Legislative Retirement System of North Carolina

Principal Results of Actuarial Valuation as of December 31, 2022

October 26, 2023, Board of Trustees Meeting

Michael Ribble, FSA, EA, MAAA, FCA
Elizabeth Wiley, FSA, EA, MAAA, FCA

Valuation results

Net actuarial gain or loss

Actuarial Value of Assets	Actuarial Accrued Liability	Net Actuarial Gain or Loss	Funded Ratio	Employer Contributions

The table below provides a reconciliation of the prior year's unfunded actuarial accrued liability to the current year's unfunded actuarial accrued liability.

(in millions)		
Unfunded actuarial accrued liability (UAAL) as of 12/31/2021	$	(0.6)
Normal cost and administrative expense during 2022		0.8
Reduction due to actual contributions during 2022		(1.2)
Interest on UAAL, normal cost, and contributions		0.1
Asset (gain) / loss		0.6
Actuarial accrued liability (gain) / loss		(0.2)
Impact of assumption changes		0.0
Impact of benefit changes		0.1
Unfunded actuarial accrued liability (UAAL) as of 12/31/2022	$	(0.4)

During 2022, the negative UAAL (or, surplus) was expected to slightly increase, but decreased. This was primarily due to an asset loss during the year of $0.6 million, partially offset by an Actuarial Accrued Liability gain of $0.2 million.

Benefit changes (one-time supplement payable by November 2023) increased the UAAL by $0.1 million.

A detailed summary of the net actuarial gain or loss is provided in Section 4.

Valuation results

Employer contributions

Actuarial Value of Assets | Actuarial Accrued Liability | Net Actuarial Gain or Loss | Funded Ratio | **Employer Contributions**

The table below provides a reconciliation of the actuarially determined employer contribution.

Fiscal year ending June 30, 2024 Preliminary ADEC (based on December 31, 2021 valuation)	18.61%
Impact of Benefit Changes*	2.04%
Fiscal year ending June 30, 2024 Final ADEC	20.65%
Change Due to Anticipated Reduction in UAAL**	(0.26%)
Change Due to Demographic (Gain)/Loss	(0.24%)
Change Due to Investment (Gain)/Loss	2.06%
Change Due to Contributions Experience	(0.55%)
Impact of Assumption Changes	0.00%
Reversal of one-time Legislative Cost	(2.04%)
Impact of Benefit Changes	0.31%
Impact of Direct Rate Smoothing	(0.61%)
Fiscal year ending June 30, 2025 Preliminary ADEC (based on December 31, 2022 valuation)	19.32%

* Due to the one-time pension supplement to be paid by November 2023.

** Amortization of the UAAL is determined as a level dollar amount with payments expected to remain the same over the amortization period but was calculated as a percentage of valuation payroll in the previous valuation. Payroll is expected to increase annually while the expected amortization payment does not increase. This causes the expected amortization payment to be a lesser percentage of the expected payroll.

A detailed summary of the actuarially determined employer contribution rates is provided in Section 5.

The change in rate due to investment losses is based on the actuarial value of assets return of 4.44%, which was less than the 6.50% assumed return.

Key takeaways

- The actuarial valuation is performed each year to replace the estimates the actuary assumed for the prior valuation with the actual events that happened. This past year, as expected, some of the assumptions used in the prior valuation were not realized. Key results of the December 31, 2022 valuation were:
  - Market value returns of (10.22)% compared to 6.50% assumed at the beginning of the year
  - Continuation of direct-rate smoothing of the change in the employer contribution rate due to changes in assumptions and methods over a 5-year period beginning with the December 31, 2020 valuation
  - Recent legislation signed into law since the prior valuation
    - One-time supplement payment for LRS payees of 4% of their annual retirement allowance, payable by November 2023

- When compared to the December 31, 2021 actuarial valuation, the above resulted in:
  - Lower funded ratio (101.4% in the December 31, 2022 valuation compared to 101.9% in the December 31, 2021 valuation)
  - Higher actuarially determined employer contribution rate (19.32% for fiscal year ending June 30, 2025 compared to the preliminary contribution rate of 18.61% for fiscal year ending June 30, 2024, disregarding the cost of one-time benefits)

Key takeaways (continued)

- LRS is well funded compared to its peers. This is due to:
  - Stakeholders working together to keep LRS well-funded since inception
  - A history of appropriating and contributing the recommended contribution requirements
  - Assumptions that in aggregate are more conservative than peers
  - A funding policy that aggressively pays down unfunded liability over a 12-year period
  - An ad hoc cost-of-living adjustment that supports the health of the system
  - Modest changes in benefits when compared to peers
- Continued focus on these measures will be needed to maintain the solid status of LRS well into the future.

Certification

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: fund 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. Such changes in law may include additional costs resulting from future legislated benefit improvements or cost-of-living pension increases or supplements, which are not anticipated in the actuarial valuation. Because of limited scope, Buck performed no analysis of the potential range of such future differences, except for some limited analysis in financial projections or required disclosure information.

The purpose of this presentation is to provide a summary of the actuarial valuation results to the Board at the October 26, 2023 meeting attended by the actuaries. Use of this report for any other purposes may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of this presentation for that purpose. This presentation should not be provided without a copy of the full valuation report. Because of the risk of misinterpretation of actuarial results, you should ask Buck, A Gallagher Company (Buck) to review any statement you wish to make on the results contained in this presentation. Buck will not accept any liability for any such statement made without prior review.

This presentation is considered part of the annual actuarial valuation report. Please see below for full description of data, actuarial assumptions and methods, plan provisions, and other applicable disclosures.

We meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and we are available to answer questions about it.

Michael A. Ribble, FSA, EA, MAAA, FCA

Elizabeth A. Wiley, FSA, EA, MAAA, FCA

Appendix

Supplemental Information

Valuation input

Membership data

Membership Data	Asset Data	Benefit Provisions	Assumptions	Funding Methodology

The table below provides a summary of the membership data used in this valuation compared to the prior valuation.

Number as of	12/31/2022	12/31/2021
Active members	170	170
Terminated members and survivors of deceased members entitled to benefits but not yet receiving benefits	52	55
Terminated non-vested members and survivors of deceased members entitled to benefits but not yet receiving benefits	56	58
Retired members and survivors of deceased members currently receiving benefits	288	290
Total	566	573
Active reported compensation	3,584,167	3,589,699
Active valuation compensation	3,730,584	3,735,709
Annual retirement allowances	2,292,105	2,275,574

A detailed summary of the membership data used in this valuation is provided in Section 2 and Appendix A.

The number of retired members and survivors of deceased members currently receiving benefits decreased by 0.7% from the previous valuation date.

Reported compensation for active members decreased by 0.2% from the prior year. Covered payroll was expected to increase annually by 3.25%. Lower payroll results in lower benefits accruing than we anticipate, but also fewer contributions supporting the system.

Valuation input

Market value

Membership Data	Asset Data	Benefit Provisions	Assumptions	Funding Methodology

The table below provides details of the Market Value of Assets for the current and prior year's valuations.

Asset data as of	12/31/2022	12/31/2021
Beginning of year market value of assets	$ 32,264,855	$ 30,702,732
Employer contributions	985,260	987,764
Employee contributions	258,991	253,291
Benefit payments	(2,360,657)	(2,340,355)
Refunds	(28,653)	(185,310)
Administrative expenses	(14,928)	(14,733)
Investment income	(3,239,654)	2,861,466
Net increase / (decrease)	(4,399,641)	1,562,123
End of year market value of assets	$ 27,865,214	$ 32,264,855
Estimated net investment return	-10.22%	9.52%

A detailed summary of the market value of assets is provided in Section 3.

