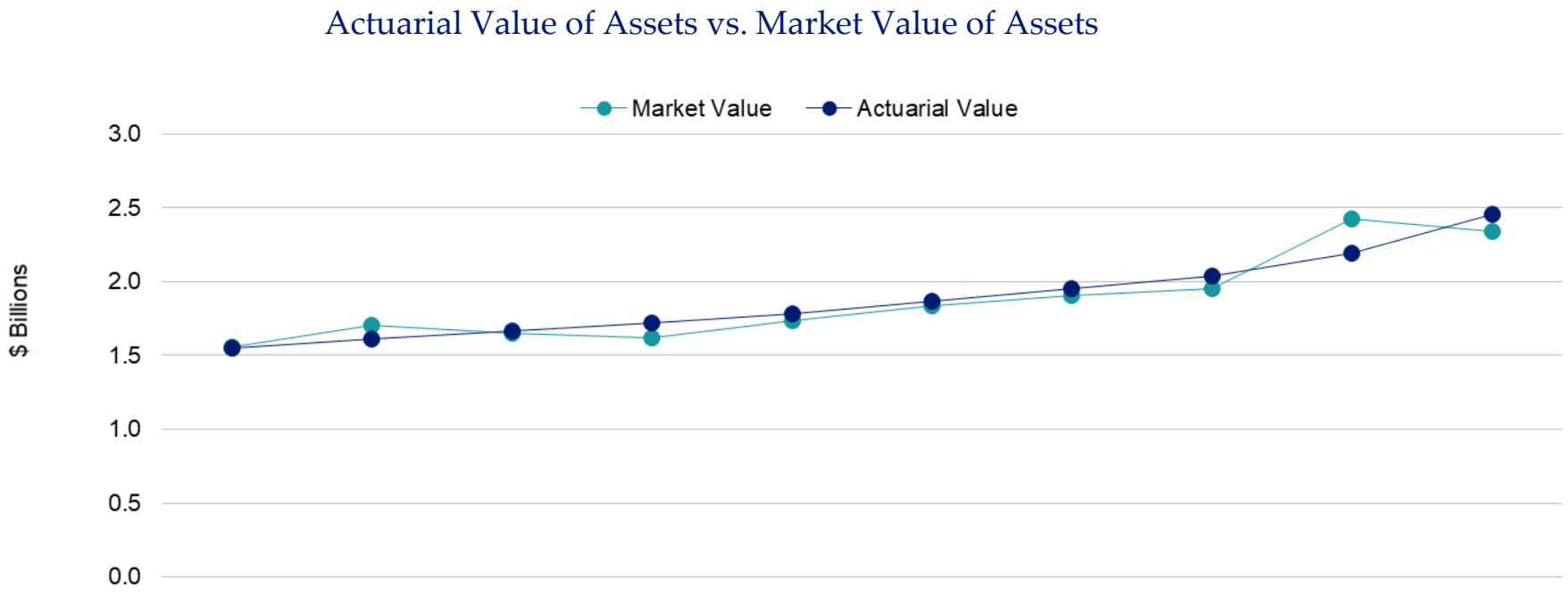
It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board has adopted an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuation is not recognized in a single year and, as a result, the asset value and the plan costs are more stable. A characteristic of the asset valuation method is that, over time, it is more likely to produce an actuarial value of assets that is less than the market value of assets. The asset method provides a degree of conservatism to increase the likelihood that benefits are funded. The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

Determination of Actuarial Value of Assets for Year Ended June 30, 2022

1	Actuarial value of assets, June 30, 2021		$2,191,650,755
2	Net new money[1], including expected investment income (7.00%)		295,213,910
3	Preliminary asset value: **1 + 2**		2,486,864,665
4	Smoothing adjustment		
	(a) Market value, June 30, 2022	$2,339,412,945	
	(b) Preliminary asset value	2,486,864,665	
	(c) Unrecognized appreciation	−147,451,720	
	(d) Adjustment	X 20%	−29,490,344
5	Actuarial value of assets, June 30, 2022: **3 + 4d**		$2,457,374,321
6	Actuarial value of assets as a percentage of market value: **5 ÷ 4a**		105.04%

[1] Net new money is comprised of contributions, interest, and dividends, less benefit payments and expenses.

Asset history for years ended June 30

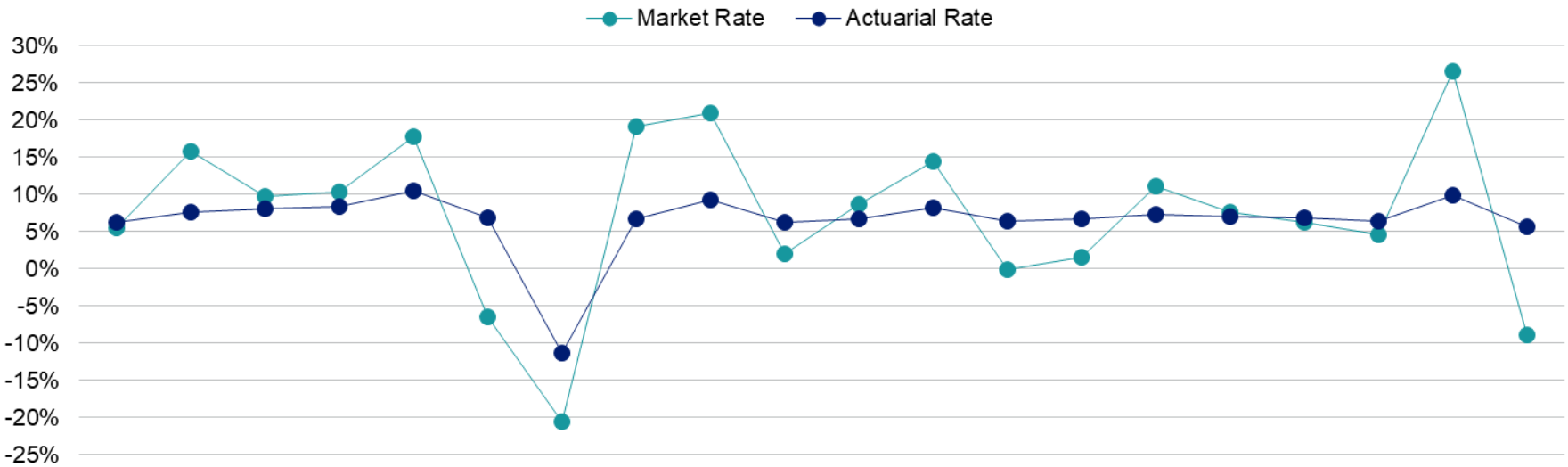


	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Actuarial Value[1]	$1.55	$1.61	$1.66	$1.72	$1.78	$1.87	$1.95	$2.04	$2.19	$2.46
Market Value[1]	1.55	1.71	1.65	1.62	1.74	1.83	1.90	1.95	2.42	2.34
Ratio	1.00	0.94	1.01	1.06	1.02	1.02	1.02	1.04	0.90	1.05

[1] In billions

Historical investment returns

Market and Actuarial Rates of Return for Years Ended June 30



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Market rate	5.5%	15.9%	9.8%	10.4%	17.7%	−6.4%	−20.5%	19.2%	21.0%	2.1%	8.7%	14.4%	−0.1%	1.5%	11.2%	7.6%	6.3%	4.6%	26.6%	−8.9%
Actuarial rate	6.3%	7.7%	8.1%	8.4%	10.5%	6.9%	−11.2%	6.8%	9.3%	6.3%	6.7%	8.3%	6.5%	6.8%	7.3%	7.0%	6.9%	6.4%	9.9%	5.7%
Assumed rate	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.5%	8.5%	8.5%	8.5%	8.5%	7.95%	7.95%	7.5%	7.5%	7.0%	7.0%	7.0%

Average Rates of Return	Actuarial Value	Market Value
Most recent five-year average return:	7.15%	6.35%
Most recent ten-year average return:	7.14%	6.62%
Most recent fifteen-year average return:	6.01%	5.19%
20-year average return:	6.48%	6.55%

Actuarial experience

To calculate the actuarially determined contribution (ADC), assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the ADC will decrease relative to the previous year. On the other hand, the ADC will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single years' experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The net experience loss is $78,229,387, which includes $29,490,344 from investment losses and $48,739,043 in losses from all other sources. The net experience variation from individual sources other than investments was 1.1% of the actuarial accrued liability. A discussion of the major components of the actuarial experience is on the following pages.

