

***NEBRASKA PUBLIC EMPLOYEES
RETIREMENT SYSTEM***

SCHOOL RETIREMENT SYSTEM

**ACTUARIAL VALUATION REPORT
as of July 1, 2023**

**Seventy-First Actuarial Report for
System Plan Year Beginning July 1, 2023
and
State Fiscal Year Ending June 30, 2025**

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November 10, 2023

Public Employees Retirement Board
Nebraska Public Employees Retirement System
Post Office Box 94816
Lincoln, NE 68509

Dear Members of the Board:

At your request, we have performed an actuarial valuation of the School Retirement System as of July 1, 2023 for the purpose of determining the actuarial required contribution rate for the plan year ending June 30, 2024. It is our understanding that any required additional State contribution for this plan year will be made on July 1, 2024 (State fiscal year end 2025). The major findings of the valuation are contained in this report, which reflects the benefit and funding provisions in place on July 1, 2023. There have been no changes to the actuarial methods or benefit provisions from the prior valuation, but the set of economic assumptions has changed since the last valuation.

At their December 21, 2020 meeting, the Board adopted a plan to phase-in a change in the set of economic assumptions over a four-year period, with the ultimate set of economic assumptions going into effect with the July 1, 2024 valuation. The scheduled economic assumption changes include price inflation, cost-of-living adjustments for Tier 1 members, general wage inflation, covered payroll growth and the investment return assumption. Over the course of this four-year period, three years of which have been completed, the investment return assumption will decrease from 7.50% to 7.00%. The phase-in of the new set of economic assumptions, as well as its impact on the current valuation results, is discussed in further detail in the Executive Summary of this report.

In preparing our report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, statutory provisions, member data and financial information. We found this information to be reasonably consistent and comparable with the information received in prior years. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete, our results may be different and our calculations may need to be revised.

We further certify that all costs, liabilities, rates of interest and other factors for the School Retirement System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer the best estimate of anticipated experience affecting the System. Nevertheless, the emerging costs will vary from those presented in this report to the extent actual experience differs from that

projected by the actuarial assumptions. The Public Employees Retirement Board has the final decision regarding the appropriateness of the assumptions and adopted the set of assumptions indicated in Appendix C.

In order to prepare the results in this report, we have utilized actuarial models that were developed to measure liabilities and develop actuarial costs. These models include tools that we have produced and tested, along with commercially available valuation software that we have reviewed to confirm the appropriateness and accuracy of the output. In utilizing these models, we develop and use input parameters and assumptions about future contingent events along with recognized actuarial approaches to develop the needed results. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

The actuarial computations presented in this report are for purposes of determining the funding amounts for the System as specified in the Nebraska state statutes. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes. For example, actuarial computations for purposes of fulfilling financial accounting requirements for the System under Governmental Accounting Standards No. 67 and No. 68 are provided in separate reports.

The consultants who worked on this assignment are pension actuaries. Cavanaugh Macdonald's advice is not intended to be a substitute for qualified legal or accounting counsel.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein. We are available to answer any questions on the material contained in the report or to provide explanations or further details as may be appropriate.

We respectfully submit the following report and look forward to discussing it with you.

Sincerely,



Patrice A. Beckham, FSA, EA, FCA, MAAA
Consulting Actuary



Brent A. Banister Ph.D., FSA, EA, MAAA, FCA
Chief Actuary

SECTION 1 – BOARD SUMMARY

This report presents the results of the July 1, 2023 actuarial valuation of the School Retirement System. The primary purposes of performing this actuarial valuation are to:

- Determine whether the employer, member and State contribution rates defined in the Nebraska state statutes are sufficient to fund the total Formula Annuity for the Nebraska School System, and if not, the additional State contribution required. In addition, the calculation of the State contribution to fund the Omaha Service Annuity for the plan year ending June 30, 2024 is also determined;
- Disclose asset and liability measurements as well as the current funded status of the System as of the valuation date;
- Compare the actual and expected experience of the System during the plan year ended June 30, 2023;
- Assess and disclose the key risks associated with funding the System; and
- Analyze and report on trends in System contributions, assets and liabilities over the past several years.

The actuarial valuation results provide a “snapshot” view of the System’s financial condition on July 1, 2023. The System’s unfunded actuarial accrued liability (UAAL) decreased from \$237 million last year to \$224 million this year, the funded ratio increased from 98.4% to 98.6% and the actuarial required contribution rate increased from 15.37% of payroll last year to 15.44% of payroll this year.

The Nebraska statutes require the State to make an additional contribution if the regular, payroll-related contributions by members, employers, and the State are insufficient to meet the actuarial required contribution for the plan year. **Based on the results of the July 1, 2023 actuarial valuation, no additional State contribution is necessary for this plan year.**

Changes to Actuarial Assumptions

At their December 21, 2020 meeting, the Board adopted a plan to phase-in a change in the set of economic assumptions over a four-year period (2021 through 2024 valuation). The scheduled economic assumption changes include price inflation, COLA for Tier 1 members, general wage inflation, covered payroll growth and the investment return assumption. The remaining phase-in of the economic assumptions will be implemented as follows:

	Current (2023 Valuation)	2024 Valuation
Price Inflation	2.45%	2.35%
Real Return	4.65%	4.65%
Investment Return	7.10%	7.00%
COLA (Tier 1)	2.05%	2.00%
General Wage Inflation	2.95%	2.85%
Covered Payroll Growth	2.95%	2.85%

The net impact of the scheduled change in the set of economic assumptions in this valuation was an increase of \$83.7 million in the actuarial accrued liability, as well as an increase of 0.30% in the actuarial required contribution rate. The continued phase-in of the economic assumptions is expected to increase the unfunded actuarial accrued liability (UAAL), normal cost rate and actuarial required contribution rate next year, absent the impact of future favorable experience. If the ultimate set of economic assumptions was fully

SECTION 1 – BOARD SUMMARY

recognized in the current valuation, it would increase the UAAL by \$87 million, decrease the funded ratio to 98% and increase the actuarial required contribution rate by 0.35%.

Actual Experience Impacting the July 1, 2023 Valuation

The valuation results reflect net unfavorable experience for the past plan year as demonstrated by a UAAL that was higher than expected. The UAAL on July 1, 2023 is \$224 million compared to an expected UAAL of \$150 million. The unfavorable experience was due to several factors, discussed below:

- The rate of return on the market value of assets for the year ending June 30, 2023 was 9.9%, as reported by the Nebraska Investment Council, compared to the assumed return of 7.2% for FY 2023. However, the asset smoothing method used in the valuation only recognizes 20% of the difference between the dollar amount of the assumed and actual return in the current valuation. The partial recognition of FY 2023 experience, coupled with the scheduled recognition of the deferred investment experience from the prior four years, resulted in a rate of return on the actuarial (smoothed) value of assets of 6.8%. Because this return is lower than the assumed rate of return (7.2% for FY 2023), there was an actuarial experience loss of \$53 million on the actuarial value of assets.
- There was a net actuarial experience loss of \$21 million on System liabilities. This was the net impact of various factors of which larger COLAs than expected was the most significant.
- The statutory contribution rate for the year ending June 30, 2023 was higher than the actuarial required contribution rate by 6.29%. As a result, actual contributions for FY 2023 exceeded the actuarial required contribution by around \$149 million which served to reduce the UAAL.

Legislation passed in the 2013 session made changes to the benefit structure for members hired on or after July 1, 2013 (Tier Two), including changing final average salary to the highest 60 months rather than the highest 36 months of service and changing the maximum cost of living adjustment from 2.5% to 1.0%. Additional legislation was passed in the 2017 session, which granted the PERB the authority to set the actuarial assumptions used to determine the benefit amounts payable under optional forms of payment for members hired on or after July 1, 2017 (Tier Three). It also changed the minimum age required to qualify for unreduced retirement under the Rule of 85 from age 55 to age 60 for members hired on or after July 1, 2018 (Tier Four). There were 24,071 members in Tiers Two, Three and Four as of July 1, 2023, or about 55% of the active membership, compared to 51% in the prior valuation. The covered payroll for these members is about 43% of the total covered payroll. Because these newer members have fewer years of service and lower average pay, they tend to have lower liabilities. While members who were hired on or after July 1, 2013 represent a comparatively small part of the total liability, the new provisions are beginning to impact the valuation by resulting in lower costs.

A summary of the key results from the July 1, 2023 actuarial valuation, excluding the Omaha Service Annuity, is shown in the following table. As the table indicates, **the statutory contribution rates are sufficient to meet the actuarial required contribution rate and no additional State appropriation is required for the current year.** Further detail on the valuation results can be found in the following sections of this Board Summary.

SECTION 1 – BOARD SUMMARY

	July 1, 2023 Valuation Results	July 1, 2022 Valuation Results
Unfunded Actuarial Accrued Liability (\$M)	\$224	\$237
Funded Ratio (Actuarial Assets)	98.57%	98.42%
Actuarial Required Contribution	15.44%	15.37%
Member Contribution Rate	(9.78%)	(9.78%)
Employer Contribution Rate	(9.88%)	(9.88%)
State Contribution Rate	<u>(2.00%)</u>	<u>(2.00%)</u>
Total Contribution Rate	(21.66%)	(21.66%)
Shortfall/(Margin)	(6.22%)	(6.29%)
Additional Required State Contribution	\$0	\$0

EXPERIENCE FOR THE LAST PLAN YEAR

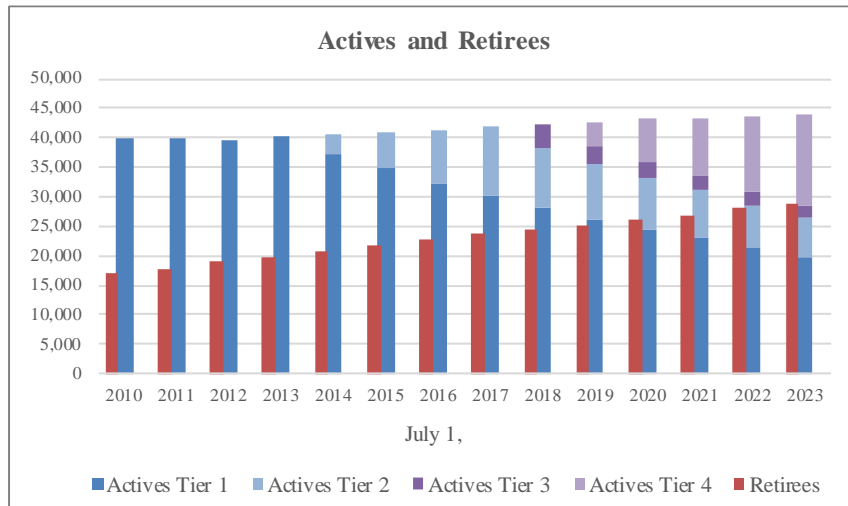
Numerous factors contributed to the change in the System’s assets, liabilities, and actuarial required contribution rate between July 1, 2022 and July 1, 2023. The components are examined in the following discussion.

MEMBERSHIP

There are 43,853 active members in the July 1, 2023 valuation compared to 43,586 in the 2022 valuation, a 0.6% increase. In general, when the number of active members increases it has a positive influence on the System’s funding as it results in higher contributions. In addition, the UAAL contribution rate may also be favorably impacted if the increase in active members results in a larger covered payroll than expected. The UAAL in this valuation is amortized assuming future covered payroll will increase each year (current assumption is 2.95% per year). If total payroll growth is higher than expected, the dollar amount of the UAAL payment is divided by higher payroll, resulting in a lower UAAL amortization rate. Conversely, a decrease in the number of active members or covered payroll increases that are less than the assumed rate will tend to result in a higher UAAL amortization rate.

The following graph shows the number of active and retired/beneficiaries in each valuation since 2010. While the number of active members has fluctuated at times over this period, the number of members receiving a benefit has steadily increased and the number is currently 28,854. This trend is not unusual or unexpected in a mature retirement system and is the key reason for advance funding of a retirement plan.

SECTION 1 – BOARD SUMMARY



The graph above shows the portion of the total active members covered by each of the benefit structures. In the 2023 valuation, the active membership is split by tier:

- 19,782 in Tier One (joined before July 1, 2013),
- 6,779 in Tier Two (joined between July 1, 2013 and June 30, 2017),
- 1,975 in Tier Three (joined between July 1, 2017 and June 30, 2018), and
- 15,317 in Tier Four (joined on or after July 1, 2018).

Of the total active membership, about 55% are affected by changes in the benefit structure passed in the 2013 and later legislative sessions. While the number of active members in the new tiers is significant, the actuarial accrued liability for active members is still heavily related to Tier 1 because that group is older with both higher service and salary amounts.

ASSETS

As of June 30, 2023, the System had net assets of \$15.230 billion, when measured on a market value basis, an increase of \$1.087 billion from the prior year value. The investment return on the market value of assets for FY 2023 was 9.9%, which is higher than the assumed return for FY 2023 of 7.2%.

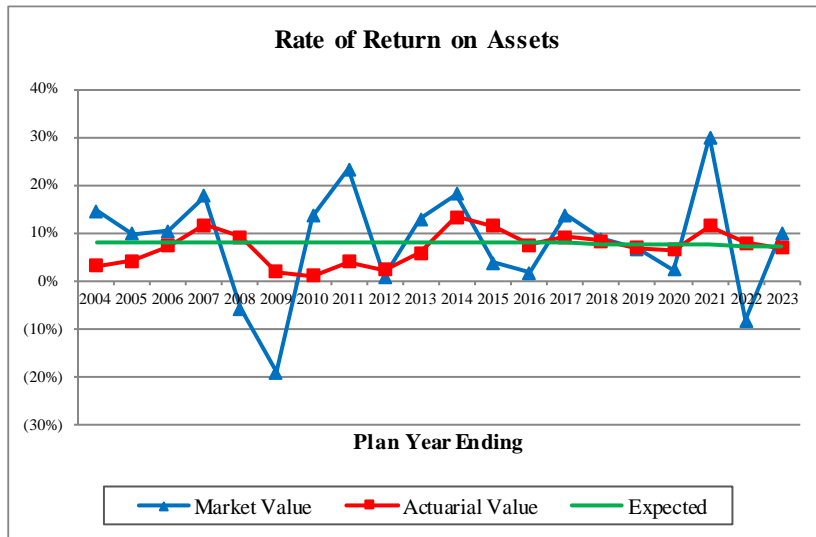
The market value of assets is not used directly in the calculation of the unfunded actuarial accrued liability and the actuarial required contribution rate. An asset valuation method, which smoothes the effect of market fluctuations, is used to determine the value of assets used in the valuation, called the actuarial value of assets. In this year’s valuation, the actuarial value of assets is \$15.424 billion, an increase of \$0.702 billion from the prior year. The components of change in the asset values are shown in the following table.