LRS assets are held in trust and are invested for the exclusive benefit of plan members.

Over the long term, benefit payments and administrative expenses not covered by contributions are expected to be covered with investment income, illustrating the benefits of following actuarial pre-funding since inception.

BUCK
A Gallagher Company

Legislative Retirement System of North Carolina

Report on the Actuarial Valuation
Prepared as of December 31, 2022

October 2023

110 West Berry Street
Suite 1300
Fort Wayne, IN 46802

October 13, 2023

Board of Trustees
Legislative Retirement System
of North Carolina
3200 Atlantic Avenue
Raleigh, NC 27604

Members of the Board:

We submit herewith our report on the actuarial valuation of the Legislative Retirement System of North Carolina (referred to as “LRS” or the “Legislative Retirement System”) prepared as of December 31, 2022. Information contained in our report for plan years from December 31, 2017, to December 31, 2020, is based on valuations performed by the prior actuarial firm.

The primary purpose of the valuation report is to determine the required member and employer contribution rates, to describe the current financial condition of LRS, and to analyze changes in such condition. Use of this report for any other purposes or by anyone other than North Carolina Retirement Systems Division (RSD) or Department of State Treasurer staff may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. The attached pages should not be provided without a copy of this cover letter. Because of the risk of misinterpretation of actuarial results, you should ask Buck, A Gallagher Company (Buck) to review any statement you wish to make on the results contained in this report. Buck will not accept any liability for any such statement made without prior review.

The valuation is based upon membership data and financial information as furnished by RSD and the Financial Operations Division and as summarized in this report. Although we reviewed for reasonableness and consistency with the prior valuation, these elements have not been audited by Buck and we cannot certify as to the accuracy and completeness of the data supplied. The valuation is also based on benefit and contribution provisions as presented in this report. If you have reason to believe that the plan provisions are incorrectly described that important plan provisions relevant to this valuation are not described, or that conditions have changed since the calculations were made, you should contact the authors of this actuarial report prior to relying on this information.

The valuation is further based on the actuarial valuation assumptions, approved by the Board of Trustees, as presented in this report. We believe that these assumptions are reasonable and comply with the Actuarial Standards of Practice (“ASOPs”) 27 and 35. We prepared this valuation in accordance with the requirements of this standard and in accordance with all applicable ASOPs.

The assumptions used for the December 31, 2022 actuarial valuation are based on the experience study prepared as of December 31, 2019, and adopted by the Board of Trustees on January 28, 2021. All assumptions are discussed annually with the appropriate parties, and actuarial gain/loss experience is reviewed during each valuation, to see if any changes are needed. The economic assumptions with respect to investment yield, salary increase, and inflation have been based upon a review of the existing portfolio structure as well as recent and anticipated experience. All assumptions represent an estimate of future experience.

ASOPs 27 and 35 ask the actuary to disclose the information and analysis used to support the actuary's determination that the assumptions selected by the plan sponsor do not significantly conflict with what, in the actuary's professional judgment, are reasonable for the purpose of the measurement. In the case of the Board's selection of the investment return assumption, the signing actuaries have used economic information and tools provided by Buck's Financial Risk Management ("FRM") practice. A spreadsheet tool created by the FRM team converts averages, standard deviations, and correlations from Buck's Capital Markets Assumptions ("CMA") that are used for stochastic forecasting into approximate percentile ranges for the arithmetic and geometric average returns. It is intended to suggest possible reasonable ranges for the investment return assumption without attempting to predict or select a specific best estimate rate of return. It takes into account the duration (horizon) of investment and the target allocation of assets in the portfolio to various asset classes. Based on the actuaries' analysis, including consistency with other assumptions used in the valuation, the percentiles generated by the spreadsheet described above and review of actuarial gain/loss experience, the actuaries believe the assumptions, in the actuaries' professional judgment, are reasonable for the purpose of the measurement.

Where presented, references to "funded ratio" and "unfunded accrued liability" typically are measured on an actuarial value of assets basis. It should be noted that the same measurements using market value of assets would result in different funded ratios and unfunded accrued liabilities. Moreover, the funded ratio presented may be appropriate for evaluating the need and level of future contributions but makes no assessment regarding the funded status of the plan if the plan were to settle (i.e., purchase annuities) for a portion or all of its liabilities. In various places in the report the results also show funded ratios and unfunded liabilities based upon varying sets of assumptions as well as market values of assets as that is required for certain disclosure information required per accounting rules or statutes. Where this has been done it has been clearly indicated.

Actuarial Standard of Practice No. 56 ("ASOP 56") provides guidance to actuaries when performing actuarial services with respect to designing, developing, selecting, modifying, using, reviewing, or evaluating models. In addition to the spreadsheet model discussed above, Buck uses third-party software in the performance of annual actuarial valuations and projections. The model is intended to calculate the liabilities associated with the provisions of the Plan using data and assumptions as of the measurement date under the accounting rules specified in this report. The output from the third-party vendor software is used as input to an internally developed model that applies applicable accounting rules to the liabilities derived and other inputs, such as Plan assets and contributions, to generate many of the exhibits found in this report. Buck has an extensive review process whereby the results of the liability calculations are checked using detailed sample output, changes from year to year are summarized by source, and significant deviations from expectations are investigated. Other accounting outputs and the internal model are similarly reviewed in detail and at a high level for accuracy, reasonability, and consistency with prior results. Buck also reviews the third-party model when significant changes are made to the software. The review is performed by experts within the company who are familiar with applicable accounting rules as well as the manner in which the model generates its output. If significant changes are made to the internal model, extra checking and review are completed. Significant changes to the internal model that are applicable to multiple clients are generally developed, checked, and reviewed by multiple experts within the company who are familiar with the details of the required changes.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: fund 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. Such changes in law may include additional costs resulting from future legislated benefit improvements or cost-of-living pension increases or supplements, which are not anticipated in the actuarial valuation. Because of limited scope, Buck performed no analysis of the potential range of such future differences, except for some limited analysis in financial projections or required disclosure information.

This report was prepared under our supervision and in accordance with all applicable Actuarial Standards of Practice. We are Fellows of the Society of Actuaries, Enrolled Actuaries, Members of the American Academy of Actuaries, and Fellows of the Conference of Consulting Actuaries. We meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. We are available to discuss this report with you at your convenience.

Respectfully submitted,

Michael A. Ribble

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Principal, Retirement Actuary
Buck, A Gallagher Company

Elizabeth A. Wiley

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Table of Contents

Executive Summary

Overview

The North Carolina Retirement Systems Division (RSD) was established in 1941 to provide retirement benefits for public servants in the State of North Carolina. Today, under the management of the Department of State Treasurer, RSD administers seven public pension plans (defined benefit plans), three supplemental retirement plans (voluntary defined contributions plans), a health trust fund, a disability income plan, death benefit funds and a number of other benefit programs. As of December 31, 2022, the RSD defined benefit plans cover over one million current and prior public servants of the state of North Carolina. During the fiscal year ending June 30, 2023, RSD paid over $7.5 billion in pensions to more than 350,000 retirees. And as of June 30, 2023, RSD's defined benefit plan assets were valued at over $114 billion.

Under the supplemental retirement plans, the amount of contributions in any given year is defined by law. The amount of benefits derived is dependent on the investment returns the individual achieves. Conversely, under the pension plans, the amount of the benefit paid to a member upon retirement, termination, death or disability is defined by law. The amount of contributions needed to fund these benefits cannot be known with certainty. In North Carolina, like other states, these contributions are paid during a public servant's career so that upon retirement, termination, death, or disability, there are funds available to pay these benefits. These amounts are determined through an actuarial valuation. Actuarial valuations are performed for each of the pension plans administered by RSD and the results are contained in actuarial valuation reports like this.