Actuarial Experience for Year Ended June 30, 2022

1	Net loss from investments[1]	−$29,490,344
2	Gain on administrative expenses	144,271
3	Net loss from other experience	−48,883,314
4	Net experience loss: **1 + 2 + 3**	−$78,229,387

[1] Details on next page.

Investment experience

Actuarial planning is long term. The obligations of a pension plan are expected to continue for the lifetime of all its participants.

The assumed long-term rate of return of 7.00% considers past experience, the System's asset allocation policy, and future expectations.

Investment Experience

		Year Ended June 30, 2022	
		Market Value	**Actuarial Value**
1	Investment income	−$220,383,807	$128,720,322
2	Average value of assets	2,491,295,130	2,260,152,377
3	Rate of return: **1 ÷ 2**	−8.85%	5.70%
4	Assumed rate of return	7.00%	7.00%
5	Expected investment income: **2 x 4**	$174,390,659	$158,210,666
6	Actuarial gain/(loss): **1 − 5**	−$394,774,466	−$29,490,344

Administrative expenses

Administrative expenses for the year ending June 30, 2022, totaled $2,715,251, as compared to the assumption of $2,759,765.

Other experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- the extent of turnover among members,
- retirement experience (earlier or later than projected),
- mortality (more or fewer deaths than projected),
- the number of disability retirements (more or fewer than projected),
- actual COLAs paid (more or less than assumed), and
- salary and service increases for continuing actives (greater or smaller than projected).

Liability Changes Due to Demographic Experience for Year Ended June 30

	2018	2019	2020	2021	2022
Net turnover	−$29,368,302	−$21,031,002	−$21,770,846	−$10,518,767	−$8,153,540
Retirement	−15,053,147	−20,019,165	−24,972,035	−16,872,089	−13,883,165
Mortality	747,793	−2,743,845	−3,335,043	1,761,346	5,596,133
Disability retirements	−36,314	−128,020	−53,881	−560,942	44,922
Salary/service increases	10,510,812	10,407,130	10,408,437	9,493,027	7,256,908
COLA experience[1]	−1,386,560	7,683,366	8,838,015	−22,593,555	−28,712,344
Miscellaneous[2]	−8,326,177	−11,508,122	−6,226,388	−6,407,934	−11,032,228
Total	−$42,911,895	−$37,339,658	−$37,111,741	−$45,698,914	−$48,883,314

[1] COLA experience loss for 2022 is due to actual 2023 COLAs being greater than expected (5.00% actual vs 2.40% expected for Group A, 2.50% actual vs 1.35% expected for Groups B and C).

[2] Miscellaneous gains and losses are comprised of all demographic gains and losses that are not individually listed in the table above. Some of the largest attributing items typically include data updates, show-up/drop-off records (records that were not previously valued, or records that were previously valued that are no longer being valued), and actual timing of cash flows being different than assumed.

Actuarial assumptions

Effective for the June 30, 2022, actuarial valuation, assumed COLAs were updated to reflect the best estimate of anticipated future experience as a result of the various plan provision changes contained in Act 114 and Act 173. Details on actuarial assumptions and methods are in *Section 4, Exhibit I.*

Plan provisions

Effective for the June 30, 2022, actuarial valuation, the following plan provisions were updated to reflect Act 114 and Act 173:

- Post-Retirement Adjustments; and
- Member Contribution Rates.

A summary of plan provisions is in *Section 4, Exhibit II*.

Development of unfunded actuarial accrued liability

Development of Unfunded Actuarial Accrued Liability for Year Ended June 30, 2022

1	Unfunded actuarial accrued liability at beginning of year		$1,950,363,905
2	Normal cost at beginning of year		76,077,245
3	Total contributions		−370,308,158
4	Interest on **1**, **2** & **3**		128,890,095
5	Expected unfunded actuarial accrued liability		$1,785,023,087
6	Changes due to:		
	(a) Net experience (gain)/loss	$78,229,387	
	(b) Assumptions	0	
	(c) Funding method	0	
	(d) Plan provisions	−30,827,441	
	Total changes		47,401,946
7	Unfunded actuarial accrued liability at end of year		$1,832,425,033

Actuarially determined contribution

The actuarially determined contribution is equal to the employer normal cost payment and a payment on the unfunded actuarial accrued liability. The statute governing the System specifies the funding policy used to calculate the actuarially determined contribution based on a closed amortization period ending on June 30, 2038. As of July 1, 2022, there are 16 years remaining on this schedule.

The actuarially determined contribution for the fiscal year ending June 30, 2023, is $194,961,651 based on the June 30, 2021, actuarial valuation and recertified at the June 9, 2022, board meeting. The results of this June 30, 2022, actuarial valuation with the additional Act 114 contributions are used to determine the actuarially determined contribution for the fiscal year ending June 30, 2024, and to estimate the actuarially determined contribution for the fiscal year ending June 30, 2025, as shown in *Section 2, Projection of actuarially determined contribution for following two fiscal years*.

The preliminary contribution requirement as of July 1, 2022, is based on the data previously described, the actuarial assumptions and Plan provisions described in *Section 4*, including all changes affecting future costs adopted at the time of the actuarial valuation, and actuarial gains and losses.

Preliminary Contribution Requirement

		Year Beginning July 1			
		2022		2021	
		Amount	% of Payroll	Amount	% of Payroll
1	Total normal cost, adjusted for timing[1]	$79,722,197	10.84%	$75,935,150	11.01%
2	Administrative expenses	2,942,898	0.40%	2,759,765	0.40%
3	Expected employee contributions	−46,278,726	−6.29%	−37,779,415	−5.48%
4	Employer normal cost: **1 + 2 + 3**	$36,386,369	4.95%	$40,915,500	5.93%
5	Actuarial accrued liability	4,289,799,354		4,142,014,660	
6	Actuarial value of assets	2,457,374,321		2,191,650,755	
7	Unfunded actuarial accrued liability: **5 − 6**	$1,832,425,033		$1,950,363,905	
8	Payment on unfunded actuarial accrued liability, adjusted for timing[1]	$155,245,760	21.10%	$158,194,853	22.93%
9	Preliminary contribution requirement: **4 + 8**	$191,632,129	26.05%	$199,110,353	28.86%
10	Projected payroll	$735,724,617		$689,941,252	

[1] Contributions are assumed to be paid at the middle of the year.

Reconciliation of preliminary contribution requirement

Reconciliation of Preliminary Contribution Requirement from July 1, 2021, to July 1, 2022

		Amount	% of Payroll
1	Preliminary Contribution Requirement as of July 1, 2021	$199,110,353	28.86%
2	Effect of plan amendment(s)	−10,007,960	−1.45%
3	Effect of change in asset method	-	0.00%
4	Effect of expected change in amortization payment due to payroll growth	4,745,845	0.69%
5	Effect of expected change in amortization method	-	0.00%
6	Effect of change in actuarial assumptions	-	0.00%
7	Effect of total contributions (more)/less than actuarially determined contribution	−11,699,022	−1.70%
8	Effect of investment (gain)/loss	2,498,466	0.36%
9	Effect of other gains and losses on accrued liability	4,129,244	0.60%
10	Effect of change in administrative expenses[1]	183,134	0.00%
11	Net effect of other changes, including composition and number of members, payroll[2]	2,672,069	−1.31%
12	Total change	−$7,478,224	−2.81%
13	Preliminary Contribution Requirement as of July 1, 2022: **1 + 12**	$191,632,129	26.05%

[1] The dollar amount of expected administrative expenses increased even though the assumption remained 0.40% of projected payroll.
[2] The percent of payroll value includes the effect of the change in projected payroll basis.