SECTION 1 – BOARD SUMMARY

	Market Value (\$M)	Actuarial Value (\$M)
Net Assets, June 30, 2022	\$ 14,142.76	\$ 14,721.45
- Employer and Member Contributions	+ 495.10	+ 495.10
- Benefit Payments and Admin Expenses	- 789.43	- 789.43
- Net Investment Income	+ 1,381.26	+ 996.83
Net Assets, June 30, 2023	\$ 15,229.69	\$ 15,423.95
Rate of Return, Net of Expenses*	9.9%	6.8%

* Rate of return on the market value of assets was provided by the Nebraska Investment Council.

Due to the smoothing of actual investment experience over the last five years, the rate of return on the actuarial value of assets was 6.8%, which was lower than the investment return assumption of 7.20% in effect for FY 2023. As a result, there was an experience loss on assets of \$53 million. As a result of the combined impact of the favorable investment experience for FY 2023 and the scheduled recognition of deferred investment experience from the prior four years, the net deferred investment loss of \$0.579 billion in last year’s valuation is now a net deferred investment loss of \$0.194 billion in the current valuation (actuarial value exceeds market value of assets). Please see Section 3 of this report for more detailed information on the market and actuarial value of assets.



The rate of return of the actuarial value of assets has been less volatile than the market value return, illustrating the benefit of using an asset smoothing method.

LIABILITIES

The actuarial accrued liability is that portion of the present value of future benefits that will not be paid by future normal costs, i.e., the portion allocated to past years. The difference between this liability and the actuarial value of assets as of the valuation date is called the unfunded actuarial accrued liability (UAAL). The dollar amount of unfunded actuarial accrued liability is reduced if the contributions to the System exceed the normal cost for the year plus interest on the prior year’s UAAL.

SECTION 1 – BOARD SUMMARY

The unfunded actuarial accrued liability as of July 1, 2023, using both the actuarial and market value of assets, is shown in the following table:

	Actuarial Value of Assets	Market Value of Assets
Actuarial Accrued Liability	\$15,648,095,303	\$15,648,095,303
Value of Assets	<u>15,423,950,275</u>	<u>15,229,692,564</u>
Unfunded Actuarial Accrued Liability	\$224,145,028	\$418,402,739
Funded Ratio	98.57%	97.33%

The net deferred investment loss means that, absent investment returns higher than expected (7.1% for FY 2024 and 7.0% for FY 2025) or favorable liability experience, the funded ratio is expected to decrease over the next four years as the deferred investment experience is recognized. We also expect there to be downward pressure on the funded ratio because of the phase-in of the economic assumptions. See Section 4 of the report for the detailed development of the unfunded actuarial accrued liability.

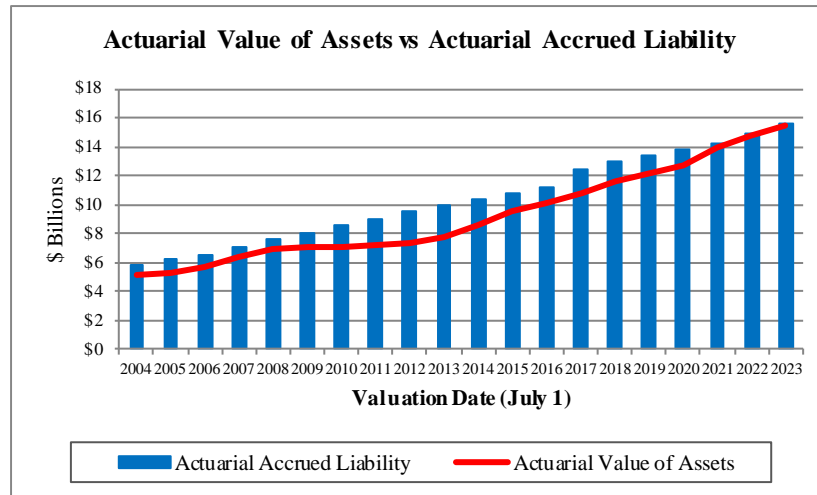
The components of the net decrease of \$13 million in the UAAL from July 1, 2022 to July 1, 2023 are shown in the following table.

	(\$ Millions)
Unfunded Actuarial Accrued Liability, July 1, 2022	\$236.9
- Expected change from amortization method	(38.1)
- Contributions (above)/below the Actuarial Required Contribution	(149.2)
- Investment experience	53.4
- Liability experience	20.7
- Assumption changes	83.7
- Other experience	<u>16.7</u>
Unfunded Actuarial Accrued Liability, July 1, 2023	\$224.1

As shown above, various factors impacted the amount of the UAAL. Actuarial experience gains/(losses), which result from actual experience that is more (less) favorable than anticipated based on the actuarial assumptions, are reflected in the UAAL and are measured as the difference between the expected UAAL and the actual UAAL, taking into account any changes due to actuarial assumptions and methods, or benefit provisions. Overall, the System experienced a net actuarial experience loss of \$74 million. The actuarial loss may be explained by considering the separate experience of assets and liabilities. As noted earlier, there was an actuarial experience loss of \$53 million on the actuarial value of assets. Unfavorable net experience on System liabilities, largely from COLAs that were larger than expected, resulted in an actuarial experience loss of \$21 million. A breakdown of the components of experience gains and losses can be found in Table 8 of this report. The actuarial experience loss was more than offset by actual contributions that were \$149 million higher than the actuarial required contribution.

SECTION 1 – BOARD SUMMARY

As the following graph of historical actuarial assets and actuarial accrued liabilities illustrates, the System’s liabilities grew at a faster pace than the System’s assets for the five-year period beginning after the FY 2009 market downturn. As a result, the funded ratio declined over that period. Recently, the System’s assets have been growing at a faster rate than the System’s liabilities and the funded ratio has been improving. Changes to actuarial assumptions in the July 1, 2017 valuation significantly increased the System’s liabilities and lowered the funded ratio, while investment experience during FY 2021 significantly increased the System’s assets and improved the funded ratio.



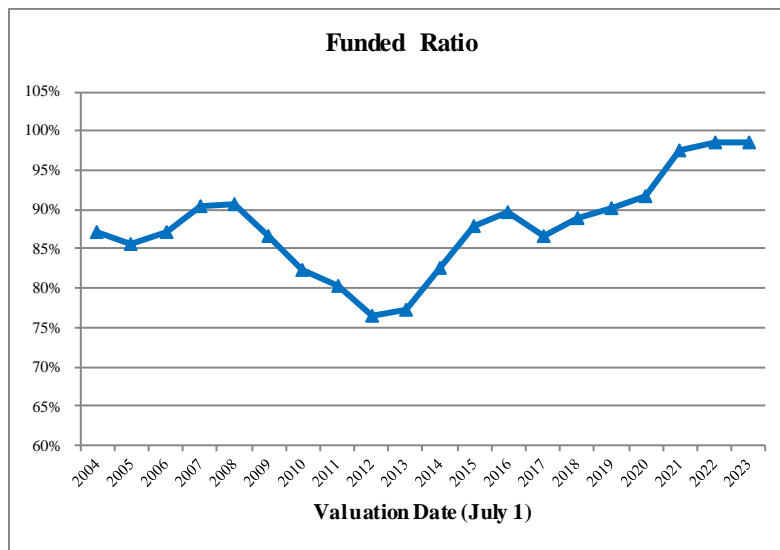
An evaluation of the UAAL on a pure dollar basis may not provide a complete analysis since only the difference between the assets and liabilities (which are both very large numbers) is reflected. Another way to evaluate the UAAL and the progress made in its funding is to track the funded ratio, the ratio of the actuarial value of assets to the actuarial accrued liability. The funded status information, using the actuarial value of assets, is shown below (in millions).

	7/1/2019	7/1/2020	7/1/2021	7/1/2022	7/1/2023
Funded Ratio	90.3%	91.7%	97.4%	98.4%	98.6%
UAAL	\$1,305.2	\$1,156.6	\$369.7	\$236.9	\$224.1

Note that the funded ratio does not indicate whether or not the System assets are sufficient to settle benefits earned to date. The funded ratio, by itself, also may not be indicative of future funding requirements. In addition, if the funded ratios were shown using the market value of assets, the results would differ.

SECTION 1 – BOARD SUMMARY

The funded ratio over a longer period is shown in the following graph.



ACTUARIAL REQUIRED CONTRIBUTION RATE

The System is funded by statutory contribution rates for members (9.78% of pay), employers (101% of the member rate) and the State (2.00% of pay). In addition, the statutes require the State to make an additional contribution if the regular, payroll-related contributions by employees, employers and the State are insufficient to meet the actuarial required contribution for the plan year. The additional State contributions for the plan year are made on the July 1 following the plan year end. **Based on the results of the July 1, 2023 actuarial valuation, no additional State contribution is necessary for the current plan year.**

Under the Entry Age Normal cost method, the actuarial required contribution rate consists of three components:

- A “normal cost” for the portion of projected liabilities allocated by the actuarial cost method to service of members during the year following the valuation date.
- An “administrative expense” load for the expenses expected to be paid from the trust for the year.
- An “unfunded actuarial accrued liability contribution” for the excess of the portion of projected liabilities allocated to service to date over the actuarial value of assets.

The UAAL contribution rate is determined by calculating the amortization payments as a level-percent of payroll, assuming the number of active members remains constant, and salary increases occur as assumed. This methodology results in dollar amounts of payments that are lower in the initial years of the 25-year amortization period but increase each year in the future with the assumed payroll growth assumption (2.95% in this valuation). Because the UAAL contribution rate is determined as a level-percent of payroll, the dollar amount of the UAAL contribution is scheduled to increase 2.95% each year in the future even if all actuarial assumptions are met. Therefore, if the increase in covered payroll is less than 2.95% per year, the UAAL contribution rate will increase.

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See Section 5 of the report for the detailed development of the contribution rates, which are summarized in the following table.

Contribution Rates	July 1, 2023	July 1, 2022
1. Normal Cost Rate	12.95%	12.93%
2. Administrative Expenses	0.16%	0.16%
3. UAAL Contribution Rate	2.33%	2.28%
4. Total Actuarial Required Contribution Rate	15.44%	15.37%
5. Member Contribution Rate	(9.78%)	(9.78%)
6. Employer Contribution Rate	(9.88%)	(9.88%)
7. State Contribution Rate	(2.00%)	(2.00%)
8. Total Contribution Rate	(21.66%)	(21.66%)
9. Shortfall/(Margin) [4 + 8]	(6.22%)	(6.29%)
10. Estimated Payroll	\$ 2,386,735,766	\$ 2,291,057,398
11. Additional State Required Contribution [9 * 10 with interest, but not less than \$0]	\$ 0	\$ 0

Note: Contribution rates exclude State funding of Omaha Service Annuity.

The actuarial required contribution rate for the current plan year is 15.44%. The member contribution rate of 9.78%, School District contribution rate of 9.88% (101% of 9.78%) and State contribution rate of 2.00% of pay result in total statutory contributions of 21.66% of pay. As a result, there is a contribution margin of 6.22%, which will move the System toward fully funded status more rapidly than targeted by the amortization schedule, if all actuarial assumptions are met in future years. The actuarial required contribution, determined this year based on the snapshot of the System taken on the valuation date of July 1, 2023, will change each year as the deferred investment experience is recognized and other experience (both investment and demographic) impacts the System. Overall, there was an increase of 0.07% in the actuarial required contribution rate from the July 1, 2022 valuation to the July 1, 2023 valuation. The primary components of the change in the actuarial required contribution rate are shown in the following table.

Total Actuarial Required Contribution Rate, July 1, 2022	15.37%
- Change in normal cost rate (before assumption changes)	(0.05%)
- Contributions (above)/below the Actuarial Required Contribution	(0.40%)
- Investment experience	0.15%
- Liability experience	0.06%
- Actual vs. expected payroll	(0.03%)
- Assumption changes	0.30%
- Other experience	<u>0.04%</u>
Total Actuarial Required Contribution Rate, July 1, 2023	15.44%

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While there is a contribution margin for the current plan year, this should not be viewed as an unnecessary or excess contribution. In order for the financing of the System on a fixed contribution rate basis to succeed, contributions above the actuarial required contribution rate must be made to offset years where the fixed contribution rate will be below the actuarial required contribution rate.

A history of the actuarial required contribution rate and any resulting additional required State contributions, whether or not actually contributed, is shown in the following table.

<u>History of Required Contribution Rates and Additional State Funding</u>		
Fiscal Year	Required Contribution Rate	Additional State Contributions*
2024/2025	15.44%	\$ 0
2023/2024	15.37%	0
2022/2023	15.65%	0
2021/2022	18.05%	0
2020/2021	18.42%	0
2019/2020	18.73%	0
2018/2019	19.31%	0
2017/2018	16.59%	0
2016/2017	17.03%	0
2015/2016	18.39%	0
2014/2015	19.94%	0
2013/2014	23.27%	48,092,426
2012/2013	20.45%	23,465,817
2011/2012	19.21%	18,871,705
2010/2011	17.24%	0
2009/2010	15.46%	0
2008/2009	15.64%	0
2007/2008	16.58%	0
2006/2007	17.95%	12,847,537
2005/2006	16.97%	15,415,949

* Excludes funding of Omaha Service Annuity.

Note: Information before Fiscal Year 2014/2015 was produced by prior actuary.

