

Vermont State Employees' Retirement System

**Governmental Accounting Standards Board
Statement No. 68 (GASB 68) Accounting Valuation
Report for the Fiscal Year Ending June 30, 2024**



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June 27, 2024

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

Dear Board of Trustees Members:

We are pleased to submit this Governmental Accounting Standards Board Statement No. 68 (GASB 68) Accounting Valuation for fiscal year ending June 30, 2024, for the Vermont State Employees' Retirement System (VSERS), a single-employer defined benefit pension plan, based on a June 30, 2023, measurement date for employer reporting as of June 30, 2024. It contains various information that will need to be disclosed in order to comply with GASB 68. Please refer to the Vermont State Employees' Retirement System Actuarial Valuation and Review as of June 30, 2022, dated October 25, 2022, for the data, assumptions, and plan of benefits underlying these calculations, except as noted herein.

This report has been prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist the State in preparing its financial reports, based upon information provided by the Office of the State Treasurer. That assistance is gratefully acknowledged.

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; and changes in plan provisions or applicable law.

The actuarial calculations were completed under the supervision of Matthew A. Strom, FSA, MAAA, EA, Enrolled Actuary. 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 the actuarial valuation is complete and accurate. The investment return and inflation assumptions were selected by the Vermont Pension Investment Commission (VPIC). The remaining assumptions used in this actuarial valuation were selected by the Board of Trustees based upon my analysis and recommendations. In my opinion, the assumptions are reasonable and take into account the experience of VSERS and reasonable expectations. In addition, in my opinion, the combined effect of these assumptions is expected to have no significant bias.

Board of Trustees
June 27, 2024

Segal makes no representation or warranty as to the future status of the Plan and does not guarantee any particular result. This document does not constitute legal, tax, accounting or investment advice or create or imply a fiduciary relationship. The Board is encouraged to discuss any issues raised in this report with the Plan's legal, tax and other advisors before taking, or refraining from taking, any action.

I look forward to reviewing this report with you and to answering any questions.

Sincerely,

Segal

A handwritten signature in black ink, appearing to read "Matthew A. Strom". The signature is written in a cursive style with a long horizontal line extending to the right.

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 has been prepared by Segal to present certain disclosure information required by Governmental Accounting Standards Board Statement No. 68 (GASB 68) for the fiscal year ending June 30, 2024. This report is based on financial information as of June 30, 2023, and the Actuarial Valuation and Review as of June 30, 2022, dated October 25, 2022, which reflects:

- The benefit provisions of the Plan;
- The characteristics of covered active participants, inactive participants, and retired participants and beneficiaries as of June 30, 2022, provided by the Office of the State Treasurer;
- The assets of the Plan as of June 30, 2023, provided by the Office of the State Treasurer;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

The assumptions are the same as shown in the Vermont State Employees' Retirement System Actuarial Valuation Report as of June 30, 2022, except as noted herein. Total Pension Liability as of June 30, 2023, reflects changes to actuarial assumptions that were adopted as part of the Actuarial Experience Review dated September 18, 2023.

Highlights of the valuation

1. GASB 68 permits a measurement date as early as the end of the fiscal year prior to the reporting date. This report for the fiscal year ending June 30, 2024, uses a measurement date of June 30, 2023. The Net Pension Liability (NPL) measured as of June 30, 2023, and June 30, 2022, was determined based upon the results of the actuarial valuations as of June 30, 2022, and June 30, 2021, respectively, adjusted forward using standard actuarial techniques.
2. The NPL is equal to the difference between the Total Pension Liability (TPL) and the Plan Fiduciary Net Position (FNP). The FNP is equal to the market value of assets, and, therefore, the NPL measure is very similar to an Unfunded Actuarial Accrued Liability (UAAL) on a market value basis. The NPL increased from \$1.12 billion as of June 30, 2022, to \$1.16 billion as of June 30, 2023, and the FNP as a percent of the TPL increased from 66.95% to 67.69%.
3. The discount rate used to measure the TPL and NPL was 7.00% as of June 30, 2023, and June 30, 2022.

Section 1: Actuarial Valuation Summary

4. The annual pension expense arises from certain changes in the NPL and changes in outstanding balances of deferred outflows and deferred inflows of resources related to pensions from the beginning of the year to the end of the year. The pension expense increased from \$144.1 million for fiscal year ending June 30, 2023, to \$215.7 million for fiscal year ending June 30, 2024.

Section 1: Actuarial Valuation Summary

Summary of key valuation results

Valuation Result	Current	Prior
Reporting Date for Employer under GASB 68	June 30, 2024	June 30, 2023
Measurement Date	June 30, 2023	June 30, 2022
Disclosure elements:		
• Total Pension Liability	\$3,579,984,506	\$3,400,578,949
• Plan Fiduciary Net Position	2,423,230,404	2,276,645,124
• Net Pension Liability	1,156,754,102	1,123,933,825
• Pension expense	215,666,120	144,075,847
Schedule of contributions:		
• Actuarially determined contributions	\$116,038,400	\$119,967,769
• Actual contributions	116,387,502	197,523,008
• Contribution deficiency / (excess)	-349,102	-77,555,239
Demographic data:		
• Number of retired members and beneficiaries	7,963	7,716
• Number of deferred members as reported by the System	815	771
• Number of Inactive members as reported by the System	2,012	1,716
• Number of active members	8,324	8,192
Key assumptions:		
• Investment rate of return	7.00%	7.00%
• Inflation rate	2.30%	2.30%
• Projected salary increases	Ranging from 3.76% to 6.38%	Ranging from 3.40% to 5.55%

Section 1: Actuarial Valuation Summary

Important information about actuarial valuations

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

Input Item	Description
Plan of benefits	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. 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.
Participant data	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.
Assets	The valuation is based on the market value of assets as of the valuation date, as provided by the System. For purposes of funding the plan, the System uses an “actuarial value of assets” that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
Actuarial assumptions	In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of participants 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 will 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 can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.
Actuarial 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.

