

Legislative Retirement System of North Carolina

Principal Results of Actuarial Valuation as of December 31, 2023

Michael Ribble, FSA, EA, MAAA, FCA
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October 24, 2024, Board of
Trustees Meeting



Gallagher

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Valuation results

Net actuarial gain or loss

Actuarial Value of Assets	Actuarial Accrued Liability	Net Actuarial Gain or Loss	Funded Ratio	Employer Contributions
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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 12/31/2022	\$	(0.4)
Normal cost and administrative expense during 2023		0.8
Reduction due to actual contributions during 2023		(1.1)
Interest on UAAL, normal cost, and contributions		0.0
Asset (gain) / loss		0.3
Actuarial accrued liability (gain) / loss		(0.1)
Impact of assumption changes		0.0
Impact of benefit changes		<u>0.0</u>
Unfunded actuarial accrued liability (UAAL) as of 12/31/2023	\$	(0.5)

During 2023, the negative UAAL (or, surplus) was expected to increase slightly more than it did. This was primarily due to an asset loss during the year of \$0.3 million, partially offset by an actuarial accrued liability gain of \$0.1 million.

Valuation results (continued)

Employer contributions

Actuarial Value of Assets	Actuarial Accrued Liability	Net Actuarial Gain or Loss	Funded Ratio	Employer Contributions
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The table below provides a reconciliation of the actuarially determined employer contribution.

Fiscal year ending June 30, 2025 Preliminary ADEC (estimated based on December 31, 2022 valuation)	19.32%
Impact of Benefit Changes	<u>0.00%</u>
Fiscal year ending June 30, 2025 Final ADEC	19.32%
Change Due to Anticipated Reduction in UAAL	(0.46%)
Change Due to Demographic (Gain)/Loss	(0.58%)
Change Due to Investment (Gain)/Loss	0.94%
Change Due to Contribution Experience	(0.35%)
Impact of Assumption Changes	0.00%
Reversal of one-time Legislative Cost	0.00%
Impact of Benefit Changes	0.00%
Impact of Direct Rate Smoothing	<u>(0.61%)</u>
Fiscal year ending June 30, 2026 Preliminary ADEC (estimated based on December 31, 2023 valuation)	18.26%

The change in the ADEC due to investment losses is based on the actuarial value of assets return of 5.61%, 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, 2023 valuation were:
 - Market value returns of 9.96% during calendar year 2023 compared to 6.50% assumed
 - 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
- When compared to the December 31, 2022 actuarial valuation, the above resulted in:
 - Higher funded ratio (101.6% in the December 31, 2023 valuation compared to 101.4% in the December 31, 2022 valuation)
 - Lower actuarially determined employer contribution rate (18.26% for fiscal year ending June 30, 2026 compared to the contribution rate of 19.32% for fiscal year ending June 30, 2025)

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, Gallagher 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 24, 2024 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 Gallagher Benefit Services, Inc. (hereinafter “Gallagher”) to review any statement you wish to make on the results contained in this presentation. Gallagher 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
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The table below provides a summary of the membership data used in this valuation compared to the prior valuation.

Number as of	12/31/2023	12/31/2022
Active members	170	170
Terminated members and survivors of deceased members entitled to benefits but not yet receiving benefits	58	52
Terminated non-vested members and survivors of deceased members entitled to benefits but no yet receiving benefits	62	56
Retired members and survivors of deceased members currently receiving benefits	<u>294</u>	<u>288</u>
Total	584	566
Active reported compensation	3,620,668	3,584,167
Active valuation compensation	3,738,340	3,730,584
Annual retirement allowances	2,351,199	2,292,105

The number of retired members and survivors of deceased members currently receiving benefits increased by 2.1% from the previous valuation date.

Reported compensation for active members increased by 1.0% 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 (continued)

Market value

Membership Data	Asset Data	Benefit Provisions	Assumptions	Funding Methodology
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The table below provides details of the Market Value of Assets for the current and prior year's valuations.