RISK ASSESSMENT AND DISCLOSURE

A typical retirement plan faces many different risks. The term “risk” is most commonly associated with an outcome with undesirable results. However, in the actuarial world risk can be translated as uncertainty. The actuarial valuation process uses many actuarial assumptions to project how future contributions and investment returns will meet the cash flow needs for future benefit payments. Of course, we know that actual experience will not unfold exactly as anticipated by the assumptions and that uncertainty, whether

SECTION 1 – BOARD SUMMARY

favorable or unfavorable, creates risk. Actuarial Standard of Practice Number 51 defines risk as the potential of actual future measurements to deviate from expected results due to actual experience that is different than the actuarial assumptions. Risk evaluation is an important part of managing a defined benefit plan. Please see Section 6 of this report for an in-depth discussion of the specific risks facing the Nebraska School Retirement System.

SECTION 1 – BOARD SUMMARY

SUMMARY OF PRINCIPAL RESULTS

	7/1/2023 Valuation	7/1/2022 Valuation	% Change
1. PARTICIPANT DATA			
Number of:			
Active Members			
- Tier 1	19,782	21,294	(7.1%)
- Tier 2	6,779	7,335	(7.6%)
- Tier 3	1,975	2,188	(9.7%)
- Tier 4	15,317	12,769	20.0%
- Total	43,853	43,586	0.6%
Retired Members and Beneficiaries	28,548	27,791	2.7%
Disabled Members	306	303	1.0%
Inactive Members	29,064	27,194	6.9%
Total Members	101,771	98,874	2.9%
Projected Annual Salaries of Active Members	\$ 2,386,735,766	\$ 2,291,057,398	4.2%
Annual Retirement Payments for Retired Members, Disabled Members and Beneficiaries	\$ 782,546,633	\$ 740,979,380	5.6%
2. ASSETS AND LIABILITIES			
a. Market Value of Assets	\$ 15,229,692,564	\$ 14,142,759,710	7.7%
b. Actuarial Value of Assets	15,423,950,275	14,721,451,378	4.8%
c. Total Actuarial Accrued Liability	15,648,095,303	14,958,362,275	4.6%
d. Unfunded Actuarial Accrued Liability [c - b]	\$ 224,145,028	\$ 236,910,897	(5.4%)
e. Funded Ratio (Actuarial Value of Assets) [b / c]	98.57%	98.42%	0.2%
f. Funded Ratio (Market Value of Assets) [a / c]	97.33%	94.55%	2.9%
3. CONTRIBUTION RATES AS A PERCENT OF PAYROLL (excluding Omaha Service Annuity)			
Normal Cost	12.95%	12.93%	0.2%
Administrative Expenses	0.16%	0.16%	0.0%
Amortization of Unfunded Actuarial Accrued Liability	2.33%	2.28%	2.2%
Actuarial Required Contribution Rate	15.44%	15.37%	0.5%
Member Contribution Rate	(9.78%)	(9.78%)	0.0%
Employer Required Contribution Rate*	(9.88%)	(9.88%)	0.0%
State Contribution Rate	(2.00%)	(2.00%)	0.0%
Shortfall/(Margin)	(6.22%)	(6.29%)	(1.1%)
Additional Required State Contribution Amount	\$ 0	\$ 0	0.0%

* 101% of employee contribution rate

SECTION 2 – SCOPE OF THE REPORT

This report presents the actuarial valuation results of the School Retirement System as of July 1, 2023. This valuation was prepared at the request of the Public Employees Retirement Board of the Nebraska Public Employees Retirement System.

Please pay particular attention to our actuarial certification letter, where the guidelines employed in the preparation of this report are outlined. We also comment on the sources and reliability of both the data and the actuarial assumptions upon which our findings are based. Those comments are the basis for our certification that this report is complete and accurate to the best of our knowledge and belief.

A summary of the findings which result from this valuation is presented in the previous section. Section 3 describes the assets and investment experience of the System. Sections 4 and 5 describe how the obligations of the System are to be met under the actuarial cost method in use. Section 6 includes risk considerations related to the Nebraska Schools Retirement System. Section 7 includes some historical funding and other information.

This report includes several appendices:

- Appendix A Schedules of valuation data classified by various categories of members.
- Appendix B A summary of the current benefit structure, as determined by the provisions of governing law on July 1, 2023.
- Appendix C A summary of the actuarial methods and assumptions used to estimate liabilities and determine contribution rates.
- Appendix D A glossary of actuarial terms.

SECTION 3 – ASSETS

In many respects, an actuarial valuation can be thought of as an inventory process. The inventory is taken as of the actuarial valuation date, which for this valuation is July 1, 2023. On that date, the assets available for the payment of benefits are appraised. The assets are compared with the liabilities of the System, which are generally in excess of assets. The actuarial process then leads to a method of determining the contributions needed by members and the employer in the future to balance the System's assets and liabilities.

Market Value of Assets

The current market value represents the "snapshot" or "cash-out" value of System assets as of the valuation date. In addition, the market value of assets provides a basis for measuring investment performance from time to time. Table 1 is a comparison, at market values, of System assets as of July 1, 2023 and July 1, 2022, in total and by investment category. Table 2 summarizes the change in the market value of assets from July 1, 2022 to July 1, 2023.

Actuarial Value of Assets

Due to the extreme volatility in the market value of assets, which represents the "cash-out" value of System assets on a single day, may not be the best measure of the System's ongoing ability to meet its obligations. To arrive at a suitable value of assets for the actuarial valuation, a technique for determining the actuarial value of assets is used which dampens swings in the market value while still indirectly recognizing market values. Under the asset smoothing methodology, the difference between the actual and assumed investment return on the market value of assets is recognized evenly over a five-year period.

Table 3 shows the development of the actuarial value of assets (AVA) as of the valuation date.

TABLE 1
SCHOOL RETIREMENT SYSTEM
MARKET VALUE OF ASSETS
by Investment Category

	<u>June 30, 2023</u>	<u>June 30, 2022</u>
1. Cash and Equivalents	\$ 5,747,719	\$ 241,379
2. Investments	15,359,815,917	14,311,546,011
3. Capital Assets	3,778	4,595
4. Receivables and Prepays	1,297,238,675	860,577,596
5. Accounts Payable	<u>(1,433,113,525)</u>	<u>(1,029,609,871)</u>
6. Net Assets Available for Pension Benefits	\$ 15,229,692,564	\$ 14,142,759,710

TABLE 2
SCHOOL RETIREMENT SYSTEM
CHANGE IN MARKET VALUE OF ASSETS

	<u>Nebraska School</u> <u>System</u>	<u>Omaha Service</u> <u>Annuity</u>	<u>Total</u>
1. Market Value of Assets, July 1, 2022	\$ 14,129,755,828	\$ 13,003,882	\$ 14,142,759,710
2. Contributions			
(a) Member (includes purchased service)	\$ 223,286,528	\$ 0	\$ 223,286,528
(b) Employer	224,030,311	0	224,030,311
(c) State appropriations	45,821,148	1,964,600	47,785,748
(d) Total	\$ 493,137,987	\$ 1,964,600	\$ 495,102,587
3. Expenditures			
(a) Benefit payments	\$ 762,882,658	\$ 2,154,451	\$ 765,037,109
(b) Refunds	20,706,511	0	20,706,511
(c) Administrative expenses	3,681,906	0	3,681,906
(d) Total	\$ 787,271,075	\$ 2,154,451	\$ 789,425,526
4. Investment Return, Net of Expenses			
(a) Investment income	\$ 279,011,422	\$ 238,385	\$ 279,249,807
(b) Securities lending income	14,947,817	12,420	14,960,237
(c) Securities lending expense	(12,780,297)	(10,618)	(12,790,915)
(d) Net appreciation/(depreciation) in fair value of investments	1,098,911,928	904,311	1,099,816,239
(e) Other	20,425	0	20,425
(f) Net investment return	\$ 1,380,111,295	\$ 1,144,498	\$ 1,381,255,793
5. Market Value of Assets, June 30, 2023 [1 + 2(d) - 3(d) + 4(f)]	\$ 15,215,734,035	\$ 13,958,529	\$ 15,229,692,564
6. Rate of Return, Net of Expenses*			9.9%

* Annual money-weighted rate of return, net of investment expense, as reported by the Nebraska Investment Council.

TABLE 3
SCHOOL RETIREMENT SYSTEM
DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

	Year End			
	6/30/2020	6/30/2021	6/30/2022	6/30/2023
1. Actuarial Value of Assets, Beginning of Year	\$ 12,130,496,836	\$ 12,692,545,458	\$ 13,909,828,154	\$ 14,721,451,378
2. Unrecognized Return Beginning of Year	\$ 84,450,187	\$ (406,808,808)	\$ 1,782,728,104	\$ (578,691,668)
3. Contributions During Year				
(a) Member	\$ 203,866,708	\$ 210,035,574	\$ 216,125,582	\$ 223,286,528
(b) Employer	203,022,597	208,990,879	216,059,310	224,030,311
(c) State appropriations	43,076,482	44,254,036	46,307,188	47,785,748
(d) Total	\$ 449,965,787	\$ 463,280,489	\$ 478,492,080	\$ 495,102,587
4. Benefit Payments and Admin Expenses During Year	\$ 660,565,238	\$ 692,620,210	\$ 740,009,548	\$ 789,425,526
5. Assumed Rate of Return	7.50%	7.50%	7.30%	7.20%
6. Expected Investment Income on (1), (2), (3) and (4)	\$ 910,427,030	\$ 915,146,195	\$ 1,136,765,994	\$ 1,008,541,207
7. Actual Return on Market Value, Net of Investment Expenses*	\$ 281,389,078	\$ 3,636,159,329	\$ (1,288,279,080)	\$ 1,381,255,793
8. Return to be Spread, End of Year	\$ (629,037,952)	\$ 2,721,013,134	\$ (2,425,045,074)	\$ 372,714,586

*Prior to 6/30/2022, the return on the market value of assets was net of all expenses.

**TABLE 3
(continued)**

SCHOOL RETIREMENT SYSTEM

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

9. Return to be Spread

Plan Year Ending	Return to be Spread	Unrecognized Percent	Unrecognized Return
2023	\$372,714,586	80%	\$298,171,669
2022	(2,425,045,074)	60%	(1,455,027,044)
2021	2,721,013,134	40%	1,088,405,254
2020	(629,037,952)	20%	(125,807,590)
			<u>(\$194,257,711)</u>

10. Total Market Value of Assets as of July 1, 2023 \$15,229,692,564

11. Total Actuarial Value of Assets as of July 1, 2023 \$15,423,950,275
[10 - 9]

12. Asset Ratios

(a) Actuarial Value to Market Value [11 / 10] 101.28%
(b) Market Value to Actuarial Value [10 / 11] 98.74%

Plan Year Ended	Gain/(Loss) Deferred to Future Years	Gain/(Loss) to be Recognized in Plan Year Ending			
		2024	2025	2026	2027
6/30/2020	(\$125,807,590)	(125,807,590)			
6/30/2021	1,088,405,254	544,202,627	544,202,627		
6/30/2022	(1,455,027,044)	(485,009,015)	(485,009,015)	(485,009,014)	
6/30/2023	298,171,669	74,542,917	74,542,917	74,542,917	74,542,918
Total	(\$194,257,711)	\$7,928,939	\$133,736,529	(\$410,466,097)	\$74,542,918

SECTION 4 – SYSTEM LIABILITIES

In the previous section, an actuarial valuation was compared with an inventory process, and an analysis was given of the inventory of assets of the School Retirement System as of the valuation date, July 1, 2023. In this section, the discussion will focus on the commitments (future benefit payments) of the System, which are referred to as its liabilities.

Table 4 contains an analysis of the actuarial present value of all future benefits (PVFB) for contributing members, inactive members, retirees and their beneficiaries.

The liabilities summarized in Table 4 include the actuarial present value of all future benefits expected to be paid with respect to each member. For an active member, this value includes the measurement of both benefits already earned and future benefits to be earned. For all members, active and retired, the value extends over benefits earnable and payable for the rest of their lives and for the lives of the surviving beneficiaries.

All liabilities reflect the benefit provisions in place as of July 1, 2023.

Actuarial Accrued Liability

A fundamental principle in financing the liabilities of a retirement program is that the cost of its benefits should be related to the period in which benefits are earned, rather than to the period of benefit distribution. An actuarial cost method is a mathematical technique that allocates the present value of future benefits into annual costs. In order to do this allocation, it is necessary for the funding method to "breakdown" the present value of future benefits into two components:

- (1) that which is attributable to the past and
- (2) that which is attributable to the future.

Actuarial terminology calls the part attributable to the past the "past service liability" or the "actuarial accrued liability." The portion allocated to the future is known as the present value of future normal costs, with the specific piece of it allocated to the current year being called the "normal cost." Table 5 contains the calculation of actuarial accrued liability for the System. The Entry Age Normal actuarial cost method is used to develop the actuarial accrued liability.