The Legislative Retirement System ("LRS") provides benefits to all members of the General Assembly. LRS has nearly $28 million in assets and 566 members as of December 31, 2022. This actuarial valuation report is our annual analysis of the financial health of LRS. This report, prepared as of December 31, 2022, presents the results of the actuarial valuation of the Retirement System.

Purpose

An actuarial valuation is performed on LRS annually as of the end of the calendar year. The actuary determines the amount of contributions to be made to LRS during each member's career that, when combined with investment return, will be sufficient to pay for retirement benefits.

In addition, the annual actuarial valuation is performed to:

- Determine the progress on funding LRS,

  Explore why the results of the current valuation differ from the results of the valuation of the previous year, and
- Satisfy regulatory and accounting requirements.

A detailed summary of the valuation process and a glossary of actuarial terms are provided in the supplementary document, "State of North Carolina Retirement Systems Actuarial Valuation Report Process and Actuarial Terms Glossary" dated October 2023.

Executive Summary (continued)

Actuarial Comments and Other Observations

Membership

As with any estimate, the actuary collects information that we know now. Under the actuarial valuation process, current information about LRS members is collected annually by the RSD staff at the direction of the actuary. Membership data will assist the actuary in estimating benefits that could be paid in the future. Information about benefit provisions and assets held in the trust as of the valuation date is also collected.

The member information the actuary collects includes data elements such as current service, salary and benefit group identifier for members that have not separated service, and actual benefit amounts and form of payment for members that have separated service. Data elements such as gender and date of birth are used to determine when a benefit might be paid and for how long.

The table below provides a summary of the membership data used in this valuation compared to the prior valuation.

Number as of	12/31/2022	12/31/2021
Active members	170	170
Terminated members and survivors of deceased members entitled to benefits but not yet receiving benefits	52	55
Terminated non-vested members and survivors of deceased members entitled to a refund of contributions	56	58
Retired members and survivors of deceased members currently receiving benefits	288	290
Total	566	573
Active Reported Compensation	3,584,167	3,589,669
Active Valuation Compensation	3,730,584	3,735,709
Annual Retirement Allowances	2,292,105	2,275,574

The number of retired members and survivors of deceased members currently receiving benefits decreased by 0.7% from the previous valuation date.

Reported compensation for active members decreased by 0.2% from the prior year. Covered payroll was expected to increase annually by 3.25%. Lower payroll results in lower benefits accruing than we anticipate, but also fewer contributions supporting the system.

A detailed summary of membership data can be found in Section 2 of this report.

Assets

LRS assets are held in trust and are invested for the exclusive benefit of plan members. The Market Value of Assets is $27.9 million as of December 31, 2022, and was $32.3 million as of December 31, 2021. The investment return for the market value of assets for calendar year 2022 was (10.22%).

Market value returns during 2022 were lower than the 6.50% assumed rate of return, resulting in higher required contributions and a lower funded ratio than anticipated.

The actuarial value of assets smooths investment gains and losses The actuarial value of assets is $30.7 million as of December 31, 2022 and $30.6 million as of December 31, 2021. The market value of assets is lower than the actuarial value of assets, which is used to determine employer contributions. This indicates that overall, there are unrecognized asset losses to be recognized in future valuations.

Executive Summary (continued)

The lower-than-expected market return in 2022, partially offset by higher-than-expected market returns in 2019, 2020, and 2021, resulted in an actuarial value of asset return for calendar year 2022 of 4.44% and a recognized actuarial asset loss of $0.6 million during 2022. The assets at actuarial value were $0.4 million greater than the actuarial accrued liability as of December 31, 2022.

Based on historical market returns, the current asset allocation, the current investment policy, and the expectation of future asset returns, as reviewed in the last experience study, the 6.50% discount rate used in this valuation is reasonable and appropriate.

A detailed summary of asset information is provided in Section 3 of this report.

Benefit Provisions

This valuation reflects the provisions of S.L. 2023-134, which became law on October 3, 2023. In particular, the valuation reflects the one-time supplement for LRS payees in pay status as of October 1, 2023 that is equal to 4% of their annual allowance and payable by November 2023. The one-time supplements do not change the ongoing monthly benefits, and absent additional action by governing authorities, the payments will not recur in future years. There have been no other significant changes in benefit provisions from the previous valuation.

Many Public Sector Retirement Systems in the United States have undergone pension reform where the benefits of members (current retirees and active or future members) have been reduced. Because of the well-funded status of LRS due to the legislature contributing the actuarially determined employer contribution when such contribution is required, benefit cuts have not been made in North Carolina as they have been in most other states. However, if North Carolina's investment policy shifts substantively, or if the system incurs other unfavorable investment, economic, or demographic experience, the system should review likely impacts of the shift and consider corresponding changes to actuarial assumptions, funding policy and/or benefit levels.

A detailed summary of the benefit provisions is provided in Appendix B of this report.

Actuarial Assumptions

Actuarial assumptions bridge the gap between the information that we know with certainty as of the valuation date (age, gender, service, and benefits of the members) and what may happen in the future. The actuarial assumptions of LRS are reviewed at least every five years. Based on this review, the actuary will make recommendations on the demographic and economic assumptions.

Demographic assumptions describe future events that relate to people such as retirement rates, termination rates, disability rates, and mortality rates. Economic assumptions describe future events that relate to the assets such as the interest rate, salary increases, the real return and payroll growth.

The assumptions used for the December 31, 2022 actuarial valuation are based on the experience study prepared as of December 31, 2019 and adopted by the Board of Trustees on January 28, 2021. No assumption changes have been made since the prior valuation.

A detailed summary of the actuarial assumptions is provided in Appendix C of this report.

Funding Methodology

When compared to other Public Sector Retirement Systems in the United States, the funding policy for LRS is quite aggressive in that the policy pays down the unfunded actuarial accrued liability over a much shorter period of time (12 years) compared to most other Public Sector Retirement Systems. As such it is a best practice in the industry.

A detailed summary of the actuarial methods is provided in Appendix C of this report.

Executive Summary (continued)

Liabilities

The Actuarial Accrued Liability (AAL) increased slightly from $30.0 million to $30.3 million during 2022. LRS is an open plan, which means that new members enter the plan each year. In an open plan, liabilities are expected to grow from one year to next as more benefits accrue and the membership approaches retirement. The AAL was $0.2 million less than expected.

A detailed summary of the actuarial accrued liability can be found in Section 4 of this report.

Funded Ratio

The funded ratio is a measure of the progress that has been made in funding the plan as of the valuation date. It is the ratio of how much money LRS actually has in the fund to the amount LRS should have in the fund.

The ratio of assets to liabilities shows the health of the plan on an accrued basis. The funded ratio on an actuarial basis decreased from 101.9% as of December 31, 2021 to 101.4% at December 31, 2022.

Unfunded Actuarial Accrued Liability

The unfunded actuarial accrued liability (UAAL) is the portion of actuarial accrued liability that is not covered by the assets of the Retirement System. The actuarial value of assets basis is used for computing contributions to alleviate contribution volatility. The difference in the actuarial accrued liability and the actuarial value of assets is the amount of unfunded actuarial accrued liability to be paid off over a 12-year period.

The UAAL increased from $(0.6) million as of December 31, 2021 to $(0.4) million as of December 31, 2022. A detailed reconciliation of the UAAL can be found in Section 4 of this report.

Contributions

G.S. 120-4.20 provides that the contributions of employers shall consist of a normal contribution and an accrued liability contribution.

The December 31, 2021 valuation suggested that the preliminary total employer contribution rate be set at 18.61% of payroll for the fiscal year ending June 30, 2024. As a result of this December 31, 2022 valuation, the preliminary actuarially determined employer contribution rate is 19.32% of payroll for the fiscal year ending June 30, 2025, subject to the impact of any future legislative changes effective during that fiscal year.