Asset data as of	12/31/2023	12/31/2022
Beginning of year market value of assets	\$ 27,865,214	\$ 32,264,855
Employer contributions	824,858	985,260
Employee contributions	253,485	258,991
Benefit payments other than refunds	(2,467,188)	(2,360,657)
Refunds	(22,029)	(28,653)
Administrative expenses	(22,802)	(14,928)
Investment income	<u>2,704,076</u>	<u>(3,239,654)</u>
Net increase / (decrease)	1,270,400	(4,399,641)
End of year market value of assets	\$ 29,135,614	\$ 27,865,214
Estimated net investment return on market value (annualized)	9.96%	-10.22%

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.

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Legislative Retirement System of North Carolina

Report on the Actuarial Valuation
Prepared as of December 31, 2023

October 2024



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October 16, 2024

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") prepared as of December 31, 2023. 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 Gallagher to review any statement you wish to make on the results contained in this report. Gallagher 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 Gallagher 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. In our professional judgement, the combined effect of the assumptions is expected to have no significant bias. We have 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, 2023 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.



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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 Gallagher's Financial Risk Management ("FRM") practice. A spreadsheet tool created by the FRM team converts averages, standard deviations, and correlations from Gallagher'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, Gallagher 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. Gallagher 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. Gallagher 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.



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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, Gallagher 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,

Buck Global, LLC (Buck),
Gallagher Benefit Services, Inc. (hereinafter "Gallagher")

Michael A. Ribble, FSA, EA, MAAA, FCA
Principal, Retirement Actuary

Elizabeth A. Wiley, FSA, EA, MAAA, FCA
Director, Retirement Actuary

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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, 2023, 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, 2024, RSD paid over \$7.8 billion in pensions to more than 360,000 retirees and as of June 30, 2024, RSD's defined benefit plan assets were valued at over \$122 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 over \$29 million in assets and 584 members as of December 31, 2023. This actuarial valuation report is our annual analysis of the financial health of LRS. This report, prepared as of December 31, 2023, 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 2024.

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	12/31/2023	12/31/2022
Active members	170	170
Terminated members and survivors of deceased members entitled to benefits but not yet receiving benefits	58	52
Terminated non-vested members and survivors of deceased members entitled to a refund of contributions	62	56
Retired members and survivors of deceased members currently receiving benefits	<u>294</u>	<u>288</u>
Total	584	566
Active Reported Compensation	3,620,668	3,584,167
Active Valuation Compensation	3,738,340	3,730,584
Annual Retirement Allowances	2,351,199	2,292,105

The number of retired members and survivors of deceased members currently receiving benefits increased by 2.1% from the previous valuation date.

Reported compensation for active members increased by 1.0% 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.

Executive Summary (continued)

Assets

LRS assets are held in trust and are invested for the exclusive benefit of plan members. The Market Value of Assets is \$29.1 million as of December 31, 2023, and was \$27.9 million as of December 31, 2022. The estimated net investment return for the market value of assets for calendar year 2023 was 9.96%.

Market value returns during 2023 were greater than the 6.50% assumed rate of return, resulting in lower required contributions and a higher funded ratio than anticipated.

The actuarial value of assets smooths investment gains and losses. The actuarial value of assets is \$31.0 million as of December 31, 2023 and \$30.7 million as of December 31, 2022. 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.

The lower-than-expected market return in 2022, partially offset by higher-than-expected market returns in 2020, 2021, and 2023, resulted in an actuarial value of asset return for calendar year 2023 of 5.61% and a recognized actuarial asset loss of \$0.3 million during 2023. The assets at actuarial value were \$0.5 million greater than the actuarial accrued liability as of December 31, 2023.

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

There were no 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 (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, 2023 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.

Executive Summary (continued)

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.

Liabilities

The Actuarial Accrued Liability (AAL) increased slightly from \$30.3 million to \$30.5 million during 2023. 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 \$0.1 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 increased from 101.4% as of December 31, 2022 to 101.6% at December 31, 2023.

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 decreased from \$(0.4) million as of December 31, 2022 to \$(0.5) million as of December 31, 2023. 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, 2022 valuation suggested that the preliminary total employer contribution rate be set at 19.32% of payroll for the fiscal year ending June 30, 2025. As a result of this December 31, 2023 valuation, the preliminary actuarially determined employer contribution rate is 18.26% of payroll for the fiscal year ending June 30, 2026, 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:

Executive Summary (continued)

- 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.