Section 1: Actuarial Valuation Summary

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 Vermont State Employees' Retirement System. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement of the Plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. 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.
- 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 and is not acting as a fiduciary to the Plan. This valuation is based on Segal's 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 their other advisors for expertise in these areas.

Section 2: GASB Information

General information about the pension plan

Plan membership. At June 30, 2022 and June 30, 2021, pension plan membership consisted of the following:

Membership	June 30, 2022	June 30, 2021
Retired members and beneficiaries	7,963	7,716
Deferred members as reported by the System	815	771
Inactive members as reported by the System	2,012	1,716
Active members:		
Vested	5,462	5,523
Non-vested	<u>2,862</u>	<u>2,669</u>
Total active members	8,324	8,192
Total	19,114	18,395

Note: The NPL amounts measured as of June 30, 2023, and June 30, 2022, were determined based on the membership data as of June 30, 2022, and June 30, 2021, respectively.

Section 3: Actuarial Assumptions and Methods

Exhibit 1 – Net Pension Liability

Components of the Net Pension Liability	Current	Prior
Reporting date for employer under GASB 68	June 30, 2024	June 30, 2023
Measurement date	June 30, 2023	June 30, 2022
Total Pension Liability	\$3,579,984,506	\$3,400,578,949
Plan Fiduciary Net Position	2,423,230,404	2,276,645,124
Net Pension Liability	1,156,754,102	1,123,933,825
Plan Fiduciary Net Position as a percentage of the Total Pension Liability*	67.69%	66.95%

Actuarial assumptions. The TPL as of June 30, 2023, which was determined based on the results of an actuarial valuation as of June 30, 2022, used the following actuarial assumptions, applied to all periods included in the measurement:

Assumption Type	Assumption
Salary increases	Ranging from 3.76% to 6.38% based on service
Net investment rate of return	7.00%, net of pension plan investment expenses, including inflation
Cost-of-living adjustment	Ranging from 1.10% to 5.00% based on group
Mortality	<ul style="list-style-type: none"> Pre-retirement: <ul style="list-style-type: none"> 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 <p>* 30% of deaths are assumed to be accidental</p>

* These funded percentages are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligation or the need for or the amount of future contributions.

Section 3: Actuarial Assumptions and Methods

Assumption Type	Assumption
Mortality (continued)	<ul style="list-style-type: none"> <li data-bbox="785 245 1759 516"> <p>• Healthy post-retirement - Retirees:</p> <p>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</p> <p>Group C/G – PubS-2010 Public Safety Retiree Amount-Weighted Table with generational projection using scale MP-2021</p> <p>Group D – PubG-2010 General Healthy Retiree Amount-Weighted Above Median Table with generational projection using scale MP-2021</p> <li data-bbox="785 524 1759 695"> <p>• Healthy post-retirement - Beneficiaries:</p> <p>Groups A/F/C/G – Pub-2010 Contingent Survivor Amount-Weighted Table with generational projection using scale MP-2021</p> <p>Group D – Pub-2010 Contingent Survivor Amount-Weighted Above Median Table with generational projection using scale MP-2021</p> <li data-bbox="785 703 1759 873"> <p>• Disabled post-retirement:</p> <p>Groups A/F/D – PubNS-2010 Non-Safety Disabled Retiree Amount-Weighted Table with generational projection using scale MP-2021</p> <p>Group C/G – PubS-2010 Safety Disabled Retiree Amount-Weighted Table with generational projection using Scale MP-2021</p> <p data-bbox="785 894 1759 1138">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 rates were based on historical and current demographic data, adjusted to reflect health characteristics of the underlying groups and estimated future experience and professional judgment. 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.</p>

Detailed information regarding all actuarial assumptions can be found in the June 30, 2023, Actuarial Valuation and Review.

Section 3: Actuarial Assumptions and Methods

Determination of discount rate and investment rates of return

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and adding expected inflation. The target allocation and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before investment expenses, used in the derivation of the long-term expected investment rate of return assumption are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return*
Global Equities	44.00%	5.35%
Private Equity	10.00%	7.50%
Emerging Market Debt	2.00%	5.00%
Private and alternative Credit	10.00%	5.50%
Non-Core Real Estate	4.00%	5.50%
Core Fixed Income	19.00%	1.50%
Core Real Estate	4.00%	3.25%
US TIPS	2.00%	1.50%
Infrastructure/Farmland	5.00%	4.25%
Total	100.00%	

* Calculated as the Arithmetic Rates of Return minus the Rate of Inflation, as provided by the Vermont State Treasurers' Office

Section 3: Actuarial Assumptions and Methods

Discount rate. The discount rate used to measure the TPL was 7.00% as of June 30, 2023. In accordance with paragraph 29 of GASB 68, professional judgement was applied to determine that the System’s projected Fiduciary Net Position exceeds projected benefit payments for current active and inactive members for all years. Our analysis was based on the expectation that the employer will continue to contribute an amount at least equal to the actuarially determined contribution, which is comprised of an employer normal cost payment and a payment to reduce the unfunded liability to zero by June 30, 2038, in accordance with Vermont statute. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the TPL as of June 30, 2023.