TABLE 4
SCHOOL RETIREMENT SYSTEM
PRESENT VALUE OF FUTURE BENEFITS (PVFB)
AS OF JULY 1, 2023

	<u>Nebraska School System</u>	<u>Omaha Service Annuity</u>	<u>Total</u>
1. Active Employees			
(a) Retirement	\$ 8,182,679,895	\$ 19,332,286	\$ 8,202,012,181
(b) Withdrawal	617,417,249	1,768,513	619,185,762
(c) Death	102,492,807	141,674	102,634,481
(d) Disability	61,588,072	212,351	61,800,423
(e) Total	<u>\$ 8,964,178,023</u>	<u>\$ 21,454,824</u>	<u>\$ 8,985,632,847</u>
2. Inactive Vested Members	395,535,842	2,090,507	397,626,349
3. Inactive Nonvested Members	66,798,202	0	66,798,202
4. Disabled Members	52,021,374	0	52,021,374
5. Retirees	8,617,991,538	0	8,617,991,538
6. Beneficiaries	<u>368,534,943</u>	<u>0</u>	<u>368,534,943</u>
7. Total Present Value of Future Benefits [1(e) + 2 + 3 + 4 + 5 + 6]	<u>\$ 18,465,059,922</u>	<u>\$ 23,545,331</u>	<u>\$ 18,488,605,253</u>

TABLE 5
SCHOOL RETIREMENT SYSTEM
ACTUARIAL ACCRUED LIABILITY
AS OF JULY 1, 2023

	<u>Nebraska School</u> <u>System</u>	<u>Omaha Service</u> <u>Annuity</u>	<u>Total</u>
1. Present Value of Future Benefits for Active Members	\$ 8,964,178,023	\$ 21,454,824	\$ 8,985,632,847
2. Present Value of Future Normal Costs for Active Members			
(a) Retirement benefit	\$ 2,084,732,395	\$ 4,495,482	\$ 2,089,227,877
(b) Termination benefit	689,124,238	1,397,965	690,522,203
(c) Pre-Retirement death benefit	37,862,042	43,356	37,905,398
(d) Disability benefit	22,774,239	80,233	22,854,472
(e) Total	<u>\$ 2,834,492,914</u>	<u>\$ 6,017,036</u>	<u>\$ 2,840,509,950</u>
3. Actuarial Accrued Liability for Active Members [1 - 2(e)]	\$ 6,129,685,109	\$ 15,437,788	\$ 6,145,122,897
4. Actuarial Accrued Liability for Inactive Members	9,500,881,899	2,090,507	9,502,972,406
5. Total Actuarial Accrued Liability [3 + 4]	15,630,567,008	17,528,295	15,648,095,303
6. Actuarial Value of Assets*	15,409,813,702	14,136,573	15,423,950,275
7. Unfunded Actuarial Accrued Liability [5- 6]	\$ 220,753,306	\$ 3,391,722	\$ 224,145,028
8. Funded Ratio [6 / 5]			98.57%

*The actuarial value of assets is split between the Nebraska Schools System and the Omaha Service Annuity based on the respective proportions of the market value of assets.

TABLE 6
SCHOOL RETIREMENT SYSTEM
ACTUARIAL BALANCE SHEET
AS OF JULY 1, 2023

ASSETS

Actuarial Value of Assets	\$ 15,423,950,275
Unfunded Actuarial Accrued Liability	224,145,028
Present Value of Future Normal Costs	<u>2,840,509,950</u>
Total Assets	\$ 18,488,605,253

LIABILITIES

Present Value of Future Benefits	
Active members	
Retirement	\$ 8,182,679,895
Withdrawal	617,417,249
Death	102,492,807
Disability	61,588,072
Total	<u>\$ 8,964,178,023</u>
Inactive members	
Currently receiving benefits	9,038,547,855
Not currently receiving benefits	462,334,044
Total	<u>\$ 9,500,881,899</u>
Omaha Service Annuity	
Active	21,454,824
Inactive vested	2,090,507
Total	<u>\$ 23,545,331</u>
Total Liabilities	\$ 18,488,605,253

TABLE 7
SCHOOL RETIREMENT SYSTEM
ACTUARIAL GAIN/(LOSS)

Liabilities

1. Actuarial Accrued Liability as of July 1, 2022	\$ 14,958,362,275
2. Normal Cost for Plan Year Ending June 30, 2023, Including New Hires	298,082,000
3. Benefit Payments During Plan Year Ending June 30, 2023	(785,743,620)
4. Interest at 7.20%	1,073,022,181
5. Assumption Changes	<u>83,673,605</u>
6. Expected Actuarial Accrued Liability as of July 1, 2023	\$ 15,627,396,441
7. Actuarial Accrued Liability as of July 1, 2023	\$ 15,648,095,303

Assets

8. Actuarial Value of Assets as of July 1, 2022	\$ 14,721,451,378
9. Contributions During Plan Year Ending June 30, 2023	495,102,587
10. Benefit Payments and Expenses During Plan Year Ending June 30, 2023	(789,425,526)
11. Interest at 7.20%	<u>1,050,207,007</u>
12. Expected Actuarial Value of Assets as of July 1, 2023	\$ 15,477,335,446
13. Actuarial Value of Assets as of July 1, 2023	\$ 15,423,950,275

Gain / (Loss)

14. Actuarial Gain / (Loss) on Liabilities [6 - 7]	\$ (20,698,862)
15. Actuarial Gain / (Loss) on Assets [13 - 12]	\$ (53,385,171)
16. Total Actuarial Gain / (Loss) for Plan Year Ending June 30, 2023 [14 + 15]	\$ (74,084,033)

TABLE 8
SCHOOL RETIREMENT SYSTEM
GAIN/(LOSS) ANALYSIS BY SOURCE

Liability Sources	Gain/(Loss)
Retirement	\$ (6,318,000)
Termination	4,068,000
Disability	(43,000)
Mortality	7,342,000
Salary	(3,789,000)
COLA	(19,962,000)
Miscellaneous	(1,997,000)
Total Liability Gain/(Loss)	\$ (20,699,000)
Asset Gain/(Loss)	\$ (53,385,000)
Net Actuarial Gain/(Loss)	\$ (74,084,000)

TABLE 9
SCHOOL RETIREMENT SYSTEM
PROJECTED BENEFIT PAYMENTS
AS OF JULY 1, 2023

<u>Plan Year</u> <u>Ending June 30</u>	<u>Current</u> <u>Active Members</u>	<u>Current In-Pay</u> <u>Members</u>	<u>Total</u>
2024	\$ 57,963,000	\$ 781,966,000	\$ 839,929,000
2025	86,412,000	788,387,000	874,799,000
2026	117,466,000	793,617,000	911,083,000
2027	150,447,000	797,342,000	947,789,000
2028	185,372,000	800,025,000	985,397,000
2029	222,677,000	801,256,000	1,023,933,000
2030	261,730,000	800,876,000	1,062,606,000
2031	303,235,000	799,114,000	1,102,349,000
2032	347,077,000	795,570,000	1,142,647,000
2033	393,329,000	790,015,000	1,183,344,000
2034	441,958,000	782,752,000	1,224,710,000
2035	492,770,000	773,351,000	1,266,121,000
2036	545,902,000	761,548,000	1,307,450,000
2037	601,855,000	747,326,000	1,349,181,000
2038	660,643,000	730,638,000	1,391,281,000
2039	722,215,000	712,474,000	1,434,689,000
2040	785,688,000	692,436,000	1,478,124,000
2041	850,948,000	670,170,000	1,521,118,000
2042	918,347,000	645,735,000	1,564,082,000
2043	987,488,000	619,240,000	1,606,728,000
2044	1,058,231,000	591,347,000	1,649,578,000
2045	1,130,675,000	562,098,000	1,692,773,000
2046	1,203,181,000	531,760,000	1,734,941,000
2047	1,275,000,000	500,590,000	1,775,590,000
2048	1,344,562,000	468,761,000	1,813,323,000
2049	1,410,986,000	436,575,000	1,847,561,000
2050	1,473,122,000	404,471,000	1,877,593,000
2051	1,529,721,000	372,710,000	1,902,431,000
2052	1,579,342,000	341,822,000	1,921,164,000
2053	1,622,450,000	311,589,000	1,934,039,000

Note: Cash flows are the expected future non-discounted payments to current members. These numbers exclude refund payouts to any current vested or nonvested inactives and assume future retirees elect the normal form of payment. Also excludes Omaha appropriations.

SECTION 5 – EMPLOYER CONTRIBUTIONS

The previous two sections were devoted to a discussion of the assets and liabilities of the System. A comparison of Tables 3 and 4 indicates that current assets fall short of meeting the present value of future benefits (total liability). This is expected in all but a completely closed fund, where no further contributions are anticipated. In an active system, there will almost always be a difference between the actuarial value of assets and total liabilities. This deficiency has to be made up by future contributions and investment returns. An actuarial valuation sets out a schedule of future contributions that will deal with this deficiency in an orderly fashion.

The method used to determine the incidence of the contributions in various years is called the actuarial cost method. Under an actuarial cost method, the contributions required to meet the difference between current assets and current liabilities are allocated each year between two elements: (1) the normal cost rate and (2) the unfunded actuarial accrued liability contribution rate.

The term "fully funded" is often applied to a system in which contributions at the normal cost rate are sufficient to pay for the benefits of existing employees as well as for those of new employees. More often than not, systems are not fully funded, either because of past benefit improvements that have not been completely funded or because of actuarial deficiencies that have occurred because experience has not been as favorable as anticipated by the actuarial assumptions. Under these circumstances, an unfunded actuarial accrued liability (UAAL) exists. Likewise, when the actuarial value of assets is greater than the actuarial accrued liability, a surplus exists.

Description of Contribution Rate Components

The Entry Age Normal (EAN) actuarial cost method is used for the valuation. Under that method, the normal cost for each year from entry age to assumed exit age is a constant percentage of the member's year by year projected compensation. The portion of the present value of future benefits not provided by the present value of future normal costs is the actuarial accrued liability. The unfunded actuarial accrued liability/(surplus) represents the difference between the actuarial accrued liability and the actuarial value of assets as of the valuation date. The unfunded actuarial accrued liability is calculated each year and reflects experience gains and losses.

In general, contributions are computed in accordance with a level percent-of-payroll funding objective. The contribution rate based on the July 1, 2023 actuarial valuation will be used to determine the actuarial required employer contribution rate to the School Retirement System for the plan year ending June 30, 2024. Any additional State contributions are expected to be deposited on July 1, 2024 (State fiscal year 2025). In this context, the term "contribution rate" means the percentage, which is applied to a particular active member payroll to determine the actual employer contribution amount (i.e., in dollars) for the group.

This approach is intended to promote stable contributions, balance cost among generations of taxpayers and members, and ensure adequate prefunding of benefits. The amortization schedule will fully fund the UAAL within 25 years, and the scheduled contributions currently exceed the normal cost plus interest on the UAAL which means the UAAL is being reduced.

Contribution Rate Summary

In Table 10 the amortization payment related to the unfunded actuarial accrued liability, as of July 1, 2023, is developed. Table 11 develops the actuarial required contribution rate for the System and the amount of required State contributions.

The contribution rates shown in this report are based on the actuarial assumptions and cost methods described in Appendix C.

SECTION 5 – EMPLOYER CONTRIBUTIONS

TABLE 10

SCHOOL RETIREMENT SYSTEM

SCHEDULE OF AMORTIZATION BASES

We believe the use of the layered amortization policy, with new bases over 25 years and the remainder of the legacy base over 13 years, complies with Actuarial Standard of Practice Number 4. This policy will fully amortize the individual, as well as the total, unfunded actuarial accrued liability within a reasonable timeframe and/or reduce the amount of the UAAL by a reasonable amount within a sufficiently short period.

Amortization Bases	Original Amount	July 1, 2023 Remaining Payments	Date of Last Payment	Outstanding Balance as of July 1, 2023	Annual Contribution*
2006 UAAL Base	\$ 845,226,412	13	7/1/2036	\$ 743,802,091	\$ 74,242,059
2007 UAAL Base	(163,793,512)	14	7/1/2037	(150,841,998)	(14,234,831)
2008 UAAL Base	54,258,200	15	7/1/2038	52,046,834	4,666,890
2009 UAAL Base	370,759,908	16	7/1/2039	368,953,714	31,570,923
2010 UAAL Base	427,955,512	17	7/1/2040	440,257,802	36,086,851
2011 UAAL Base	287,237,896	18	7/1/2041	304,544,440	23,992,153
2012 UAAL Base	497,977,442	19	7/1/2042	542,688,657	41,212,911
2013 Experience Base	57,652,106	20	7/1/2043	64,425,134	4,728,807
2014 Experience Base	(514,341,070)	21	7/1/2044	(570,804,860)	(40,591,019)
2015 Experience Base	(534,298,489)	22	7/1/2045	(587,598,711)	(40,569,573)
2016 Experience Base	(140,025,390)	23	7/1/2046	(152,305,562)	(10,229,548)
2017 Assumption Change Base	853,085,886	24	7/1/2047	916,097,740	59,961,305
2017 Experience Base	(361,516,559)	24	7/1/2047	(388,219,414)	(25,410,108)
2018 Experience Base	(201,647,779)	25	7/1/2048	(214,459,832)	(13,701,382)
2019 Experience Base	(144,680,227)	26	7/1/2049	(152,166,684)	(9,503,174)
2020 Experience Base	(136,044,073)	27	7/1/2050	(141,304,061)	(8,638,210)
2021 Assumption Change Base	(155,121,129)	23	7/1/2046	(156,837,165)	(10,533,912)
2021 Experience Base	(612,344,486)	23	7/1/2046	(619,118,586)	(41,582,877)
2022 Assumption Change Base	82,620,879	24	7/1/2047	83,103,888	5,439,395
2022 Experience Base	(182,411,124)	24	7/1/2047	(183,477,516)	(12,009,146)
2023 Assumption Change Base	83,673,605	25	7/1/2048	83,673,605	5,345,728
2023 Experience Base	(58,314,488)	25	7/1/2048	(58,314,488)	(3,725,588)
Total				\$ 224,145,028	\$ 56,517,654

* Contribution amount reflects mid-year timing.

- 1. Total UAAL Amortization Payments \$ 56,517,654
- 2. Projected Payroll for FY 2024 \$ 2,386,735,766
- 3. UAAL Amortization Payment Rate 2.37%

Note: The payments on each UAAL base are determined as a level-percent of payroll using a 2.95% payroll growth assumption.

