Vermont State Employees' Retirement System

Actuarial Valuation and Review

As of June 30, 2023

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

Segal

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October 18, 2023

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

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of June 30, 2023, of the Vermont State Employees' Retirement System (VSERS). 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, 2025.

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 Matthew A. Strom, FSA, MAAA, EA. I am a member of the American Academy of Actuaries and I 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 actuarial valuation is complete and accurate. The investment return and inflation assumptions were selected by the Vermont Pension Investment Committee (VPIC). The remaining actuarial assumptions used in this actuarial valuation were selected by the Board based upon our analysis and recommendations. In my opinion, the assumptions are reasonable and take into account the experience of the Plan and reasonable expectations.

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

Sincerely,
Segal

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, 2023, pursuant to section 471, subsection (k), of Title 3, Chapter 16, Vermont Statutes Annotated, relating to the Vermont State Employees' 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, 2023, provided by the Office of the State Treasurer;
- The unaudited assets of the System as of June 30, 2023, 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, 2023, 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 473, subsection (c)(4), of Title 3, Chapter 16, Subchapter 1, 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, 2023, were $116.4 million, or 100.3% of the actuarially determined contribution (ADC) of $116.0 million. In the prior fiscal year, actual employer contributions were $197.5 million, or 164.7% of the prior year’s actuarially determined contribution.
3. The rate of return on the market value of assets was 7.58% for the July 1, 2022, to June 30, 2023, plan year. The return on the actuarial value of assets was 5.95% 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.
4. The actuarial value of assets is 104.1% of the market value of assets, compared to the prior year where the actuarial value of assets was 105.7% 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 net market loss of $100.1 million will also have an impact on the future funded percentage. If the deferred net loss was recognized immediately in the actuarial value of assets, the actuarially determined contribution rate would increase from 20.06% to about 21.42% of payroll.
5. The actuarial loss from investment experience is $25.0 million.
6. The net experience loss from sources other than investment experience was approximately $9.4 million, or 0.3% of the actuarial accrued liability. Retirement experience resulted in a loss of $5.8 million due to members retiring earlier than expected, compared to a $22.9 million loss in the prior year. Salary and service experience resulted in a loss of $8.6 million due to larger salary increases than expected, compared to a loss of $30.7 million in the prior year. Lastly, there was a $3.2 million gain due to lower-than-expected actual 2024 COLAs, compared to a loss of $46.7 million in the prior year. The remaining non-investment experience sources were consistent with the prior valuation. Additional detail regarding this loss is shown in *Section 2, Other experience*.

Changes from prior valuation

7. The following actuarial assumptions were approved by the Board and changed with this valuation:
   - Assumed rates of salary increase were increased based on plan experience.
   - COLA assumptions were decreased as follows:
     - Active Group A, C, F, and G members first eligible for normal or unreduced early retirement on or after July 1, 2022, and active Group D members first appointed or elected on or after July 1, 2022:
       - Group A: decreased from 2.40% to 2.25%.
       - Group C: decreased from 2.15% to 2.10%.
       - Group D:
         - First $75,000 of retirement benefits paid: decreased from 2.40% to 2.25%.
         - Retirement benefits paid above $75,000: decreased from 1.15% to 1.10%.
       - Groups F and G: decreased from 2.25% to 2.15%.
     - All other members:
       - Groups A, C, and D: decreased from 2.40% to 2.25%.
       - Groups E and F – Retired on or before June 30, 2008: decreased from 1.35% to 1.25%.
       - Groups E and F – Retired on or after July 1, 2008: decreased from 2.40% to 2.35%.
   - Administrative expenses assumption was increased from 0.40% of projected to payroll to 0.45% of projected payroll.
   - Mortality assumptions were updated as follows:
     - Pre-Retirement:
       - Groups A and F: PubG-2010 General Employee Amount-Weighted Table with no credibility adjustments.
       - Group D: PubG-2010 General Employee Amount-Weighted Above Median Table with no credibility adjustments.
     - Healthy Post-Retirement – Retirees:
       - Groups A and F: PubG-2010 General Healthy Retiree Amount-Weighted Table for males and females with credibility adjustments of 101% and 105%, respectively, of the rates for all ages.
       - Group C and G: PubS-2010 Public Safety Retiree Amount-Weighted Table with no credibility adjustments.
     - Healthy Post-Retirement – Beneficiaries:
       - Group C and G: Pub-2010 Contingent Survivor Amount-Weighted Table with no credibility adjustments.

  - Disabled Post-Retirement:
    - ➢ Groups C and G: PubS-2010 Safety Disabled Retiree Amount-Weighted Table with no credibility adjustments.
  - The mortality improvement scale was updated to MP-2021 for all assumptions for all groups.
- Assumed inactive vested retirement rates for all pre-Normal Retirement Ages were decreased to 15%.
- Assumed disability rates were decreased as follows:
  - Groups A, D, and F: rates were uniformly decreased by 40% for all ages.
  - Group C: rates were uniformly decreased by 25% for all ages.

As a result of these assumption changes, the normal cost increased by $1.8 million, and the actuarial accrued liability increased by $13.3 million.

8. The funded percentage (the ratio of the actuarial value of assets to actuarial accrued liability) is 70.3%, compared to the prior year's funded percentage of 69.9%. 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 67.5%, compared to 66.1% 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.
9. The results of this June 30, 2023, actuarial valuation are used to determine the actuarially determined contribution for the fiscal year ending June 30, 2025, and to estimate the actuarially determined contribution for the fiscal year ending June 30, 2026. The actuarially determined contribution for fiscal 2025 is $131.3 million, an increase of $9.5 million from fiscal year 2024. Last year's estimate of the actuarially determined contribution for fiscal 2025 is $9.7 million less than this year's actual amount. This is due to the investment loss on an actuarial basis and the net demographic loss, combined with the impact of updating the actuarial assumptions as outlined above. The estimated fiscal 2026 actuarially determined contribution is $131.1 million.
10. The unfunded actuarial accrued liability is $1.066 billion, which is an increase of $27.4 million since the prior valuation.

Risk

11. It is important to note that this actuarial valuation is based on financial and demographic data as of June 30, 2023. 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, 2023, due to COVID-19. Segal is available to prepare projections of potential outcomes of market conditions and other demographic experience upon request.
12. 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

13. 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, 2023, and June 30, 2024, 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

		2023	2022
Actuarially determined employer contributions:	• Actuarially determined employer contributions for fiscal 2025 (and 2024)	$131,346,935	$121,873,370
	• Estimated actuarially determined employer contributions for fiscal 2026 (and 2025)	131,081,498	121,642,588
Actuarial accrued liability for plan year beginning July 1:	• Retired members and beneficiaries	$2,270,533,748	$2,209,736,910
	• Deferred members as reported by the System	65,437,477	63,306,594
	• Inactive members as reported by the System	40,739,666	34,968,442
	• Active members	1,212,359,321	1,136,121,843
	• Total	3,589,070,212	3,444,133,789
	• Employer normal cost for plan year beginning July 1	36,384,942	32,821,872
Assets for plan year beginning July 1:	• Market value of assets (MVA)	$2,423,230,404	$2,276,645,124
	• Actuarial value of assets (AVA)	2,523,348,610	2,405,795,708
	• Actuarial value of assets as a percentage of market value of assets	104.13%	105.67%
Funded status for plan year beginning July 1:	• Unfunded actuarial accrued liability based on MVA	$1,165,839,808	$1,167,488,665
	• Funded percentage on MVA basis	67.52%	66.10%
	• Unfunded actuarial accrued liability based on AVA	$1,065,721,602	$1,038,338,081
	• Funded percentage on AVA basis	70.31%	69.85%
	• Remaining amortization period (years)	15	16
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	8,058	7,963
	• Number of deferred members as reported by System	844	815
	• Number of inactive members as reported by System	2,287	2,012
	• Number of active members	8,611	8,324
	• Total payroll	$621,255,605	$576,951,813
	• Average payroll	72,147	69,312
	• Total monthly benefits for all retired members and beneficiaries	15,534,832	14,611,387
	• Average monthly benefit for all retired members and beneficiaries	1,928	1,835

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 plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

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 System. 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:

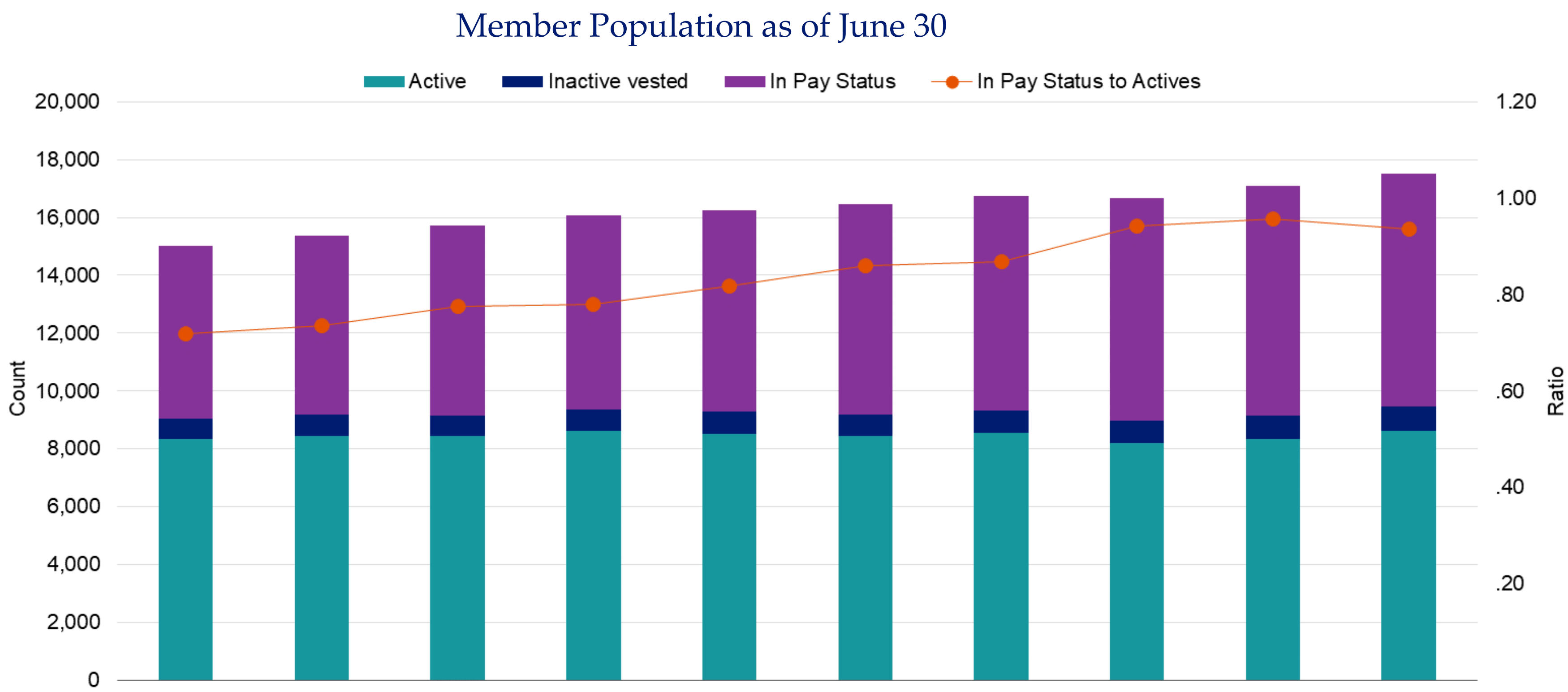
The actuarial valuation is prepared at the request of the System and Board. Segal is not responsible for the use or misuse of its report, particularly by any other party.
An actuarial valuation is a measurement at a specific date — it is not a prediction of a plan's future financial condition. Accordingly, 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.