Amortization schedule for unfunded actuarial accrued liability – schedule of contributions required by statute

Unfunded Liability Amortization Schedule

As of July 1	Balance	Additional Act 114 State Contribution[1] (Year Following)	Amortization Payment[2] (Year Following)	Funded Percentage
2022	$1,832,425,033	$0	$160,118,686[3]	57.28%
2023	1,795,066,728	9,000,000	159,455,378	59.24%
2024	1,746,469,802	12,000,000	163,368,194	61.54%
2025	1,687,320,418	15,000,000	167,040,395	64.00%
2026	1,617,128,798	15,000,000	170,416,485	66.63%
2027	1,538,531,511	15,000,000	173,776,441	69.33%
2028	1,450,956,848	15,000,000	177,095,920	72.10%
2029	1,353,818,262	15,000,000	180,341,898	74.93%
2030	1,246,522,310	15,000,000	183,468,427	77.81%
2031	1,128,481,535	15,000,000	186,409,433	80.71%
2032	999,135,705	15,000,000	189,065,613	83.63%
2033	857,988,093	15,000,000	191,278,443	86.55%
2034	704,671,179	15,000,000	192,772,156	89.45%
2035	539,076,972	0	193,000,242	92.31%
2036	377,171,358	0	198,790,249	94.88%
2037	197,943,121	0	204,753,956	97.44%
2038	0	0	0	100.00%

[1] Under Act 114, beginning in FY24, the State is contributing an additional payment that grows to $15 million in FY26 and remains at that level until the fund reaches 90%.
[2] The annual payment to amortize the unfunded actuarial liability is calculated based upon installments increasing at a rate of 3% per year.
[3] The 2022 amortization payment reflects a $2.9 million reduction from the amount calculated in the June 30, 2021, actuarial valuation to reflect the estimated impact of plan changes from Act 114 and Act 173 on the unfunded liability payment of the FY23 ADC that was recertified at the June 9, 2022, board meeting.

Projection of actuarially determined contribution for following two fiscal years

On the basis of the June 30, 2022, actuarial valuation, the employer normal cost rate is 4.95%. In order to reflect the future member contribution increases per Act 114, the fiscal 2024 employer normal cost rate is reduced by an estimated 35 basis points and the fiscal 2025 employer normal cost rate is reduced by an additional estimated 19 basis points. These reduced employer normal cost rates are applied to the projected payrolls for fiscal 2024 and fiscal 2025, respectively, to determine the employer normal cost for each year. The payment on the unfunded liability is added to the employer normal cost to determine the actuarially determined contribution for the fiscal year ending June 30, 2024, and to estimate the actuarially determined contribution for the fiscal year ending June 30, 2025, as shown below. The final actuarially determined contribution for fiscal 2025 will be determined with the next valuation.

Actuarially Determined Contribution: 2024 – 2025

Fiscal Year Ended June 30	Projected Payroll[1]	Employer Normal Cost Rate	Projected Contributions		
			Employer Normal Cost	Unfunded Liability Payment	Total
2024	$757,796,356	4.60%	$34,825,673	$159,455,378	$194,281,051
2025	780,530,246	4.41%	34,387,436	163,368,194	197,755,630

Pursuant to Section 1944, subsection (b)(2), of Title 16, Chapter 55, Vermont Statutes Annotated, if expected employee contributions were 5.00% for all Group C active members, the employer normal cost rate would be 5.89%, which would result in an employer normal cost for fiscal 2024 of $44,602,943 and a total employer contribution requirement of $204,058,321. For fiscal 2025, the total employer contribution requirement would be $207,826,218.

[1] In these projections, total payroll is assumed to increase by 3% each year.

History of employer contributions

A history of the most recent years of contributions is shown below.

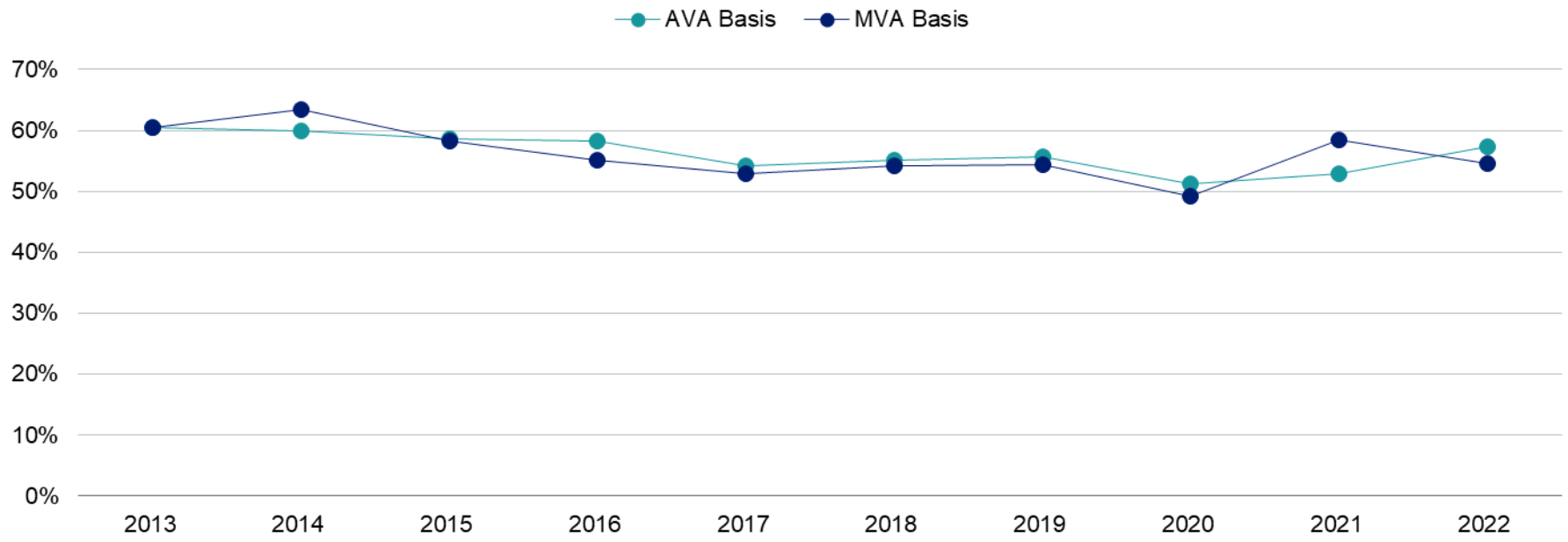
History of Employer Contributions: 2014 – 2023

Fiscal Year Ended June 30	Actuarially Determined Contribution		Actual Employer Contribution		
	Amount[1]	Percentage of Payroll[2]	Amount	Percentage of Payroll[2]	Percent Contributed
2014	$68,352,825	11.66%	$72,668,412	12.39%	106.31%
2015	72,857,863	12.37%	72,908,805	12.38%	100.07%
2016	76,102,909	12.84%	76,947,869	12.98%	101.11%
2017	82,659,576	14.39%	82,887,174	14.43%	100.28%
2018	88,409,437	14.64%	114,598,921	18.97%	129.62%
2019	105,640,777	16.13%	119,174,913	18.20%	112.81%
2020	126,197,389	19.30%	126,941,582	19.41%	100.59%
2021	132,141,701	19.51%	134,541,278	19.86%	101.82%
2022	196,206,504	28.44%	325,244,828	47.14%	165.77%
2023	194,961,651	26.50%	--	--	--

[1] Budgeted contribution amount from prior valuation report.
[2] Based on expected payroll.

History of funded percentage

A history of the most recent years of funded percentage as of June 30th is shown below.



Actuarial balance sheet

An overview of the System's funding is provided by an Actuarial Balance Sheet, which compares the total liabilities (current and future) to the total assets (current and future). The liabilities are calculated by determining the amount and timing of all future payments that will be made by the System for current members. These payments are discounted at the valuation interest rate to the date of the valuation, thereby determining the present value of all benefits, referred to as the "liability" of the System.

Second, this liability is compared to the assets. The "assets" for this purpose include the net amount of assets already accumulated by the System, the present value of future member contributions, the present value of future employer normal cost contributions, and the present value of future employer amortization payments for the unfunded actuarial accrued liability.

Actuarial Balance Sheet

	Year Ended	
	June 30, 2022	**June 30, 2021**
Liabilities		
• Present value of benefits for retired members and beneficiaries	$2,666,085,733	$2,543,976,588
• Present value of benefits for inactive former members	127,810,922	143,201,579
• Present value of benefits for active members	2,339,309,031	2,252,744,554
Total liabilities	**$5,133,205,686**	**$4,939,922,721**
Assets		
• Total valuation value of assets	$2,457,374,321	$2,191,650,755
• Present value of future contributions by members	576,148,802	423,798,620
• Present value of future employer contributions for:		
• Entry age cost	267,257,530	374,109,441
• Unfunded actuarial accrued liability	1,832,425,033	1,950,363,905
Total of current and future assets	**$5,133,205,686**	**$4,939,922,721**

Risk

Since the actuarial valuation results are dependent on a given set of assumptions and data as of a specific date, there is a risk that emerging results may differ significantly as actual experience differs from the assumptions.