TABLE 11

SCHOOL RETIREMENT SYSTEM

ACTUARIAL REQUIRED CONTRIBUTION
FOR PLAN YEAR ENDING JUNE 30, 2024
and
DEVELOPMENT OF ADDITIONAL STATE CONTRIBUTION

1. Normal Cost Rate - Nebraska School System*		12.95%
2. Administrative Expenses		0.16%
3. UAAL Amortization Rate - Nebraska School System*		2.33%
4. Total Actuarial Required Contribution Rate - Nebraska School System [1 + 2 + 3]		15.44%
5. Statutory Contribution Rates - Nebraska School System		
(a) Member		9.78%
(b) Employer (101% of Member)		9.88%
(c) State		2.00%
(d) Total		21.66%
6. Shortfall/(Margin) - Nebraska School System [4 - 5(d)]		(6.22%)
7. Expected pay for all actives for FY 2024	\$	2,386,735,766
8. Additional Required State Contribution payable July 1, 2024 [6 * 7 * 1.071 ^{1/2} , but not less than 0]	\$	0
9. State Contribution due July 1, 2024		
(a) State Statutory Amount due July 1, 2024 [2% x Expected pay]	\$	47,734,715
(b) Omaha Service Annuity due July 1, 2024		
(i) Normal Cost amount	\$	816,727
(ii) Amortization amount		885,055
(iii) Total amount		1,701,782
(d) Additional Contribution		0
(e) Total	\$	49,436,497

*Excludes funding of Omaha Service Annuity

SECTION 6 – RISK CONSIDERATIONS

Actuarial Standards of Practice are issued by the Actuarial Standards Board and are binding on credentialed actuaries practicing in the United States. These standards generally identify what the actuary should consider, document and disclose when performing an actuarial assignment. In September 2017, Actuarial Standard of Practice Number 51, *Assessment and Disclosure of Risk in Measuring Pension Obligations*, (ASOP 51) was issued as final with application to measurement dates on or after November 1, 2018. This ASOP, which applies to funding valuations, actuarial projections, and actuarial cost studies of proposed plan changes, was first applicable for the July 1, 2019 actuarial valuation for the Nebraska School Retirement System (System).

A typical retirement plan faces many different risks, but the greatest risk is the inability to make benefit payments when due. If plan assets are depleted, benefits may not be paid which could create legal and litigation risk or the plan could become “pay as you go”. The term “risk” is most commonly associated with an outcome with undesirable results. However, in the actuarial world, risk can be translated as uncertainty. ASOP 51 defines risk as the potential of actual future measurements to deviate from expected results due to actual experience that is different than the actuarial assumptions. The actuarial valuation process uses many actuarial assumptions to project how future contributions and investment returns will meet the cash flow needs for future benefit payments. Of course, we know that actual experience will not unfold exactly as anticipated by the assumptions and that uncertainty, whether favorable or unfavorable, creates risk.

The various risk factors for a given plan can have a significant impact – positive or negative – on the actuarial projection of liability and contribution rates.

There are a number of risks inherent in the funding of a defined benefit plan. These include:

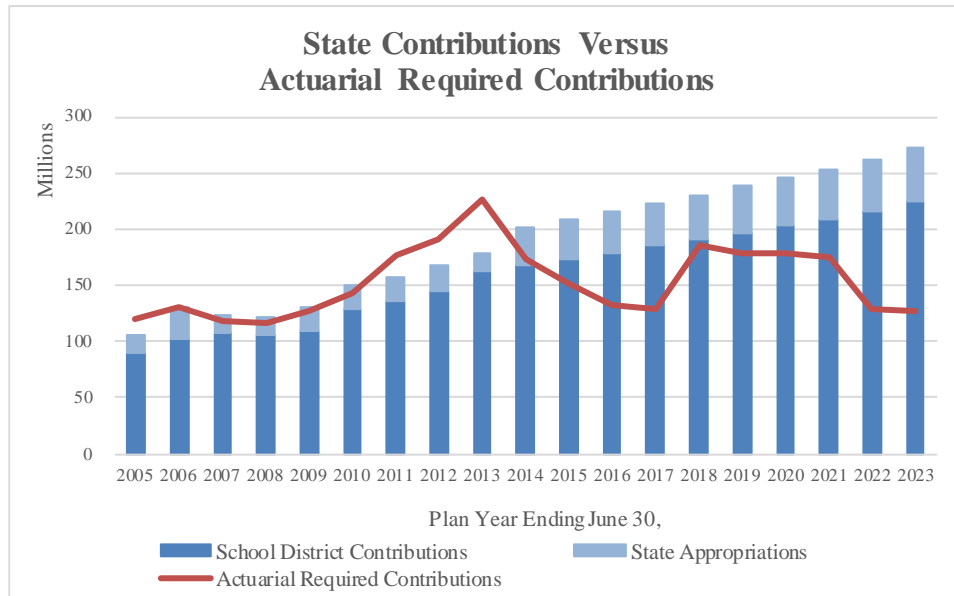
- economic risks, such as investment return and price inflation;
- demographic risks such as mortality, payroll growth, aging population including impact of baby boomers, and retirement ages;
- contribution risk, i.e., the potential for contribution rates to be too high for the plan sponsor/employer to pay; and
- external risks such as the regulatory and political environment.

Although the external risks do exist, ASOP 51 does not require the actuary to opine on those risks, and so no discussion is included here.

Actual vs Actuarial required contributions

Employees contribute a fixed contribution rate of 9.78% of pay, which is set by statute, and the School Districts contribute at a rate equal to 101% of the employees’ rate. In addition, the State contributes 2.00% of pay (1.00% of pay prior to July 1, 2014). The State is also required by Nebraska statutes to make additional contributions if the regular, payroll-related contributions are insufficient to meet the actuarial required contribution for the plan year. The additional State contribution for each plan year is made on the July 1 following the plan year-end. There is a direct correlation between healthy, well-funded retirement plans and consistent contributions equal to the full actuarial required contribution rate each year. As the following graph shows, contributions equal to or more than the full actuarial required contribution have been made in 15 of the last 19 years.

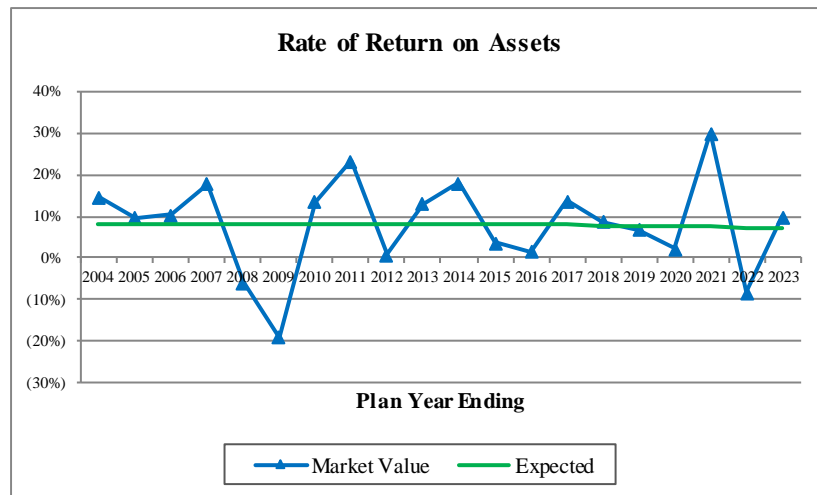
SECTION 6 – RISK CONSIDERATIONS



One of the positive factors regarding the funding of the School Retirement System is that contributions at least equal to the actuarial required contribution have been made in most years. As a result, the funded ratio of the System is strong and improving.

Investment Return Risk

The most significant risk factor for most public retirement systems, including the Nebraska School Retirement System, is investment return because of the volatility of returns and the size of plan assets compared to payroll (see Table 12). A perusal of historical returns over the last 20 years reveals that the actual returns each year are rarely close to the assumed return. This is to be expected, given the System’s asset allocation, but it creates significant contribution risk (volatility). As Table 12 illustrates, a return that is lower than the 7.1% assumption by 10.0% (-2.9%) equates to 64% of payroll. Even with asset smoothing and amortization of the actuarial experience loss over 25 years, the impact on the actuarial required contribution rate is dramatic (4.08% once the experience is fully recognized).



SECTION 6 – RISK CONSIDERATIONS

Under the revised Actuarial Standards of Practice (ASOP) No. 4 effective for valuations after February 15, 2023, we are required to include a low-default-risk obligation measure of the System’s liability in our funding valuation report. This is an informational disclosure as described below and would not be appropriate for assessing the funding progress or health of the plan. This measure uses the unit credit cost method and reflects all the assumptions and provisions of the funding valuation except that the discount rate is derived from considering low-default-risk fixed income securities. We considered the FTSE Pension Discount Curve based on market bond rates published by the Society of Actuaries as of June 30, 2023 and with the 30-year spot rate used for all durations beyond 30. Using these assumptions, we calculate a liability of approximately \$17.809 billion. This amount approximates the termination liability if the plan (or all covered employment) ended on the valuation date and all of the accrued benefits had to be paid with cash-flow matched bonds. This assurance of funded status and benefit security is typically more relevant for corporate plans than for governmental plans since governments rarely have the need or option to completely terminate a plan. However, this informational disclosure is required for all plans whether corporate or governmental and care should be taken to ensure the one size fits all metric is not misconstrued.

Contribution Risks

The actuarial required contribution rate, which is based on the snapshot of the System taken on the valuation date, will change each year as the deferred investment experience is recognized and future experience (both investment and demographic) impacts the System. Therefore, the actuarial required contribution rate is expected to change each year. To the extent the difference between the actual and expected experience is significant, the change in the actuarial required contribution rate is also expected to change significantly. This volatility in the actuarial required contribution rate can result in extreme volatility in the additional State contribution amount.

Return on Actuarial Value of Assets	2% Loss (5.1% Return)	5% Loss (2.1% Return)	10% Loss (-2.9% Return)
Actuarial Required Contribution Rate	16.26%	17.48%	19.52%
Member Contribution Rate	(9.78%)	(9.78%)	(9.78%)
School District Contribution Rate	(9.88%)	(9.88%)	(9.88%)
State Contribution Rate	<u>(2.00%)</u>	<u>(2.00%)</u>	<u>(2.00%)</u>
Additional Required State Contribution Rate	(5.40%)	(4.18%)	(2.14%)
Expected pay for FY 2024	\$2,386,735,766	\$2,386,735,766	\$2,386,735,766
Additional Required State Contribution Amount	\$0	\$0	\$0

The July 1, 2023 valuation results indicate that the current statutory contribution rates are 6.22% above the actuarial required contribution rate, indicating a healthy contribution rate margin. However, there are additional changes to the economic assumptions which will increase the actuarial contribution rate. In addition, this margin assumes all actuarial assumptions will be met in the future, including the assumed investment return of 7.10%. To the extent the difference between the actual and expected investment experience is significant, the change in the actuarial required contribution rate is also expected to change significantly. The following table illustrates the unfavorable investment experience over various time periods that can be absorbed without creating additional contributions by the State once the loss is fully recognized. All other assumptions are assumed to be met for purposes of this modeling.

SECTION 6 – RISK CONSIDERATIONS

Years	Return
1	-9.00%
2	-1.50%
3	1.25%
4	2.50%
5	3.25%
10	4.75%

Demographic Risks

A key demographic risk for all retirement systems, including the Nebraska School Retirement System, is improvements in mortality (longevity) greater than anticipated. While the actuarial assumptions reflect small, continuous improvements in mortality experience over time and these assumptions are refined every experience study, the risk arises because there is a possibility of some sudden shift, perhaps from a significant medical breakthrough that could quickly increase liabilities. Likewise, there is some possibility of a significant public health crisis that could result in a significant number of additional deaths in a short time period, as experienced with Covid-19. This kind of event is significant, although more easily absorbed. While either of these events could happen, it represents a small probability and thus represents much less risk than the volatility associated with investment returns.

Finally, the unfunded actuarial accrued liability is amortized as a level percentage of payroll so the UAAL payment schedule reflects an increasing dollar amount of payments over time, in anticipation of increasing payroll. This creates demographic risk of the active membership decreasing or actual salary increases, and therefore payroll, not increasing as assumed. Because there are many different employers who participate in the School Retirement System, the risk of a significant decline in the active membership is likely small. However, some widespread outsourcing of jobs that are now covered by the System could have an adverse impact on the System's funding. In addition, lower salary increases than assumed will result in lower covered payroll. When that occurs, the UAAL contribution rate is higher than expected even if the dollar amount of the payment is the same as scheduled.

The following exhibits summarize some historical information that helps indicate how certain key risk metrics have changed over time. Many are due to the maturing of the retirement system.

TABLE 12

SCHOOL RETIREMENT SYSTEM

HISTORICAL ASSET VOLATILITY RATIOS

As a retirement system matures, the size of the market value of assets increases relative to the covered payroll of active members, on which the System is funded. The size of the plan assets relative to covered payroll, sometimes referred to as the asset volatility ratio, is an important indicator of the contribution risk for the System. The higher this ratio, the more sensitive a plan's contribution rate is to investment return volatility. In other words, it will be harder to recover from investment losses with increased contributions.

Actuarial Valuation Date	Market Value of Assets	Covered Payroll	Asset Volatility Ratio	Increase in ACR with a Return 10% Lower than Assumed*
July 1, 2004	\$4,918,013,255	\$1,170,601,127	4.20	2.68%
July 1, 2005	5,393,380,574	1,214,227,197	4.44	2.84%
July 1, 2006	5,974,750,945	1,247,684,378	4.79	3.06%
July 1, 2007	7,024,856,413	1,325,616,322	5.30	3.39%
July 1, 2008	6,578,300,402	1,389,124,819	4.74	3.03%
July 1, 2009	5,265,649,707	1,481,568,432	3.55	2.27%
July 1, 2010	5,940,401,645	1,543,930,532	3.85	2.46%
July 1, 2011	7,263,954,832	1,590,225,983	4.57	2.92%
July 1, 2012	7,246,311,781	1,593,184,929	4.55	2.91%
July 1, 2013	8,092,953,030	1,735,175,956	4.66	2.98%
July 1, 2014	9,450,981,723	1,774,679,549	5.33	3.41%
July 1, 2015	9,685,816,053	1,845,979,997	5.25	3.35%
July 1, 2016	9,698,584,810	1,901,967,362	5.10	3.26%
July 1, 2017	10,876,861,507	1,966,968,901	5.53	3.53%
July 1, 2018	11,636,298,903	2,027,180,460	5.74	3.67%
July 1, 2019	12,214,947,023	2,093,017,529	5.84	3.73%
July 1, 2020	12,285,736,650	2,151,720,793	5.71	3.65%
July 1, 2021	15,692,556,258	2,235,203,829	7.02	4.48%
July 1, 2022	14,142,759,710	2,291,057,398	6.17	3.94%
July 1, 2023	15,229,692,564	2,386,735,766	6.38	4.08%

Note: Years prior to July 1, 2013 were provided by the prior actuary.