Discount rate sensitivity

Sensitivity of the Net Pension Liability to changes in the discount rate. The following presents the NPL as of June 30, 2023, calculated using the discount rate of 7.00%, as well as what the NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (6.00%) or 1-percentage-point higher (8.00%) than the current rate.

Item	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Net Pension Liability as of June 30, 2023	\$1,611,168,253	\$1,156,754,102	\$781,298,115

Section 3: Actuarial Assumptions and Methods

Exhibit 2 – Schedule of changes in Net Pension Liability

Components of the Net Pension Liability

Reporting and Measurement Dates					
Reporting date for employer under GASB 68	June 30, 2024	June 30, 2023	June 30, 2022	June 30, 2021	June 30, 2020
Measurement date	June 30, 2023	June 30, 2022	June 30, 2021	June 30, 2020	June 30, 2019
Total Pension Liability					
Service cost	\$73,319,150	\$67,751,943	\$70,993,081	\$53,009,586	\$51,945,814
Interest	236,673,222	226,513,442	214,277,050	204,548,093	194,126,755
Change of benefit terms	0	-49,146,013	0	0	0
Differences between expected and actual experience	38,771,090	74,200,948	59,817,790	5,122,992	40,475,950
Changes of assumptions	16,346,222	0	0	209,786,856	0
Benefit payments, including refunds of member contributions	-185,704,127	-173,791,473	-160,290,898	-153,025,531	-144,296,719
Net change in Total Pension Liability	\$179,405,557	\$145,528,847	\$184,797,023	\$319,441,996	\$142,251,800
Total Pension Liability — beginning	3,400,578,949	3,255,050,102	3,070,253,079	2,750,811,083	2,608,559,283
Total Pension Liability — ending	\$3,579,984,506	\$3,400,578,949	\$3,255,050,102	\$3,070,253,079	\$2,750,811,083
Plan Fiduciary Net Position					
Contributions — employer	\$116,387,502	\$197,523,008	\$88,944,172	\$84,429,972	\$66,617,894
Contributions — employee	48,580,695	44,654,960	42,113,318	40,902,188	40,818,039
Net investment income	168,509,405	-215,473,911	497,422,655	78,964,510	106,777,462
Benefit payments, including refunds of member contributions	-185,704,127	-173,791,473	-160,290,898	-153,025,531	-144,296,719
Administrative expense	-2,578,013	-2,352,151	-2,280,512	-2,268,390	-2,246,008
Other	1,389,818	862,283	247,032	594,069	298,872
Net change in Plan Fiduciary Net Position	\$146,585,280	-\$148,577,284	466,155,767	49,596,818	\$67,969,540
Plan Fiduciary Net Position — beginning	2,276,645,124	2,425,222,408	1,959,066,641	1,909,469,823	1,841,500,283
Plan Fiduciary Net Position — ending	\$2,423,230,404	\$2,276,645,124	\$2,425,222,408	\$1,959,066,641	\$1,909,469,823
Net Pension Liability					
Net Pension Liability – ending	\$1,156,754,102	\$1,123,933,825	\$829,827,694	\$1,111,186,438	\$841,341,260
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	67.69%	66.95%	74.51%	63.81%	69.41%
Covered payroll*	\$576,951,813	\$552,316,523	\$551,981,002	\$527,571,033	\$521,670,606
Plan Net Pension Liability as percentage of covered payroll	200.49%	203.49%	150.34%	210.62%	161.28%

* Covered payroll reflects actual compensation amounts from the prior Plan year.