A detailed summary of the actuarially determined employer contribution rates is provided in Section 5 of this report.

Risk

Measuring pension obligations and actuarially determined contributions requires the use of assumptions regarding future economic and demographic experience. Whenever assumptions are made about future events, there is risk that actual experience will differ from expected. Actuarial valuations include the risk that actual future measurements will deviate from expected future measurements due to actual experience that is different than the actuarial assumptions. The primary areas of risk in this actuarial valuation are:

- Investment Risk – the potential that investment returns will be different than expected.
- Longevity and Other Demographic Risks – the potential that mortality or other demographic experience will be different than expected.
- Interest Rate Risk – To the extent market rates of interest affect the expected return on assets, there is a risk of change to the discount rate which determines the present value of liabilities and actuarial valuation results.
- Contribution Risk – The potential that actual contributions are different than the actuarially determined contributions.

Executive Summary (continued)

Risk (continued)

Annual actuarial valuations are performed for RSD which re-measure the assets and liabilities and compute a new actuarially determined contribution. RSD also has experience studies performed every five years to analyze the discrepancies between actuarial assumptions and actual experience and determine if the actuarial assumptions need to be changed. Annual actuarial valuations and periodic experience studies are practical ways to monitor and reassess risk.

Key Takeaways

The actuarial valuation is performed each year to replace the estimates the actuary assumed for the prior valuation with the actual events that happened. This past year, as expected, some of the assumptions used in the prior valuation were not realized. Key results of the December 31, 2022 valuation as compared to the December 31, 2021 valuation were:

- Market value returns of (10.22)% during calendar year 2022 compared to 6.50% assumed
- Continuation of direct-rate smoothing of the change in the employer contribution rate due to the changes in assumptions and methods over a 5-year period beginning with the December 31, 2020 valuation
- Recent legislation signed into law since the prior valuation
  - One-time supplement payment for LRS payees of 4% of their annual retirement allowance, payable by November 2023

When compared to the December 31, 2021 actuarial valuation, the above resulted in:

- Lower funded ratio (101.4% in the December 31, 2022 valuation compared to 101.9% in the December 31, 2021 valuation)
- Higher actuarially determined employer contribution rate (19.32% for fiscal year ending June 30, 2025 compared to the contribution rate of 18.61% for fiscal year ending June 30, 2024, disregarding the cost of one-time benefits)

LRS is well funded compared to its peers. This is due to:

- Stakeholders working together to keep LRS well-funded since inception
- A history of appropriating and contributing the recommended contribution requirements
- Assumptions that in aggregate are more conservative than peers
- A funding policy that aggressively pays down unfunded liability over a 12-year period
- An ad hoc cost-of-living adjustment that supports the health of the system
- Modest changes in benefits when compared to peers

Continued focus on these measures will be needed to maintain the solid status of LRS well into the future.

This report, prepared as of December 31, 2022, presents the results of the annual valuation of the system. The principal results of the valuation and a comparison with the preceding year's results are summarized in the following table.

Section 1: Principal Results

This report, prepared as of December 31, 2022, presents the results of the actuarial valuation of the system. The principal results of the valuation and a comparison with the preceding year's results are summarized below.

Table 1: Summary of Principal Results

Valuation results as of	12/31/2022	12/31/2021
Active Members		
Number	170	170
Reported Compensation	$ 3,584,167	$ 3,589,669
Valuation Compensation*	$ 3,730,584	$ 3,735,709
Retired Members and Survivors of Deceased Members Currently Receiving Benefits		
Number	288	290
Annual Allowances	$ 2,292,105	$ 2,275,574
Assets		
Actuarial Value (AVA)	$ 30,732,559	$ 30,561,851
Market Value	$ 27,865,214	$ 32,264,855
Actuarial Accrued Liability (AAL)	$ 30,308,706	$ 29,989,368
Unfunded Accrued Liability (AAL-AVA)	$ (423,853)	$ (572,483)
Funded Ratio (AVA/AAL)**	101.4%	101.9%
Results for Fiscal Year Ending	**6/30/2025**	**6/30/2024**
Actuarially Determined Employer Contribution (ADEC) of employer, as a percentage of payroll		
Normal Cost	17.55%	17.51%
Accrued Liability	0.55%	-0.73%
Total	18.10%	16.78%
Total with Direct Rate Smoothing	19.32%	18.61%
Impact of Benefit Changes	Not Final	2.04%
Final ADEC	Not Final	20.65%
Appropriations Act for Fiscal Year Ending	**6/30/2025**	**6/30/2024**
Employer Contribution Rate as a percentage of payroll		
Normal Cost	17.55%	17.51%
Accrued Liability	N/A	3.14%
Total	N/A	20.65%

* Reported compensation annualized for new hires and projected for valuation purposes.
** The Funded Ratio on a Market Value of Assets basis is 91.9% as of December 31, 2022.

Section 2: Membership Data

RSD provided membership data as of the valuation date for each member of LRS. The membership data assists the actuary in estimating benefits that could be paid in the future. The tables below provide a summary of the membership data used in this valuation. Detailed tabulations of data are provided in Appendix A.

Table 2: Summary of Membership Data

Number as of	12/31/2022	12/31/2021
Active members	170	170
Terminated members and survivors of deceased members entitled to benefits but not yet receiving benefits	52	55
Terminated non-vested members and survivors of deceased members entitled to a refund of contributions	56	58
Retired members and survivors of deceased members currently receiving benefits	288	290
Total	566	573
Active Reported Compensation	3,584,167	3,589,669
Active Valuation Compensation	3,730,584	3,735,709
Annual Retirement Allowances	2,292,105	2,275,574

Table 3: Active Member Data

	Member Count	Average Age	Average Service	Reported Compensation
Male	127	59.13	7.43	$ 2,680,339
Female	43	60.77	7.31	903,828
Total	170	59.54	7.40	$ 3,584,167

Table 4: Vested Terminated Member Data

	Member Count	Average Age	Average Service	Deferred Retirement Allowance
Male	41	57.68	8.60	$ 315,034
Female	11	58.82	8.97	81,942
Total	52	57.92	8.68	$ 396,976

The table above includes terminated members entitled to retirement benefits but not yet receiving benefits.

Section 2: Membership Data (continued)

Table 5: Non-Vested Terminated Member Data

	Member Count	Average Age	Average Service	Accumulated Contributions
Male	48	54.17	2.62	$ 271,421
Female	8	59.50	1.83	33,902
Total	56	54.93	2.51	$ 305,323

The table above includes non-vested terminated members who have not received a refund of contributions.

Table 6: Data for Members Currently Receiving Benefits

	Member Count	Average Age	Annual Retirement Allowances
Retired Members (Healthy at Retirement)			
Male	170	78.82	$ 1,380,838
Female	57	78.58	453,954
Total	227	78.76	$ 1,834,792
Survivors of Deceased Members			
Male	2	65.50	$ 23,964
Female	59	77.22	433,349
Total	61	76.84	$ 457,313
Grand Total	288	78.35	$ 2,292,105

Section 3: Asset Data

Assets are held in trust and are invested for the exclusive benefit of LRS members. The tables below provide the details of the Market Value of Assets for the current and prior years' valuations.