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, 2023 valuation as compared to the December 31, 2022 valuation were:

- Market value returns of 9.96% during calendar year 2023 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

When compared to the December 31, 2022 actuarial valuation, the above resulted in:

- Higher funded ratio (101.6% in the December 31, 2023 valuation compared to 101.4% in the December 31, 2022 valuation)
- Lower actuarially determined employer contribution rate (18.26% for fiscal year ending June 30, 2026 compared to the contribution rate of 19.32% for fiscal year ending June 30, 2025)

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, 2023, 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, 2023, 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	12/31/2023	12/31/2022
Active Members		
Number	170	170
Reported Compensation	\$ 3,620,668	\$ 3,584,167
Valuation Compensation*	\$ 3,738,340	\$ 3,730,584
Retired Members and Survivors of Deceased Members Currently Receiving Benefits		
Number	294	288
Annual Allowances	\$ 2,351,199	\$ 2,292,105
Assets		
Actuarial Value (AVA)	\$ 30,982,898	\$ 30,732,559
Market Value	\$ 29,135,614	\$ 27,865,214
Actuarial Accrued Liability (AAL)	\$ 30,498,655	\$ 30,308,706
Unfunded Accrued Liability (AAL-AVA)	\$ (484,243)	\$ (423,853)
Funded Ratio (AVA/AAL)**	101.6%	101.4%
Results for Fiscal Year Ending	6/30/2026	6/30/2025***
Actuarially Determined Employer Contribution (ADEC) of employer, as a percentage of payroll		
Normal Cost	17.09%	17.55%
Accrued Liability	<u>0.56%</u>	<u>0.55%</u>
Total Preliminary ADEC	17.65%	18.10%
Total with Direct Rate Smoothing	18.26%	19.32%
Impact of Benefit Changes	<u>Not Final</u>	<u>Not Final</u>
Final ADEC	Not Final	Not Final
Appropriations Act for Fiscal Year Ending	6/30/2026	6/30/2025***
Employer Contribution Rate as a percentage of payroll		
Normal Cost	17.09%	17.55%
Accrued Liability	<u>N/A</u>	<u>N/A</u>
Total	N/A	N/A

* Reported compensation annualized for new hires and projected for valuation purposes.

** The Funded Ratio on a Market Value of Assets basis is 95.5% as of December 31, 2023.

*** Session Law 2023-134, enacted in 2023, established an employer contribution rate of 22.00% for the fiscal year ending June 30, 2025. However, it remains possible that an adjustment for the second year of the budget biennium will be enacted.

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	12/31/2023	12/31/2022
Active members	170	170
Terminated members and survivors of deceased members entitled to benefits but not yet receiving benefits	58	52
Terminated non-vested members and survivors of deceased members entitled to a refund of contributions	62	56
Retired members and survivors of deceased members currently receiving benefits	<u>294</u>	<u>288</u>
Total	584	566
Active Reported Compensation	3,620,668	3,584,167
Active Valuation Compensation	3,738,340	3,730,584
Annual Retirement Allowances	2,351,199	2,292,105

Table 3: Active Member Data

	Member Count	Average Age	Average Service	Reported Compensation
Male	120	58.39	7.41	\$ 2,576,608
Female	<u>50</u>	<u>57.38</u>	<u>5.98</u>	<u>1,044,060</u>
Total	170	58.09	6.99	\$ 3,620,668

Table 4: Vested Terminated Member Data

	Member Count	Average Age	Average Service	Deferred Retirement Allowance
Male	47	58.28	8.66	\$ 360,157
Female	<u>11</u>	<u>61.64</u>	<u>8.64</u>	<u>79,082</u>
Total	58	58.92	8.66	\$ 439,239

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	54	54.76	2.66	\$ 303,523
Female	<u>8</u>	<u>59.88</u>	<u>1.90</u>	<u>30,460</u>
Total	62	55.42	2.56	\$ 333,983

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
<u>Retired Members (Healthy at Retirement)</u>			
Male	169	78.53	\$ 1,387,539
Female	<u>60</u>	<u>77.83</u>	<u>462,177</u>
Total	229	78.35	\$ 1,849,716
<u>Survivors of Deceased Members</u>			
Male	2	66.50	\$ 23,964
Female	<u>63</u>	<u>78.49</u>	<u>477,519</u>
Total	65	78.12	\$ 501,483
Grand Total	294	78.30	\$ 2,351,199