Section 3: Actuarial Assumptions and Methods

Components of the Net Pension Liability

Components of the Net Pension Liability					
Reporting and Measurement Dates					
Reporting date for employer under GASB 68	June 30, 2019	June 30, 2018	June 30, 2017	June 30, 2016	June 30, 2015
Measurement date	June 30, 2018	June 30, 2017	June 30, 2016	June 30, 2015	June 30, 2014
Total Pension Liability					
Service cost	\$49,743,850	\$42,703,770	\$47,012,283	\$41,786,352	\$39,368,808
Interest	180,860,845	178,958,654	171,562,804	164,404,550	156,634,668
Change of benefit terms	0	0	0	0	0
Differences between expected and actual experience	83,265,679	19,283,274	25,051,322	3,979,303	0
Changes of assumptions	0	42,724,968	-21,853,404	62,246,999	0
Benefit payments, including refunds of member contributions	-134,090,344	-126,479,801	-120,093,586	-111,396,184	-104,492,554
Net change in Total Pension Liability	\$179,780,030	\$157,190,865	\$101,679,419	\$161,021,020	\$91,510,922
Total Pension Liability — beginning	2,428,779,253	2,271,588,388	2,169,908,969	2,008,887,949	1,917,377,027
Total Pension Liability — ending	\$2,608,559,283	\$2,428,779,253	\$2,271,588,388	\$2,169,908,969	\$2,008,887,949
Plan Fiduciary Net Position					
Contributions — employer	\$64,564,323	\$60,280,480	\$54,347,060	\$55,881,364	\$56,482,985
Contributions — employee	40,423,239	35,966,987	34,055,217	33,296,248	31,745,692
Net investment income	123,632,169	170,358,016	17,962,424	-8,484,694	203,721,748
Benefit payments, including refunds of member contributions	-134,090,344	-126,479,801	-120,093,586	-111,396,184	-104,492,554
Administrative expense	-1,720,253	-1,776,653	-1,468,605	-1,858,854	-1,158,183
Other	248,855	443,113	-13,597	177,491	453,853
Net change in Plan Fiduciary Net Position	\$93,057,989	\$138,792,142	-\$15,211,087	-\$32,384,629	\$186,753,541
Plan Fiduciary Net Position — beginning	1,748,442,294	1,609,650,152	1,624,861,239	1,657,245,868	1,470,492,327
Plan Fiduciary Net Position — ending	\$1,841,500,283	\$1,748,442,294	\$1,609,650,152	\$1,624,861,239	\$1,657,245,868
Net Pension Liability					
Net Pension Liability – ending	\$767,059,000	\$680,336,959	\$661,938,236	\$545,047,730	\$351,642,081
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	70.59%	71.99%	70.86%	74.88%	82.50%
Covered payroll*	\$504,553,289	\$471,268,111	\$462,057,022	\$437,675,917	\$416,766,302
Plan Net Pension Liability as percentage of covered payroll	152.03%	144.36%	143.26%	124.53%	84.37%

* Covered payroll reflects actual compensation amounts from the prior Plan year.

Section 3: Actuarial Assumptions and Methods

Notes to Schedule:

- **Benefit changes:** There have been no changes in plan provisions since the last measurement date.
- **Change of 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%.
 - 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.

Section 3: Actuarial Assumptions and Methods

- 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.

Section 3: Actuarial Assumptions and Methods

Exhibit 3 – Schedule of employer contributions

Year Ended June 30	Actuarially Determined Contributions*	Contributions in Relation to the Actuarially Determined Contributions**	Contribution Deficiency / (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
2014	\$40,217,666	\$56,482,985	-\$16,265,319	\$416,766,302	13.55%
2015	44,651,783	55,881,364	-11,229,581	437,675,917	12.77%
2016	46,237,853	54,347,060	-8,109,207	462,057,022	11.76%
2017	48,503,358	60,280,480	-11,777,122	471,268,111	12.79%
2018	52,065,397	64,564,323	-12,498,926	504,553,289	12.80%
2019	62,984,742	66,617,894	-3,633,152	521,670,606	12.77%
2020	78,943,914	84,429,972	-5,486,058	527,571,033	16.00%
2021	83,876,570	88,944,172	-5,067,602	551,981,002	16.11%
2022	119,967,769	197,523,008***	-77,555,239	552,316,523	35.76%
2023	116,038,400	116,387,502	-349,102	576,951,813	20.17%

See accompanying notes to this schedule on next page.

* Actuarially determined contributions for a given fiscal year are based on results from the June 30 actuarial valuation two years prior.

** Includes a portion of the contribution amount denoted as "other" in Exhibit 2.

*** Includes an additional one-time payment of \$75 million per Act 114.

Section 3: Actuarial Assumptions and Methods

Methods and assumptions used to determine contribution rates for the year ended June 30, 2023:

Valuation date

Actuarially determined contribution for the year ending June 30, 2023, is based on results from the June 30, 2021, actuarial valuation, and was calculated as of June 30, with appropriate interest to the middle of the fiscal year.

Actuarial cost method

Entry Age Normal actuarial cost method

Amortization method

Amortization payments calculated to fully fund unfunded actuarial accrued liability with annual increases of 3% over a closed period.

Remaining amortization period

17 years as of July 1, 2021

The amortization of unfunded actuarial accrued liability (UAAL) within the actuarially determined contribution rate calculation is based on payments increasing at 3% per year required to amortize the UAAL over the 30-year closed period that began July 1, 2008.

Asset valuation method

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.

Investment rate of return

7.00%, net of pension plan investment expenses, including inflation.

Inflation rate

2.30%

Section 3: Actuarial Assumptions and Methods

Projected salary increases

Ranging from 3.40% to 5.55% based on service.

Mortality:

Pre-retirement

- **Groups A/F**

- 60% of PubG-2010 General Employee Amount-Weighted Above Median, 40% of PubG-2010 General Employee Amount-Weighted with generational projection using scale MP-2019

- **Group C**

- PubS-2010 Public Safety Employee Amount-Weighted with generational projection using scale MP-2019

- **Group D***

- 70% of PubG-2010 General Employee Amount-Weighted Above Median, 30% of PubG-2010 General Employee Amount-Weighted with generational projection using scale MP-2019

Healthy post-retirement - Retirees

- **Groups A/F**

- 109% of PubG-2010 General Healthy Retiree Amount-Weighted with generational projection using scale MP-2019

- **Group C**

- 40% of PubS-2010 Public Safety Retiree Amount-Weighted Above Median, 60% of PubS-2010 Public Safety Retiree Amount-Weighted with generational projection using scale MP-2019