*The impact of asset smoothing is not reflected in the impact on the Actuarial Contribution Rate (ACR). Current year assumptions are used for all years shown.

The assets at July 1, 2023 are about six times payroll, so underperforming the investment return assumption by 10.00% (i.e., earn -2.90% for one year) creates an actuarial loss of about \$1.52 billion, or 64% of payroll. While the actual impact in the first year is mitigated by the asset smoothing method and amortization of the UAAL, this illustrates the significant contribution risk associated with volatile investment returns.

TABLE 13
SCHOOL RETIREMENT SYSTEM
HISTORICAL CASH FLOWS

The net cash flow of a system (contributions minus benefit payments and expenses), as a percentage of the beginning of year asset value, indicates the sensitivity of the system to short-term investment returns. Mature plans can have large amounts of benefit payments compared to contributions, particularly if they are well funded. In fact, this is one reason for prefunding retirement benefits – so a portion of investment return can help to pay plan benefits. When there is negative cash flow, investment losses in the short-term are compounded by the net withdrawal from plan assets leaving a smaller asset base to try to recover from the investment losses. Large negative cash flow can also create liquidity needs for the system.

Year End	Market Value of Assets (MVA)	Contributions	Benefit Payments	Net Cash Flow	Net Cash Flow as a Percent of MVA
6/30/2004	\$4,918,013,255	\$190,389,662	\$173,370,820	\$17,018,842	0.35%
6/30/2005	5,393,380,574	197,738,577	191,830,379	5,908,198	0.11%
6/30/2006	5,974,750,945	234,369,665	215,191,900	19,177,765	0.32%
6/30/2007	7,024,856,413	232,011,299	242,625,499	(10,614,200)	(0.15%)
6/30/2008	6,578,300,402	229,163,204	273,432,511	(44,269,307)	(0.67%)
6/30/2009	5,265,649,707	241,497,984	300,771,337	(59,273,353)	(1.13%)
6/30/2010	5,940,401,645	280,280,640	320,509,700	(40,229,060)	(0.68%)
6/30/2011	7,263,954,832	295,505,322	351,083,806	(55,578,484)	(0.77%)
6/30/2012	7,246,311,781	316,058,643	391,133,707	(75,075,064)	(1.04%)
6/30/2013	8,092,953,030	343,844,729	427,885,060	(84,040,331)	(1.04%)
6/30/2014	9,450,981,723	372,524,092	466,161,224	(93,637,132)	(0.99%)
6/30/2015	9,685,816,053	384,302,638	502,190,816	(117,888,178)	(1.22%)
6/30/2016	9,698,584,810	395,138,678	528,499,067	(133,360,389)	(1.38%)
6/30/2017	10,876,861,507	410,111,907	554,369,720	(144,257,813)	(1.33%)
6/30/2018	11,636,298,903	422,723,237	587,984,401	(165,261,164)	(1.42%)
6/30/2019	12,214,947,023	435,737,807	626,500,723	(190,762,916)	(1.56%)
6/30/2020	12,285,736,650	449,965,787	660,565,238	(210,599,451)	(1.71%)
6/30/2021	15,692,556,258	463,280,489	692,620,210	(229,339,721)	(1.46%)
6/30/2022	14,142,759,710	478,492,080	736,680,306	(258,188,226)	(1.83%)
6/30/2023	15,229,692,564	495,102,587	785,743,620	(290,641,033)	(1.91%)

Note: Years prior to 6/30/2013 were provided by the prior actuary.

TABLE 14

SCHOOL RETIREMENT SYSTEM

LIABILITY MATURITY MEASUREMENTS

Most public sector retirement systems have been in operation for many years. As a result, they have aging plan populations, and in some cases declining active populations, resulting in an increasing ratio of retirees to active members (see Table 15) and a growing percentage of retiree liability (see table below). With more of the total liability residing with retirees, investment volatility has a greater impact on the funding of the system because it is more difficult to restore the system financially after losses occur when there is comparatively less payroll over which to spread costs.

Actuarial Valuation Date	Retiree Liability (a)	Total Actuarial Liability (b)	Retiree Percentage (a) / (b)
July 1, 2004	\$2,123,696,982	\$5,868,266,970	36.2%
July 1, 2005	2,199,034,866	6,234,657,830	35.3%
July 1, 2006	2,476,199,326	6,584,275,406	37.6%
July 1, 2007	2,721,307,439	7,070,308,583	38.5%
July 1, 2008	3,109,583,957	7,654,536,359	40.6%
July 1, 2009	3,265,413,786	8,092,339,318	40.4%
July 1, 2010	3,585,655,502	8,542,119,000	42.0%
July 1, 2011	3,947,029,052	9,039,744,995	43.7%
July 1, 2012	4,584,703,061	9,609,157,134	47.7%
July 1, 2013	4,878,220,586	9,984,898,998	48.9%
July 1, 2014	5,257,094,210	10,426,112,609	50.4%
July 1, 2015	5,518,660,659	10,778,303,637	51.2%
July 1, 2016	5,871,061,908	11,207,298,169	52.4%
July 1, 2017	6,471,922,158	12,466,139,649	51.9%
July 1, 2018	6,876,106,828	13,001,288,461	52.9%
July 1, 2019	7,197,476,633	13,435,710,270	53.6%
July 1, 2020	7,487,101,482	13,849,194,050	54.1%
July 1, 2021	7,969,759,950	14,279,493,188	55.8%
July 1, 2022	8,594,484,889	14,958,362,275	57.5%
July 1, 2023	9,038,547,855	15,648,095,303	57.8%

Note: Years prior to July 1, 2013 were provided by the prior actuary.

TABLE 15
SCHOOL RETIREMENT SYSTEM
ACTIVE AND RETIREE MEMBERSHIP

Valuation Date July 1,	Number of Active Members	Number of Retired Members	Active/Retired
2004	36,353	12,733	2.86
2005	36,042	13,052	2.76
2006	36,414	13,727	2.65
2007	37,152	14,408	2.58
2008	37,832	15,339	2.47
2009	39,231	15,949	2.46
2010	39,764	16,912	2.35
2011	39,886	17,814	2.24
2012	39,477	19,097	2.07
2013	40,314	19,790	2.04
2014	40,462	20,889	1.94
2015	40,994	21,836	1.88
2016	41,443	22,857	1.81
2017	41,943	23,654	1.77
2018	42,349	24,486	1.73
2019	42,713	25,272	1.69
2020	43,177	26,184	1.65
2021	43,423	26,894	1.61
2022	43,586	28,094	1.55
2023	43,853	28,854	1.52

Note: Years prior to July 1, 2013 were provided by the prior actuary.

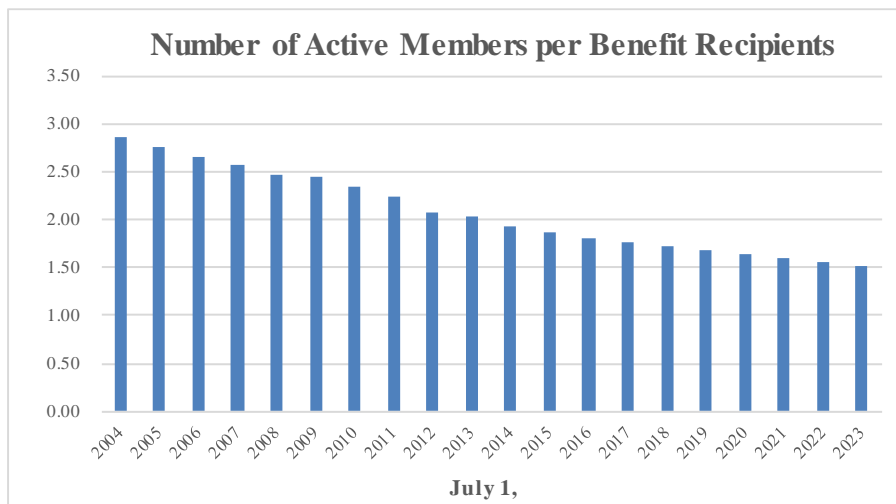


TABLE 16
SCHOOL RETIREMENT SYSTEM
COMPARISON OF VALUATION RESULTS UNDER ALTERNATE
INVESTMENT RETURN ASSUMPTIONS
(\$ in thousands)

This exhibit compares the key July 1, 2023 valuation results under five (5) different investment return assumptions to illustrate the impact of different assumptions on the funding of the System. Note that only the investment return assumption is changed, as identified in the heading below. All other assumptions are unchanged for purposes of this analysis.

Investment Return Assumption	6.60%	6.85%	7.10%	7.35%	7.60%
Actuarial Accrued Liability	\$16,686,458	\$16,154,297	\$15,648,095	\$15,166,325	\$14,707,560
Actuarial Value of Assets	<u>15,423,950</u>	<u>15,423,950</u>	<u>15,423,950</u>	<u>15,423,950</u>	<u>15,423,950</u>
Unfunded Actuarial Accrued Liability*	\$1,262,508	\$730,347	\$224,145	(\$257,626)	(\$716,391)
Funded Ratio	92.43%	95.48%	98.57%	101.70%	104.87%
Contributions**					
Normal Cost Rate	14.55%	13.72%	12.95%	12.24%	11.59%
Administrative Expenses	0.16%	0.16%	0.16%	0.16%	0.16%
UAAL Amortization Rate	4.98%	3.66%	2.33%	(0.71%)	(2.01%)
Total Actuarial Required Contribution Rate	<u>19.69%</u>	<u>17.54%</u>	<u>15.44%</u>	<u>11.69%</u>	<u>9.74%</u>
Member Contribution Rate	(9.78%)	(9.78%)	(9.78%)	(9.78%)	(9.78%)
Employer Required Contribution Rate	(9.88%)	(9.88%)	(9.88%)	(9.88%)	(9.88%)
State Contribution Rate	<u>(2.00%)</u>	<u>(2.00%)</u>	<u>(2.00%)</u>	<u>(2.00%)</u>	<u>(2.00%)</u>
Contribution Shortfall/(Margin)	(1.97%)	(4.12%)	(6.22%)	(9.97%)	(11.92%)

Note: All other assumptions are unchanged for purposes of this sensitivity analysis.

* May not add due to rounding.

** Contribution rates exclude State funding of Omaha Service Annuity.

SECTION 7 – HISTORICAL FUNDING AND OTHER INFORMATION

This section of the report provides a historical perspective on the System’s funding and contribution practices, along with other information that may be of interest.

SECTION 7 – HISTORICAL FUNDING AND OTHER INFORMATION

TABLE 17
SCHOOL RETIREMENT SYSTEM
HISTORICAL FUNDING INFORMATION
SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded Actuarial Accrued Liability (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a % of Covered Payroll [(b - a) / c]
June 30, 2004	\$5,118,011,165	\$5,868,266,970	\$750,255,805	87.2%	\$1,170,601,127	64.1%
June 30, 2005	5,335,197,409	6,234,657,830	899,460,421	85.6%	1,214,227,197	74.1%
June 30, 2006	5,739,048,994	6,584,275,406	845,226,412	87.2%	1,247,684,378	67.7%
June 30, 2007	6,396,336,863	7,070,308,583	673,971,720	90.5%	1,325,616,322	50.8%
June 30, 2008	6,932,918,638	7,654,536,359	721,617,721	90.6%	1,389,124,819	51.9%
June 30, 2009	7,007,581,825	8,092,339,318	1,084,757,493	86.6%	1,481,568,432	73.2%
June 30, 2010	7,040,908,599	8,542,119,000	1,501,210,401	82.4%	1,543,930,532	97.2%
June 30, 2011	7,267,497,259	9,039,744,995	1,772,247,736	80.4%	1,590,225,983	111.4%
June 30, 2012	7,358,964,135	9,609,157,134	2,250,192,999	76.6%	1,593,184,929	141.2%
June 30, 2013	7,703,084,507	9,984,898,998	2,281,814,491	77.1%	1,735,175,956	131.5%
June 30, 2014	8,622,023,999	10,426,112,609	1,804,088,610	82.7%	1,774,679,549	101.7%
June 30, 2015	9,485,594,650	10,778,303,637	1,292,708,987	88.0%	1,845,979,997	70.0%
June 30, 2016	10,045,925,478	11,207,298,169	1,161,372,691	89.6%	1,901,967,362	61.1%
June 30, 2017	10,810,539,558	12,466,139,649	1,655,600,091	86.7%	1,966,968,901	84.2%
June 30, 2018	11,545,658,962	13,001,288,461	1,455,629,499	88.8%	2,027,180,460	71.8%
June 30, 2019	12,130,496,836	13,435,710,270	1,305,213,434	90.3%	2,093,017,529	62.4%
June 30, 2020	12,692,545,458	13,849,194,050	1,156,648,592	91.6%	2,151,720,793	53.8%
June 30, 2021	13,909,828,154	14,279,493,188	369,665,034	97.4%	2,235,203,829	16.5%
June 30, 2022	14,721,451,378	14,958,362,275	236,910,897	98.4%	2,291,057,398	10.3%
June 30, 2023	15,423,950,275	15,648,095,303	224,145,028	98.6%	2,386,735,766	9.4%

Note: Information before 2013 was produced by the prior actuary.