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	12/31/2023	12/31/2022
Beginning of Year Market Value of Assets	\$ 27,865,214	\$ 32,264,855
Employer Contributions	824,858	985,260
Employee Contributions	253,485	258,991
Benefit Payments Other than Refunds	(2,467,188)	(2,360,657)
Refunds	(22,029)	(28,653)
Administrative Expense	(22,802)	(14,928)
Investment Income	<u>2,704,076</u>	<u>(3,239,654)</u>
Net Increase/(Decrease)	1,270,400	(4,399,641)
End of Year Market Value of Assets	\$ 29,135,614	\$ 27,865,214
Estimated Net Investment Return on Market Value	9.96%	-10.22%

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

Asset Data as of	12/31/2023	12/31/2022
Allocation by Dollar Amount		
Public Equity	\$ 10,770,626	\$ 9,123,627
Fixed Income (LTIF)	7,195,588	6,319,435
Cash and Receivables	3,471,830	4,529,646
Other*	<u>7,697,570</u>	<u>7,892,506</u>
Total Market Value of Assets	\$ 29,135,614	\$ 27,865,214
Allocation by Percentage of Asset Value		
Public Equity	37.0%	32.7%
Fixed Income (LTIF)	24.7%	22.7%
Cash and Receivables	11.9%	16.3%
Other*	<u>26.4%</u>	<u>28.3%</u>
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	12/31/2023
Beginning of Year Market Value of Assets	\$ 27,865,214
Contributions	1,078,343
Benefit Payments, Refunds and Administrative Expenses	(2,512,019)
Net Cash Flow	(1,433,676)
Expected Investment Return	1,765,378
Expected End of Year Market Value of Assets	28,196,916
End of Year Market Value of Assets	29,135,614
Excess of Market Value over Expected Market Value of Assets	938,698
80% of 2023 Asset Gain/(Loss)	750,958
60% of 2022 Asset Gain/(Loss)	(3,179,858)
40% of 2021 Asset Gain/(Loss)	362,941
20% of 2020 Asset Gain/(Loss)	218,675
Total Deferred Asset Gain/(Loss)	(1,847,284)
Preliminary End of Year Actuarial Value of Assets	30,982,898
Final End of Year Actuarial Value of Assets (not less than 80% and not greater than 120% of Market Value)	30,982,898
Estimated Net Investment Return on Actuarial Value	5.61%

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.

Continued recognition of the 2022 asset loss resulted in a lower-than-expected return on the actuarial value of asset return for calendar year 2023 of 5.61% and a recognized actuarial asset loss of \$0.3 million during 2023. The assets at actuarial value were \$0.5 million greater than the actuarial accrued liability as of December 31, 2023.

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	12/31/2023	12/31/2022
(a) Present Value of Future Benefits		
(1) Active Members	\$ 11,481,339	\$ 11,970,967
(2) Terminated Members	3,604,711	3,211,096
(3) Members Currently Receiving Benefits	<u>19,890,712</u>	<u>19,586,693</u>
(4) Total	\$ 34,976,762	\$ 34,768,756
(b) Present Value of Future Normal Costs	\$ 4,478,107	\$ 4,460,050
(c) Actuarial Accrued Liability: (a4) - (b)	\$ 30,498,655	\$ 30,308,706
(d) Actuarial Value of Assets	\$ 30,982,898	\$ 30,732,559
(e) Unfunded Accrued Liability: (c) - (d)	\$ (484,243)	\$ (423,853)

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 12/31/2022	\$ (0.4)
Normal Cost and Administrative Expense during 2023	0.8
Reduction due to Actual Contributions during 2023	(1.1)
Interest on UAAL, Normal Cost, and Contributions	0.0
Asset (Gain)/Loss	0.3
Actuarial Accrued Liability (Gain)/Loss	(0.1)
Impact of Assumption Changes	0.0
Impact of Benefit Changes	<u>0.0</u>
Unfunded Actuarial Accrued Liability (UAAL) as of 12/31/2023	\$ (0.5)

Commentary: During 2023, the negative UAAL (or, surplus) was expected to increase slightly more than it did. This was primarily due to an asset loss during the year of \$0.3 million, partially offset by an actuarial accrued liability gain of \$0.1 million.