- **Group D**

- PubG-2010 General Healthy Retiree Amount-Weighted Above Median with generational projection using scale MP-2019

Section 3: Actuarial Assumptions and Methods

Healthy post-retirement - Beneficiaries

- **Groups A/F**
 - Pub-2010 Contingent Survivor Amount-Weighted with generational projection using MP-2019
- **Group C**
 - 40% of Pub-2010 Contingent Survivor Amount-Weighted Above Median, 60% of Pub-2010 Contingent Survivor Amount-Weighted with generational projection using MP-2019
- **Group D**
 - Pub-2010 Contingent Survivor Amount-Weighted Above Median with generational projection using MP-2019

Disabled post-retirement

- **All Groups**
 - PubNS-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table with generational projection using scale MP-2019

The tables with the generational projection to the ages of members as of the measurement date reasonably reflect the mortality experience of the System as of the measurement date. The mortality rates were based on historical and current demographic data, adjusted to reflect health characteristics of the underlying groups, and estimated future experience and professional judgment. 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

Other information

Same as those used in the June 30, 2021, funding actuarial valuation.

Section 3: Actuarial Assumptions and Methods

Exhibit 4 – Pension expense

Components of pension expense	Current	Prior
Reporting date for employer under GASB 68	June 30, 2024	June 30, 2023
Measurement date	June 30, 2023	June 30, 2022
Service cost	\$73,319,150	\$67,751,943
Interest	236,673,222	226,513,442
Current-period benefit changes	0	-49,146,013
Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	7,754,218	12,366,823
Expensed portion of current-period changes of assumptions	3,269,246	0
Member contributions	-48,580,695	-44,654,960
Projected earnings on pension plan investments	-158,597,814	-172,106,951
Expensed portion of current-period differences between actual and projected earnings on pension plan investments	-1,982,319	77,516,174
Administrative expense	2,578,013	2,352,151
Other	-1,389,818	-862,283
Recognition of beginning of year deferred outflows of resources as pension expense	174,899,383	96,621,987
Recognition of beginning of year deferred inflows of resources as pension expense	-72,276,466	-72,276,466
Pension expense	\$215,666,120	\$144,075,847

Section 3: Actuarial Assumptions and Methods

Deferred outflows of resources and deferred inflows of resources

Deferred outflows and inflows	Current	Prior
Reporting and Measurement Dates		
Reporting date for employer under GASB 68	June 30, 2024	June 30, 2023
Measurement date	June 30, 2023	June 30, 2022
Deferred outflows of resources		
Changes of assumptions	\$83,005,928	\$104,893,428
Net difference between projected and actual earnings on pension plan investments	92,695,200	124,469,018
Difference between expected and actual experience in the Total Pension Liability	118,846,724	131,643,747
Total deferred outflows of resources	\$294,547,852	\$361,006,193
Deferred inflows of resources		
Changes of assumptions	\$0	\$0
Net difference between projected and actual earnings on pension plan investments	N/A	N/A
Difference between expected and actual experience in the Total Pension Liability	0	0
Total deferred inflows of resources	\$0	\$0
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting date for employer under GASB 68 year ended June 30:		
2024	N/A	\$102,622,917
2025	\$91,810,495	82,769,351
2026	72,435,615	63,394,471
2027	108,893,773	99,852,629
2028	21,407,969	12,366,825
2029	0	0
Thereafter	0	0

Note: Average expected remaining service is 5.00 years as of June 30, 2023, and 6.00 years as of June 30, 2022.

Section 3: Actuarial Assumptions and Methods

Schedule of recognition of change in total Net Pension Liability

Increase/(Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences between Expected and Actual Experience on Total Pension Liability

Measurement Date Established	Differences between Expected and Actual Experience	Recognition Period (Years)	Increase/(Decrease) in Pension Expense								
			2022	2023	2024	2025	2026	2027	2028	Thereafter	
2017	\$19,283,274	6.00	\$3,213,879	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2018	83,265,679	6.00	13,877,613	13,877,614	0	0	0	0	0	0	0
2019	40,475,950	6.00	6,745,992	6,745,992	6,745,992	0	0	0	0	0	0
2020	5,122,992	6.00	853,832	853,832	853,832	853,832	0	0	0	0	0
2021	59,817,790	6.00	9,969,632	9,969,632	9,969,632	9,969,632	9,969,632	0	0	0	0
2022	74,200,948	6.00	12,366,823	12,366,825	12,366,825	12,366,825	12,366,825	12,366,825	0	0	0
2023	38,771,090	5.00	N/A	7,754,218	7,754,218	7,754,218	7,754,218	7,754,218	0	0	0
Total*			N/A	\$51,568,113	\$37,690,499	\$30,944,507	\$30,090,675	\$20,121,043	\$0	\$0	\$0

* Net increase/(decrease) in pension expense

Section 3: Actuarial Assumptions and Methods

Increase/(Decrease) in Pension Expense Arising from the Recognition of the Effects of Assumption Changes