Table 7: Market Value of Assets

Asset Data as of	12/31/2022	12/31/2021
Beginning of Year Market Value of Assets	$ 32,264,855	$ 30,702,732
Employer Contributions	985,260	987,764
Employee Contributions	258,991	253,291
Benefit Payments	(2,360,657)	(2,340,355)
Refunds	(28,653)	(185,310)
Administrative Expense	(14,928)	(14,733)
Investment Income	(3,239,654)	2,861,466
Net Increase/(Decrease)	(4,399,641)	1,562,123
End of Year Market Value of Assets	$ 27,865,214	$ 32,264,855
Estimated Net Investment Return on Market Value	-10.22%	9.52%

Table 8: Allocation of Investments by Category of the Market Value of Assets

Asset Data as of	12/31/2022	12/31/2021
Allocation by Dollar Amount		
Public Equity	$ 9,123,627	$ 11,391,901
Fixed Income (LTIF)	6,319,435	7,609,123
Cash and Receivables	4,529,646	4,726,450
Other*	7,892,506	8,537,381
Total Market Value of Assets	$ 27,865,214	$ 32,264,855
Allocation by Percentage of Asset Value		
Public Equity	32.7%	35.3%
Fixed Income (LTIF)	22.7%	23.6%
Cash and Receivables	16.3%	14.6%
Other*	28.3%	26.5%
Total Market Value of Assets	100.0%	100.0%

* Real Estate, Alternatives, Inflation and Credit

Section 3: Asset Data (continued)

In order to reduce the volatility that investment gains and losses can have on the required contributions and funded status of LRS, the Board adopted an asset valuation method to determine the Actuarial Value of Assets used for funding purposes. The table below provides the calculation of the Actuarial Value of Assets at the valuation date.

Table 9: Actuarial Value of Assets

Asset Data as of	12/31/2022
Beginning of Year Market Value of Assets	$ 32,264,855
Contributions	1,244,251
Benefit Payments, Refunds and Administrative Expenses	(2,404,238)
Net Cash Flow	(1,159,987)
Expected Investment Return	2,060,109
Expected End of Year Market Value of Assets	33,164,977
End of Year Market Value of Assets	27,865,214
Excess of Market Value over Expected Market Value of Assets	(5,299,763)
80% of 2022 Asset Gain/(Loss)	(4,239,810)
60% of 2021 Asset Gain/(Loss)	544,411
40% of 2020 Asset Gain/(Loss)	437,350
20% of 2019 Asset Gain/(Loss)	390,704
Total Deferred Asset Gain/(Loss)	(2,867,345)
Preliminary End of Year Actuarial Value of Assets	30,732,559
Final End of Year Actuarial Value of Assets (not less than 80% and not greater than 120% of Market Value)	30,732,559
Estimated Net Investment Return on Actuarial Value	4.44%

Commentary: The actuarial value of assets smooths investment gains/losses, resulting in less volatility in the employer contribution. The asset valuation method recognizes asset returns in excess of or less than the expected return on the market value of assets over a five-year period.

Lower than expected market returns in 2022 resulted in an actuarial value of asset return for calendar year 2022 of 4.44% and a recognized actuarial asset loss of $0.6 million during 2022. The assets at actuarial value were $0.5 million greater than the actuarial accrued liability as of December 31, 2022.

Section 4: Liability Results

Using the provided membership data, benefit provisions, and actuarial assumptions, the future benefit payments of LRS are estimated. These projected future benefit payments are discounted into today's dollars using the assumed rate of investment return assumption to determine the Present Value of Future Benefits. The Present Value of Future Benefits is allocated to past, current, and future service, respectively known as the actuarial accrued liability, normal cost and present value of future normal costs. The table below provides these liability numbers for the current and prior years' valuations.

Table 10: Liability Summary

Valuation Results as of	12/31/2022	12/31/2021
(a) Present Value of Future Benefits		
(1) Active Members	$ 11,970,967	$ 11,448,549
(2) Terminated Members	3,211,096	3,268,415
(3) Members Currently Receiving Benefits	19,586,693	19,813,571
(4) Total	$ 34,768,756	$ 34,530,535
(b) Present Value of Future Normal Costs	$ 4,460,050	$ 4,541,167
(c) Actuarial Accrued Liability: (a4) - (b)	$ 30,308,706	$ 29,989,368
(d) Actuarial Value of Assets	$ 30,732,559	$ 30,561,851
(e) Unfunded Accrued Liability: (c) - (d)	$ (423,853)	$ (572,483)

The table below provides a reconciliation of the prior year's unfunded actuarial accrued liability to the current year's unfunded actuarial accrued liability.

Table 11: Reconciliation of Unfunded Actuarial Accrued Liability (in millions)

(in millions)	
Unfunded Actuarial Accrued Liability (UAAL) as of 12/31/2021	$ (0.6)
Normal Cost and Administrative Expense during 2022	0.8
Reduction due to Actual Contributions during 2022	(1.2)
Interest on UAAL, Normal Cost, and Contributions	0.1
Asset (Gain)/Loss	0.6
Actuarial Accrued Liability (Gain)/Loss	(0.2)
Impact of Assumption Changes	0.0
Impact of Benefit Changes	0.1
Unfunded Actuarial Accrued Liability (UAAL) as of 12/31/2022	$ (0.4)

Commentary: During 2022, the negative UAAL (or, surplus) was expected to slightly increase, but decreased. This was primarily due to an asset loss during the year of $0.6 million, partially offset by an actuarial accrued liability gain of $0.2 million.

Section 5: Actuarially Determined Employer Contribution

The actuarially determined employer contribution consists of a normal cost rate and an accrued liability rate. The normal cost rate is the employer's portion of the cost of benefits accruing during the year after reducing for the member contribution. The accrued liability rate is the payment toward the unfunded accrued liability in order to pay off the unfunded accrued liability over 12 years.

The table below provides the calculation of the actuarially determined employer contribution for the current and prior years' valuations.

Table 12: Calculation of the Actuarially Determined Contribution (ADEC)

Valuation Date ADEC for Fiscal Year Ending	12/31/2022 6/30/2025	12/31/2021 6/30/2024
Normal Cost Rate Calculation		
(a) Total Normal Cost Rate	23.55%	23.51%
(b) Employee Contribution Rate	7.00%	7.00%
(c) Expense Assumption	1.00%	1.00%
(d) Employer Normal Cost Rate: (a) - (b) + (c)	17.55%	17.51%
Accrued Liability Rate Calculation		
(e) Unfunded Accrued Liability	$ (423,853)	$ (572,483)
(f) Total Amortization Payments*	$ 21,438	$ (28,704)
(g) Valuation Compensation	$ 3,913,919	$ 3,919,298
(h) Accrued Liability Rate: (f) / (g)	0.55%	(0.73%)
Preliminary ADEC (d) + (h)	18.10%	16.78%
ADEC (with Direct Rate Smoothing)	19.32%	18.61%
Impact of Benefit Changes	Not Final	2.04%
Final ADEC	Not Final	20.65%

* See Table 15 for more detail
** Beginning with the December 31, 2017 valuation, compensation is projected to the fiscal year over which contributions will occur.

Section 5: Actuarially Determined Employer Contribution (continued)

The table below provides a reconciliation of the actuarially determined employer contribution.

Table 13: Reconciliation of the Change in the ADEC

Fiscal Year ending June 30, 2024 Preliminary ADEC (based on December 31, 2021 Valuation)	18.61%
Impact of Benefit Changes*	2.04%
Fiscal Year ending June 30, 2024 Final ADEC	20.65%
Change Due to Anticipated Reduction in UAAL**	(0.26%)
Change Due to Demographic (Gain)/Loss	(0.24%)
Change Due to Investment (Gain)/Loss	2.06%
Change Due to Contribution Experience	(0.55%)
Impact of Assumption Changes	0.00%
Reversal of one-time Legislative Cost	(2.04%)
Impact of Benefit Changes	0.31%
Impact of Direct Rate Smoothing	(0.61%)
Fiscal Year ending June 30, 2025 Preliminary ADEC (based on December 31, 2022 Valuation)	19.32%

* Due to the one-time pension supplement to be paid by November 2023.