Below is a brief discussion of some of the risks that may affect the System. This discussion is focused on funding-related risks, but similar concerns may apply to risks regarding the level of expense and liabilities reported for System accounting purposes as well.

There are external factors including legislative or financial reporting changes that could impact the System's funding and disclosure requirements. While we do not assume any changes in such external factors, it is important to understand that they could have significant consequences for the System.

In 2019, the Board engaged Segal to perform a detailed analysis of the potential range of the impact of risks relative to the System's future financial condition. This study included an overview of risks that affect the System and stakeholders, as well as various stochastic and deterministic modeling scenarios, primarily focusing on investment returns.

A detailed risk assessment is important for VSTRS because:

- The negative cash flow position of the System could be exacerbated by relatively small deviations from assumed future experience.
- Retired and inactive members account for more than half of the System's liabilities limiting options for reducing plan liabilities in the event of adverse experience.
- Most actuarial assumptions have been revised and updated since the last detailed risk analysis was performed.
- The risks identified below show significant potential for variability.

The following risks could significantly affect the System's future condition:

- **Investment Risk** (the risk that returns will be different than expected)

  If the prior year's investment performance resulted in a market value of assets that is 10% different than the current value, it would result in a change of $249.1 million in the asset value. A 10% increase in assets would cause the unfunded liability (market value basis) to decrease from $1.950 billion to $1.701 billion. Likewise, a 10% decrease in the asset value, would cause the unfunded liability to increase from $1.950 billion to $2.200 billion.

  Since the System's assets are much larger than contributions, investment performance may create volatility in the actuarially determined contribution requirements. For example, for each 1% difference in actual return, the actuarially determined

contribution would increase or decrease by 0.29%, disregarding the effects of the five-year phase-in of investment gains and losses.

To illustrate the potential for future investment volatility, the market value rate of return over the last 20 years has ranged from a low of −20.49% to a high of 26.64%.

- **Longevity Risk** (the risk that mortality experience will be different than expected)

  The actuarial valuation includes an expectation of future improvement in life expectancy. Emerging plan experience that does not match these expectations will result in either an increase or decrease in the actuarially determined contribution.

  The current mortality assumptions represent our best estimate of the mortality rates for this plan; however, a 10% reduction in the assumed mortality rates results in an increase in the liabilities of roughly 3% for most plans. For VSTRS, a 3% liability increase would result in an increase in the unfunded accrued liability of $128.7 million. The unfunded accrued liability (market value of assets basis) would increase from $1.950 billion to $2.079 billion.

- **Demographic Risk** (the risk that member experience will be different than assumed)

  Examples of this risk include:

  – Actual retirements occurring earlier or later than assumed. The value of retirement plan benefits is sensitive to the rate of benefit accruals and any early retirement subsidies that apply.

  – More or less active member turnover than assumed.

  – Salary increases more or less than assumed.

- **Maturity Measures**

  As pension plans mature, the cash need to fulfill benefit obligations will increase over time. Therefore, cash flow projections and analysis should be performed to assure that the Plan's asset allocation is aligned to meet emerging pension liabilities.

  – Over the past ten years, the ratio of in-pay-status members to active members has increased from a low of 0.77 to a high of 1.02. Currently the System has an in-pay-status to active member ratio of 0.99.

  – As of June 30, 2022, the in-pay-status actuarial accrued liability represents 62% of the total actuarial accrued liability. In addition, the actuarial accrued liability for inactive and deferred members represents 3% of the total. The higher the non-active actuarial accrued liability is as a percent of the total liability, the greater the danger of volatility in results.

  – For the prior year, benefits paid were $142.6 million less than contributions received, or 6.1% of the market value of assets. However, this reflects an additional $125 million contribution from the State. Typically, as the System matures, more cash will be needed from the investment portfolio to meet benefit payments.

Section 2: Actuarial Valuation Results

- **Actual Experience Over the Last Five Years and Implications for the Future**

Plan Year Ended	Investment Gain/(Loss)	Administrative Expense Gain/(Loss)	All Other Gains and (Losses)
2018	−$8,436,965	N/A	−$42,911,895
2019	−11,592,854	N/A	−37,339,658
2020	−21,306,964	N/A	−37,111,741
2021	57,785,688	N/A	−45,698,914
2022	−$29,490,344	$144,271	−48,883,314

- Past experience can help demonstrate the sensitivity of key results to the System's actual experience. Over the past five years:
  - The investment gain(loss) for a year (actuarial basis) has ranged from a loss of $29.5 million to a gain of $57.8 million.
  - The non-investment gain(loss) for a year has ranged from a loss of $48.9 million to a loss of $37.1 million.
- The funded percentage on the actuarial value of assets has ranged from a low of 51.29% to a high of 60.50% over the past ten years.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage

Category	As of June 30 2022	As of June 30 2021	Change From Prior Year
Active members in valuation:			
• Number	10,387	9,955	4.3%
• Average age	45.2	45.3	-0.1
• Average years of creditable service	12.1	12.3	-0.2
• Total payroll	$701,566,613	$657,934,953	6.6%
• Average payroll	67,543	66,091	2.2%
• Total active vested members	7,771	7,486	3.8%
Inactive members:			
• Number of deferreds as reported by the System	938	911	3.0%
• Number of inactives as reported by the System	2,932	2,915	0.6%
Retired members:			
• Number in pay status	9,580	9,392	2.0%
• Average age	73.3	72.9	0.4
• Average monthly benefit	$1,947	$1,881	3.5%
Disabled retirees:			
• Number in pay status	178	181	-1.7%
• Average age	70.2	69.5	0.7
• Average monthly benefit	$1,502	$1,476	1.8%
Beneficiaries:			
• Number in pay status	537	533	0.8%
• Average age	75.9	75.1	0.8
• Average monthly benefit	$1,294	$1,229	5.3%

Exhibit B: Reconciliation of Member Data

	Active Members	Deferreds	Inactives	Disability Retirees	Retired Members	Beneficiaries	Total
Number as of July 1, 2021	**9,955**	**911**	**2,915**	**181**	**9,392**	**533**	**23,887**
• New members	884	N/A	198	1	5	N/A	1,088
• Inactives as reported by the System	-562	0	562	N/A	N/A	N/A	0
• Deferreds as reported by the System	N/A	102	-102	N/A	N/A	N/A	0
• Retirements	-308	-43	-33	N/A	384	N/A	0
• New disabilities	-1	0	-1	2	0	N/A	0
• Return to work from disability	0	N/A	N/A	0	N/A	N/A	0
• Died with beneficiary	-1	0	0	-1	-32	34	0
• Died without beneficiary	-3	-2	-1	-5	-169	-27	-207
• Refund of contributions	-35	-8	-171	0	0	0	-214
• Rehire	459	-24	-435	N/A	0	N/A	0
• Certain period expired	N/A	N/A	0	0	0	-5	-5
• Data adjustments	-1	2	0	0	0	2	3
Number as of July 1, 2022	**10,387**	**938**	**2,932**	**178**	**9,580**	**537**	**24,552**

Exhibit C: Summary Statement of Income and Expenses on a Market Value Basis

	Year Ended June 30, 2022		Year Ended June 30, 2021	
Net assets at market value at the beginning of the year		$2,422,793,508		$1,951,489,882
Contribution income:				
• Employer contributions	$325,244,828		$134,541,278	
• Member contributions	44,597,049		42,199,015	
• Less administrative expenses	−2,715,251		−2,782,425	
Net contribution income		*$367,126,626*		*$173,957,868*
Net other income		$466,281		$399,815
Investment income:				
• Interest, dividends and other income	$17,850,619		$17,570,208	
• Asset appreciation	−238,234,426		496,582,207	
• Less investment fees	−2,891,218		−1,957,965	
Net investment income		*−$223,275,025*		*$512,194,450*
Total income available for benefits		**$144,317,882**		**$686,552,133**
Less benefit payments:				
• Benefits	−$224,727,609		−$212,698,779	
• Refunds of contributions	−2,253,448		−2,042,368	
• Death claims	−484,143		−507,360	
• Transfers to other pension trust funds	−233,245		0	
Net benefit payments		*−$227,698,445*		*−$215,248,507*
Change in reserve for future benefits		**−$83,380,563**		**$471,303,626**
Net assets at market value at the end of the year		**$2,339,412,945**		**$2,422,793,508**