Measurement Date Established	Assumption Changes	Recognition Period (Years)	2022	2023	2024	2025	2026	2027	2028	Thereafter
2017	\$42,724,968	6.00	\$7,120,828	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2020	209,786,856	6.00	34,964,476	34,964,476	34,964,476	34,964,476	0	0	0	0
2023	16,346,222	5.00	N/A	3,269,246	3,269,244	3,269,244	3,269,244	3,269,244	0	0
Total*			N/A	\$38,233,722	\$38,233,720	\$38,233,720	\$3,269,244	\$3,269,244	\$0	\$0

* Net increase/(decrease) in pension expense

Section 3: Actuarial Assumptions and Methods

Increase/(Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences between Projected and Actual Earnings on Pension Plan Investments

Measurement Date Established	Differences between Projected and Actual Earnings	Recognition Period (Years)	Increase/(Decrease) in Pension Expense								
			2022	2023	2024	2025	2026	2027	2028	Thereafter	
2017	-\$43,645,572	5.00	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2018	6,354,471	5.00	1,270,895	0	0	0	0	0	0	0	0
2019	29,879,762	5.00	5,975,952	5,975,952	0	0	0	0	0	0	0
2020	63,144,438	5.00	12,628,888	12,628,888	12,628,888	0	0	0	0	0	0
2021	-361,382,331	5.00	-72,276,466	-72,276,466	-72,276,466	-72,276,466	0	0	0	0	0
2022	387,580,862	5.00	77,516,174	77,516,172	77,516,172	77,516,172	77,516,172	0	0	0	0
2023	-9,911,591	5.00	N/A	-1,982,319	-1,982,318	-1,982,318	-1,982,318	-1,982,318	-1,982,318	0	0
Total*			N/A	\$21,862,227	\$15,886,276	\$3,257,388	\$75,533,854	-\$1,982,318	\$0	\$0	\$0

* Net increase/(decrease) in pension expense

Section 3: Actuarial Assumptions and Methods

Total Increase/(Decrease) in Pension Expense

Measurement Date Established	Total Increase (Decrease) in Pension Expense	2022	2023	2024	2025	2026	2027	2028	Thereafter
2017	\$18,362,670	\$10,334,707	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2018	89,620,150	15,148,508	13,877,614	0	0	0	0	0	0
2019	70,355,712	12,721,944	12,721,944	6,745,992	0	0	0	0	0
2020	278,054,286	48,447,196	48,447,196	48,447,196	35,818,308	0	0	0	0
2021	-301,564,541	-62,306,834	-62,306,834	-62,306,834	-62,306,834	9,969,632	0	0	0
2022	461,781,810	89,882,997	89,882,997	89,882,997	89,882,997	89,882,997	12,366,825	0	0
2023	45,205,721	N/A	9,041,145	9,041,144	9,041,144	9,041,144	9,041,144	0	0
Total*		N/A	\$111,664,062	\$91,810,495	\$72,435,615	\$108,893,773	\$21,407,969	\$0	\$0

* Net increase/(decrease) in pension expense

Section 3: Actuarial Assumptions and Methods

Schedule of reconciliation of Net Pension Liability

Item	Current	Prior
Reporting and Measurement Dates		
Reporting Date for Employer under GASB 68	June 30, 2024	June 30, 2023
Measurement Date	June 30, 2023	June 30, 2022
Net Pension Liability		
Beginning Net Pension Liability	\$1,123,933,825	\$829,827,694
Pension expense	215,666,120	144,075,847
Employer contributions	-116,387,502	-197,523,008
New net deferred inflows/outflows	36,164,576	371,898,813
Recognition of prior deferred inflows/outflows	-102,622,917	-24,345,521
Ending Net Pension Liability	\$1,156,754,102	\$1,123,933,825

Section 3: Actuarial Assumptions and Methods

Exhibit A: Actuarial assumptions, actuarial cost method and models

Rational 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.

Roll-forward techniques

The results as of June 30, 2023, are based on the results of the Vermont State Employees' Retirement System Actuarial Valuation Report as of June 30, 2022, adjusted forward, using standard actuarial techniques. Total Pension Liability as of June 30, 2023, reflects changes to actuarial assumptions that were adopted as part of the Actuarial Experience Review dated September 18, 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.

Section 3: Actuarial Assumptions and Methods and Appendices

Salary increases

Service	Annual Rate of Salary Increase (%)
0	6.38
5	5.67
10	5.04
15	4.71
20	4.42
25	4.29
30	4.02
35	3.80
37+	3.76

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, 2023, COLA was 5.00%¹. 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, 2023, COLA was 4.00%¹. 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, 2023, COLA was 5.00%¹ on the first \$75,000 of retirement benefits paid and 2.50%¹ 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.

Section 3: Actuarial Assumptions and Methods and Appendices

- **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, 2023, COLA was 4.00%¹. The January 1, 2024, COLA is expected to be 2.20%¹.

For all other members:

- **Group 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, 2023, COLA was 5.00%. The January 1, 2024, COLA is expected to be 2.20%.

- **Group 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, 2023, COLA was 2.50%. 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, 2023, COLA was 5.00%. The January 1, 2024, COLA is expected to be 2.20%.

¹These amounts were required to be calculated in 2023 and 2024 as a result of Act 114; however, they will not be applied to any members in 2023 or 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

Section 3: Actuarial Assumptions and Methods and Appendices

- **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

- **Group C/G:**

- PubS-2010 Safety Disabled Retiree Amount-Weighted Table with generational projection using Scale MP-2021

Section 3: Actuarial Assumptions and Methods and Appendices

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:

Rate (%)						
Withdrawal Groups A/D ¹				Disability*		
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 The Ultimate Rates are multiplied by the Increase Factors during the first 10 years of service.