** Amortization of the UAAL is determined as a level dollar amount with payments expected to remain the same over the amortization period but was calculated as a percentage of valuation payroll in the previous valuation. Payroll is expected to increase annually while the expected amortization payment does not increase. This causes the expected amortization payment to be a lesser percentage of the expected payroll.

Section 5: Actuarially Determined Employer Contribution (continued)

Amortization methods determine the payment schedule for the unfunded actuarial accrued liability. LRS adopted a 12-year closed amortization period for fiscal year ending 2012. A new amortization base is created each year based on the prior years' experience. The tables below provide the calculation of the new amortization base and the amortization schedule for the current year's valuation.

Table 14: Calculation of the New Amortization Base

Calculation as of	12/31/2022
(a) Unfunded Actuarial Accrued Liability	$ (423,853)
(b) Prior Years' Outstanding Balances	(807,981)
(c) New Amortization Base: (a) - (b)	384,128
(d) New Amortization Payment	50,142

Table 15: Amortization Schedule for Unfunded Accrued Liability

Date Established	Original Balance	12/31/2022 Outstanding Balance	Annual Payment Effective July 1, 2024
December 31, 2015	$ 249,266	$ 176,509	$ 33,097
December 31, 2016	935,816	739,934	123,803
December 31, 2017	908,785	788,279	119,782
December 31, 2018	183,640	172,713	24,161
December 31, 2019	(120,002)	(120,882)	(15,738)
December 31, 2020	(1,446,979)	(1,545,262)	(188,880)
December 31, 2021	(957,063)	(1,019,272)	(124,929)
December 31, 2022	384,128	384,128	50,142
Total		$ (423,853)	$ 21,438

Commentary: This is the payment schedule for the unfunded actuarial accrued liability of LRS.

Section 5: Actuarially Determined Employer Contribution (continued)

The following table shows an estimate of the potential cost of two types of benefit improvements if they were enacted based on the results of the December 31, 2022 or December 31, 2021 valuations. The first benefit improvement is a permanent one-time cost-of-living increase and the second is a one-time supplement payment for retirees.

Table 16: Cost of Benefit Enhancements

Calculation as of	12/31/2022	12/31/2021
Increase in UAAL for a 1% COLA*	201,696	207,401
Increase in ADEC for a 1% COLA*	0.68%	0.70%
Increase in UAAL for a 1% Supplement**	23,505	19,635
Increase in ADEC for a 1% Supplement**	0.61%	0.51%

* The 1% COLA in the 12/31/2022 column would be effective July 1, 2024 and includes expected costs of COLAs paid for retirements after December 31, 2022 and before June 30, 2024. The COLA would be paid in full to retired members and survivors of deceased members on the retirement roll on July 1, 2023 and would be prorated for retired members and survivors of deceased members who commence benefits after July 1, 2023 but before June 30, 2024. Note that although the plan is over 100% funded, the increase in the ADEC was calculated assuming the full cost of the COLA would be paid for through increased employer contributions. We are assuming that the cost of the COLA is amortized over a 12-year period.

** The 1% Supplement in the December 31, 2022 column includes expected costs of supplements paid for retirement after December 31, 2022 and before June 30, 2024. The supplement would equal to 1.0% of the annual allowances of retirees and other beneficiaries who commence retirement on or before July 1, 2024. We are assuming that the cost of the supplement is amortized over a one-year period.

Appendix A: Detailed Tabulations of Member Data

Table A-1: The Number and Average Reported Compensation of Active Members Distributed by Age and Service as of December 31, 2022

	Years of Service										
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	Total
Under 25	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
25 to 29	0 0	1 20,659	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	1 20,659
30 to 34	0 0	3 20,659	1 20,659	0 0	0 0	0 0	0 0	0 0	0 0	0 0	4 20,659
35 to 39	2 15,523	7 20,659	2 20,659	0 0	0 0	0 0	0 0	0 0	0 0	0 0	11 19,725
40 to 44	0 0	8 20,659	3 20,659	3 22,119	0 0	0 0	0 0	0 0	0 0	0 0	14 20,972
45 to 49	0 0	5 20,659	4 20,659	2 26,215	0 0	0 0	0 0	0 0	0 0	0 0	11 21,669
50 to 54	0 0	8 20,659	5 21,535	2 20,659	0 0	1 55,107	0 0	0 0	0 0	0 0	16 23,086
55 to 59	0 0	16 20,659	3 20,659	1 20,659	1 20,659	1 20,659	0 0	0 0	0 0	0 0	22 20,659
60 to 64	1 5,844	7 20,659	6 20,659	7 22,872	1 20,659	0 0	0 0	0 0	0 0	0 0	22 20,690
65 to 69	0 0	5 20,659	7 20,659	9 20,659	1 20,659	0 0	0 0	0 0	0 0	0 0	22 20,659
70 & Up	1 9,525	9 20,659	11 20,659	17 20,643	5 21,535	3 32,142	0 0	1 20,659	0 0	0 0	47 21,242
Total	4 11,604	69 20,659	42 20,763	41 21,408	8 21,207	5 34,438	0 0	1 20,659	0 0	0 0	170 21,083

Appendix A: Detailed Tabulations of Member Data (continued)

Table A-2: Number and Reported Compensation of Active Members Distributed by Age as of December 31, 2022

	Men		Women	
Age	Number	Compensation	Number	Compensation
28	1	$ 20,659		
32	2	41,318	1	$ 20,659
34	1	20,659		
35	3	61,977		
36	3	51,704		
37	1	20,659		
38	2	41,318	1	20,659
39			1	20,659
40	2	41,318	1	20,659
41			1	20,659
42	1	20,659		
43	3	66,358	1	20,659
44	3	61,977	2	41,318
45	1	20,659		
46	1	31,771		
47	1	20,659	1	20,659
48	4	82,636		
49	3	61,977		
50	1	20,659		
51	1	20,659	1	20,659
52	5	142,124		
53	1	20,659	2	41,318
54	5	103,295		
55	4	82,636	2	41,318
56	3	61,977	1	20,659
57	3	61,977	1	20,659
58	4	82,636	2	41,318
59	1	20,659	1	20,659
60	5	88,476	1	20,657
61	5	103,295	1	20,659
62	3	61,977	1	31,771
63	3	61,977	1	20,659
64			2	45,699
65	2	41,318	1	20,659
66	4	82,636	2	41,318
67	4	82,636	1	20,659
68	4	82,636	1	20,659
69	2	41,318	1	20,659
70	4	117,084	1	20,659
71	6	112,541	1	20,659

Appendix A: Detailed Tabulations of Member Data (continued)

Table A-2: Number and Reported Compensation of Active Members Distributed by Age as of December 31, 2022 (continued)

	Men		Women	
Age	Number	Compensation	Number	Compensation
72	4	$ 82,636		
73	5	107,676	1	$ 20,659
74	2	41,318	1	20,659
75	1	20,659	1	20,659
76	3	61,977		
77	2	41,318	1	20,659
78	1	20,659	3	61,977
79	1	20,659	2	41,318
80	1	20,659		
81	2	41,318		
83	3	61,977	1	20,659
Total	127	$ 2,680,339	43	$ 903,828

Appendix A: Detailed Tabulations of Member Data (continued)

Table A-3: Number and Reported Compensation of Active Members Distributed by Service as of December 31, 2022