Exhibit D: Summary Statement of Plan Assets

	June 30, 2022		June 30, 2021	
Cash equivalents		$16,761,256		$11,797,678
Total accounts receivable		18,410,207		19,400,599
Prepaid expenses		78,130		76,010
Capital assets, net of depreciation		616,012		897,908
Investments:				
• Fixed income	$131,966,139		$110,930,797	
• Equities	216,064,666		255,489,651	
• Mutual and commingled funds	1,538,800,643		1,625,049,631	
• Real estate and venture capital	444,112,262		415,531,154	
Total investments at market value		$2,330,943,710		$2,407,001,233
Total assets		$2,366,809,315		$2,439,173,428
Total liabilities		−$27,396,370		−$16,379,920
Net assets at market value		**$2,339,412,945**		**$2,422,793,508**
Net assets at actuarial value		**$2,457,374,321**		**$2,191,650,755**

Exhibit E: Development of the Fund through June 30, 2022

Year Ended June 30	Employer Contributions	Member Contributions	Net Other Income	Net Investment Return[1]	Admin. Expenses[2]	Benefit Payments[3]	Market Value of Assets at Year-End	Actuarial Value of Assets at Year-End	Actuarial Value as a Percent of Market Value
2012	$56,152,011	$31,827,995	$85,110	$24,726,665	-$22,224,879	-$119,713,933	$1,491,619,901	$1,517,410,471	101.73%
2013	65,086,320	32,343,368	292,953	120,403,032	-24,139,941	-131,254,070	1,554,351,563	1,552,924,370	99.91%
2014	72,668,413	32,558,584	410,500	212,338,194	-26,115,813	-140,846,837	1,705,364,604	1,610,285,523	94.42%
2015	72,908,805	34,863,531	830,887	-7,566,696	-2,551,845	-150,732,845	1,653,116,441	1,662,345,707	100.56%
2016	76,947,869	35,408,763	464,668	19,877,270	-2,163,853	-162,751,409	1,620,899,749	1,716,296,235	105.89%
2017	82,887,174	36,142,411	241,526	173,166,614	-2,623,838	-172,156,063	1,738,557,573	1,779,592,227	102.36%
2018	114,598,921	37,888,566	468,500	125,566,281	-2,448,365	-182,258,923	1,832,372,553	1,866,120,413	101.84%
2019	119,174,913	39,075,342	348,096	109,429,147	-2,714,661	-193,196,825	1,904,488,565	1,950,859,980	102.43%
2020	126,941,582	40,598,283	408,259	83,105,318	-2,814,955	-201,237,170	1,951,489,882	2,035,713,611	104.32%
2021	134,541,278	42,199,015	399,815	512,194,450	-2,782,425	-215,248,507	2,422,793,508	2,191,650,755	90.46%
2022	325,244,828	44,597,049	466,281	-223,275,025	-2,715,251	-227,698,445	2,339,412,945	2,457,374,321	105.04%

[1] On a market basis, net of investment fees.
[2] Includes depreciation and health/life insurance expenses (2014 and prior).
[3] Includes “other expenses”.

Exhibit F: Definition of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Actuarial Accrued Liability for Actives:	The equivalent of the accumulated normal costs allocated to the years before the valuation date.
Actuarial Accrued Liability for Pensioners:	Actuarial Present Value of lifetime benefits to existing pensioners and beneficiaries. This sum takes account of life expectancies appropriate to the ages of the annuitants and the interest that the sum is expected to earn before it is entirely paid out in benefits.
Actuarial Cost Method:	A procedure allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability that are used to determine the actuarially determined contribution.
Actuarial Gain or Loss:	A measure of the difference between actual experience and expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. Through the actuarial assumptions, rates of decrements, rates of salary increases, and rates of fund earnings have been forecasted. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge that may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., assets earn more than projected, salary increases are less than assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results yield actuarial liabilities that are larger than projected. Actuarial gains will shorten the time required for funding the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.
Actuarially Equivalent:	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value (APV):	The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. Each such amount or series of amounts is: Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.) Multiplied by the probability of the occurrence of an event (such as survival, death, disability, withdrawal, etc.) on which the payment is conditioned, and Discounted according to an assumed rate (or rates) of return to reflect the time value of money.

Section 3: Supplemental Information

Actuarial Present Value of Future Plan Benefits:	The Actuarial Present Value of benefit amounts expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial Valuation:	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB, such as the Actuarially Determined Contribution (ADC) and the Net Pension Liability.
Actuarial Value of Assets (AVA):	The value of the Fund's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded percentage and the ADC.
Actuarially Determined:	Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the law.
Actuarially Determined Contribution (ADC):	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the System's funding policy. The ADC consists of the Employer Normal Cost and the Amortization Payment.
Amortization Method:	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
Amortization Payment:	The portion of the pension plan contribution, or ADC, that is intended to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

Section 3: Supplemental Information

Assumptions or Actuarial Assumptions:	The estimates upon which the cost of the Fund is calculated, including: Investment return - the rate of investment yield that the Fund will earn over the long-term future; Mortality rates - the death rates of employees and pensioners; life expectancy is based on these rates; Retirement rates - the rate or probability of retirement at a given age; Withdrawal rates - the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement; Salary increase rates - the rates of salary increase due to inflation and productivity growth.
Closed Amortization Period:	A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Open Amortization Period.
Decrements:	Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or withdrawal.
Defined Benefit Plan:	A retirement plan in which benefits are defined by a formula applied to the member's compensation and/or years of service.
Defined Contribution Plan:	A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.
Employer Normal Cost:	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
Experience Study:	A periodic review and analysis of the actual experience of the Fund that may lead to a revision of one or more Actuarial Assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.
Funded Ratio:	The ratio of the Actuarial Value of Assets (AVA) to the Actuarial Accrued Liability (AAL). Plans sometimes calculate a market funded percentage, using the market value of assets (MVA), rather than the AVA.
GASB 67 and GASB 68:	Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68. These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67 sets the rules for the systems themselves.

Section 3: Supplemental Information

Investment Return:	The rate of earnings of the Fund from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.
Net Pension Liability:	The Net Pension Liability is equal to the Total Pension Liability minus the Plan Fiduciary Net Position.
Normal Cost:	That portion of the Actuarial Present Value of pension plan benefits and expenses allocated to a valuation year by the Actuarial Cost Method. Any payment with respect to an Unfunded Actuarial Accrued Liability is not part of Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of employee contributions and employer Normal Cost unless otherwise specifically stated.
Open Amortization Period:	An open amortization period is one that is used to determine the Amortization Payment, but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period with level percentage of payroll is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never decrease, but will become smaller each year, in relation to covered payroll, if the Actuarial Assumptions are realized.
Plan Fiduciary Net Position:	Market value of assets.
Total Pension Liability (TPL):	The actuarial accrued liability under the entry age normal cost method and based on the blended discount rate as described in GASB 67 and 68.
Unfunded Actuarial Accrued Liability (UAAL):	The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative, in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus.
Valuation Date or Actuarial Valuation Date:	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.