Section 5: Actuarially Determined Employer Contribution

The Actuarially Determined Employer Contribution (ADEC) as a percent of payroll 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 ADEC for the current and prior years' valuations.

The ADEC is compliant with the definition of a reasonable actuarially determined contribution under ASOP 4. When determining the smoothing period for the actuarial value of assets and the amortization period for the unfunded actuarial accrued liability, the following items were considered: (i) the balance among benefit security, intergenerational equity, and stability of actuarially determined contributions, (ii) the timing and duration of expected benefit payments, and (iii) the nature and frequency of plan amendments. Plan amendments are amortized over periods appropriate for the nature of the change or are funded at the time of the change based on decisions by the plan sponsor.

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

Valuation Date	12/31/2023	12/31/2022
ADEC for Fiscal Year Ending	6/30/2026	6/30/2025***
Normal Cost Rate Calculation		
(a) Total Normal Cost Rate	23.09%	23.55%
(b) Employee Contribution Rate	7.00%	7.00%
(c) Expense Assumption	<u>1.00%</u>	<u>1.00%</u>
(d) Employer Normal Cost Rate: (a) - (b) + (c)	17.09%	17.55%
Accrued Liability Rate Calculation		
(e) Unfunded Accrued Liability	\$ (484,243)	\$ (423,853)
(f) Total Amortization Payments*	\$ 21,831	\$ 21,438
(g) Valuation Compensation**	\$ 3,922,057	\$ 3,913,919
(h) Accrued Liability Rate: (f) / (g)	0.56%	0.55%
Preliminary ADEC (d) + (h)	17.65%	18.10%
ADEC (with Direct Rate Smoothing)	18.26%	19.32%
Impact of Benefit Changes	<u>Not Final</u>	<u>Not Final</u>
Final ADEC	Not Final	Not Final

* 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.

*** Session Law 2023-134, enacted in 2023, established an employer contribution rate of 22.00% for the fiscal year ending June 30, 2025. However, it remains possible that an adjustment for the second year of the budget biennium will be enacted.

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, 2025 Preliminary ADEC	
(based on December 31, 2022 Valuation)	19.32%
Impact of Benefit Changes	<u>0.00%</u>
Fiscal Year ending June 30, 2025 Final ADEC	
Change Due to Anticipated Reduction in UAAL*	(0.46%)
Change Due to Demographic (Gain)/Loss	(0.58%)
Change Due to Investment (Gain)/Loss	0.94%
Change Due to Contribution Experience	(0.35%)
Impact of Assumption Changes	0.00%
Reversal of one-time Legislative Cost	0.00%
Impact of Benefit Changes	0.00%
Impact of Direct Rate Smoothing	<u>(0.61%)</u>
Fiscal Year ending June 30, 2026 Preliminary ADEC	
(based on December 31, 2023 Valuation)	18.26%

* 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 2018. 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	12/31/2023
(a) Unfunded Actuarial Accrued Liability	\$ (484,243)
(b) Prior Years' Outstanding Balances	(487,252)
(c) New Amortization Base: (a) - (b)	3,009
(d) New Amortization Payment	393

Table 15: Amortization Schedule for Unfunded Accrued Liability

Date Established	Original Balance	12/31/2023 Outstanding Balance	Annual Payment Effective July 1, 2025
December 31, 2015	\$ 249,266	\$ 153,826	\$ 33,097
December 31, 2016	935,816	660,266	123,803
December 31, 2017	908,785	715,904	119,782
December 31, 2018	183,640	159,005	24,161
December 31, 2019	(120,002)	(112,498)	(15,738)
December 31, 2020	(1,446,979)	(1,450,782)	(188,880)
December 31, 2021	(957,063)	(1,022,069)	(124,929)
December 31, 2022	384,128	409,096	50,142
December 31, 2023	3,009	3,009	393
Total		\$ (484,243)	\$ 21,831