TABLE 18

SCHOOL RETIREMENT SYSTEM

HISTORICAL FUNDING INFORMATION

**SCHEDULE OF CONTRIBUTIONS FROM EMPLOYERS
AND OTHER CONTRIBUTING ENTITIES**

Plan Year Ending	Actuarial Required Contributions*			Percent Contributed
	School Districts	State	Total	
June 30, 2005	\$90,178,025	\$30,274,438	\$120,452,463	87%
June 30, 2006	102,089,105	28,056,703	130,145,808	100%
June 30, 2007	102,849,748	15,219,871	118,069,619	104%
June 30, 2008	101,368,968	15,832,941	117,201,909	104%
June 30, 2009	105,497,775	20,620,548	126,118,323	104%
June 30, 2010	121,277,758	21,380,352	142,658,110	105%
June 30, 2011	135,328,339	40,779,653	176,107,992	89%
June 30, 2012	145,582,040	45,866,350	191,448,390	88%
June 30, 2013	161,922,831	64,966,961	226,889,792	79%
June 30, 2014	138,544,708	34,703,519	173,248,227	117%
June 30, 2015	115,776,948	35,493,591	151,270,539	138%
June 30, 2016	94,929,605	36,919,600	131,849,205	163%
June 30, 2017	90,038,793	38,039,347	128,078,140	174%
June 30, 2018	145,340,830	39,339,378	184,680,208	125%
June 30, 2019	138,503,494	40,543,609	179,047,103	133%
June 30, 2020	136,474,726	41,860,351	178,335,077	137%
June 30, 2021	132,658,366	43,034,416	175,692,782	143%
June 30, 2022	84,649,368	44,704,077	129,353,445	202%
June 30, 2023	81,421,857	45,821,148	127,243,005	212%

* Excludes Omaha appropriations.

Note: Contribution information is consistent with that shown in the GASB 67 report prepared for the System.

SCHOOL RETIREMENT SYSTEM
MEMBER DATA RECONCILIATION

	Active Members	Inactive Vested	Inactive Non-vested	Retirees and Beneficiaries	Disabled Members	Total
As of July 1, 2022	43,586	7,028	20,166	27,791	303	98,874
Changes in status						
a) Retirement	(1,043)	(281)	0	1,324	0	0
b) Death	(39)	(28)	(47)	(752)	(15)	(881)
c) Non-vested termination	(2,220)	0	2,220	0	0	0
d) Vested termination	(1,259)	1,259	0	0	0	0
e) Contribution refund	(707)	(231)	(800)	0	0	(1,738)
f) Beneficiary in receipt	0	0	0	224	0	224
g) Disability retirement	(11)	(7)	0	0	18	0
h) Return to active service	713	(205)	(508)	0	0	0
i) Expired benefit	0	0	0	(39)	0	(39)
j) Data adjustment	<u>(6)</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>(4)</u>
Total changes in status	(4,572)	509	865	757	3	(2,438)
New entrants	4,839	0	496	0	0	5,335
Net Change	267	509	1,361	757	3	2,897
As of July 1, 2023	43,853	7,537	21,527	28,548	306	101,771

SCHOOL RETIREMENT SYSTEM
SUMMARY OF MEMBERSHIP DATA

A. ACTIVE MEMBERS	July 1, 2023	July 1, 2022	% Change
1. Number of Active Members			
(a) Tier 1	19,782	21,294	(7.1%)
(b) Tier 2	6,779	7,335	(7.6%)
(c) Tier 3	1,975	2,188	(9.7%)
(d) Tier 4	15,317	12,769	20.0%
(e) Total	43,853	43,586	0.6%
2. Annual Reported Salary			
(a) Tier 1	\$ 1,281,399,071	\$ 1,314,545,072	(2.5%)
(b) Tier 2	337,175,308	337,788,364	(0.2%)
(c) Tier 3	86,930,110	87,996,495	(1.2%)
(d) Tier 4	551,212,928	425,698,384	29.5%
(e) Total	\$ 2,256,717,417	\$ 2,166,028,315	4.2%
3. Accumulated Contributions	\$ 2,147,216,794	\$ 2,059,002,080	4.3%
4. Active Member Averages			
(a) Age	44.3	44.3	0.0%
(b) Service	10.8	10.9	(0.9%)
(c) Annual Reported Salary	\$ 51,461	\$ 49,696	3.6%
B. INACTIVE MEMBERS			
1. Number of Inactive Members			
(a) System vested	7,537	7,028	7.2%
(b) System nonvested (refund only)	21,527	20,166	6.7%
(d) Total	29,064	27,194	6.9%
2. Accumulated Member Contributions (excluding Omaha)	\$ 312,895,418	\$ 275,740,613	13.5%
3. Inactive Member Averages (excluding Omaha)			
(a) Age (vesteds only)	51.0	51.5	(1.0%)
(b) Estimated Annual Benefits (vesteds only)	\$ 8,090	\$ 7,777	4.0%
(c) Accumulated member contributions	\$ 10,766	\$ 10,140	6.2%
C. RETIREES, DISABLEDS, AND BENEFICIARIES			
1. Number of Members			
(a) Retired	26,666	25,992	2.6%
(b) Disabled	306	303	1.0%
(c) Beneficiaries	1,882	1,799	4.6%
(d) Total	28,854	28,094	2.7%
2. Annual Benefits			
(a) Retired	\$ 735,474,937	\$ 697,083,951	5.5%
(b) Disabled	4,913,654	4,704,139	4.5%
(c) Beneficiaries	42,158,042	39,191,290	7.6%
(d) Total	\$ 782,546,633	\$ 740,979,380	5.6%

OMAHA SCHOOL EMPLOYEES

SUMMARY OF MEMBERSHIP DATA

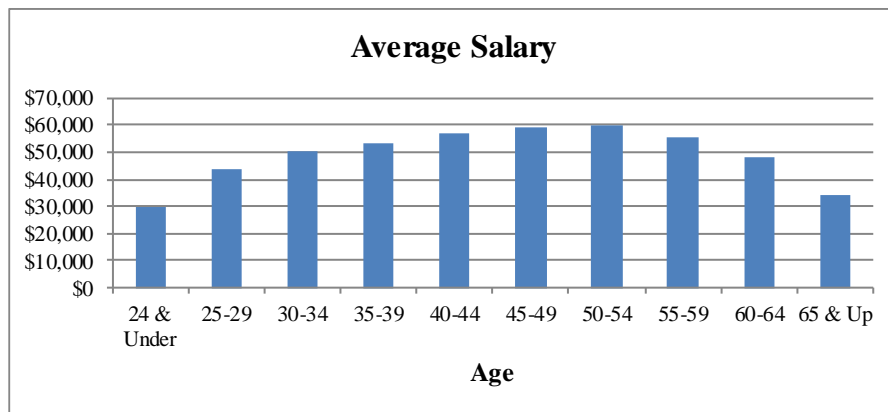
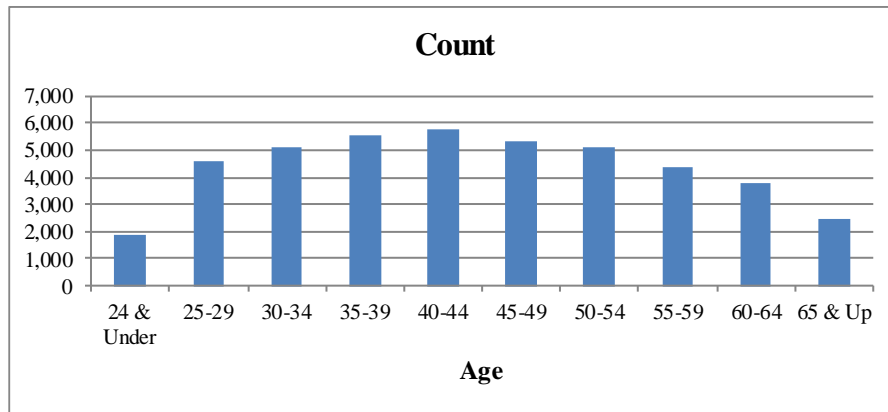
A. ACTIVE MEMBERS	January 1, 2023	January 1, 2022	% Change
1. Number of Active Members	6,712	7,085	(5.3%)
2. Average Age	44.6	47.9	(6.9%)
3. Average Service	10.9	10.6	2.8%
B. INACTIVE VESTED MEMBERS			
1. Number of Inactive Members	1,532	1,350	13.5%
2. Average Age	46.4	49.7	(6.6%)
3. Average Service	9.7	9.4	3.2%

Note: Data was provided by the Omaha Schools Employee Retirement System (OSERS) for use in estimating the Service Annuity obligation. The data provided is from the most recent OSERS valuation.

**ACTIVE MEMBERS
AS OF JULY 1, 2023**

Total

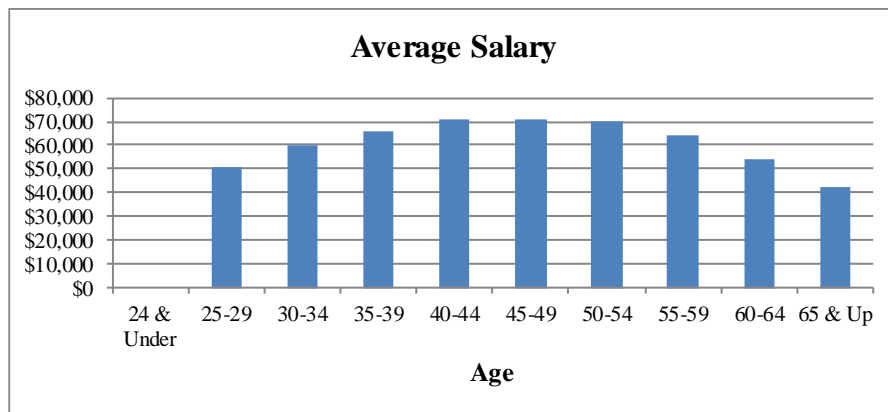
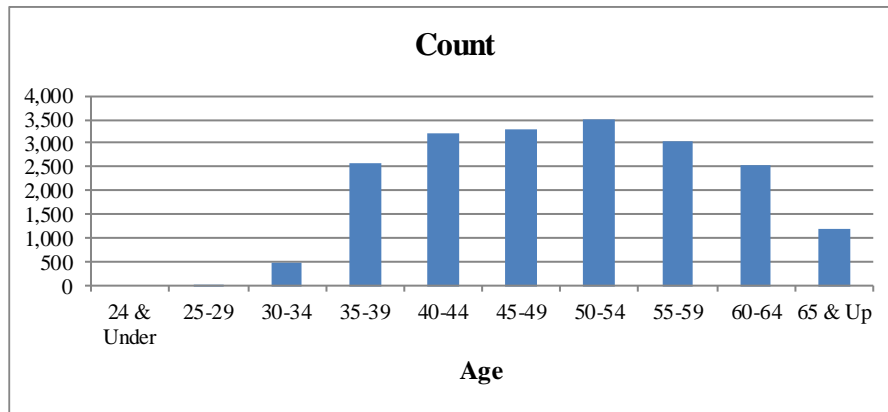
Age	Count			Reported FY 2023 Earnings		
	Male	Female	Total	Male	Female	Total
24 & Under	398	1,441	1,839	\$ 13,125,335	\$ 40,964,875	\$ 54,090,210
25-29	1,041	3,518	4,559	48,211,074	150,006,328	198,217,402
30-34	1,258	3,837	5,095	69,602,494	185,334,281	254,936,775
35-39	1,304	4,269	5,573	82,975,210	212,995,959	295,971,169
40-44	1,356	4,425	5,781	95,342,688	234,070,134	329,412,822
45-49	1,237	4,072	5,309	91,508,512	220,094,998	311,603,510
50-54	1,237	3,870	5,107	92,059,019	213,844,030	305,903,049
55-59	1,046	3,311	4,357	73,172,077	167,856,292	241,028,369
60-64	1,010	2,791	3,801	60,332,421	121,745,906	182,078,327
65 & Up	<u>821</u>	<u>1,611</u>	<u>2,432</u>	<u>32,201,632</u>	<u>51,274,152</u>	<u>83,475,784</u>
Total	10,708	33,145	43,853	\$ 658,530,462	\$ 1,598,186,955	\$ 2,256,717,417



**ACTIVE MEMBERS
AS OF JULY 1, 2023**

Tier 1 Members

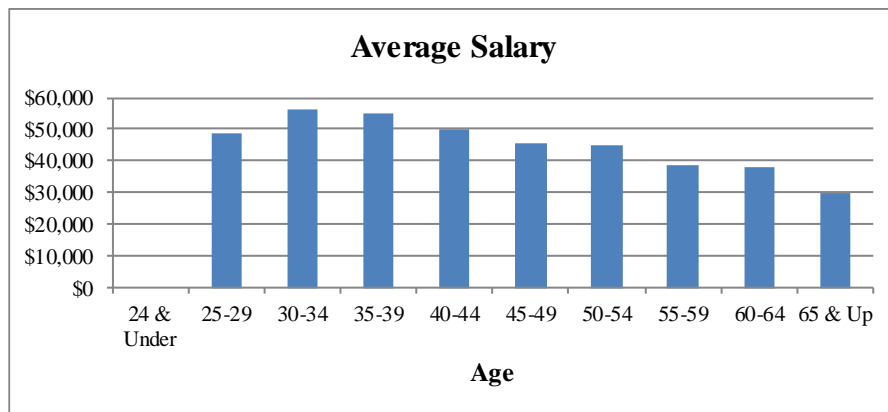
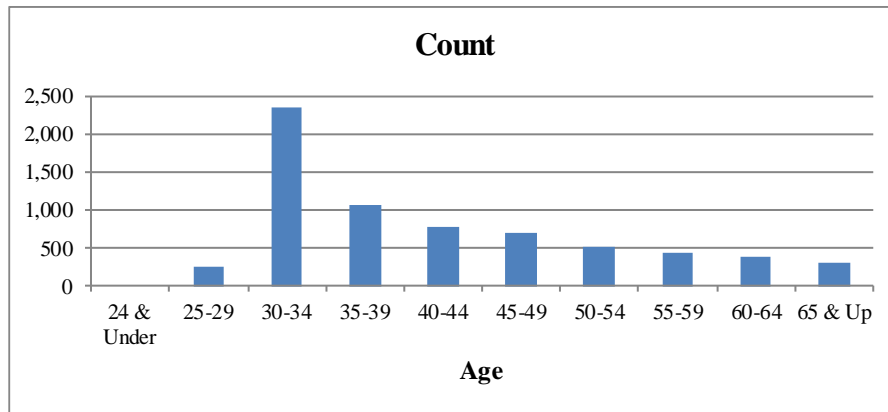
Age	Count			Reported FY 2023 Earnings		
	Male	Female	Total	Male	Female	Total
24 & Under	0	0	0	\$ 0	\$ 0	\$ 0
25-29	0	2	2	0	101,158	101,158
30-34	110	372	482	7,412,864	21,388,635	28,801,499
35-39	646	1,917	2,563	46,719,502	121,838,902	168,558,404
40-44	844	2,347	3,191	67,034,014	157,825,326	224,859,340
45-49	840	2,432	3,272	69,434,278	162,744,056	232,178,334
50-54	882	2,636	3,518	74,788,208	170,404,740	245,192,948
55-59	705	2,320	3,025	57,743,554	135,653,732	193,397,286
60-64	596	1,931	2,527	42,141,695	94,921,613	137,063,308
65 & Up	<u>347</u>	<u>855</u>	<u>1,202</u>	<u>17,135,919</u>	<u>34,110,875</u>	<u>51,246,794</u>
Total	4,970	14,812	19,782	\$ 382,410,034	\$ 898,989,037	\$ 1,281,399,071