Section 4: Actuarial Valuation Basis

Exhibit I: Actuarial Assumptions and Methods

Rationale for Assumptions:	The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the Actuarial Experience Study dated September 24, 2020 (as prepared by Segal).
Inflation:	2.30%
Investment Return:	7.00% The investment return assumption is a long-term estimate derived from historical data, current and recent market expectations, and professional judgment. As part of the analysis, a building block approach was used that reflects inflation expectations and anticipated risk premiums for each of the portfolio's asset classes, as well as the System's target asset allocation.
Salary Increases:	

Age	Annual Rate of Salary Increase (%)
20	10.50%
25	9.50%
30	6.50%
35	5.95%
40	5.30%
45	4.50%
50	4.20%
55	3.80%
60	3.55%

Section 4: Actuarial Valuation Basis

Cost-of-Living Adjustments (COLA):	For active Group C members who are first eligible for normal retirement on or after July 1, 2022: • Assumed to occur on January 1 following two years of retirement at the rate of 1.20% per annum (beginning two years after the attainment of age 62 for members who elect reduced early retirement). The January 1, 2023, COLA is expected to be 2.00%[1]. For all other members: • Group A — Assumed to occur on January 1 following one year of retirement at the rate of 2.40% per annum. The January 1, 2023, COLA is expected to be 5.00%. • Groups B/C — Assumed to occur on January 1 following one year of retirement at the rate of 1.35% per annum (beginning one year after the attainment of age 62 for Group C members who elect reduced early retirement). The January 1, 2023, COLA is expected to be 2.50%. [1]This amount was required to be calculated in 2023 as a result of Act 114 and Act 173; however, it will not be applied to any members in 2023.
Post-Retirement Adjustment Allowance Account:	No liability is included in this actuarial valuation for benefits that may be provided by the Post-Retirement Adjustment Account in the future.
Mortality Rates:	*Pre-retirement:* • All Groups — PubT-2010 Teacher Employee Amount-Weighted Table with generational projection using scale MP-2019. *Healthy Post-retirement - Retirees*: • All Groups — PubT-2010 Teacher Healthy Retiree Amount-Weighted Table with generational projection using scale MP-2019. *Healthy Post-retirement - Beneficiaries*: • All Groups — 109% of the Pub-2010 Contingent Survivor Amount-Weighted Table with generational projection using scale MP-2019. *Disabled Post-retirement*: • All Groups — PubNS-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table with generational projection using scale MP-2019. The tables with the generational projection to the ages of members as of the measurement date reasonably reflect the mortality experience of the System as of the measurement date. The mortality tables were then adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

Section 4: Actuarial Valuation Basis

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

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

	Rate (%)			
	Withdrawal		Disability	
Age	Male	Female	Male	Female
25	7.80%	8.30%	0.005%	0.008%
30	5.20	5.40	0.007	0.008
35	3.10	3.25	0.009	0.008
40	2.20	2.15	0.014	0.011
45	1.85	1.66	0.023	0.024
50	1.75	1.54	0.060	0.074
55	1.60	1.50	0.040	0.050
60	1.50	1.50	0.132	0.088

Section 4: Actuarial Valuation Basis

Retirement Rates:

	Group A		Group C Grandfathered	
Age	<30 Years of Service	30+ Years of Service	<30 Years of Service	30+ Years of Service
50	0.00%	40.00%	0.000%	40.00%
51	0.00%	20.00%	0.000%	20.00%
52	0.00%	20.00%	0.000%	20.00%
53	0.00%	20.00%	0.000%	20.00%
54	0.00%	20.00%	0.000%	20.00%
55	7.50%	20.00%	6.125%	10.00%
56	7.50%	10.00%	6.250%	10.00%
57	7.50%	10.00%	6.250%	10.00%
58	7.50%	10.00%	6.250%	10.00%
59	12.50%	10.00%	9.375%	15.00%
60	30.00%	100.00%	18.750%	25.00%
61	25.00%	100.00%	18.750%	17.00%
62	30.00%	100.00%	20.000%	100.00%
63	30.00%	100.00%	22.000%	100.00%
64	30.00%	100.00%	22.000%	100.00%
65	40.00%	100.00%	33.000%	100.00%
66	40.00%	100.00%	33.000%	100.00%
67	40.00%	100.00%	33.000%	100.00%
68	50.00%	100.00%	22.000%	100.00%
69	50.00%	100.00%	33.000%	100.00%
70+	100.000%	100.00%	100.000%	100.00%

Section 4: Actuarial Valuation Basis

Retirement Rates *(continued)*:

Group C Non-Grandfathered			
Age	**Before Rule of 90**	**1st Year after Rule of 90**	**1+ Years after Rule of 90**
<56	5.00%	30.00%	20.00%
56	5.00%	30.00%	10.00%
57	5.00%	30.00%	10.00%
58	5.00%	30.00%	10.00%
59	7.50%	30.00%	15.00%
60	10.00%	30.00%	15.00%
61	15.00%	30.00%	20.00%
62	12.50%	30.00%	22.50%
63	20.00%	30.00%	22.50%
64	20.00%	30.00%	25.00%
65	40.00%	30.00%	40.00%
66	30.00%	30.00%	30.00%
67	30.00%	30.00%	30.00%
68	30.00%	30.00%	30.00%
69	30.00%	30.00%	30.00%
70+	100.00%	100.00%	100.00%

Inactive Members as Reported by the System:

Not Vested: Valuation liability equals 100% of accumulated contributions.

Vested: Valuation liability based on accrued benefit and assumed to retire as follows:

- Group A and Group C-NGF: 10% of members are assumed to retire from Early Retirement Age for each year until Normal Retirement Age, then 100% of members are assumed to retire at their Normal Retirement Age.
- Group C-GF: 50% of members are assumed to retire from age 62-69, then 100% at age 70.

Deferred Members as Reported by the System:

Valuation liability based on accrued benefit and assumed to retire as follows:

- Group A and Group C-NGF: 10% of members are assumed to retire from Early Retirement Age for each year until Normal Retirement Age, then 100% of members are assumed to retire at their Normal Retirement Age.
- Group C-GF: 50% of members are assumed to retire from age 62-69, then 100% at age 70.

Future Administrative Expenses:

0.40% of projected payroll.

Section 4: Actuarial Valuation Basis

Unknown Data for Members:	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
Percent Married:	85% of male members and 35% of female members are assumed to be married.
Age of Spouse:	Females three years younger than males.
Benefit Elections:	All members are assumed to elect the single life annuity option.
Actuarial Value of Assets:	The amount of the assets for valuation purposes equals the preliminary asset value plus 20% of the difference between market and preliminary asset values. The preliminary asset value is equal to the previous year's asset value (for valuation purposes) adjusted for contributions less benefit payments and expenses plus expected investment income. If necessary, a further adjustment is made to ensure that the valuation assets are within 20% of the market value.
Actuarial Cost Method:	Entry Age Actuarial Cost Method. Entry Age is the age at date of employment or, if date is unknown, current age minus years of service. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated by salary, with Normal Cost determined using the plan of benefits applicable to each member.
Modeling:	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 direction of the supervising actuary.
Justification for Changes in Actuarial Assumptions:	Effective for the June 30, 2022, actuarial valuation, assumed COLAs were updated to reflect the best estimate of anticipated future experience as a result of the various plan provision changes contained in Act 114 and Act 173.

Exhibit II: Summary of Plan Provisions

This exhibit summarizes the major provisions of the System included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Effective Date:	July 1, 1947.
Creditable Service:	Service as a member plus purchased service.
Average Final Compensation (AFC):	• Average annual compensation during highest 3 consecutive years.
Grandfathered Status:	• Group C members who were within five years of normal retirement eligibility as defined prior to July 1, 2010, are "grandfathered".
Normal Retirement - Eligibility:	• Group A: Age 60 or 30 years of creditable service. • Group C: Grandfathered: Age 62 or 30 years of creditable service Non-grandfathered: Age 65 or age plus creditable service equal to 90.
Normal Retirement - Amount:	• Group A: Member annuity based on accumulated contributions plus a pension, which, with member annuity, equals 1/60th of AFC times creditable service. • Group C: Grandfathered: Member annuity based on accumulated contributions plus a pension, which, with member annuity, equals 1/80th of AFC times creditable service prior to July 1, 1990, plus 1/60th of AFC times creditable service after July 1, 1990. Non-grandfathered: Member annuity based on accumulated contributions plus a pension, which, with member annuity, equals 1/80th of AFC times creditable service prior to July 1, 1990, plus 1/60th of AFC times creditable service after July 1, 1990 up to 20 years of service, plus 1/50th of AFC for years of service after 20. If a member already has 20 or more years of service on June 30, 2010, the 1/50th will be applied to all service accrued after July 1, 2010. The minimum benefit applicable for Group A members after 30 years of creditable service (pro-rata for service less than 30 years) is subject to 16 V.S.A. § 1937(b)(2). Maximum benefit applicable to Group C: Grandfathered maximum benefit is 50% of AFC up to June 30, 2010. May continue to accrue up to 53.34% of AFC with service earned after July 1, 2010. Non-grandfathered maximum benefit is 60% of AFC.
Early Retirement – Eligibility:	• Group A: Age 55. • Group C: Age 55 with 5 years of creditable service.