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
In Pay Status	5,980	6,204	6,542	6,727	6,974	7,268	7,424	7,716	7,963	8,058
Deferred[1]	732	735	728	742	753	747	768	771	815	844
Active	8,325	8,446	8,436	8,620	8,530	8,443	8,539	8,192	8,324	8,611
Ratio[2]	0.72	0.73	0.78	0.78	0.82	0.86	0.87	0.94	0.96	0.94

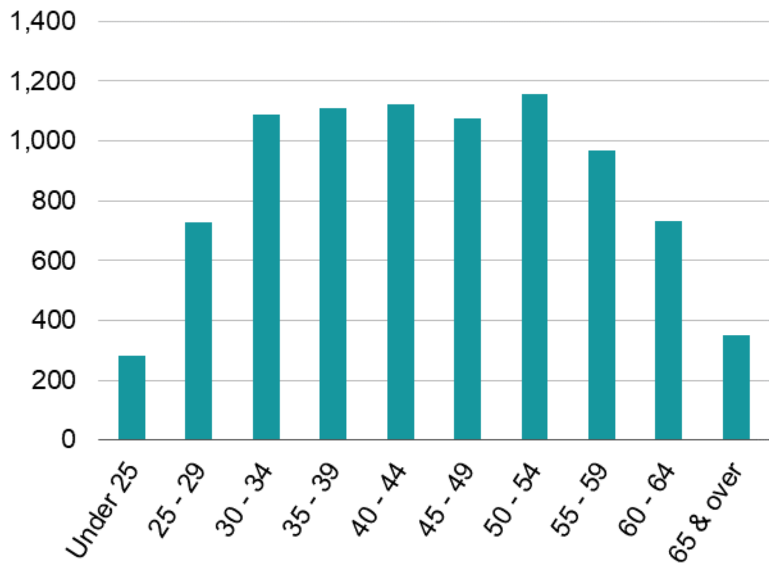
[1] Excludes inactive members as reported by the System.
[2] Effective for the June 30, 2023, actuarial valuation, all historical ratios were updated to reflect the ratio of in pay status members to active members.

Active members

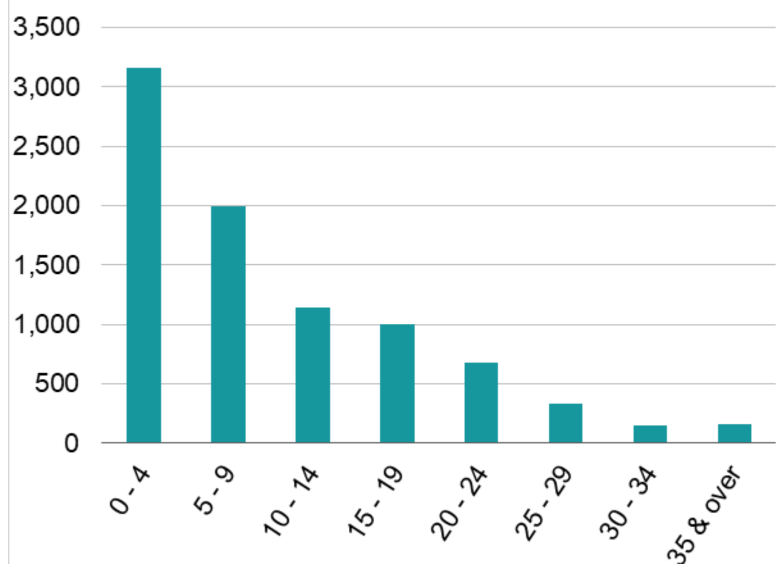
As of June 30	2023	2022	Change
Active members	8,611	8,324	3.4%
Average age	45.1	45.3	−0.2
Average years of creditable service	10.2	10.4	−0.2
Average payroll	$72,147	$69,312	4.1%

Distribution of Active Members as of June 30, 2023

Actives by Age



Actives by Years of Service



Inactive and deferred members

In this year's valuation, there were 2,287 inactive members as reported by the System. A member is reported as inactive if they have withdrawn from active employment within the three-year period preceding the valuation date, or if they withdrew prior to the three-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.

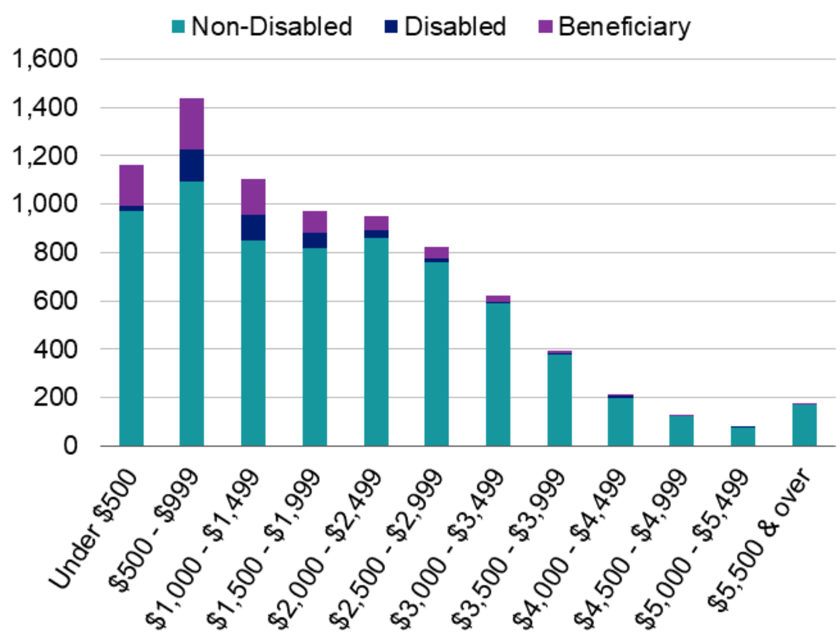
In addition, there were 844 deferred members as reported by the System. A member is reported as deferred if they have withdrawn from active employment prior to the three-year period preceding the valuation date and have a vested right to a deferred or immediate vested benefit.

Retired members and beneficiaries

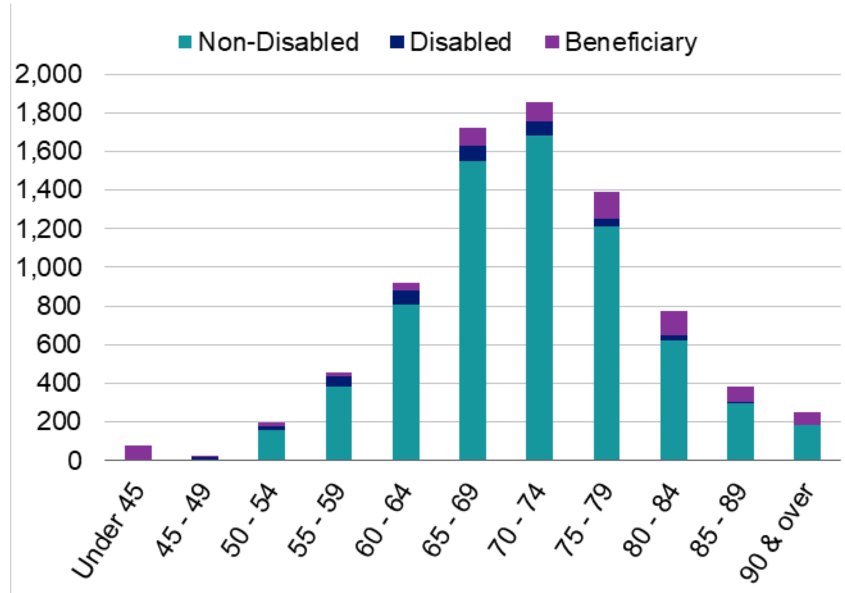
As of June 30	2023	2022	Change
Retired members (including disability)	7,289	7,196	1.3%
Average age	71.6	71.2	0.4
Average amount	$1,996	$1,899	5.1%
Beneficiaries	769	767	0.3%
Total monthly amount	$15,534,832	$14,611,387	6.3%

Distribution of Pensioners as of June 30, 2023

Pensioners by Type and Monthly Amount



Pensioners by Type and Age



Historical plan population

Member Data Statistics: 2014 – 2023

	Active Members			Retired Members[1]		
As of June 30	Count	Average Age	Average Service	Count	Average Age	Average Monthly Amount
2014	8,325	45.2	11.8	5,421	69.7	$1,510
2015	8,446	46.5	11.7	5,554	70.0	1,561
2016	8,436	46.2	11.3	5,858	70.1	1,587
2017	8,620	46.0	11.1	6,092	70.3	1,616
2018	8,530	45.9	11.0	6,302	70.4	1,663
2019	8,443	45.7	10.8	6,567	70.6	1,718
2020	8,539	45.6	10.8	6,704	70.9	1,755
2021	8,192	45.7	10.9	6,973	71.0	1,805
2022	8,324	45.3	10.4	7,196	71.2	1,899
2023	8,611	45.1	10.2	7,289	71.6	1,996

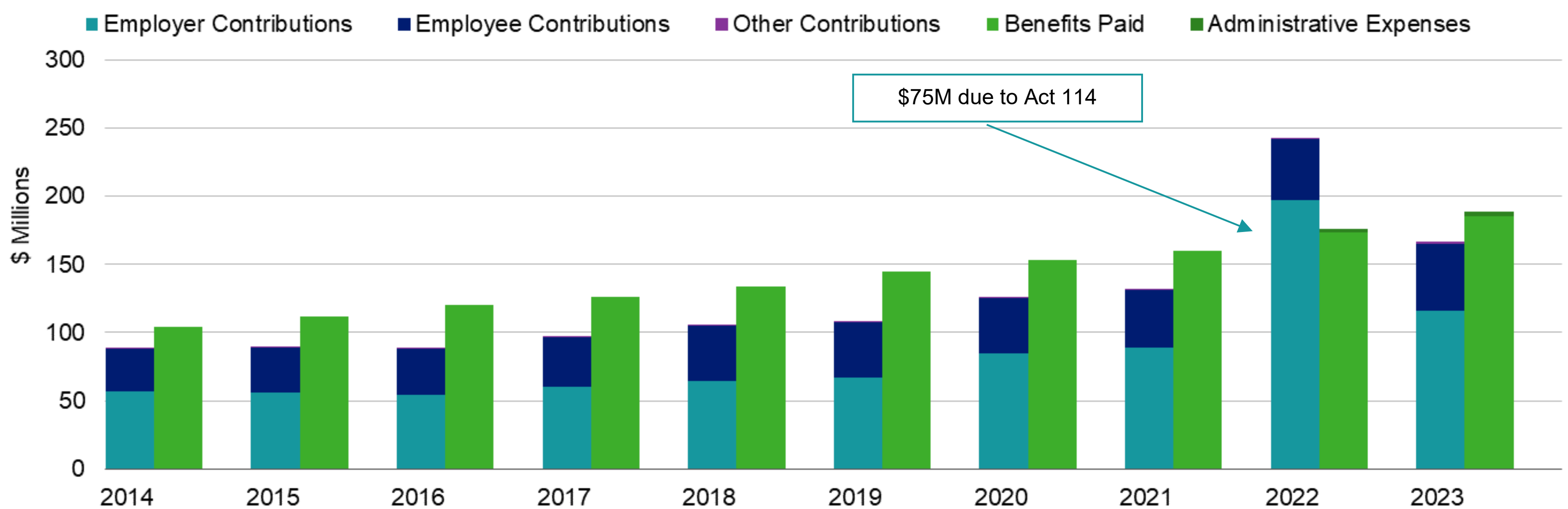
[1] Not including beneficiaries.