	Men		Women	
Service	Number	Compensation	Number	Compensation
0	4	$ 46,414		
1	2	41,318		
2	19	392,520	12	$ 247,908
3	2	41,318		
4	24	495,815	10	206,590
5			2	41,318
6	19	392,520	4	82,634
7	1	20,659		
8	11	227,249	2	41,318
9	2	45,699	1	20,659
10	13	272,948	3	61,977
11	3	61,977		
12	13	279,399	2	45,699
13	1	20,659	1	20,659
14	4	82,636	1	31,771
16	2	45,699	2	41,318
18	3	61,977	1	20,659
20	1	55,107	1	20,659
22	2	75,766		
24	1	20,659		
34			1	20,659
Total	127	$ 2,680,339	43	$ 903,828

Appendix A: Detailed Tabulation of Member Data (continued)

Table A-4: Number and Deferred Retirement Allowance of Terminated Vested Members Distributed by Age as of December 31, 2022

	Men		Women	
Age	Number	Allowance	Number	Allowance
37	1	$ 8,305		
39	1	4,983		
41	1	6,632		
44			1	$ 8,166
45	1	8,997		
48	2	17,025		
49	1	4,706		
50			1	5,052
51	1	4,360		
52	1	12,163		
53	2	9,412	1	4,983
54	3	25,884		
55	2	11,627	1	4,983
56	1	6,021	1	4,983
57	1	10,234	1	4,983
58	2	13,079		
59	4	28,790	1	8,720
60	3	21,997		
61	1	11,627		
62	2	25,058		
63	1	4,637	1	10,935
64	1	10,218	1	5,191
66	4	33,913		
68	1	6,298		
70	2	15,503		
71			1	9,343
73	1	6,644		
75	1	6,921	1	14,603
Total	41	$ 315,034	11	$ 81,942

Appendix A: Detailed Tabulation of Member Data (continued)

Table A-5: Number of Accumulated Contributions of Non-Vested Members Distributed by Age as of December 31, 2022

	Men		Women	
Age	Number	Contributions	Number	Contributions
34	1	$ 3,454		
37	1	6,642		
39	3	12,617		
40	2	5,044		
41	1	7,770	1	$ 6,510
43	1	5,495		
45	2	11,542		
47	1	5,976		
48	1	572		
49	2	11,375		
50	3	16,197		
51	2	10,054	1	3,191
52	2	15,252		
54	3	12,857		
55	2	18,127		
57			1	731
58	3	15,903	1	3,451
59	2	12,587		
60	1	9,832		
61	1	5,546		
63	3	14,862		
64	2	16,824		
65	3	14,941	1	6,885
66	2	9,803	2	6,670
68	1	7,107		
70	2	15,066		
72	1	5,976	1	6,464
Total	48	$ 271,421	8	$ 33,902

Appendix A: Detailed Tabulation of Member Data (continued)

Table A-6: Number and Annual Retirement Allowances of Retired Members and Survivors of Deceased Members Distributed by Age as of December 31, 2021

	Men		Women	
Age	Number	Allowances	Number	Allowances
43			1	$ 28,943
52	1	$ 10,333		
55			2	15,118
60	1	5,393	3	11,912
61			1	6,307
62	2	9,582		
63			2	21,764
64	2	11,293	1	11,720
65	3	18,971	3	32,238
66	3	17,585	1	1,923
67	7	60,117	1	14,252
68	1	14,725	1	7,240
69	5	38,757		
70	3	9,883	5	22,878
71	4	27,915	6	31,745
72	7	54,715	1	4,044
73	5	36,644	8	41,964
74	11	96,507	2	27,342
75	6	57,692	6	37,551
76	7	74,988	6	48,693
77	10	86,434	7	54,438
78	9	74,557	6	32,285
79	7	54,130	5	38,644
80	10	70,732	5	28,101
81	9	56,047	2	9,885
82	5	30,048	2	15,092
83	3	33,164	4	37,297
84	7	54,230	4	38,093
85	4	34,418	3	26,549
86	11	101,788	5	47,753
87	3	47,470	3	29,847
88	6	49,748	3	21,021
89	3	30,915	3	22,509
90	6	43,604	1	16,918
91	1	10,657	5	36,755

Appendix A: Detailed Tabulation of Member Data (continued)

Table A-6: Number and Annual Retirement Allowances of Retired Members and Survivors of Deceased Members Distributed by Age as of December 31, 2022 (continued)

	Men			Women		
Age	Number		Allowances	Number		Allowances
92	1	$	15,494	3	$	39,740
93	1		11,358	2		14,164
94	2		1,907			
95	1		3,652	1		557
96				1		763
97	2		14,631			
98	1		23,886	1		11,258
99	1		10,188			
100	1		644			
Total	172	$	1,404,802	116	$	887,303

Table A-7: Number and Annual Retirement Allowances of Retired Members and Survivors of Deceased Members Distributed by Annuity Type as of December 31, 2022

	Men			Women		
Annuity Type	Number		Allowances	Number		Allowances
Maximum	66	$	606,193	47	$	385,433
Option 2	94		675,838	9		54,269
Option 3	10		98,807	1		14,252
Survivors of Deceased Members	2		23,964	59		433,349
Total	172	$	1,404,802	116	$	887,303

Appendix B: Summary of Main Benefit & Contribution Provisions

All members of the General Assembly are eligible for membership.

"Compensation" means salary and expense allowance paid for service as a legislator in the General Assembly, exclusive of travel and per diem. "Highest annual compensation" means the 12 consecutive calendar months of compensation during a member's final legislative term for the highest position that a member held as a member of the General Assembly. "Creditable service" includes all service rendered as a member of the General Assembly.

Benefits

Service Retirement Allowance

Conditions for Allowance

A service retirement allowance is payable to any member who retires from service and

(a) has attained age 50 and completed 20 or more years of creditable service; or

(b) has attained age 60 and completed five or more years of creditable service.

(c) Members retiring on or after September 1, 2005 are not entitled to a retirement allowance from this system while employed in a contributing position in the Teachers' and State Employees' Retirement System or the Consolidated Judicial Retirement System

Unreduced Allowance

An unreduced annual service retirement allowance is payable to a member who has attained age 65 and completed five years of creditable service.

The Service Retirement Allowance is equal to 4.02% of a member's highest annual compensation multiplied by the number of years of creditable service.

Reduced Allowance

A reduced annual service retirement allowance is payable to a member who retires from service after attaining age 60 and completing five years of creditable service.

The reduced amount is an allowance as computed above reduced by 1/4% for each month that the member's retirement date precedes the date upon which the member would have attained age 65 had he or she remained in service.

OR

A reduced annual service retirement allowance is payable to a member who retires from service after attaining age 50 and completing 20 years of creditable service.

The reduced amount is an allowance as computed above reduced by 5/12 of 1% for each month that the member's retirement date precedes the date upon which the member would have attained age 60, plus 1/4% for each month that the date upon which the member would have attained age 60 precedes the date upon which the member would have attained age 65.

Maximum Amount

The maximum annual service retirement allowance (on an unreduced basis) is 75% of the member's highest annual compensation.

Disability Retirement Allowance

Condition for Allowance

Any member who becomes permanently and totally disabled prior to the attainment of age 60 and who has completed at least five years of creditable service may be retired by the Board of Trustees on a disability retirement allowance.

Appendix B: Summary of Main Benefit & Contribution Provisions (continued)

Amount of Allowance

The disability retirement allowance is computed as an unreduced service retirement allowance based on the number of years of creditable service the member would have had had he or she remained in service to age 60.

Deferred Allowance

Any member who separates from service after completing five years of creditable service and who leaves his or her total accumulated contributions in the system may receive a deferred allowance, beginning at age 50, computed in the same way as a service retirement allowance on the basis of his or her creditable service and compensation to the date of separation.

Return of contributions

Upon the withdrawal of a member without a retirement allowance and upon his or her request, the member's contributions are returned, together with accumulated regular interest.