* 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.

Section 3: Actuarial Assumptions and Methods and Appendices

Separation from service before retirement (due to withdrawal and disability) (continued)

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

Withdrawal Group F					
Ultimate Rates ¹ 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

Section 3: Actuarial Assumptions and Methods and Appendices

Retirement rates

Retirement Group F ¹		
Service	Male	Female
40-52	20.00%	10.00%
53	15.00	10.00
54	15.00	10.00
55	5.00	5.00
56	5.00	5.00
57	5.00	5.00
58	5.00	7.50
59	7.50	7.50
60	7.50	7.50
61	15.00	12.50
62	25.00	25.00
63	17.50	15.00
64	20.00	15.00
65	22.50	20.00
66	25.00	30.00
67	25.00	30.00
68	25.00	30.00
69	25.00	30.00
70+	100.00	100.00

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

Section 3: Actuarial Assumptions and Methods and Appendices

Retirement rates (continued)

Retirement Group C ¹	
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

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.

Unknown data for members

Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.

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

Section 3: Actuarial Assumptions and Methods and Appendices

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 elections

- **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.

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.

Section 3: Actuarial Assumptions and Methods and Appendices

Changes 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, and
- Disability Incidence.

Section 3: Actuarial Assumptions and Methods and Appendices

Exhibit B: Summary of plan provisions

This exhibit summarizes the major provisions of the Plan 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).

Creditable service

Service as a member plus purchased service.

Average final compensation (AFC)

- **Group 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.

Section 3: Actuarial Assumptions and Methods and Appendices

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.

Section 3: Actuarial Assumptions and Methods and Appendices

- **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

- **Group 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.

Section 3: Actuarial Assumptions and Methods and Appendices

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

Vesting

- **All groups**
 - 5 years of service.

Section 3: Actuarial Assumptions and Methods and Appendices

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%).

Section 3: Actuarial Assumptions and Methods and Appendices

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%).

Section 3: Actuarial Assumptions and Methods and Appendices

Post-retirement adjustments

For active Group A, C, and F 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.

Section 3: Actuarial Assumptions and Methods and Appendices

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.

Section 3: Actuarial Assumptions and Methods and Appendices

Member contribution rates

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

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

Appendix

Definition of terms

Definitions of certain terms as they are used in Statement No. 68. The terms may have different meanings in other contexts.

Term	Definition
Active employees	Individuals employed at the end of the reporting or measurement period, as applicable.
Actual contributions	Cash contributions recognized as additions to a pension Plan Fiduciary Net Position.
Actuarial present value of projected benefit payments	Projected benefit payments discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment.
Actuarial valuation	The determination, as of a point in time (the actuarial valuation date), of the service cost, Total Pension Liability, and related actuarial present value of projected benefit payments for pensions performed in conformity with Actuarial Standards of Practice unless otherwise specified by the GASB.
Actuarial valuation date	The date as of which an actuarial valuation is performed.
Actuarially determined contribution	A target or recommended contribution to a defined benefit pension plan for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.
Ad hoc cost-of-living adjustments (Ad Hoc COLAs)	Cost-of-living adjustments that require a decision to grant by the authority responsible for making such decisions.
Ad hoc postemployment benefit changes	Postemployment benefit changes that require a decision to grant by the authority responsible for making such decisions.
Agent employer	An employer whose employees are provided with pensions through an agent multiple-employer defined benefit pension plan.
Agent multiple-employer defined benefit pension plan (agent pension plan)	A multiple-employer defined benefit pension plan in which pension plan assets are pooled for investment purposes but separate accounts are maintained for each individual employer so that each employer's share of the pooled assets is legally available to pay the benefits of only its employees.
Allocated insurance contract	A contract with an insurance company under which related payments to the insurance company are currently used to purchase immediate or deferred annuities for individual employees. Also may be referred to as an annuity contract.
Automatic cost-of-living adjustments (Automatic COLAs)	Cost-of-living adjustments that occur without a requirement for a decision to grant by a responsible authority, including those for which the amounts are determined by reference to a specified experience factor (such as the earnings experience of the pension plan) or to another variable (such as an increase in the consumer price index).

Appendix

Term	Definition
Automatic postemployment benefit changes	Postemployment benefit changes that occur without a requirement for a decision to grant by a responsible authority, including those for which the amounts are determined by reference to a specified experience factor (such as the earnings experience of the pension plan) or to another variable (such as an increase in the consumer price index).
Closed period	A specific number of years that is counted from one date and declines to zero with the passage of time. For example, if the recognition period initially is five years on a closed basis, four years remain after the first year, three years after the second year, and so forth.
Collective deferred outflows of resources and deferred inflows of resources related to pensions	Deferred outflows of resources and deferred inflows of resources related to pensions arising from certain changes in the collective Net Pension Liability.
Collective Net Pension Liability	The Net Pension Liability for benefits provided through (1) a cost-sharing pension plan or (2) a single-employer or agent pension plan in circumstances in which there is a special funding situation.
Collective pension expense	Pension expense arising from certain changes in the collective Net Pension Liability.
Contributions	Additions to a pension Plan Fiduciary Net Position for amounts from employers, non-employer contributing entities (for example, state government contributions to a local government pension plan), or employees. Contributions can result from cash receipts by the pension plan or from recognition by the pension plan of a receivable from one of these sources.
Cost-of-living adjustments	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-sharing employer	An employer whose employees are provided with pensions through a cost-sharing multiple-employer defined benefit pension plan.
Cost-sharing multiple employer defined benefit pension plan (Cost-sharing pension plan)	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
Covered payroll	The payroll of employees that are provided with pensions through the pension plan.
Deferred retirement option program (DROP)	A program that permits an employee to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The employee continues to provide service to the employer and is paid for that service by the employer after the DROP entry date; however, the pensions that would have been paid to the employee (if the employee had retired and not entered the DROP) are credited to an individual employee account within the defined benefit pension plan until the end of the DROP period.