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 $75 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 and Paid for Years Ended June 30, 2014 – 2023



Section 2: Actuarial Valuation Results

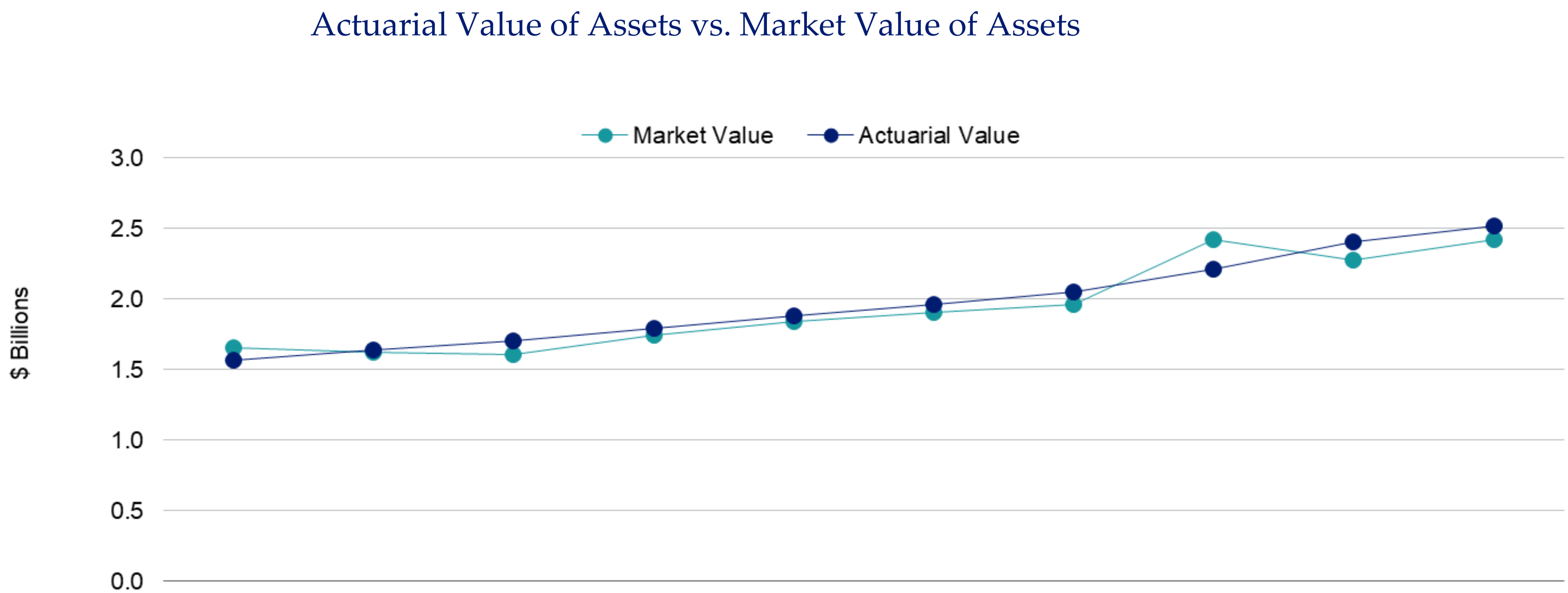
It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Vermont Pension Investment Commission has adopted an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized 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, 2023

1	Actuarial value of assets, June 30, 2022		$2,405,795,708
2	Net new money[1], including expected investment income (7.00%)		142,582,454
3	Preliminary asset value: **1 + 2**		2,548,378,162
4	Smoothing adjustment		
	a) Market value, June 30, 2023	$2,423,230,404	
	b) Preliminary asset value	2,548,378,162	
	c) Unrecognized appreciation	−125,147,758	
	d) Adjustment	X 20%	−25,029,552
5	Actuarial value of assets, June 30, 2023: **3 + 4d**		$2,523,348,610
6	Actuarial value of assets as a percentage of market value: **5 ÷ 4a**		104.13%

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

Asset history for years ended June 30

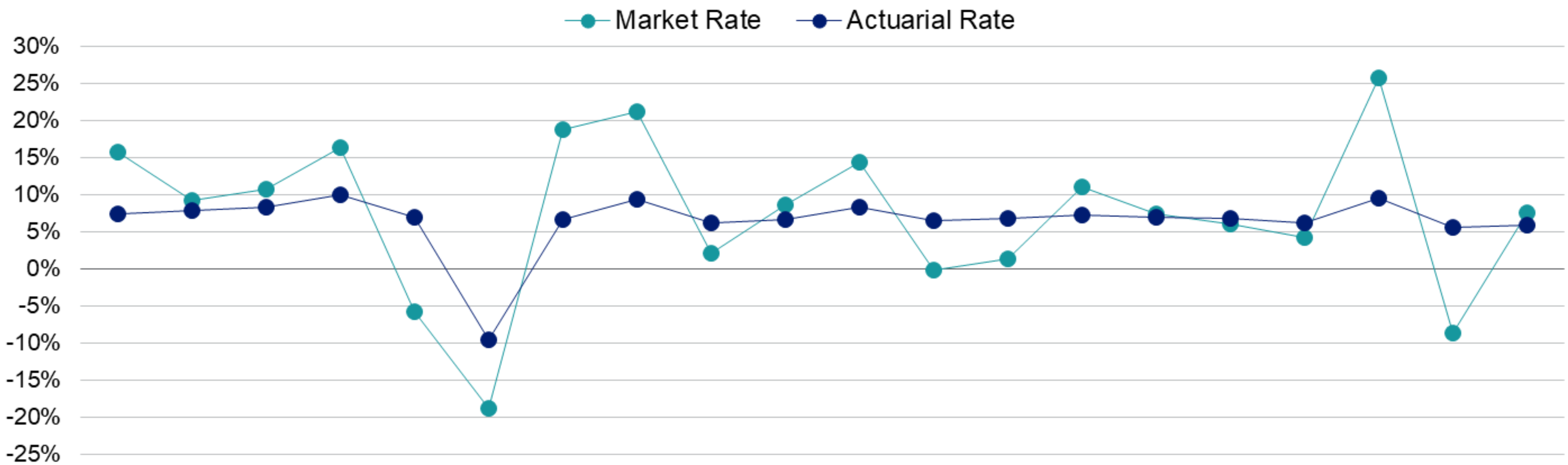


	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarial Value[1]	$1.57	$1.64	$1.71	$1.79	$1.88	$1.96	$2.05	$2.22	$2.41	$2.52
Market Value[1]	1.66	1.62	1.61	1.75	1.84	1.91	1.96	2.43	2.28	2.42
Ratio	0.95	1.01	1.06	1.03	1.02	1.03	1.05	0.91	1.06	1.04

[1] In billions

Historical investment returns

Market and Actuarial Rates of Return for Years Ended June 30



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Market rate	15.7%	9.3%	10.7%	16.4%	−5.7%	−18.8%	18.8%	21.2%	2.2%	8.6%	14.4%	−0.1%	1.4%	11.0%	7.4%	6.1%	4.3%	25.7%	−8.7%	7.6%
Actuarial rate	7.4%	7.8%	8.3%	10.0%	6.9%	−9.6%	6.7%	9.3%	6.3%	6.7%	8.3%	6.5%	6.7%	7.3%	6.9%	6.8%	6.3%	9.6%	5.6%	6.0%
Assumed rate	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%	7.0%

Average Rates of Return	Actuarial Value	Market Value
Most recent five-year average return:	6.77%	6.27%
Most recent ten-year average return:	6.92%	6.44%
Most recent fifteen-year average return:	6.09%	6.21%
Most recent twenty-year average return:	6.43%	6.63%

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 $34,475,701, which includes $25,029,552 from investment losses and $9,446,149 in losses from all other sources. The net experience variation from individual sources other than investments was 0.3% 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, 2023

1	Net loss from investments[1]	−$25,029,552
2	Loss on administrative expenses	−81,118
3	Net loss from other experience	−9,365,031
4	Net experience loss: **1 + 2 + 3**	−$34,475,701

[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, 2023	
		Market Value	**Actuarial Value**
1	Investment income	$171,535,276	$142,502,898
2	Average value of assets	2,264,170,126	2,393,320,710
3	Rate of return: **1 ÷ 2**	7.58%	5.95%
4	Assumed rate of return	7.00%	7.00%
5	Expected investment income: **2 x 4**	$158,491,909	$167,532,450
6	Actuarial gain/(loss): **1 − 5**	$13,043,367	−$25,029,552

Administrative expenses

Administrative expenses for the year ending June 30, 2023, totaled $2,578,013, as compared to the assumption of $2,416,448.

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 (greater or smaller than projected).

Liability Changes Due to Demographic Experience for Year Ended June 30

	2019	2020	2021	2022	2023
Net turnover	−$1,588,998	−$2,812,974	$3,446,914	$13,686,201	$4,513,484
Retirement	−13,424,864	−8,892,489	−19,015,951	−22,922,279	−5,790,656
Mortality	−1,885,105	3,692,473	−4,440,365	10,206,668	8,005,442
Disability retirements	291,792	−434,494	−158,342	−1,598,758	−59,419
Salary/service increases	344,400	−3,697,977	−4,448,937	−30,740,425	−8,552,557
COLA experience[1]	11,993,826	23,969,841	−35,588,639	−46,706,996	3,240,429
Miscellaneous[2]	−14,994,521	−2,407,484	−3,195,329	−9,645,414	−10,721,754
Total	−$19,263,470	$9,416,896	−$63,400,649	−$87,721,003	−$9,365,031

[1] COLA experience gain for 2023 is due to actual 2024 COLAs being lower than expected (2.20% actual vs 2.40% expected for Group A, C, and D members, 1.10% actual vs 1.35% expected for Group F members who retired before July 1, 2008, and 2.20% actual vs 2.40% expected for Group F members who retired after July 1, 2008).

[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, 2023, actuarial valuation, the following assumptions were updated:

- Assumed rates of salary increase were increased based on plan experience.
- COLA assumptions were decreased as follows:
  - Active Group A, C, F, and G members first eligible for normal or unreduced early retirement on or after July 1, 2022, and active Group D members first appointed or elected on or after July 1, 2022:
    - Group A: decreased from 2.40% to 2.25%.
    - Group C: decreased from 2.15% to 2.10%.
    - Group D:
      - First $75,000 of retirement benefits paid: decreased from 2.40% to 2.25%.
      - Retirement benefits paid above $75,000: decreased from 1.15% to 1.10%.
    - Groups F and G: decreased from 2.25% to 2.15%.
  - All other members:
    - Groups A, C, and D: decreased from 2.40% to 2.25%.
    - Groups E and F – Retired on or before June 30, 2008: decreased from 1.35% to 1.25%.
    - Groups E and F – Retired on or after July 1, 2008: decreased from 2.40% to 2.35%.
- Administrative expenses assumption was increased from 0.40% of projected to payroll to 0.45% of projected payroll.
- Mortality assumptions were updated as follows:
  - Pre-Retirement:
    - Groups A and F: PubG-2010 General Employee Amount-Weighted Table with no credibility adjustments.
    - Group D: PubG-2010 General Employee Amount-Weighted Above Median Table with no credibility adjustments.
  - Healthy Post-Retirement – Retirees:
    - Groups A and F: PubG-2010 General Healthy Retiree Amount-Weighted Table for males and females with credibility adjustments of 101% and 105%, respectively, of the rates for all ages.
    - Group C and G: PubS-2010 Public Safety Retiree Amount-Weighted Table with no credibility adjustments.
  - Healthy Post-Retirement – Beneficiaries:
    - Group C and G: Pub-2010 Contingent Survivor Amount-Weighted Table with no credibility adjustments.

- Disabled Post-Retirement:
  - Groups C and G: PubS-2010 Safety Disabled Retiree Amount-Weighted Table with no credibility adjustments.
- The mortality improvement scale was updated to MP-2021 for all assumptions for all groups.

- Assumed inactive vested retirement rates for all pre-Normal Retirement Ages were decreased to 15%.
- Assumed disability rates were decreased as follows:
  - Groups A, D, and F: rates were uniformly decreased by 40% for all ages.
  - Group C: rates were uniformly decreased by 25% for all ages.

As a result of these assumption changes, the normal cost increased by $1.8 million, and the actuarial accrued liability increased by $13.3 million. Details on actuarial assumptions and methods are in *Section 4, Exhibit I.*

Plan provisions

There were no changes in plan provisions since the prior valuation. 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, 2023

1	Unfunded actuarial accrued liability at beginning of year		$1,038,338,081
2	Normal cost at beginning of year		73,970,897
3	Total contributions		−166,358,015
4	Interest on **1**, **2** & **3**		72,039,098
5	Expected unfunded actuarial accrued liability		$1,017,990,061
6	Changes due to:		
	(a) Net experience (gain)/loss	$34,475,701	
	(b) Assumptions	13,255,840	
	(c) Funding method	0	
	(d) Plan provisions	0	
	Total changes		47,731,541
7	Unfunded actuarial accrued liability at end of year		$1,065,721,602

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, 2023, there are 15 years remaining on this schedule.

The actuarially determined contribution for the fiscal year ending June 30, 2024, is $121,873,370 based on the June 30, 2022, actuarial valuation. The results of this June 30, 2023, actuarial valuation with the additional Act 114 contributions are used to determine the actuarially determined contribution for the fiscal year ending June 30, 2025, and to estimate the actuarially determined contribution for the fiscal year ending June 30, 2026, as shown in *Section 2, Actuarially determined contribution for following two fiscal years.*

The preliminary contribution requirement as of July 1, 2023, 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			
		2023		2022	
		Amount	% of Payroll	Amount	% of Payroll
1	Total normal cost, adjusted for timing[1]	$83,397,238	12.77%	$74,099,643	12.26%
2	Administrative expenses	2,939,373	0.45%	2,416,448	0.40%
3	Expected employee contributions	−49,951,669	−7.65%	−43,694,219	−7.23%
4	Employer normal cost: **1 + 2 + 3**	$36,384,942	5.57%	$32,821,872	5.43%
5	Actuarial accrued liability	3,589,070,212		3,444,133,789	
6	Actuarial value of assets	2,523,348,610		2,405,795,708	
7	Unfunded actuarial accrued liability: **5 − 6**	$1,065,721,602		$1,038,338,081	
8	Payment on unfunded actuarial accrued liability, adjusted for timing[1]	94,667,812	14.49%	87,969,539	14.56%
9	Preliminary contribution requirement: **4 + 8**	$131,052,754	20.06%	$120,791,411	19.99%
10	Projected payroll	653,193,932		604,112,062	

[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, 2022, to July 1, 2023

		Amount	% of Payroll
1	Preliminary Contribution Requirement as of July 1, 2022	$120,791,411	19.99%
2	Effect of plan amendment(s)	-	0.00%
3	Effect of change in asset method	-	0.00%
4	Effect of expected change in amortization payment due to payroll growth	2,639,086	0.44%
5	Effect of expected change in amortization method	-	0.00%
6	Effect of change in actuarial assumptions	2,845,615	0.47%
7	Effect of total contributions (more)/less than actuarially determined contribution	−172,145	−0.03%
8	Effect of investment (gain)/loss	2,223,370	0.37%
9	Effect of other gains and losses on accrued liability	839,099	0.14%
10	Effect of change in administrative expenses[1]	522,924	0.09%
11	Net effect of other changes, including composition and number of members, payroll[2]	1,363,394	−1.41%
12	Total change	$10,261,343	0.07%
13	Preliminary Contribution Requirement as of July 1, 2023: **1 + 12**	$131,052,754	20.06%

[1] The dollar amount of expected administrative expenses increased as the assumption increased to 0.45% of projected payroll.