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, 2023 or December 31, 2022 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	12/31/2023	12/31/2022
Increase in UAAL for a 1.00% COLA*	213,091	201,696
Increase in ADEC for a 1.00% COLA*	0.71%	0.68%
Increase in UAAL for a 1.00% Supplement**	25,047	23,505
Increase in ADEC for a 1.00% Supplement**	0.64%	0.61%

* The 1.00% COLA in the 12/31/2023 column would be effective July 1, 2025 and includes expected costs of COLAs paid for retirements before June 30, 2025. The COLA would be paid in full to retired members and survivors of deceased members on the retirement roll on July 1, 2024 and would be prorated for retired members and survivors of deceased members who commence benefits after July 1, 2024 but before June 30, 2025. 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 1.00% Supplement in the December 31, 2023 column is based on an assumed payment date of July 1, 2025 and includes expected costs of supplements paid for retirement before June 30, 2025. The supplement would equal to 1.00% of the annual allowances of retirees and other beneficiaries who commence retirement on or before July 1, 2025. Note that although the plan is over 100% funded, the increase in the ADEC was calculated assuming the full cost of the supplement would be paid for through increased employer contributions. 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, 2023

Age	Years of Service										Total
	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	
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	1	0	0	0	0	0	0	0	0	1
	0	20,659	0	0	0	0	0	0	0	0	20,659
30 to 34	0	4	1	0	0	0	0	0	0	0	5
	0	20,659	20,659	0	0	0	0	0	0	0	20,659
35 to 39	0	9	5	0	0	0	0	0	0	0	14
	0	20,659	20,659	0	0	0	0	0	0	0	20,659
40 to 44	0	8	4	2	0	0	0	0	0	0	14
	0	20,659	20,659	22,850	0	0	0	0	0	0	20,972
45 to 49	0	7	6	4	0	0	0	0	0	0	17
	0	20,659	20,659	23,437	0	0	0	0	0	0	21,313
50 to 54	0	3	6	2	0	1	0	0	0	0	12
	0	20,659	20,659	22,850	0	55,107	0	0	0	0	23,895
55 to 59	0	13	11	2	1	0	1	0	0	0	28
	0	20,659	20,659	20,659	20,659	0	20,659	0	0	0	20,659
60 to 64	0	10	6	3	1	0	0	0	0	0	20
	0	20,659	21,389	20,659	31,771	0	0	0	0	0	21,434
65 to 69	0	3	8	5	1	0	0	0	0	0	17
	0	20,659	20,659	20,659	20,659	0	0	0	0	0	20,659
70 & Up	0	6	13	13	6	3	0	0	1	0	42
	0	20,659	20,659	20,659	21,389	32,142	0	0	20,659	0	21,584
Total	0	64	60	31	9	4	1	0	1	0	170
	0	20,659	20,732	21,300	22,380	37,883	20,659	0	20,659	0	21,298

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, 2023

Age	Men		Women	
	Number	Compensation	Number	Compensation
29	1	\$ 20,659		
32	2	41,318		
33	2	41,318	1	20,659
35	1	20,659	1	20,659
36	3	61,977	1	20,659
37	3	61,977		
38	2	41,318		
39	2	41,318	1	20,659
40	2	41,318	1	20,659
41	1	20,659	1	20,659
42			1	20,659
43	2	41,318	1	20,659
44	3	66,358	2	41,318
45	3	61,977	2	41,318
46	1	20,659	2	41,318
47	2	52,430		
48			2	41,318
49	5	103,295		
50	2	41,318		
51	2	41,318		
52			1	20,659
53	3	100,806		
54	2	41,318	2	41,318
55	6	123,954	1	20,659
56	4	82,636	3	61,977
57	3	61,977	2	41,318
58	1	20,655	1	20,657
59	5	103,295	2	41,318
60	1	20,659	1	20,659
61	3	61,977	3	61,977
62	3	61,977	2	41,318
63	3	66,358	1	31,771
64	3	61,977		
65			1	20,659
66	2	41,318	1	20,659
67	4	82,636	1	20,659
68	3	61,977	1	20,659
69	3	61,977	1	20,659
70	2	41,318	2	41,318
71	4	117,084		

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, 2023 (continued)