Upon the death of a member before retirement, the member's contributions, together with the full accumulated regular interest thereon, are paid to the estate or to person(s) designated by the member unless the designated beneficiary, if eligible, elects the survivor's alternate benefit described below.

The current interest rate on member contributions is 4%.

Survivor's Alternate Benefit

Upon the death of a member in service who has met conditions (a) or (b) below, the designated beneficiary may elect to receive a benefit equal to that which would have been payable under the provisions of Option 2 had the member retired on the first day of the month following death and elected such option, in lieu of the member's accumulated contributions, provided the member had not instructed the Board of Trustees in writing that he or she did not wish the alternate benefit to apply

(a) attainment of age 60 and completion of five years of creditable service.
(b) completion of 12 years of creditable service.

Lump Sum Death Benefit

Upon the death of a member in active service after completing one year of creditable service, a lump sum payment equal to the deceased member's highest annual compensation to a maximum of $15,000 is made to his or her designated beneficiary or estate. This benefit is payable from the Teachers' and State Employees' Retirement System Death Benefit Fund.

Death after Retirement

Upon the death of a beneficiary who did not retire under an effective election of Option 2 or Option 3, an amount equal to the excess if any, of his or her accumulated contributions at retirement over the retirement allowance payments received is paid to a designated person or to the beneficiary's estate.

Upon the death of the survivor of a beneficiary who retired under an effective election of Option 2 or Option 3, an amount equal to the excess, if any, of the beneficiary's accumulated contributions at retirement over the total retirement allowance payments received is paid to such other person designated by the beneficiary or to the beneficiary's estate.

Appendix B: Summary of Main Benefit & Contribution Provisions (continued)

Optional Allowances

In lieu of the full retirement allowance, any member may elect to receive a reduced retirement allowance equal in value to the full allowance, with the provision that:

Option 2: At the death of the member his or her allowance shall be continued throughout the life of such other person as the member shall have designated at the time of retirement, or

Option 3: At the death of the member one-half of the allowance shall be continued throughout the life of such other person as the member shall have designated at the time of retirement.

Post-Retirement Increases in Allowance

Future increases in allowances may be granted at the discretion of the State.

Contributions

Member Contributions

Each member contributes 7% of annual compensation.

Employer Contributions

The State makes annual contributions consisting of a normal contribution and an accrued liability contribution. The normal contribution covers the liability on account of current service and is determined by the actuary after each valuation.

The accrued liability contribution covers the liability on account of service rendered before the establishment of the retirement system and the liability on account of increases in benefits for service rendered prior to the effective date of any amendment.

Changes Since Prior Valuation

This valuation reflects the provisions of S.L. 2023-134, which became law on October 3, 2023. In particular, the valuation reflects the one-time supplement for LRS payees in pay status as of October 1, 2023 that is equal to 4% of their annual allowance and payable by November 2023. The one-time supplements do not change the ongoing monthly benefits, and absent additional action by governing authorities, the payments will not recur in future years. There have been no other significant changes in benefit provisions from the previous valuation.

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Appendix C: Actuarial Assumptions and Methods

Assumptions are based on the experience investigation prepared as of December 31, 2019 and adopted by the Board of Trustees on January 28, 2021 for use beginning with the December 31, 2020 annual actuarial valuation.

Interest Rate

6.50% per annum, compounded annually.

Price Inflation

2.50% per annum, compounded annually.

Real Wage Growth

0.75% per annum.

Annual Rate of Salary Increase

3.25%.

Separations Before Retirement

Representative values of the assumed annual rates of separation are as follows:

		Annual Rate of		
Age	Disability	Base Mortality*		Withdrawal
		Male	Female	
25	.0001	.00028	.00009	.100
30	.0004	.00036	.00015	.100
35	.0010	.00047	.00023	.100
40	.0029	.00066	.00036	.100
45	.0049	.00098	.00056	.100
50	.0084	.00149	.00083	.100
55	.0144	.00219	.00123	.100
60		.00319	.00186	.100
64		.00433	.00269	.100

* Base mortality rates as of 2010

Service Retirement

Representative values of the assumed annual rates of separation for members with at least 5 years of service are as follows:

Annual Rates of Retirement	
Age	Rate
60	0.100
65	0.100
70	0.130
75	0.150
80	1.000

Appendix C: Actuarial Assumptions and Methods

Post-Retirement Mortality

Representative values of the assumed post-retirement mortality rates as of 2010 prior to any mortality improvements are as follows:

Annual Rate of Death after Retirement (Retired Members and Survivors of Deceased Members)						
	Retirees (Healthy at Retirement)		Survivors of Deceased Members		Retirees (Disabled at Retirement)	
Age	Male	Female	Male	Female	Male	Female
55	.00387	.00275	.00824	.00446	.02114	.01742
60	.00552	.00371	.01012	.00622	.02503	.01956
65	.00820	.00595	.01384	.00899	.03044	.02256
70	.01381	.01032	.02129	.01353	.03901	.02862
75	.02437	.01827	.03382	.02151	.05192	.04003
80	.04391	.03260	.05360	.03573	.07348	.06007

Deaths After Retirement (Healthy Members at Retirement)

Mortality rates are based on the Pub-2010 General Retirees Above-Median Amount-Weighted Mortality.

Deaths After Retirement (Disabled Members at Retirement)

Mortality rates are based on the Pub-2010 General Disabled Retirees Amount-Weighted Mortality.

Deaths After Retirement (Survivors of Deceased Members)

Mortality rates are based on the Pub-2010 General Contingent Survivors Amount-Weighted Mortality.

Deaths Prior to Retirement

Mortality rates are based on the Pub-2010 General Employees Amount-Weighted Mortality.

Mortality Projection

All mortality rates are projected from 2010 using generational improvement with Scale MP-2019.

Marriage Assumption

100% married with male spouses three years older than female spouses.

Missing Gender Code

For members reported on the data without a gender code, we use the prior year’s code where available or assign a code based on inspection.

Liability for Inactive Members

The liability for members who terminated prior to five years of creditable service is estimated to be 100% of the member’s accumulated contributions. The liability for members who terminated after completing five years of creditable service is estimated based on the member’s current age and the service and reported compensation at termination of employment.

Appendix C: Actuarial Assumptions and Methods (continued)

Timing of Assumptions

All withdrawals, deaths, disabilities, retirements and salary increases are assumed to occur July 1 of each year. The timing of retirement changes from mid-year to beginning of year at and after the 100% retirement age.

Administrative Expenses

1.00% of payroll added to the normal cost rate.

Reported Compensation

Calendar year compensation as furnished by the system's office.

Valuation Compensation

Reported compensation adjusted to reflect the assumed rate of pay as of the valuation date and the probability of decrement during the year.

Compensation Limits

No compensation limits are applied.

Actuarial Cost Method

Entry age normal cost method. Entry age is established on an individual basis.

Amortization Period

12-year closed, level-dollar amount. The first amortization base was created for the contribution payable for fiscal year ending 2012.

Asset Valuation Method

Actuarial value, as developed in Table 8. Actuarial value of assets is based upon a smoothed market value method. Under this method, asset returns in excess of or less than the expected return on market value of assets will be reflected in the actuarial value of assets over a five-year period. The calculation of the Actuarial Value of Assets is based on the following formula:

$MV – 80\% \times G/(L)_1 – 60\% \times G/(L)_2 – 40\% \times G/(L)_3 – 20\% \times G/(L)_4$

MV = the market value of assets as of the valuation date

$G/(L)_i$ = the asset gain or (loss) for the i-th year preceding the valuation date

Changes in Assumptions and Methods Since Prior Valuation

None.