[2] The percent of payroll value includes the effect of the change in projected payroll basis. All percentages for previous items are calculated on the basis of prior year projected payroll. This percent of payroll value includes an additional element to account for the fact that the percentage in item 13 is based on projected payroll from the current valuation. It is possible that the dollar amount of change may be positive while the percent of payroll value is negative, and vice versa. It is expected that the dollar amount as a percentage of prior year projected payroll will not match the percent of payroll value.

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
2023	$1,065,721,602	$9,000,000	$90,903,961	70.31%
2024	1,036,980,653	12,000,000	97,001,194	71.99%
2025	996,817,587	15,000,000	98,682,385	74.02%
2026	949,000,844	15,000,000	100,007,735	76.12%
2027	896,465,977	15,000,000	101,255,428	78.22%
2028	838,963,046	15,000,000	102,399,277	80.32%
2029	776,251,702	15,000,000	103,404,356	82.41%
2030	708,110,904	15,000,000	104,222,758	84.51%
2031	634,353,687	15,000,000	104,786,394	86.60%
2032	554,850,435	15,000,000	104,993,883	88.68%
2033	469,567,328	0	104,684,562	90.75%
2034	394,150,488	0	107,825,098	92.51%
2035	310,205,873	0	111,059,851	94.31%
2036	217,039,081	0	114,391,647	96.16%
2037	113,904,177	0	117,823,396	98.06%
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.

Projection of actuarially determined contribution for following two fiscal years

On the basis of the June 30, 2023, actuarial valuation, the employer normal cost rate is 5.57%. In order to reflect the future member contribution increases per Act 114, the fiscal 2025 employer normal cost rate is reduced by an estimated 49 basis points and the fiscal 2026 employer normal cost rate is reduced by an additional estimated 45 basis points. These reduced employer normal cost rates are applied to the projected payrolls for fiscal 2025 and fiscal 2026, 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, 2025, and to estimate the actuarially determined contribution for the fiscal year ending June 30, 2026, as shown below. The final actuarially determined contribution for fiscal 2026 will be determined with the next valuation.

Actuarially Determined Contribution: 2025 – 2026

			Projected Contributions		
Fiscal Year Ended June 30	Projected Payroll[1]	Employer Normal Cost Rate	Employer Normal Cost	Unfunded Liability Payment	Total
2025	$676,055,720	5.08%	$34,345,741	$97,001,194	$131,346,935
2026	699,717,670	4.63%	32,399,113	98,682,385	131,081,498

[1] In these projections, total payroll is assumed to increase by 3.5% each year.

History of employer contributions

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

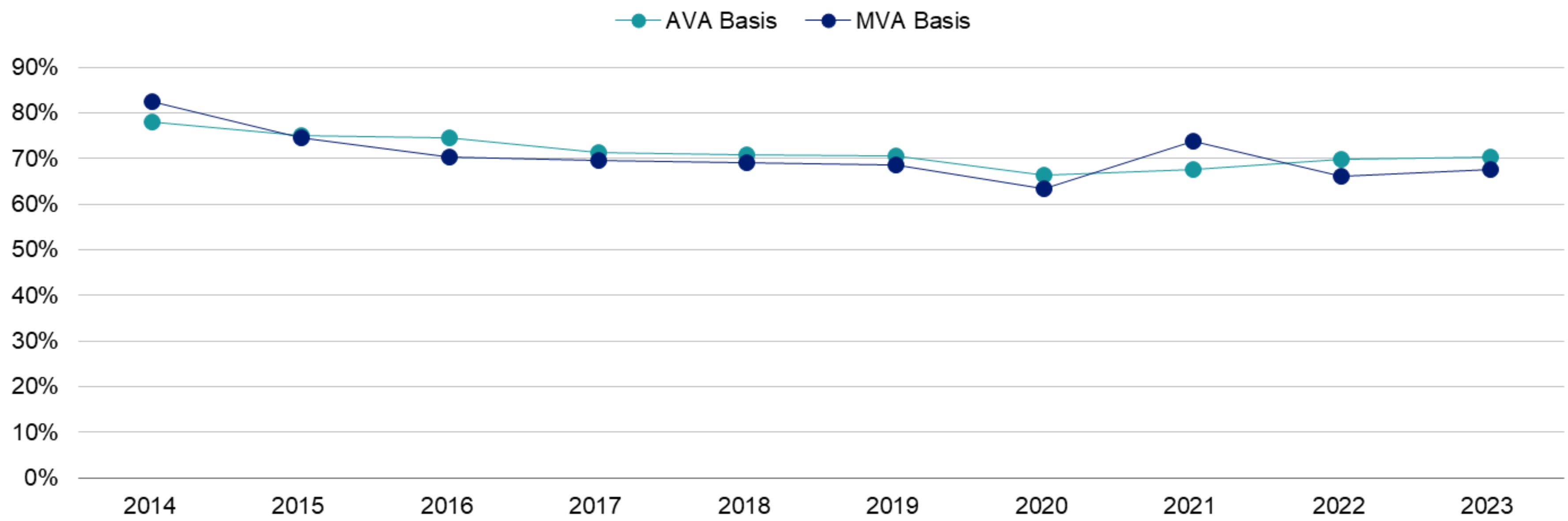
History of Employer Contributions: 2015 – 2024

	Actuarially Determined Contribution		Actual Employer Contribution		
Fiscal Year Ended June 30	Amount[1]	Percentage of Payroll[2]	Amount	Percentage of Payroll[2]	Percent Contributed
2015	$44,651,783	10.25%	$55,881,364	12.83%	125.15%
2016	46,237,853	10.11%	54,347,060	11.88%	117.54%
2017	48,503,358	10.14%	60,280,480	12.60%	124.28%
2018	52,065,397	10.67%	64,564,323	12.26%	124.01%
2019	62,984,742	11.57%	66,617,894	12.24%	105.77%
2020	78,943,914	14.01%	84,429,972	15.34%	106.95%
2021	83,876,570	14.51%	88,944,172	15.38%	106.04%
2022	119,967,769	20.73%	197,523,008	34.13%	164.65%
2023	116,038,400	19.21%	116,387,502	19.27%	100.30%
2024	121,873,370	18.66%	--	--	--

[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, 2023	**June 30, 2022**
Liabilities		
• Present value of benefits for retired members and beneficiaries	$2,270,533,748	$2,209,736,910
• Present value of benefits for inactive former members	106,177,143	98,275,036
• Present value of benefits for active members	1,964,922,284	1,792,585,559
Total liabilities	**$4,341,633,175**	**$4,100,597,505**
Assets		
• Total valuation value of assets	$2,523,348,610	$2,405,795,708
• Present value of future contributions by members	484,494,333	512,911,558
• Present value of future employer contributions for:		
• Entry age cost	268,068,630	143,552,158
• Unfunded actuarial accrued liability	1,065,721,602	1,038,338,081
Total of current and future assets	**$4,341,633,175**	**$4,100,597,505**

Low-Default-Risk Obligation Measure

In December 2021, the Actuarial Standards Board issued a revision of Actuarial Standard of Practice No. 4 (ASOP 4) *Measuring Pension Obligations and Determining Pension Plan Costs or Contributions*. One of the revisions to ASOP 4 requires the disclosure of a Low-Default-Risk Obligation Measure (LDROM) when performing a funding valuation. The LDROM presented in this report is calculated using the same methodology and assumptions used to determine the Actuarial Accrued Liability (AAL) used for funding, except for the discount rate. The LDROM is required to be calculated using “a discount rate…derived from low-default-risk fixed income securities whose cash flows are reasonably consistent with the pattern of benefits expected to be paid in the future.”

The LDROM is a calculation assuming a plan’s assets are invested in an all-bond portfolio, generally lowering expected long-term investment returns. The discount rate selected and used for this purpose is the Bond Buyer General Obligation 20-year Municipal Bond Index Rate, published at the end of each week. The last published rate in June of the measurement period, by The Bond Buyer (www.bondbuyer.com), is 3.65% for use effective June 30, 2023. This is the rate used to determine the discount rate for valuing reported public pension plan liabilities in accordance with Governmental Accounting Standards when plan assets are projected to be insufficient to make projected benefit payments, and the 20-year period reasonably approximates the duration of such plans. The LDROM is not used to determine a plan’s funded status or Actuarially Determined Contribution. The plan’s expected return on assets, currently 7.00%, is used for these calculations.

As of June 30, 2023, the LDROM for the System is $5.57 billion. The difference between the plan’s AAL of $3.59 billion and the LDROM, or $1.98 billion, can be thought of as the increase in the AAL if the entire portfolio were invested in low-default-risk securities. Alternatively, this difference could also be viewed as representing the expected savings from investing in the plan’s diversified portfolio compared to investing only in low-default-risk securities.

ASOP 4 requires commentary to help the intended user understand the significance of the LDROM with respect to the funded status of the plan, plan contributions, and the security of participant benefits. In general, if plan assets were invested exclusively in low-default-risk securities, the funded status would be lower and the Actuarially Determined Contribution would be higher. While investing in a portfolio with low-default-risk securities may be more likely to reduce investment volatility and the volatility of employer contributions, it also may be more likely to result in higher employer contributions or lower benefits.

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 VSERS 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 $242.3 million in the asset value. A 10% increase in assets would cause the unfunded liability (market value basis) to decrease from $1.166 billion to $0.924 billion. Likewise, a 10% decrease in the asset value would cause the unfunded liability to increase from $1.166 billion to $1.408 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 0.30% of payroll, 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 −18.80% to a high of 25.71%.

- **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 VSERS, a 3% liability increase would result in an increase in the unfunded accrued liability of $107.7 million. The unfunded accrued liability (market value of assets basis) would increase from $1.166 billion to $1.274 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 0.72 to a high of 0.96. Currently the System has an in-pay-status to active member ratio of 0.94.

  – As of June 30, 2023, the retired life actuarial accrued liability represents 63% 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 $19.3 million more than contributions received, or 0.8% of the market value of assets. Typically, as the System matures, more cash will be needed from the investment portfolio to meet benefit payments.