Section 4: Actuarial Valuation Basis

Early Retirement – Amount:	• Group A — Actuarial equivalent of normal retirement allowance using AFC and creditable service at early retirement. • Group C — Grandfathered: Accrued normal benefit reduced 6% for each year prior to age 62. Non-grandfathered: Accrued normal benefit reduced by actuarial reduction from normal retirement age.
Vesting:	• All groups – 5 years of creditable service.
Disability Retirement - Eligibility:	All groups – Total and permanent disability after 5 years of creditable service (5 years preceding retirement served in State).
Disability Retirement - Amount:	All groups – Calculated as a service allowance based on AFC and creditable service at disability retirement, subject to a 25% of AFC minimum.
Death Benefit - Eligibility:	• Group A — Age 60 or 30 years of creditable service; 10 years of creditable service if in service at death. • Group C — Age 55 and 5 years of creditable service or 10 years of creditable service.
Death Benefit - Amount:	All groups – Accrued allowance paid under 100% survivorship option. If the eligibility requirements are not met or if beneficiary so elects, the member's accumulated contributions are paid to the beneficiary or estate. Certain children's benefits may also be payable.
Post-Retirement Adjustments:	• Group A — Allowances in payment for at least one year increased on each January 1 by the net percentage increase in Consumer Price Index (CPI). The maximum net percentage increase in CPI is capped at 5%. If the net percentage increase in CPI is less than 0%, members will not receive an increase. • Group B — Allowances in payment for at least one year increased on each January 1 by half of the net percentage increase in CPI. The maximum net percentage increase in CPI is capped at 5%. If the net percentage increase in CPI is less than 0%, members will not receive an increase. • Group C — For active members who are first eligible for normal retirement on or after July 1, 2022: - Allowances in payment for at least two years increased on each January 1 by half of the net percentage increase in CPI. The maximum net percentage increase in CPI is capped at 4%. If the net percentage increase in CPI is less than 0%, members will not receive an increase. For members receiving a reduced early retirement allowance, the adjustment will not apply before age 62. For all other members: - Allowances in payment for at least one year increased on each January 1 by half of the net percentage increase in CPI. The maximum net percentage increase in CPI is capped at 5%. If the net percentage increase in CPI is less than 0%, members will not receive an increase. For members receiving a reduced early retirement allowance, the adjustment will not apply before age 62.

Section 4: Actuarial Valuation Basis

Post-Retirement Adjustment Allowance Account:	Act 114 (2022) established the Post-Retirement Adjustment Allowance Account, which will be used to provide funding for post-retirement adjustment formula enhancements or other benefits that may accrue to eligible members. The Account is to be funded by transfers or appropriations from the General Fund Balance Reserve by the General Assembly, including interest, and is subordinate to the retirement benefits provided by the System. Payment of any additional benefits as a result of the existence of this Account is contingent on a recommendation by the Board and satisfaction of three criteria: 1) an evaluation has been conducted pursuant to section 1949(b) of 16 V.S.A.; 2) the actuary has certified that the System has a funded ratio of at least 80% in the most recent fiscal year; and 3) the actuary has certified that the Account has sufficient assets to pay for the present value of any additional benefit being recommended.
Refund of Contributions:	If no other beneficiary is payable, a terminated member receives his accumulated contributions with interest.

Section 4: Actuarial Valuation Basis

Member Contribution Rates:

- Group A 5.5% of earnable compensation. Contributions stop after 25 years of creditable service.
- Group C Member contributions as a percentage of earnable compensation are described in the table below:

Service as of July 1, 2014	FY22
<5 years	6.00%
5+ years	5.00%

Earnable Compensation	FY23	FY24	FY25+
$0-$40K	6.00%	6.10%	6.25%
$40K-$50K	6.05%	6.15%	$2,900.00 + 6.75% of the member's salary that is $40,000.01 or more.
$50K-$60K	6.10%	6.25%	$2,900.00 + 6.75% of the member's salary that is $40,000.01 or more.
$60K-$70K	6.20%	6.35%	$3,850.00 + 7.50% of the member's salary that is $60,000.01 or more.
$70K-$80K	6.25%	6.50%	$3,850.00 + 7.50% of the member's salary that is $60,000.01 or more.
$80K-$90K	6.35%	6.75%	$5,350.00 + 8.25% of the member's salary that is $80,000.01 or more.
$90K-$100K	6.50%	7.00%	$5,350.00 + 8.25% of the member's salary that is $80,000.01 or more.
$100K+	6.65%	7.25%	$7,000.00 + 9.00% of the member's salary that is $100,000.01 or more.

Changes in Plan Provisions:

Effective for the June 30, 2022, actuarial valuation, the following plan provisions were updated to reflect Act 114 and Act 173:

- Post-Retirement Adjustments; and
- Member Contribution Rates.

Section 5: Additional Summary Tables of Member Data

Table 1: Members in Active Service as of June 30, 2022, by Age, Years of Service, and Average Payroll – All Employee Groups

		Years of Creditable Service							
Age	**Total**	**0 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25 - 29**	**30 - 34**	**35 & over**
Under 25	181	181	- -	- -	- -	- -	- -	- -	- -
	$43,168	$43,168	- -	- -	- -	- -	- -	- -	- -
25 - 29	758	573	185	- -	- -	- -	- -	- -	- -
	$49,142	$47,968	$52,776	- -	- -	- -	- -	- -	- -
30 - 34	1,166	480	572	114	- -	- -	- -	- -	- -
	$56,000	$51,700	$58,074	$63,694	- -	- -	- -	- -	- -
35 - 39	1,362	369	455	430	107	1	- -	- -	- -
	$62,101	$53,315	$61,202	$67,428	$74,840	$59,880	- -	- -	- -
40 - 44	1,634	363	371	379	427	94	- -	- -	- -
	$68,303	$56,880	$64,805	$71,799	$75,454	$79,647	- -	- -	- -
45 - 49	1,582	267	287	251	360	363	54	- -	- -
	$72,444	$57,773	$64,189	$72,943	$78,144	$81,779	$85,774	- -	- -
50 - 54	1,590	202	215	206	301	324	286	55	1
	$76,135	$60,225	$66,981	$72,612	$78,157	$82,242	$85,500	$87,834	$74,500
55 - 59	1,134	119	110	150	201	204	202	135	13
	$76,594	$57,084	$66,240	$71,598	$77,713	$81,654	$84,284	$86,398	$82,437
60 - 64	761	76	88	101	138	147	90	70	51
	$74,663	$61,787	$65,973	$68,341	$73,687	$78,777	$84,245	$84,354	$81,945
65 & over	219	30	26	25	36	40	19	9	34
	$71,610	$54,920	$58,915	$67,221	$74,345	$78,252	$82,311	$79,819	$80,410
Total	10,387	2,660	2,309	1,656	1,570	1,173	651	269	99
	$67,543	$53,069	$61,636	$70,082	$76,655	$81,199	$84,879	$85,940	$81,407

Table 2: Summary of Retired Members and Beneficiary Data by Benefit Amount – All Teachers

	Service Pensioners		Disability Pensioners		Beneficiaries	
Allowance Level	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance
$0 – $500	6	$919	0	$0	0	$0
501 – 1,000	8	6,272	0	0	0	0
1,001 – 1,500	24	31,199	0	0	2	2,721
1,501 – 2,000	28	50,554	0	0	4	6,882
2,001 – 2,500	69	158,290	0	0	6	13,015
2,501 – 3,000	89	247,411	0	0	10	27,109
3,001 – 3,500	113	364,862	0	0	6	19,517
3,501 – 4,000	118	442,520	0	0	6	22,506
4,001 – 4,500	130	554,620	0	0	12	50,943
4,501 – 5,000	141	669,313	0	0	8	38,803
5,001 – 5,500	140	735,909	0	0	10	51,937
5,501 – 6,000	154	889,068	0	0	12	68,361
6,001 – 6,500	121	756,127	0	0	11	68,524
6,501 – 7,000	125	845,051	0	0	9	60,608
7,001 – 7,500	145	1,051,588	1	7,287	10	72,422
7,501 – 8,000	111	860,278	1	7,554	13	99,772
8,001 – 8,500	110	907,407	2	16,335	11	90,686
8,501 – 9,000	119	1,042,161	1	8,662	12	104,040
9,001 – 9,500	95	879,317	1	9,241	14	129,934
9,501 – 10,000	124	1,208,377	5	48,310	21	204,674
10,001 – 10,500	121	1,236,108	4	41,071	16	162,987
10,501 – 11,000	119	1,276,742	7	74,950	13	139,966
11,001 – 11,500	106	1,194,911	7	78,180	16	180,527
11,501 – 12,000	137	1,610,407	10	116,917	12	140,776
12,001 – 12,500	130	1,593,808	6	73,370	16	196,375
12,501 – 13,000	120	1,531,025	10	126,785	14	178,262
13,001 – 13,500	110	1,457,434	3	39,631	17	225,359
13,501 – 14,000	93	1,280,533	4	54,706	15	205,519
14,001 – 14,500	102	1,454,022	7	99,314	9	128,591
14,501 – 15,000	100	1,473,806	9	132,355	6	88,339