Age	Men		Women	
	Number	Compensation	Number	Compensation
72	5	\$ 103,295	1	20,659
73	4	82,636		
74	3	66,358	1	20,659
75	2	41,318	1	20,659
76	1	20,659		
77	1	20,659		
78	2	41,318	1	20,659
79	1	20,659	3	61,977
80	1	20,659	1	20,659
81	1	20,659		
82	2	41,318		
84	3	61,977		
Total	120	\$ 2,576,608	50	\$ 1,044,060

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, 2023

Service	Men		Women	
	Number	Compensation	Number	Compensation
1	19	392,520	14	\$ 289,225
2	2	41,318		
3	17	351,202	10	206,590
4	2	41,318		
5	19	392,520	10	206,590
6			2	41,317
7	17	355,583	3	61,977
8	1	20,659		
9	6	123,954	2	41,318
10	2	45,699	2	41,318
11	11	231,630	1	20,659
12	1	20,659		
13	11	238,361	1	20,659
14	1	20,659	1	20,659
15	2	41,318	1	31,771
17	2	45,699		
19	3	61,977	1	20,659
21	1	55,107	1	20,659
23	2	75,766		
25	1	20,659		
35			1	20,659
Total	120	\$ 2,576,608	50	\$ 1,044,060

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, 2023

Age	Men		Women	
	Number	Allowance	Number	Allowance
38	1	\$ 8,305		
40	1	4,983		
41	1	7,198		
42	1	6,632		
45			1	5,722
46	1	8,997		
49	2	17,025		
50	2	11,350		
51			1	5,052
52	2	14,326		
53	2	18,807		
54	2	9,412	1	4,983
55	2	20,901		
56	2	11,627	1	4,983
57	1	6,021	1	4,983
58	2	15,563	1	4,983
59	2	13,078		
60	4	28,790		
61	3	21,997		
62	1	11,627		
63	3	30,387		
64	2	12,942	1	10,934
65	1	10,218	1	5,191
67	3	29,622		
69	1	6,298		
71	2	15,503		
72			1	9,343
74	2	11,627		
76	1	6,921	1	14,603
80			1	8,305
Total	47	\$ 360,157	11	\$ 79,082

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, 2023

Age	Men		Women	
	Number	Contributions	Number	Contributions
35	2	\$ 6,661		
36	1	3,068		
38	1	6,908		
40	3	13,122		
41	2	5,246		
42	1	8,081	1	\$ 6,770
44	1	5,715		
46	2	12,004		
48	2	12,602		
49	1	595		
50	2	11,830		
51	3	16,844		
52	2	10,457	1	\$ 3,318
53	3	22,249		
55	3	13,369		
56	2	18,850		
58	1	6,387	1	760
59	3	16,539	1	3,589
61	2	10,651		
62	2	12,155		
64	3	15,456	1	3,068
65	2	17,497		
66	3	15,539	1	7,161
67	2	10,195	1	2,026
69	1	7,392		
71	2	15,669	1	3,768
72	1	693		
77	1	7,749		
Total	54	\$ 303,523	8	\$ 30,460

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, 2023

Age	Men		Women	
	Number	Allowances	Number	Allowances
44			1	\$ 28,943
53	1	\$ 10,333		
56			2	15,118
60			1	7,412
61	2	11,206	3	11,912
62	1	10,551	1	6,307
63	2	9,582		
64			2	21,764
65	2	11,293	2	23,437
66	3	18,971	3	32,238
67	4	21,876	3	10,743
68	8	68,598	1	14,252
69	3	35,694	1	7,240
70	5	38,757		
71	3	9,883	5	22,878
72	5	39,888	6	31,745
73	7	54,715	2	5,705
74	6	43,288	8	41,964
75	11	96,507	2	27,342
76	6	57,692	7	46,585
77	8	79,776	6	48,693
78	10	86,435	8	64,724
79	9	74,554	6	32,283
80	7	54,130	5	38,644
81	10	70,732	5	28,101
82	9	56,047	1	6,213
83	5	30,048	2	15,092
84	2	20,321	6	53,147
85	5	35,226	5	50,937
86	4	34,418	2	14,688
87	11	101,788	6	55,499
88	2	44,908	3	29,847
89	6	49,748	3	21,021
90	3	30,915	4	33,867
91	5	35,858		

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, 2023 (continued)