- **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)
2019	−$13,757,751	N/A	−$19,263,470
2020	−23,939,803	N/A	9,416,896
2021	52,180,733	N/A	−63,400,649
2022	−32,287,646	$43,700	−87,721,003
2023	−25,029,552	−81,118	−9,365,031

- 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 $32.3 million to a gain of $52.2 million.
  - The non-investment gain(loss) for a year has ranged from a loss of $87.7 million to a gain of $9.4 million.
- The funded percentage on the actuarial value of assets has ranged from a low of 66.4% to a high of 77.9% over the past ten years.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage

Category	As of June 30 2023	As of June 30 2022	Change From Prior Year
Active members in valuation:			
• Number	8,611	8,324	3.4%
• Average age	45.1	45.3	−0.2
• Average years of creditable service	10.2	10.4	−0.2
• Total payroll	$621,255,605	$576,951,813	7.7%
• Average payroll	72,147	69,312	4.1%
• Total active vested members	5,487	5,462	0.5%
Inactive members:			
• Number of deferreds as reported by the System	844	815	3.6%
• Number of inactives as reported by the System	2,287	2,012	13.7%
Retired members:			
• Number in pay status	6,897	6,800	1.4%
• Average age	71.9	71.5	0.4
• Average monthly benefit	$2,027	$1,931	5.0%
Disability retirees:			
• Number in pay status	392	396	−1.0%
• Average age	66.7	66.3	0.4
• Average monthly benefit	$1,436	$1,360	5.6%
Beneficiaries:			
• Number in pay status	769	767	0.3%
• Average age	71.2	71.1	0.1
• Average monthly benefit	$1,286	$1,229	4.6%

Exhibit B: Reconciliation of Member Data

	Active Members	Deferreds	Inactives	Disability Retirees	Retired Members	Beneficiaries	Total
Number as of July 1, 2022	**8,324**	**815**	**2,012**	**396**	**6,800**	**767**	**19,114**
• New members	1,028	N/A	202	0	12	N/A	1,242
• Inactives as reported by the System	-506	0	506	N/A	N/A	N/A	0
• Deferred as reported by the System	N/A	82	-82	N/A	N/A	N/A	0
• Retirements	-218	-41	-13	N/A	272	N/A	0
• New disabilities	-10	0	0	11	-1	N/A	0
• Return to work from disability	0	N/A	N/A	0	N/A	N/A	0
• Died with beneficiary	-9	0	0	-3	-33	45	0
• Died without beneficiary	-7	-1	-1	-12	-149	-47	-217
• Refunds of contributions	-98	-4	-238	0	0	0	-340
• Rehire	107	-6	-101	N/A	0	N/A	0
• Certain period expired	N/A	N/A	0	0	0	-4	-4
• Data adjustments	0	-1	2	0	-4	8	5
Number as of July 1, 2023	**8,611**	**844**	**2,287**	**392**	**6,897**	**769**	**19,800**

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

	Year Ended June 30, 2023		Year Ended June 30, 2022	
Net assets at market value at the beginning of the year		$2,276,645,124		$2,425,222,408
Contribution income:				
• Employer contributions	$116,387,502		$197,523,008	
• Member contributions	48,580,695		44,654,960	
• Less administrative expenses	−2,578,013		−2,352,151	
Net contribution income		*$162,390,184*		*$239,825,817*
Net other income		$1,389,818		$862,283
Investment income:				
• Interest, dividends and other income	$20,114,026		$16,785,884	
• Asset appreciation	151,421,250		−229,545,692	
• Less investment fees	−3,025,871		−2,714,103	
Net investment income		*$168,509,405*		*−$215,473,911*
Total income available for benefits		**$332,289,407**		**$25,214,189**
Less benefit payments:				
• Benefits	−$180,735,163		−$167,690,557	
• Refunds of contributions	−3,911,594		−4,386,131	
• Death claims	−812,777		−813,731	
• Transfers to other pension trust funds	−244,593		−901,054	
Net benefit payments		*−$185,704,127*		*−$173,791,473*
Change in reserve for future benefits		**$146,585,280**		**−$148,577,284**
Net assets at market value at the end of the year		**$2,423,230,404**		**$2,276,645,124**

Exhibit D: Summary Statement of Plan Assets

		June 30, 2023		June 30, 2022
Cash equivalents		$36,074,483		$22,781,883
Total accounts receivable		43,342,216		14,883,184
Prepaid expenses		70,506		68,602
Capital assets, net of depreciation		274,203		521,831
Investments:				
• Fixed income	$110,493,827		$128,651,224	
• Equities	69,417,330		209,763,371	
• Mutual and commingled funds	1,578,834,310		1,496,507,550	
• Real estate and venture capital	647,913,594		431,376,299	
Total investments at market value		$2,406,659,061		$2,266,298,444
Total assets		$2,486,420,469		$2,304,553,944
Total liabilities		−$63,190,065		−$27,908,820
Net assets at market value		**$2,423,230,404**		**$2,276,645,124**
Net assets at actuarial value		**$2,523,348,610**		**$2,405,795,708**

Exhibit E: Development of the Fund through June 30, 2023

Year Ended June 30	Employer Contributions	Member Contributions	Net Other Income	Net Investment Return[1]	Admin. Expenses	Benefit Payments[2]	Market Value of Assets at Year-End	Actuarial Value of Assets at Year-End	Actuarial Value as a Percent of Market Value
2013	$51,370,307	$29,847,352	$638,436	$110,717,567	-$1,374,643	-$99,194,618	$1,470,493,897	$1,469,169,902	99.91%
2014	56,482,985	31,745,692	453,852	203,720,178	-1,158,183	-104,492,553	1,657,245,868	1,566,075,540	94.50%
2015	55,881,364	33,296,248	423,273	-8,484,694	-2,104,636	-111,396,184	1,624,861,239	1,636,267,663	100.70%
2016	54,347,060	34,055,217	293,444	17,962,425	-1,775,647	-120,093,586	1,609,650,152	1,707,267,941	106.06%
2017	60,280,480	35,966,987	785,504	170,358,016	-2,119,044	-126,479,801	1,748,442,294	1,793,794,733	102.59%
2018	64,564,323	40,423,239	554,842	123,632,169	-2,026,240	-134,090,344	1,841,500,283	1,881,804,847	102.19%
2019	66,617,894	40,818,039	298,872	106,777,462	-2,246,008	-144,296,719	1,909,469,823	1,964,500,825	102.88%
2020	84,429,972	40,902,188	594,069	78,964,510	-2,268,390	-153,025,531	1,959,066,641	2,054,825,853	104.89%
2021	88,944,172	42,113,318	247,033	497,422,654	-2,280,512	-160,290,898	2,425,222,408	2,216,499,478	91.39%
2022	197,523,008	44,654,960	862,283	-215,473,911	-2,352,151	-173,791,473	2,276,645,124	2,405,795,708	105.67%
2023	116,387,502	48,580,695	1,389,818	168,509,405	-2,578,013	-185,704,127	2,423,230,404	2,523,348,610	104.13%

[1] On a market basis, net of investment fees.
[2] 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:	The single-sum value of lifetime benefits to existing pensioners. This sum takes into account life expectancies appropriate to the ages of the pensioners 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.

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 designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

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 Percentage:	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.

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.

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 Review dated September 18, 2023 (as prepared by Segal) and in the Economic Experience Study (as prepared by the Gabriel Roeder Smith actuarial consulting firm) adopted by the Vermont Pension Investment Commission during their meeting on July 25, 2023.

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: Varying service based rates depending on years from hire date:

Years From Hire	Annual Rate of Salary Increase (%)	Years From Hire	Annual Rate of Salary Increase (%)	Years From Hire	Annual Rate of Salary Increase (%)
0	6.38	13	4.85	26	4.28
1	6.38	14	4.78	27	4.27
2	6.38	15	4.71	28	4.19
3	6.14	16	4.64	29	4.10
4	5.91	17	4.57	30	4.02
5	5.67	18	4.52	31	3.93
6	5.44	19	4.47	32	3.85
7	5.20	20	4.42	33	3.83
8	5.15	21	4.37	34	3.81
9	5.09	22	4.32	35	3.80
10	5.04	23	4.31	36	3.78
11	4.98	24	4.30	37+	3.76
12	4.93	25	4.29		

Cost-of-Living Adjustments (COLA):	For active Group A, C, F, and G members who are first eligible for normal or unreduced early retirement on or after July 1, 2022, and for active Group D members who are first appointed or elected on or after July 1, 2022: • Group A — Assumed to occur on January 1 following two years of retirement at the rate of 2.25% per annum. The January 1, 2024, COLA is expected to be 2.20%[1]. • Group C — Assumed to occur on January 1 following two years of retirement at the rate of 2.10% per annum. The January 1, 2024, COLA is expected to be 2.20%[1]. • Group D — Assumed to occur on January 1 following two years of retirement at the rate of 2.25% per annum on the first $75,000 of retirement benefits paid and 1.10% per annum on retirement benefits paid above $75,000. The January 1, 2024, COLA is expected to be 2.20%[1] on the first $75,000 of retirement benefits paid and 1.10%[1] on retirement benefits paid above $75,000. • Group F/G — Assumed to occur on January 1 following two years of retirement at the rate of 2.15% per annum. For members hired before July 1, 2008, assumed to begin two years after the attainment of age 62 for deferred retirements. For members hired on or after July 1, 2008, assumed to begin two years after the attainment of age 65 for deferred retirements. The January 1, 2024, COLA is expected to be 2.20%[1]. For all other members: • Groups A/C/D — Assumed to occur on January 1 following one year of retirement at the rate of 2.25% per annum. The January 1, 2024, COLA is expected to be 2.20%. • Groups E/F — Assumed to occur on January 1 following one year of retirement at the rate of 1.25% per annum (beginning one year after the attainment of age 62 for deferred retirements) for members who retired on or before June 30, 2008. The January 1, 2024, COLA is expected to be 1.10%. For members retiring on or after July 1, 2008, assumed to occur on January 1 following one year of retirement at the rate of 2.35% per annum. For members hired before July 1, 2008, assumed to begin one year after the attainment of age 62 for deferred retirements. For members hired on or after July 1, 2008, assumed to begin one year after the attainment of age 65 for deferred retirements. The January 1, 2024, COLA is expected to be 2.20%. [1]These amounts were required to be calculated in 2024 as a result of Act 114; however, they will not be applied to any members in 2024.

Mortality Rates:	*Pre-Retirement:* • Groups A/F — PubG-2010 General Employee Amount-Weighted Table with generational projection using scale MP-2021 • Group C/G — PubS-2010 Public Safety Employee Amount-Weighted Table with generational projection using scale MP-2021 • Group D* — PubG-2010 General Employee Amount-Weighted Above Median Table with generational projection using scale MP-2021 *Healthy Post-Retirement - Retirees*: • Groups A/F — PubG-2010 General Healthy Retiree Amount-Weighted Table with credibility adjustments of 101% and 105% for the Male and Female tables, respectively, with generational projection using scale MP-2021 • Group C/G — PubS-2010 Public Safety Retiree Amount-Weighted Table with generational projection using scale MP-2021 • Group D — PubG-2010 General Healthy Retiree Amount-Weighted Above Median Table with generational projection using scale MP-2021 *Healthy Post-Retirement - Beneficiaries*: • Groups A/F/C/G — Pub-2010 Contingent Survivor Amount-Weighted Table with generational projection using scale MP-2021 • Group D — Pub-2010 Contingent Survivor Amount-Weighted Above Median Table with generational projection using scale MP-2021 *Disabled Post-Retirement*: • Groups A/F/D — PubNS-2010 Non-Safety Disabled Retiree Amount-Weighted Table with generational projection using scale MP-2021 • Groups C/G — PubS-2010 Safety Disabled Retiree Amount-Weighted Table with generational projection using Scale MP-2021 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. * 30% of deaths are assumed to be accidental.

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

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

Withdrawal Groups A/D[1]				Disability[2]		
Ultimate Rates		Increase Factors				
Age	Male/Female	Service	Male/Female	Age	Groups A/D/F	Group C
25	4.9066%	1	4.000	25	0.0095%	0.0578%
30	3.9275	3	2.500	30	0.0122	0.0743
35	3.2826	5	1.900	35	0.0163	0.0994
40	3.0392	7	1.600	40	0.0244	0.1485
45	2.6920	9	1.300	45	0.0399	0.2426
50	2.2464			50	0.0633	0.4091
55	1.8346			55	0.1117	0.6810
60	3.9019			60	0.1803	

1 20% of disability incidents are assumed to be accidental for Group C and 10% of disability incidents are assumed to be accidental for all other members.