Appendix

Term	Definition
Defined benefit pension plans	Pension plans that are used to provide defined benefit pensions.
Defined benefit pensions	Pensions for which the income or other benefits that the employee will receive at or after separation from employment are defined by the benefit terms. The pensions may be stated as a specified dollar amount or as an amount that is calculated based on one or more factors such as age, years of service, and compensation. (A pension that does not meet the criteria of a defined contribution pension is classified as a defined benefit pension for purposes of Statement No. 68.)
Defined contribution pension plans	Pension plans that are used to provide defined contribution pensions.
Defined contribution pensions	Pensions having terms that (1) provide an individual account for each employee; (2) define the contributions that an employer is required to make (or the credits that it is required to provide) to an active employee's account for periods in which that employee renders service; and (3) provide that the pensions an employee will receive will depend only on the contributions (or credits) to the employee's account, actual earnings on investments of those contributions (or credits), and the effects of forfeitures of contributions (or credits) made for other employees, as well as pension plan administrative costs, that are allocated to the employee's account.
Discount rate	<p>The single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the total of the following:</p> <ol style="list-style-type: none"> 1. The actuarial present value of benefit payments projected to be made in future periods in which (a) the amount of the pension Plan Fiduciary Net Position is projected (under the requirements of Statement No. 68) to be greater than the benefit payments that are projected to be made in that period and (b) pension plan assets up to that point are expected to be invested using a strategy to achieve the long-term expected rate of return, calculated using the long-term expected rate of return on pension plan investments. 2. The actuarial present value of projected benefit payments not included in (1), calculated using the municipal bond rate.
Entry age actuarial cost method	A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age(s). The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is called the actuarial accrued liability.
Inactive employees	Terminated individuals that have accumulated benefits but are not yet receiving them, and retirees or their beneficiaries currently receiving benefits.
Measurement period	The period between the prior and the current measurement dates.

Appendix

Term	Definition
Multiple-employer defined benefit pension plan	A defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
Net Pension Liability (NPL)	The liability of employers and non-employer contributing entities to employees for benefits provided through a defined benefit pension plan.
Non-employer contributing entities	Entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of Statement No. 68, employees are not considered non-employer contributing entities.
Other postemployment benefits	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits, regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.
Pension plans	Arrangements through which pensions are determined, assets dedicated for pensions are accumulated and managed and benefits are paid as they come due.
Pensions	Retirement income and, if provided through a pension plan, postemployment benefits other than retirement income (such as death benefits, life insurance, and disability benefits). Pensions do not include postemployment healthcare benefits and termination benefits.
Plan members	Individuals that are covered under the terms of a pension plan. Plan members generally include (1) employees in active service (active plan members) and (2) terminated employees who have accumulated benefits but are not yet receiving them and retirees or their beneficiaries currently receiving benefits (inactive plan members).
Postemployment	The period after employment.
Postemployment benefit changes	Adjustments to the pension of an inactive employee.
Postemployment healthcare benefits	Medical, dental, vision, and other health-related benefits paid subsequent to the termination of employment.
Projected benefit payments	All benefits estimated to be payable through the pension plan to current active and inactive employees as a result of their past service and their expected future service.
Public employee retirement system	A special-purpose government that administers one or more pension plans; also may administer other types of employee benefit plans, including postemployment healthcare plans and deferred compensation plans.
Real rate of return	The rate of return on an investment after adjustment to eliminate inflation.
Service costs	The portions of the actuarial present value of projected benefit payments that are attributed to valuation years.

Appendix

Term	Definition
Single employer	An employer whose employees are provided with pensions through a single-employer defined benefit pension plan.
Single-employer defined benefit pension plan (Single-employer pension plan)	A defined benefit pension plan that is used to provide pensions to employees of only one employer.
Special funding situations	<p>Circumstances in which a non-employer entity is legally responsible for making contributions directly to a pension plan that is used to provide pensions to the employees of another entity or entities and either of the following conditions exists:</p> <ol style="list-style-type: none"> 1. The amount of contributions for which the non-employer entity legally is responsible is not dependent upon one or more events or circumstances unrelated to the pensions. 2. The non-employer entity is the only entity with a legal obligation to make contributions directly to a pension plan.
Termination benefits	Inducements offered by employers to active employees to hasten the termination of services, or payments made in consequence of the early termination of services. Termination benefits include early-retirement incentives, severance benefits, and other termination-related benefits.
Total Pension Liability (TPL)	The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of Statement No. 68.

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