Age	Men		Women	
	Number	Allowances	Number	Allowances
92	1	\$ 10,657	5	\$ 36,755
93	1	15,494	3	39,740
94			1	13,540
95	1	1,412		
96			1	557
97			1	763
98	1	6,128		
99	1	23,886		
100	1	10,188		
Total	171	\$ 1,411,503	123	\$ 939,696

Table A-7: Number and Annual Retirement Allowances of Retired Members and Survivors of Deceased Members Distributed by Annuity Type as of December 31, 2023

Annuity Type	Men		Women	
	Number	Allowances	Number	Allowances
Maximum	72	\$ 665,791	48	\$ 387,059
Option 2	87	622,941	11	60,866
Option 3	10	98,807	1	14,252
Survivors of Deceased Members	2	23,964	63	477,519
Total	171	\$ 1,411,503	123	\$ 939,696

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

None.

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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)						
Age	Retirees (Healthy at Retirement)		Survivors of Deceased Members		Retirees (Disabled at Retirement)	
	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.

Appendix C: Actuarial Assumptions and Methods (continued)

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.

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. Under this method, the actuarial value of projected benefits for each individual participant is allocated as a level percentage of compensation over the working lifetime of the participant between the date of employment and assumed date of exit.

Amortization Period

12-year closed, level-dollar amount. The first amortization base was created for the contribution payable for fiscal year ending 2015.

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

Appendix C: Actuarial Assumptions and Methods (continued)

Direct Rate Smoothing

Assumption changes adopted by the experience study prepared as of December 31, 2019, and adopted by the Board of Trustees on January 28, 2021, decreased the actuarially determined contribution requirements of LRS by 3.05% of payroll, as calculated by the prior actuarial firm. The impact of these assumption changes has been smoothed over a five-year period so that 20% of the impact has been recognized for each valuation starting with the December 31, 2020 valuation, and will be fully recognized in the December 31, 2024 valuation.

The Total Preliminary ADEC shown in Table 1 is the actuarially determined contribution prior to any direct rate smoothing.

Changes in Assumptions and Methods Since Prior Valuation

None.

Appendix D: Additional Disclosures

LRS invests in a diversified portfolio with the objective of maximizing investment returns at a reasonable level of risk. However, Actuarial Standard of Practice No. 4 (“ASOP 4”) requires the actuary to disclose a Low-Default-Risk Obligation Measure (“LDROM”) of plan liabilities and provide commentary to help intended users of this report understand the significance of the measure with respect to funded status, contributions, and participant benefit security.

As of December 31, 2023 the LDROM is \$38,484,322. The LDROM is to be based on “discount rates derived from low-default-risk fixed income securities whose cash flows are reasonably consistent with the pattern of benefits expected to be paid in the future.” Please note that the interest rate used for the LDROM is based on 30-year Treasury rates as of the measurement and will therefore vary for different measurement dates. As of December 31, 2023 the 30-year Treasury rate used to calculate the LDROM is 4.03%. All other assumptions are the same as those used for funding purposes as shown in this report.

The LDROM shown here represents what the LRS actuarial accrued liability would be if LRS invested its assets solely in 30-year Treasury bonds. Consequently, the difference between the LDROM and the Actuarial Accrued Liability can be thought of as representing the expected taxpayer savings / (cost) from investing in the plan’s diversified portfolio compared to investing only in 30-year Treasury bonds. It may also be thought of as the cost of reducing investment risk.

Actuaries play a role in helping determine funding methods and policies that can achieve affordable and appropriate contributions and risk management. The funded status based on actuarial accrued liability and the actuarially determined contributions are determined using the expected return on assets, which reflects the actual investment portfolio. Since the assets are not invested in an all-bond portfolio, the LDROM does not indicate LRS funded status or progress, nor does it provide information on necessary plan contributions.

With respect to security of participant benefits, if this plan were to be funded on an LDROM basis, participant benefits currently accrued as of the measurement date may be considered more secure as investment risk may be significantly reduced. However, the assets being invested in a diversified portfolio does not mean the participant benefits are not secure. Security of participant benefits relies on a combination of the assets in the plan, the investment returns generated on those assets, and the promise of future contributions from the plan sponsors.

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