2 The Ultimate Rates are multiplied by the Increase Factors during the first 10 years of service.

Withdrawal Group C

Service	Male	Female
0	10.800%	21.600%
1	6.480	12.960
2	5.400	10.800
3	3.456	6.912
4	3.456	6.912
5	3.456	6.912
6-19	3.240	6.480
20+	0.000	0.000

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

Withdrawal Group F[1]

Ultimate Rates 0-10 Years of Service		**Increase Factors**		**Ultimate Rates**[2] **10-30 Years of Service**	
Age	**Male/Female**	**Service**	**Male/Female**	**Age**	**Male/Female**
25	6.3933%	0	2.850	25	4.2200%
30	5.1207	2	2.300	30	3.3800
35	4.2723	4	1.550	35	2.8200
40	3.9542	6	1.300	40	2.6100
45	3.5148	8	1.150	45	2.3200
50	2.9240			50	1.9300
55	2.4695			55	1.6300
60	2.4695			60	1.6300

1 The Ultimate Rates are multiplied by the Increase Factors during the first 10 years of service.

2 Withdrawal Rates are 0.00% for all Group F members with 30+ years of service

Retirement Rates:

Retirement Group F[1]

Age	**Male**	**Female**	**Age**	**Male**	**Female**
40-52	20.00%	10.00%	63	17.50%	15.00%
53	15.00	10.00	64	20.00	15.00
54	15.00	10.00	65	22.50	20.00
55	5.00	5.00	66	25.00	30.00
56	5.00	5.00	67	25.00	30.00
57	5.00	5.00	68	25.00	30.00
58	5.00	7.50	69	25.00	30.00
59	7.50	7.50	70+	100.00	100.00
60	7.50	7.50			
61	15.00	12.50			
62	25.00	25.00			

1 All Group A and D members are assumed to retire when first eligible.

Retirement Rates *(continued)*:	See table below
Inactive Members as Reported by the System:	Not Vested: Valuation liability equals 100% of accumulated contributions. Vested: Valuation liability based on accrued benefit and 15% 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 with a deferred vested benefit.
Deferred Members as Reported by the System:	Valuation liability based on accrued benefit and 15% 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 with a deferred vested benefit.
Future Administrative Expenses:	0.45% of projected payroll
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:	• Groups A/D 75.4% of male members and 64.0% of female members are assumed to be married. • Group C 73.3% of male members and 61.0% of female members are assumed to be married. • Group F 71.4% of male members and 63.1% of female members are assumed to be married.
Age of Spouse:	Females three years younger than males.
Benefit Election:	• Non-Group C All members are assumed to elect the single life annuity option. • Group C Single members are assumed to elect single life annuity. Married members are assumed to elect the 70% joint & survivor option

	Retirement Group C[2]
Age	**Male/Female**
50	50.00%
51	10.00
52	10.00
53	10.00
54	5.00
55	5.00
56	5.00
57+	100.00

[2] Effective July 1, 2022, the mandatory retirement age for Group C members was increased from age 55 to age 57.

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 Change in Actuarial Assumptions:	Effective for the June 30, 2023, actuarial valuation, the following actuarial assumptions were changed according to past experience and future expectations: • Salary Increase, • Assumed COLAs, • Death After Retirement, • Death in Active Service, • Inactive Vested Retirement, • Disability Incidence, and • Administrative Expenses.

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, 1972 (for consolidated system).	
Credible Service:	Service as a member plus purchased service.	
Average Final Compensation (AFC):	• Groups A/F	Average annual compensation during highest 3 consecutive years.
	• Group C	Average annual compensation during highest 2 consecutive years.
	• Group D	For active members who retire on or after July 1, 2022, and do not meet one of the following two requirements: (1) at least age 57 with 5 or more years of service as a judge in Group D as of June 30, 2022; (2) Group D as of June 30, 2022, with 15 or more years of service: - Average annual compensation during final 2 years of service. For all other members: - Annual compensation during final year of service.
Normal Retirement – Eligibility:	• Group A	Earlier of age 65 with 5 years of service or age 62 with 20 years of service.
	• Group C	Age 55.
	• Group D	For members first appointed or elected on or before June 30, 2022: - Age 62 with 5 years of service. For members first appointed or elected on or after July 1, 2022: - Age 65 with 5 years of service.
	• Group F	Age 62 or 30 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.
Normal Retirement – Amount:	• Group A	1.67% of AFC times service.
	• Group C	2.50% of AFC times service, up to a maximum benefit cap of 50% of AFC. The maximum benefit cap is increased by 1.5% of AFC for each year worked after attaining the later of age 50 or 20 years of benefit service, applied prospectively to service worked after July 1, 2022.

Normal Retirement – Amount *(continued)*:	• Group D	For active members who retire on or after July 1, 2022, and do not meet one of the following two requirements: (1) at least age 57 with 5 or more years of service as a judge in Group D as of June 30, 2022; (2) Group D as of June 30, 2022, with 15 or more years of service: - 3.33% of AFC times service, up to a maximum benefit cap of 80% of AFC. For all other members: - 3.33% of AFC times service, up to a maximum benefit cap of 100% of AFC.
	• Group F	1.25% of AFC times service prior to January 1, 1991, plus 1.67% of AFC times service after 1990, up to a maximum benefit cap of 50% of AFC. For members hired on or after July 1, 2008, the maximum benefit cap is 60% of AFC.
Early Retirement – Eligibility:	• Groups A/D	Age 55 with 5 years of service or 30 years of service.
	• Group C	Age 50 with 20 years of service.
	• Group F	Age 55 with 5 years of service.
Early Retirement – Amount:	• Group A	Actuarial equivalent of normal retirement allowance. For members with 30 years of service, there is no reduction.
	• Group C	Same as normal retirement allowance.
	• Group D	For members first appointed or elected on or before June 30, 2022: - Normal allowance reduced by 3% for each year commencement precedes age 62. For members first appointed or elected on or after July 1, 2022: - Normal allowance reduced by 3% for each year commencement precedes age 65.
	• Group F	For members hired prior to July 1, 2008, no reduction if 30 years of service; otherwise normal allowance reduced by 6% for each year commencement precedes age 62. For members hired on or after July 1, 2008, no reduction if combination of years and service equal 87; other reduced from age 65 based on the following table:

Years of Service	Reduction in Benefit
35	One-eighth of 1% per month
30	One-fourth of 1% per month
25	One-third of 1% per month
20	Five-twelfths of 1% per month
Less than 20	Five-ninths of 1% per month

Section 4: Actuarial Valuation Basis

Vesting:	• All groups – 5 years of service.
Ordinary Disability – Eligibility:	• All groups – 5 years of service and incapacitated, not work related, for performance of duty.
Ordinary Disability – Amount:	All groups – Immediate allowance based on service to date of disability. Benefit is the greatest of 25% of AFC and unreduced accrued benefit as of date of disability.
Accidental Disability – Eligibility:	All groups – Incapacitated because of work related accident.
Accidental Disability – Amount:	• Groups A/D/F: Immediate allowance equal to the greater of 25% of AFC and unreduced accrued benefit as of date of disability. • Group C: Immediate allowance equal to 50% of AFC with additional 10% of AFC for each dependent child (up to 30%).
Ordinary Death – Eligibility:	• Groups A/F: Death after eligibility for early retirement or 10 years of service. • Groups C/D: Death after normal retirement age or 10 years of service.
Ordinary Death – Amount:	• Groups A/D/F: Maximum of reduced allowance under 100% survivor option and disability allowance under 100% disability survivor option, commencing immediately. • Group C: 70% of the allowance that would have been payable to the member plus additional allowance equal to 10% of AFC for each dependent child (up to 30%).
Accidental Death – Eligibility:	• Groups A/C/D/F – Death because of work related accident.
Accidental Death – Amount:	• Groups A/D/F: Allowance equal to 25% of AFC payable to spouse. • Group C: Allowance equal to 35% of AFC payable to spouse plus 10% for each dependent child (up to 30%).

Post-Retirement Adjustments:	For active Group A, C, F, and G members who are first eligible for normal or unreduced early retirement on or after July 1, 2022, and for active Group D members who are first appointed or elected on or after July 1, 2022: • Group A — Allowances in payment for at least two years, 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 1%, members will not receive an increase. • Group C — Allowances in payment for at least two years, increased on each January 1 by 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 1%, members will not receive an increase. • Group D — Allowances in payment for at least two years, increased on each January 1 by the net percentage increase in CPI on the first $75,000 of retirement benefits paid and half of the net percentage increase in CPI on retirement benefits paid above $75,000. The maximum net percentage increase in CPI is capped at 5%. If the net percentage increase in CPI is less than 1%, members will not receive an increase. • Group F/G — Allowances in payment for at least two years, increased on each January 1 by 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 all other members: • Groups A/C/D — Allowances in payment for at least one year, increased on each January 1 by 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 1%, members will not receive an increase. • Groups E/F — For members who retired on or before June 30, 2008, 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 between 0-1%, members will receive a 1% increase. If the net percentage increase in CPI is less than 0%, members will not receive an increase. A Group F member in receipt of an early retirement allowance shall not receive a post-retirement adjustment until such time as the member has attained normal retirement eligibility. For members who retired on or after July 1, 2008, allowances in payment for at least one year, increased on each January 1 by 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 between 0-1%, members will receive a 1% increase. If the net percentage increase in CPI is less than 0%, members will not receive an increase. A Group F member in receipt of an early retirement allowance shall not receive a post-retirement adjustment until such time as the member has attained normal retirement eligibility.

Optional Benefit and Death after Retirement: Lifetime allowance or actuarially equivalent allowance with survivor benefit as elected by member upon retirement. Upon death of a Group C member, an allowance equal to 70% of the member's allowance is continue to the surviving spouse.

Refund of Contributions: Upon termination, if the member so elects, or if no other benefit is payable, the member's accumulated contributions with interest are refunded.

Member Contribution Rates: Member contributions as a percentage of earnable compensation are described in the table below:

	Salary Percentile	FY23	FY24	FY25	FY26	FY27+
Group A	All	6.65%	6.65%	6.65%	6.65%	6.65%
Group C	All	9.03%	9.53%	10.03%	10.03%	10.03%
Group D	<25th	6.65%	6.65%	6.65%	6.65%	6.65%
	25th-50th	7.15%	7.65%	8.15%	8.15%	8.15%
	50th-75th	7.15%	7.65%	8.15%	8.65%	8.65%
	75th+	7.15%	7.65%	8.15%	8.65%	9.15%
Group F	<25th	6.65%	6.65%	6.65%	6.65%	6.65%
	25th-50th	7.15%	7.65%	8.15%	8.15%	8.15%
	50th-75th	7.15%	7.65%	8.15%	8.65%	8.65%
	75th+	7.15%	7.65%	8.15%	8.65%	9.15%

Changes in Plan Provisions: Aside from the future contribution rate increases shown above, there were no other changes in plan provisions since the prior valuation.

Section 5: Additional Summary Tables of Member Data

Table 1A: Members in Active Service as of June 30, 2023, 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	281	281	- -	- -	- -	- -	- -	- -	- -
	$42,162	$42,162	- -	- -	- -	- -	- -	- -	- -
25 - 29	729	614	114	1	- -	- -	- -	- -	- -
	$55,823	$51,749	$77,635	$70,386	- -	- -	- -	- -	- -
30 - 34	1,085	608	397	79	1	- -	- -	- -	- -
	$63,794	$55,294	$73,007	$82,555	$91,834	- -	- -	- -	- -
35 - 39	1,112	467	344	224	76	1	- -	- -	- -
	$68,472	$53,074	$75,322	$85,506	$81,995	$60,125	- -	- -	- -
40 - 44	1,121	343	299	226	203	49	1	- -	- -
	$75,312	$59,305	$75,284	$82,153	$91,280	$89,724	$80,437	- -	- -
45 - 49	1,073	273	221	163	198	174	44	- -	- -
	$79,593	$56,851	$75,461	$84,020	$91,818	$97,698	$98,450	- -	- -
50 - 54	1,158	246	208	168	209	174	112	40	1
	$79,506	$55,012	$75,464	$82,596	$91,270	$89,704	$96,182	$85,173	$99,209
55 - 59	971	174	188	119	149	143	100	57	41
	$78,545	$57,370	$73,582	$80,031	$85,909	$83,865	$92,632	$93,384	$86,542
60 - 64	730	121	148	101	114	86	62	33	65
	$77,179	$55,925	$75,632	$77,981	$81,706	$83,349	$87,418	$88,569	$87,369
65 & over	351	38	70	60	50	51	18	16	48
	$82,194	$54,411	$81,391	$77,301	$89,093	$86,792	$80,385	$94,352	$96,033
Total	8,611	3,165	1,989	1,141	1,000	678	337	146	155
	$72,147	$53,788	$75,089	$82,315	$88,679	$89,457	$92,922	$90,152	$89,910

Table 1B: Members in Active Service as of June 30, 2023, by Age, Years of Service, and Average Payroll – General Employees – Group A

		Years of Creditable Service							
Age	Total	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 & over
Under 25	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -
30 - 34	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -
35 - 39	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -
40 - 44	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -
45 - 49	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -
50 - 54	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -
55 - 59	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -
60 - 64	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -
65 & over	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -

Table 1C: Members in Active Service as of June 30, 2023, by Age, Years of Service, and Average Payroll – Law Enforcement Personnel – Group C