Table 2: Summary of Retired Members and Beneficiary Data by Benefit Amount – All Teachers *(continued)*

	Service Pensioners		Disability Pensioners		Beneficiaries	
Allowance Level	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance
$15,001 – $15,500	100	$1,525,242	3	$45,701	9	$136,605
15,501 – 16,000	92	1,448,696	5	78,793	9	141,674
16,001 – 16,500	93	1,510,861	5	81,096	8	129,076
16,501 – 17,000	107	1,791,521	5	83,469	11	184,870
17,001 – 17,500	106	1,828,614	5	85,895	6	103,892
17,501 – 18,000	98	1,739,269	5	88,719	10	177,463
18,001 – 18,500	98	1,789,109	5	90,873	8	145,556
18,501 – 19,000	98	1,835,737	4	75,226	8	149,743
19,001 – 19,500	108	2,078,502	3	57,840	6	115,108
19,501 – 20,000	108	2,131,631	3	59,638	9	178,128
20,001 – 20,500	99	2,003,139	2	40,622	8	162,196
20,501 – 21,000	104	2,157,711	2	41,852	5	103,716
21,001 – 21,500	102	2,167,184	5	105,863	6	127,308
21,501 – 22,000	85	1,849,435	3	65,075	10	217,246
22,001 – 22,500	100	2,223,196	3	66,683	8	178,421
22,501 – 23,000	116	2,636,943	4	90,936	5	114,226
23,001 – 23,500	123	2,858,363	3	70,096	5	115,901
23,501 – 24,000	126	2,991,709	4	95,158	8	189,582
24,001 – 24,500	126	3,059,861	2	48,639	1	24,244
24,501 – 25,000	152	3,762,166	2	49,424	2	49,619
25,001 – 25,500	129	3,256,311	2	50,357	0	0
25,501 – 26,000	124	3,194,316	0	0	2	51,544
26,001 – 26,500	112	2,941,261	2	52,695	3	78,176
26,501 – 27,000	111	2,967,674	2	53,834	1	26,700
27,001 – 27,500	116	3,162,521	1	27,146	4	109,022
27,501 – 28,000	124	3,440,170	0	0	3	83,040
28,001 – 28,500	123	3,475,180	2	56,661	4	112,520
28,501 – 29,000	118	3,394,324	1	28,538	3	86,096
29,001 – 29,500	106	3,097,843	1	29,005	6	175,506
29,501 – 30,000	143	4,254,349	0	0	3	88,877

Table 2: Summary of Retired Members and Beneficiary Data by Benefit Amount – All Teachers *(continued)*

	Service Pensioners		Disability Pensioners		Beneficiaries	
Allowance Level	**Number**	**Annual Allowance**	**Number**	**Annual Allowance**	**Number**	**Annual Allowance**
$30,001 – $30,500	120	$3,629,234	2	$60,649	4	$121,097
30,501 – 31,000	127	3,905,484	2	61,652	5	153,063
31,001 – 31,500	132	4,123,182	1	31,105	3	93,445
31,501 – 32,000	112	3,554,493	0	0	0	0
32,001 – 32,500	108	3,483,484	1	32,260	2	64,358
32,501 – 33,000	101	3,307,260	0	0	1	32,874
33,001 – 33,500	100	3,323,988	1	33,274	1	33,393
33,501 – 34,000	126	4,252,846	1	33,943	4	134,928
34,001 – 34,500	109	3,733,201	1	34,326	5	171,188
34,501 – 35,000	119	4,136,304	0	0	0	0
35,001 – 35,500	83	2,924,529	1	35,355	5	175,964
35,501 – 36,000	112	4,004,282	2	71,481	3	106,760
36,001 – 36,500	114	4,132,339	0	0	1	36,224
36,501 – 37,000	100	3,671,806	0	0	2	73,367
37,001 – 37,500	95	3,537,113	1	37,454	3	111,664
37,501 – 38,000	80	3,018,766	0	0	0	0
38,001 – 38,500	81	3,097,372	0	0	1	38,064
38,501 – 39,000	86	3,334,357	1	38,610	3	116,657
39,001 – 39,500	73	2,864,579	0	0	3	117,510
39,501 – 40,000	71	2,822,799	0	0	1	39,738
Over 40,000	1,076	50,643,634	2	84,279	8	380,182
Total	9,580	$223,883,926	178	$3,208,888	537	$8,335,687

Table 3A: Inactive Membership as of June 30, 2022, by Age, Years of Service, and Average Annual Allowance – Service Pensioners

		Years of Creditable Service at Retirement							
Age	**Total**	**0 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25 - 29**	**30 - 34**	**35 & over**
Under 60	195	3	8	7	22	13	8	113	21
	$35,506	$3,701	$3,078	$4,980	$10,835	$12,943	$19,492	$46,969	$46,806
60 - 64	808	4	21	60	93	78	107	352	93
	$31,296	$11,724	$4,565	$8,260	$13,540	$19,012	$35,812	$40,025	$42,863
65 - 69	2,227	33	176	269	299	313	282	600	255
	$25,555	$9,322	$5,947	$9,090	$15,677	$22,136	$35,420	$35,287	$40,525
70 - 74	2,865	30	212	397	405	395	264	821	341
	$23,593	$6,568	$6,346	$8,664	$15,783	$22,294	$29,544	$32,071	$38,957
75 - 79	1,996	30	119	344	251	294	177	603	178
	$20,643	$6,065	$6,298	$8,199	$12,688	$19,073	$25,840	$29,247	$36,235
80 - 84	876	20	33	140	144	145	95	227	72
	$18,472	$4,367	$6,130	$7,678	$11,915	$16,932	$21,615	$27,032	$34,116
85 - 89	395	17	18	65	54	57	51	89	44
	$16,886	$2,457	$5,921	$7,794	$11,965	$14,820	$18,759	$24,535	$31,453
90 & over	218	7	13	31	34	44	17	51	21
	$14,280	$2,015	$4,758	$6,241	$10,133	$12,994	$14,936	$22,492	$25,067
Total	9,580	144	600	1,313	1,302	1,339	1,001	2,856	1,025
	$23,370	$6,165	$6,054	$8,386	$14,185	$20,064	$29,584	$32,914	$38,443

Table 3B: Inactive Membership as of June 30, 2022, by Age, Years of Service, and Average Annual Allowance – Disability Pensioners

		Years of Creditable Service at Retirement							
Age	**Total**	**0 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25 - 29**	**30 - 34**	**35 & over**
Under 60	20	- -	3	4	4	5	4	- -	- -
	$19,875	- -	$13,917	$14,520	$15,924	$20,510	$32,856	- -	- -
60 - 64	30	- -	4	3	7	12	4	- -	- -
	$22,193	- -	$12,770	$13,541	$20,439	$24,723	$33,586	- -	- -
65 - 69	47	- -	5	15	14	10	3	- -	- -
	$17,877	- -	$12,634	$14,488	$14,285	$28,894	$23,596	- -	- -
70 - 74	31	- -	7	7	6	8	3	- -	- -
	$15,944	- -	$13,112	$12,108	$16,963	$18,385	$22,957	- -	- -
75 - 79	25	- -	2	7	3	5	8	- -	- -
	$17,170	- -	$11,730	$15,250	$12,945	$14,657	$23,364	- -	- -
80 - 84	17	- -	1	3	5	5	3	- -	- -
	$15,751	- -	$20,319	$10,981	$12,437	$15,563	$24,835	- -	- -
85 - 89	4	- -	- -	- -	1	- -	3	- -	- -
	$16,210	- -	- -	- -	$21,880	- -	$14,319	- -	- -
90 & over	4	- -	- -	- -	1	2	- -	1	- -
	$12,315	- -	- -	- -	$18,110	$8,798	- -	$13,553	- -
Total	178	- -	22	39	41	47	28	1	- -
	$18,027	- -	$13,253	$13,858	$15,843	$21,360	$25,350	$13,553	- -

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