		Years of Creditable Service							
Age	**Total**	**0 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25 - 29**	**30 - 34**	**35 & over**
Under 25	15	15	- -	- -	- -	- -	- -	- -	- -
	$66,625	$66,625	- -	- -	- -	- -	- -	- -	- -
25 - 29	64	52	12	- -	- -	- -	- -	- -	- -
	$87,477	$83,141	$106,265	- -	- -	- -	- -	- -	- -
30 - 34	80	30	35	15	- -	- -	- -	- -	- -
	$96,524	$86,054	$100,322	$108,603	- -	- -	- -	- -	- -
35 - 39	73	11	21	33	8	- -	- -	- -	- -
	$97,958	$66,383	$90,258	$111,174	$107,066	- -	- -	- -	- -
40 - 44	60	5	5	16	31	3	- -	- -	- -
	$111,461	$71,034	$96,877	$111,997	$117,327	$139,659	- -	- -	- -
45 - 49	74	6	2	9	20	29	8	- -	- -
	$121,522	$85,073	$91,407	$106,504	$119,192	$131,805	$141,830	- -	- -
50 - 54	40	- -	2	5	18	8	7	- -	- -
	$114,169	- -	$105,061	$89,547	$119,299	$119,876	$114,643	- -	- -
55 - 59	1	- -	- -	- -	- -	1	- -	- -	- -
	$53,750	- -	- -	- -	- -	$53,750	- -	- -	- -
60 - 64	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -
65 & over	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	407	119	77	78	77	41	15	- -	- -
	$102,633	$79,833	$98,171	$108,923	$117,206	$128,148	$129,143	- -	- -

Table 1D: Members in Active Service as of June 30, 2023, by Age, Years of Service, and Average Payroll – Judges – Group D

		Years of Creditable Service							
Age	Total	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 & over
Under 25	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -
30 - 34	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -
35 - 39	2	1	- -	1	- -	- -	- -	- -	- -
	$84,424	$6,468	- -	$162,381	- -	- -	- -	- -	- -
40 - 44	1	1	- -	- -	- -	- -	- -	- -	- -
	$13,510	$13,510	- -	- -	- -	- -	- -	- -	- -
45 - 49	4	2	1	1	- -	- -	- -	- -	- -
	$146,885	$133,202	$145,816	$175,320	- -	- -	- -	- -	- -
50 - 54	6	1	1	3	1	- -	- -	- -	- -
	$164,246	$108,873	$175,320	$175,320	$175,320	- -	- -	- -	- -
55 - 59	13	2	3	4	3	- -	1	- -	- -
	$163,565	$94,358	$175,320	$175,320	$178,358	- -	$175,320	- -	- -
60 - 64	6	2	1	- -	2	1	- -	- -	- -
	$103,836	$15,287	$184,434	- -	$111,786	$184,434	- -	- -	- -
65 & over	17	1	5	4	5	2	- -	- -	- -
	$155,152	$32,991	$175,320	$116,151	$180,726	$179,877	- -	- -	- -
Total	49	10	11	13	11	3	1	- -	- -
	$145,762	$64,754	$173,466	$156,119	$167,054	$181,396	$175,320	- -	- -

Table 1E: Members in Active Service as of June 30, 2023, by Age, Years of Service, and Average Payroll – General Employees – Group F

		Years of Creditable Service							
Age	**Total**	**0 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25 - 29**	**30 - 34**	**35 & over**
Under 25	266	266	- -	- -	- -	- -	- -	- -	- -
	$40,783	$40,783	- -	- -	- -	- -	- -	- -	- -
25 - 29	665	562	102	1	- -	- -	- -	- -	- -
	$52,777	$48,845	$74,267	$70,386	- -	- -	- -	- -	- -
30 - 34	1,005	578	362	64	1	- -	- -	- -	- -
	$61,189	$53,698	$70,367	$76,450	$91,834	- -	- -	- -	- -
35 - 39	1,037	455	323	190	68	1	- -	- -	- -
	$66,366	$52,855	$74,351	$80,644	$79,045	$60,125	- -	- -	- -
40 - 44	1,060	337	294	210	172	46	1	- -	- -
	$73,325	$59,267	$74,917	$79,880	$86,586	$86,467	$80,437	- -	- -
45 - 49	995	265	218	153	178	145	36	- -	- -
	$76,205	$55,635	$74,992	$82,101	$88,743	$90,877	$88,810	- -	- -
50 - 54	1,112	245	205	160	190	166	105	40	1
	$77,802	$54,792	$74,688	$80,640	$88,173	$88,250	$94,951	$85,173	$99,209
55 - 59	957	172	185	115	146	142	99	57	41
	$77,416	$56,940	$71,932	$76,717	$84,010	$84,077	$91,797	$93,384	$86,542
60 - 64	724	119	147	101	112	85	62	33	65
	$76,958	$56,608	$74,892	$77,981	$81,169	$82,159	$87,418	$88,569	$87,369
65 & over	334	37	65	56	45	49	18	16	48
	$78,481	$54,990	$74,166	$74,526	$78,911	$82,993	$80,385	$94,352	$96,033
Total	8,155	3,036	1,901	1,050	912	634	321	146	155
	$70,183	$52,731	$73,585	$79,425	$85,325	$86,520	$90,972	$90,152	$89,910

Table 2A: Summary of Retired Member and Beneficiary Data by Attained Age All Employee Groups

	Service Pensioners		Disability Pensioners		Beneficiaries	
Age	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance
≤ 35	0	$0	0	$0	65	$533,387
36	0	0	0	0	0	0
37	0	0	0	0	2	16,230
38	0	0	0	0	0	0
39	0	0	0	0	1	21,486
40	0	0	2	93,273	0	0
41	0	0	1	44,428	0	0
42	0	0	0	0	0	0
43	0	0	1	9,927	1	28,033
44	0	0	0	0	3	28,910
45	0	0	1	15,532	2	20,480
46	1	19,168	3	73,824	0	0
47	1	22,745	5	120,017	0	0
48	0	0	2	33,337	1	9,649
49	4	160,627	1	8,994	3	27,574
50	17	710,181	3	64,529	2	28,191
51	19	820,517	4	139,571	3	35,923
52	33	1,743,462	4	120,364	3	52,533
53	43	1,808,694	6	93,208	5	127,643
54	46	2,158,264	3	48,705	5	88,853
55	62	2,621,210	12	293,209	3	53,798
56	63	2,601,836	6	153,236	4	62,513
57	79	2,954,252	9	244,364	4	49,807
58	85	2,755,442	12	230,202	3	49,768
59	92	3,023,478	17	316,425	7	127,158
60	102	3,389,048	13	232,439	4	45,584
61	123	3,756,257	21	373,720	11	181,200
62	172	4,653,647	16	297,818	9	175,687
63	190	4,821,885	14	261,692	9	110,078
64	217	4,956,634	12	172,834	9	175,225
65	261	6,502,075	18	326,685	20	369,481

Table 2A: Summary of Retired Member and Beneficiary Data by Attained Age All Employee Groups *(continued)*

	Service Pensioners		Disability Pensioners		Beneficiaries	
Age	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance
66	309	$7,631,523	15	$239,139	11	$180,985
67	309	6,695,182	10	196,961	21	391,427
68	324	7,997,030	20	287,507	22	385,190
69	352	8,051,597	16	176,069	19	335,946
70	327	8,291,609	17	270,299	22	410,292
71	341	7,848,600	20	259,395	18	306,119
72	346	8,250,744	13	198,204	22	335,702
73	344	7,982,243	14	208,657	22	410,169
74	321	7,426,971	10	169,968	17	239,536
75	327	7,170,525	11	125,279	25	432,324
76	305	7,624,921	8	207,181	32	577,807
77	207	4,893,257	8	114,949	24	358,470
78	196	4,116,057	7	95,226	29	511,417
79	177	3,794,039	5	83,417	29	449,672
80	179	3,997,588	6	73,560	30	506,860
81	145	3,243,248	5	43,578	33	510,057
82	117	2,057,375	6	70,978	29	415,136
83	104	1,867,704	4	50,353	18	277,147
84	79	1,284,032	2	12,057	18	240,696
85	71	1,304,361	3	59,134	12	143,695
86	57	1,196,253	1	4,383	16	306,444
87	74	1,185,885	0	0	23	369,852
88	56	1,163,664	2	22,093	17	231,929
89	38	683,868	0	0	16	222,136
90	46	851,019	1	8,567	13	140,128
91	29	408,305	0	0	11	117,011
92	30	397,290	1	5,203	11	139,386
93	22	248,396	0	0	13	313,405
94	16	195,563	0	0	4	28,822
≥ 95	39	452,221	1	5,409	13	164,642
Total	6,897	$167,790,489	392	$6,755,898	769	$11,871,593

Table 2B: Summary of Retired Member and Beneficiary Data by Attained Age General Employees – Group A

	Service Pensioners		Disability Pensioners		Beneficiaries	
Age	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance
≤ 35	0	$0	0	$0	0	$0
36	0	0	0	0	0	0
37	0	0	0	0	0	0
38	0	0	0	0	0	0
39	0	0	0	0	0	0
40	0	0	0	0	0	0
41	0	0	0	0	0	0
42	0	0	0	0	0	0
43	0	0	0	0	0	0
44	0	0	0	0	0	0
45	0	0	0	0	0	0
46	0	0	0	0	0	0
47	0	0	0	0	0	0
48	0	0	0	0	0	0
49	0	0	0	0	0	0
50	0	0	0	0	0	0
51	0	0	0	0	0	0
52	0	0	0	0	0	0
53	0	0	0	0	0	0
54	0	0	0	0	0	0
55	0	0	0	0	0	0
56	0	0	0	0	0	0
57	0	0	0	0	0	0
58	0	0	0	0	0	0
59	2	104,857	0	0	0	0
60	0	0	0	0	0	0
61	1	9,915	0	0	0	0
62	0	0	0	0	0	0
63	0	0	0	0	0	0
64	0	0	0	0	0	0
65	2	74,647	0	0	1	8,026

Table 2B: Summary of Retired Member and Beneficiary Data by Attained Age General Employees – Group A *(continued)*

	Service Pensioners		Disability Pensioners		Beneficiaries	
Age	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance
66	0	$0	0	$0	0	$0
67	0	0	0	0	1	21,654
68	2	62,976	1	6,380	0	0
69	0	0	1	2,406	0	0
70	2	84,541	0	0	1	10,563
71	5	124,946	1	9,659	0	0
72	3	88,191	0	0	0	0
73	3	89,850	0	0	1	49,673
74	3	92,877	1	24,263	1	12,840
75	5	145,876	0	0	1	26,804
76	3	73,074	0	0	2	64,356
77	5	170,512	0	0	0	0
78	0	0	0	0	3	27,056
79	3	104,004	0	0	2	20,872
80	0	0	0	0	1	18,002
81	5	191,051	0	0	2	29,336
82	4	119,217	0	0	5	57,793
83	2	51,709	0	0	0	0
84	4	157,288	0	0	0	0
85	3	89,973	1	14,550	0	0
86	5	119,234	0	0	0	0
87	1	20,866	0	0	1	23,625
88	7	247,884	0	0	0	0
89	3	75,908	0	0	0	0
90	2	51,327	0	0	0	0
91	2	36,597	0	0	2	25,297
92	1	32,693	0	0	1	5,754
93	2	19,089	0	0	0	0
94	1	22,429	0	0	0	0
≥ 95	2	33,612	0	0	4	32,065
Total	83	$2,495,144	5	$57,257	29	$433,717

Table 2C: Summary of Retired Member and Beneficiary Data by Attained Age State Police and Motor Vehicle Inspectors – Group B

	Service Pensioners		Disability Pensioners		Beneficiaries	
Age	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance
≤ 35	0	$0	0	$0	0	$0
36	0	0	0	0	0	0
37	0	0	0	0	0	0
38	0	0	0	0	0	0
39	0	0	0	0	0	0
40	0	0	0	0	0	0
41	0	0	0	0	0	0
42	0	0	0	0	0	0
43	0	0	0	0	0	0
44	0	0	0	0	0	0
45	0	0	0	0	0	0
46	0	0	0	0	0	0
47	0	0	0	0	0	0
48	0	0	0	0	0	0
49	0	0	0	0	0	0
50	0	0	0	0	0	0
51	0	0	0	0	0	0
52	0	0	0	0	0	0
53	0	0	0	0	0	0
54	0	0	0	0	0	0
55	0	0	0	0	0	0
56	0	0	0	0	0	0
57	0	0	0	0	0	0
58	1	8,070	0	0	1	23,160
59	0	0	0	0	0	0
60	0	0	0	0	0	0
61	0	0	0	0	0	0
62	0	0	0	0	0	0
63	0	0	0	0	0	0
64	0	0	0	0	0	0
65	1	13,082	0	0	0	0

Table 2C: Summary of Retired Member and Beneficiary Data by Attained Age State Police and Motor Vehicle Inspectors – Group B *(continued)*

	Service Pensioners		Disability Pensioners		Beneficiaries	
Age	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance
66	0	$0	0	$0	0	$0
67	1	10,352	0	0	0	0
68	0	0	0	0	0	0
69	1	11,239	0	0	0	0
70	0	0	0	0	0	0
71	0	0	0	0	0	0
72	1	5,719	0	0	0	0
73	0	0	0	0	0	0
74	0	0	1	24,081	0	0
75	0	0	0	0	1	15,138
76	1	44,033	0	0	0	0
77	2	76,170	0	0	0	0
78	0	0	0	0	1	15,043
79	0	0	1	25,136	0	0
80	1	10,374	0	0	1	19,884
81	0	0	0	0	0	0
82	0	0	0	0	0	0
83	0	0	0	0	0	0
84	0	0	0	0	0	0
85	0	0	0	0	0	0
86	0	0	0	0	0	0
87	0	0	0	0	0	0
88	0	0	0	0	0	0
89	0	0	0	0	0	0
90	0	0	0	0	0	0
91	0	0	0	0	0	0
92	0	0	0	0	0	0
93	0	0	0	0	0	0
94	0	0	0	0	0	0
≥ 95	0	0	0	0	0	0
Total	9	$179,039	2	$49,217	4	$73,225

Table 2D: Summary of Retired Member and Beneficiary Data by Attained Age Law Enforcement Personnel – Group C

	Service Pensioners		Disability Pensioners		Beneficiaries	
Age	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance
≤ 35	0	$0	0	$0	26	$266,543
36	0	0	0	0	0	0
37	0	0	0	0	0	0
38	0	0	0	0	0	0
39	0	0	0	0	0	0
40	0	0	2	93,273	0	0
41	0	0	1	44,428	0	0
42	0	0	0	0	0	0
43	0	0	0	0	0	0
44	0	0	0	0	0	0
45	0	0	0	0	0	0
46	1	19,168	1	51,493	0	0
47	1	22,745	2	92,224	0	0
48	0	0	0	0	0	0
49	1	64,347	0	0	0	0
50	8	417,326	1	35,954	0	0
51	9	514,054	3	128,682	1	14,147
52	14	951,288	2	88,564	0	0
53	18	976,004	0	0	1	41,823
54	18	1,027,372	0	0	1	14,898
55	28	1,413,100	2	74,461	1	33,582
56	20	1,141,284	1	52,206	0	0
57	21	1,192,632	3	159,637	0	0
58	22	947,478	1	56,939	0	0
59	18	828,948	1	18,648	1	27,317
60	15	923,087	1	30,262	0	0
61	14	495,230	0	0	1	34,773
62	7	311,969	2	91,251	0	0
63	19	828,720	0	0	0	0
64	14	562,513	0	0	0	0
65	15	854,157	1	40,964	1	23,721

Table 2D: Summary of Retired Member and Beneficiary Data by Attained Age Law Enforcement Personnel – Group C *(continued)*

	Service Pensioners		Disability Pensioners		Beneficiaries	
Age	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance
66	19	$1,044,860	1	$13,029	1	$32,627
67	15	683,584	0	0	1	41,619
68	18	938,958	0	0	1	26,337
69	7	337,364	0	0	1	36,135
70	14	714,585	2	85,662	2	49,862
71	9	419,487	0	0	1	13,663
72	4	219,966	0	0	1	35,257
73	13	632,049	1	40,834	1	18,878
74	4	167,294	1	35,889	1	28,151
75	8	372,380	0	0	3	124,332
76	11	599,056	3	138,351	4	146,305
77	8	398,467	1	49,738	2	63,035
78	1	31,854	1	40,016	1	41,229
79	5	220,793	0	0	3	100,583
80	9	472,951	0	0	3	116,241
81	5	265,254	0	0	3	97,168
82	4	165,966	0	0	2	66,749
83	2	103,249	0	0	1	43,571
84	0	0	0	0	1	16,531
85	2	102,999	1	33,219	1	20,778
86	2	113,230	0	0	1	34,177
87	1	36,326	0	0	2	83,382
88	2	117,872	0	0	1	23,137
89	0	0	0	0	2	65,914
90	2	104,789	0	0	2	66,150
91	0	0	0	0	0	0
92	2	78,218	0	0	1	36,149
93	0	0	0	0	4	97,282
94	0	0	0	0	0	0
≥ 95	1	49,856	0	0	1	18,824
Total	431	$21,882,830	35	$1,495,724	81	$2,000,869

Table 2E: Summary of Retired Member and Beneficiary Data by Attained Age Judges – Group D

	Service Pensioners		Disability Pensioners		Beneficiaries	
Age	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance
≤ 35	0	$0	0	$0	0	$0
36	0	0	0	0	0	0
37	0	0	0	0	0	0
38	0	0	0	0	0	0
39	0	0	0	0	0	0
40	0	0	0	0	0	0
41	0	0	0	0	0	0
42	0	0	0	0	0	0
43	0	0	0	0	0	0
44	0	0	0	0	0	0
45	0	0	0	0	0	0
46	0	0	0	0	0	0
47	0	0	0	0	0	0
48	0	0	0	0	0	0
49	0	0	0	0	0	0
50	0	0	0	0	0	0
51	0	0	0	0	0	0
52	0	0	0	0	0	0
53	1	10,688	0	0	0	0
54	0	0	0	0	0	0
55	0	0	0	0	0	0
56	0	0	0	0	0	0
57	0	0	0	0	0	0
58	0	0	0	0	0	0
59	0	0	0	0	1	19,500
60	0	0	0	0	0	0
61	0	0	0	0	0	0
62	1	125,455	0	0	0	0
63	1	101,372	0	0	0	0
64	1	60,752	0	0	0	0
65	1	30,110	0	0	0	0

Table 2E: Summary of Retired Member and Beneficiary Data by Attained Age Judges – Group D *(continued)*

	Service Pensioners		Disability Pensioners		Beneficiaries	
Age	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance
66	0	$0	0	$0	0	$0
67	0	0	0	0	0	0
68	5	319,410	0	0	0	0
69	2	179,607	0	0	0	0
70	6	394,903	0	0	0	0
71	5	366,999	0	0	0	0
72	5	388,217	0	0	0	0
73	4	350,049	0	0	0	0
74	6	462,359	0	0	0	0
75	2	232,512	0	0	0	0
76	3	413,207	0	0	0	0
77	5	156,028	0	0	0	0
78	1	160,179	0	0	1	23,179
79	3	207,717	0	0	0	0
80	5	392,807	0	0	0	0
81	3	302,513	0	0	0	0
82	0	0	0	0	0	0
83	1	87,911	0	0	0	0
84	1	41,239	0	0	0	0
85	1	94,111	0	0	0	0
86	3	200,771	0	0	1	101,185
87	1	72,327	0	0	1	38,690
88	1	116,319	0	0	1	75,751
89	0	0	0	0	0	0
90	1	112,497	0	0	0	0
91	1	42,339	0	0	0	0
92	0	0	0	0	0	0
93	1	45,208	0	0	3	177,221
94	0	0	0	0	0	0
≥ 95	2	31,468	0	0	1	56,140
Total	73	$5,499,073	0	$0	9	$491,666

Table 2F: Summary of Retired Member and Beneficiary Data by Attained Age General Employees – Groups E/F

	Service Pensioners		Disability Pensioners		Beneficiaries	
Age	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance
≤ 35	0	$0	0	$0	39	$266,844
36	0	0	0	0	0	0
37	0	0	0	0	2	16,230
38	0	0	0	0	0	0
39	0	0	0	0	1	21,486
40	0	0	0	0	0	0
41	0	0	0	0	0	0
42	0	0	0	0	0	0
43	0	0	1	9,927	1	28,033
44	0	0	0	0	3	28,910
45	0	0	1	15,532	2	20,480
46	0	0	2	22,331	0	0
47	0	0	3	27,793	0	0
48	0	0	2	33,337	1	9,649
49	3	96,280	1	8,994	3	27,574
50	9	292,855	2	28,575	2	28,191
51	10	306,463	1	10,889	2	21,776
52	19	792,174	2	31,800	3	52,533
53	24	822,002	6	93,208	4	85,819
54	28	1,130,892	3	48,705	4	73,955
55	34	1,208,110	10	218,748	2	20,215
56	43	1,460,552	5	101,030	4	62,513
57	58	1,761,620	6	84,727	4	49,807
58	62	1,799,894	11	173,264	2	26,608
59	72	2,089,672	16	297,777	5	80,341
60	87	2,465,961	12	202,176	4	45,584
61	108	3,251,111	21	373,720	10	146,427
62	164	4,216,223	14	206,567	9	175,687
63	170	3,891,794	14	261,692	9	110,078
64	202	4,333,369	12	172,834	9	175,225
65	242	5,530,078	17	285,721	18	337,735

Table 2F: Summary of Retired Member and Beneficiary Data by Attained Age General Employees – Groups E/F *(continued)*

	Service Pensioners		Disability Pensioners		Beneficiaries	
Age	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance
66	290	$6,586,663	14	$226,110	10	$148,358
67	293	6,001,246	10	196,961	19	328,154
68	299	6,675,685	19	281,127	21	358,852
69	342	7,523,387	15	173,663	18	299,812
70	305	7,097,578	15	184,637	19	349,867
71	322	6,937,167	19	249,736	17	292,456
72	333	7,548,651	13	198,204	21	300,445
73	324	6,910,295	13	167,823	20	341,618
74	308	6,704,440	7	85,736	15	198,544
75	312	6,419,757	11	125,279	20	266,050
76	287	6,495,551	5	68,829	26	367,146
77	187	4,092,081	7	65,211	22	295,435
78	194	3,924,024	6	55,210	23	404,909
79	166	3,261,525	4	58,281	24	328,217
80	164	3,121,455	6	73,560	25	352,733
81	132	2,484,430	5	43,578	28	383,553
82	109	1,772,193	6	70,978	22	290,594
83	99	1,624,834	4	50,353	17	233,576
84	74	1,085,505	2	12,057	17	224,165
85	65	1,017,278	1	11,365	11	122,917
86	47	763,018	1	4,383	14	171,082
87	71	1,056,366	0	0	19	224,155
88	46	681,588	2	22,093	15	133,041
89	35	607,960	0	0	14	156,223
90	41	582,406	1	8,567	11	73,978
91	26	329,369	0	0	9	91,714
92	27	286,379	1	5,203	9	97,482
93	19	184,099	0	0	6	38,903
94	15	173,134	0	0	4	28,822
≥ 95	34	337,285	1	5,409	7	57,613
Total	6,301	$137,734,402	350	$5,153,700	646	$8,872,116

Table 3: Summary of Retired Member and Beneficiary Data by Year of Retirement – All Employee Groups

Year of Retirement	Number	Annual Allowance	Average Annual Allowance
≤ 1970	0	$0	$0
1971	0	0	0
1972	0	0	0
1973	0	0	0
1974	1	8,730	8,730
1975	0	0	0
1976	0	0	0
1977	1	14,550	14,550
1978	2	31,847	15,924
1979	1	6,980	6,980
1980	4	29,469	7,367
1981	0	0	0
1982	4	85,060	21,265
1983	6	63,049	10,508
1984	2	30,780	15,390
1985	7	114,701	16,386
1986	5	57,499	11,500
1987	17	236,303	13,900
1988	17	306,320	18,019
1989	18	330,189	18,344
1990	40	582,025	14,551
1991	37	815,311	22,035
1992	32	358,064	11,190
1993	55	927,006	16,855
1994	28	452,941	16,176
1995	57	826,243	14,495
1996	229	4,414,167	19,276
1997	71	1,449,097	20,410
1998	68	1,174,445	17,271
1999	94	1,869,828	19,892
2000	113	2,157,584	19,094

Table 3: Summary of Retired Member and Beneficiary Data by Year of Retirement – All Employee Groups *(continued)*

Year of Retirement	Number	Annual Allowance	Average Annual Allowance
2001	118	$1,974,585	$16,734
2002	129	2,693,958	20,883
2003	148	3,376,332	22,813
2004	202	4,583,105	22,689
2005	207	4,090,379	19,760
2006	214	4,756,459	22,226
2007	243	5,103,487	21,002
2008	262	6,136,401	23,421
2009	435	10,611,660	24,395
2010	319	7,353,856	23,053
2011	309	6,979,259	22,587
2012	326	7,512,284	23,044
2013	295	6,738,382	22,842
2014	334	7,539,187	22,572
2015	477	11,032,872	23,130
2016	367	9,282,014	25,292
2017	385	9,980,752	25,924
2018	425	10,516,249	24,744
2019	481	12,287,577	25,546
2020	358	8,886,617	24,823
2021	481	12,937,851	26,898
2022	458	11,098,990	24,234
2023	176	4,603,533	26,156
Grand Total	8,058	$186,417,979	$23,135

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