**ACTIVE MEMBERS
AS OF JULY 1, 2023**

Tier 2 Members

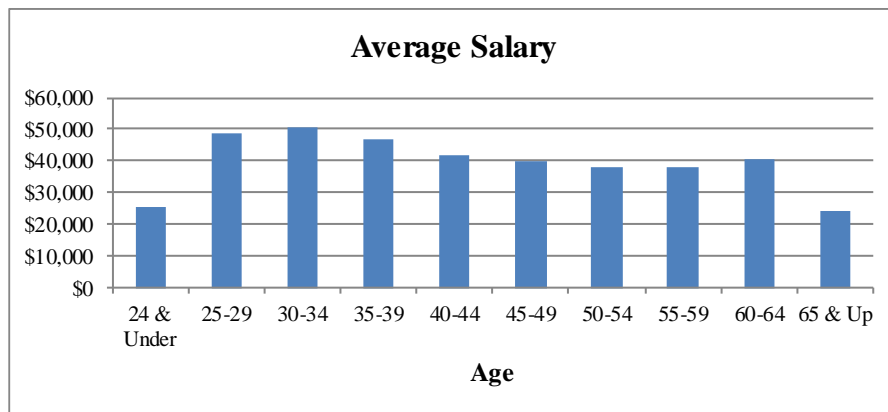
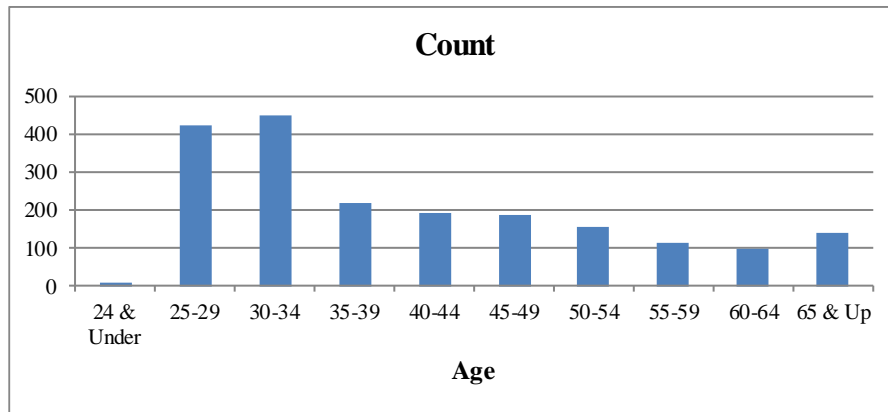
Age	Count			Reported FY 2023 Earnings		
	Male	Female	Total	Male	Female	Total
24 & Under	0	0	0	\$ 0	\$ 0	\$ 0
25-29	48	214	262	2,394,635	10,294,435	12,689,070
30-34	584	1,763	2,347	35,453,325	96,565,096	132,018,421
35-39	309	743	1,052	19,633,854	38,232,521	57,866,375
40-44	173	608	781	11,028,547	27,969,850	38,998,397
45-49	123	570	693	8,095,969	23,689,950	31,785,919
50-54	100	412	512	5,983,951	17,117,662	23,101,613
55-59	95	351	446	4,784,225	12,409,421	17,193,646
60-64	110	269	379	5,292,055	9,018,111	14,310,166
65 & Up	<u>130</u>	<u>177</u>	<u>307</u>	<u>4,462,331</u>	<u>4,749,370</u>	<u>9,211,701</u>
Total	1,672	5,107	6,779	\$ 97,128,892	\$ 240,046,416	\$ 337,175,308



**ACTIVE MEMBERS
AS OF JULY 1, 2023**

Tier 3 Members

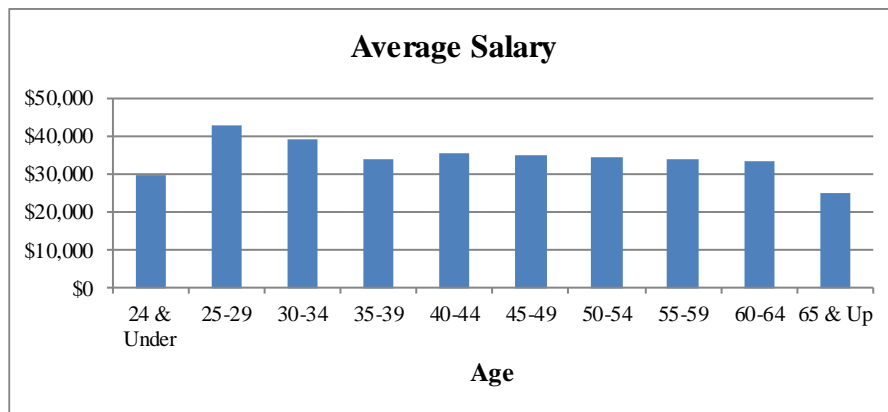
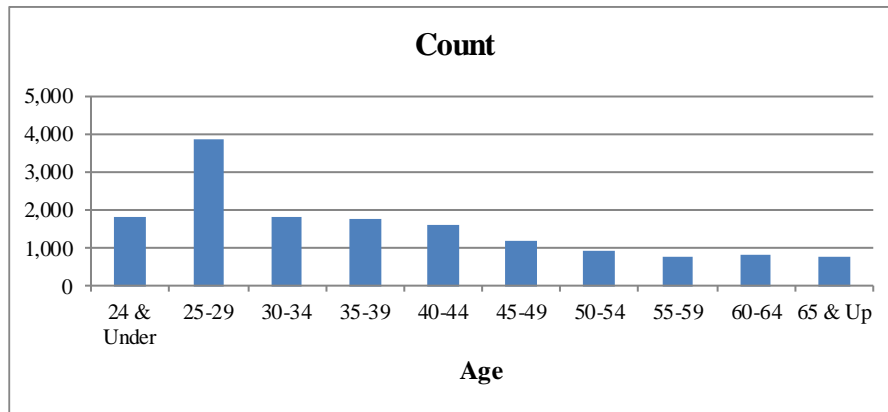
Age	Count			Reported FY 2023 Earnings		
	Male	Female	Total	Male	Female	Total
24 & Under	1	5	6	\$ 53,458	\$ 99,881	\$ 153,339
25-29	82	340	422	4,404,909	16,291,638	20,696,547
30-34	111	338	449	5,991,416	16,825,897	22,817,313
35-39	54	164	218	2,981,158	7,294,582	10,275,740
40-44	42	149	191	2,291,824	5,750,995	8,042,819
45-49	33	152	185	1,753,881	5,684,948	7,438,829
50-54	35	120	155	1,686,944	4,191,661	5,878,605
55-59	26	89	115	1,199,708	3,171,621	4,371,329
60-64	36	61	97	1,847,586	2,106,203	3,953,789
65 & Up	48	89	137	1,374,431	1,927,369	3,301,800
Total	468	1,507	1,975	\$ 23,585,315	\$ 63,344,795	\$ 86,930,110



**ACTIVE MEMBERS
AS OF JULY 1, 2023**

Tier 4 Members

Age	Count			Reported FY 2023 Earnings		
	Male	Female	Total	Male	Female	Total
24 & Under	397	1,436	1,833	\$ 13,071,877	\$ 40,864,994	\$ 53,936,871
25-29	911	2,962	3,873	41,411,530	123,319,097	164,730,627
30-34	453	1,364	1,817	20,744,889	50,554,653	71,299,542
35-39	295	1,445	1,740	13,640,696	45,629,954	59,270,650
40-44	297	1,321	1,618	14,988,303	42,523,963	57,512,266
45-49	241	918	1,159	12,224,384	27,976,044	40,200,428
50-54	220	702	922	9,599,916	22,129,967	31,729,883
55-59	220	551	771	9,444,590	16,621,518	26,066,108
60-64	268	530	798	11,051,085	15,699,979	26,751,064
65 & Up	<u>296</u>	<u>490</u>	<u>786</u>	<u>9,228,951</u>	<u>10,486,538</u>	<u>19,715,489</u>
Total	3,598	11,719	15,317	\$ 155,406,221	\$ 395,806,707	\$ 551,212,928



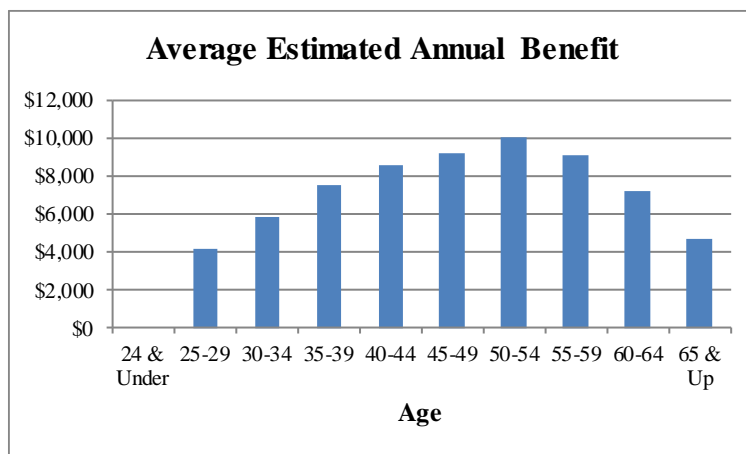
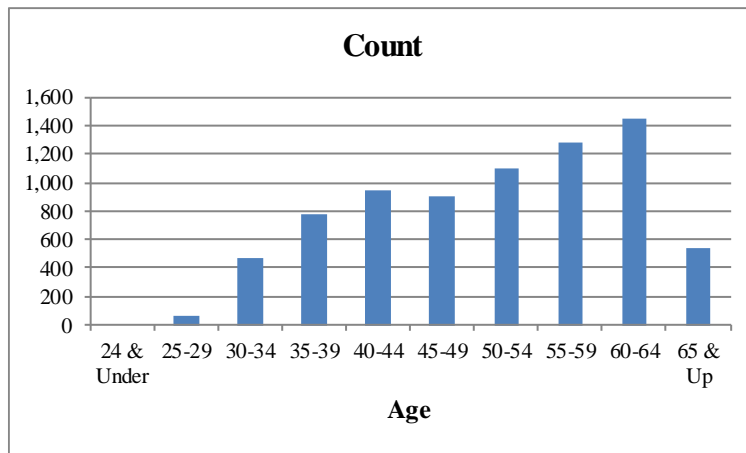
APPENDIX A – MEMBERSHIP DATA

**AGE AND SERVICE DISTRIBUTION
AS OF JULY 1, 2023**

Age		0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34	Total
24 & Under	Number	1,831	8	0	0	0	0	0	0	1,839
	Total Salary	\$ 53,903,158	\$ 187,052	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 54,090,210
	Average Sal.	\$ 29,439	\$ 23,382	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 29,413
25-29	Number	3,521	1,036	2	0	0	0	0	0	4,559
	Total Salary	\$ 144,778,960	\$ 53,324,861	\$ 113,581	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 198,217,402
	Average Sal.	\$ 41,119	\$ 51,472	\$ 56,791	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 43,478
30-34	Number	1,705	2,679	707	4	0	0	0	0	5,095
	Total Salary	\$ 63,218,631	\$ 147,504,321	\$ 44,009,508	\$ 204,315	\$ 0	\$ 0	\$ 0	\$ 0	\$ 254,936,775
	Average Sal.	\$ 37,078	\$ 55,059	\$ 62,248	\$ 51,079	\$ 0	\$ 0	\$ 0	\$ 0	\$ 50,037
35-39	Number	1,696	1,297	2,051	529	0	0	0	0	5,573
	Total Salary	\$ 55,220,339	\$ 67,750,325	\$ 135,349,252	\$ 37,651,253	\$ 0	\$ 0	\$ 0	\$ 0	\$ 295,971,169
	Average Sal.	\$ 32,559	\$ 52,236	\$ 65,992	\$ 71,174	\$ 0	\$ 0	\$ 0	\$ 0	\$ 53,108
40-44	Number	1,575	1,092	949	1,816	349	0	0	0	5,781
	Total Salary	\$ 53,518,875	\$ 53,347,496	\$ 61,029,037	\$ 133,592,787	\$ 27,924,627	\$ 0	\$ 0	\$ 0	\$ 329,412,822
	Average Sal.	\$ 33,980	\$ 48,853	\$ 64,309	\$ 73,564	\$ 80,013	\$ 0	\$ 0	\$ 0	\$ 56,982
45-49	Number	1,146	967	726	795	1,372	303	0	0	5,309
	Total Salary	\$ 37,578,251	\$ 43,730,805	\$ 40,850,512	\$ 56,152,915	\$ 108,741,860	\$ 24,549,167	\$ 0	\$ 0	\$ 311,603,510
	Average Sal.	\$ 32,791	\$ 45,223	\$ 56,268	\$ 70,633	\$ 79,258	\$ 81,020	\$ 0	\$ 0	\$ 58,693
50-54	Number	903	761	649	684	685	1,173	252	0	5,107
	Total Salary	\$ 30,034,494	\$ 32,259,611	\$ 33,142,947	\$ 41,685,036	\$ 49,999,907	\$ 96,980,697	\$ 21,800,357	\$ 0	\$ 305,903,049
	Average Sal.	\$ 33,261	\$ 42,391	\$ 51,068	\$ 60,943	\$ 72,993	\$ 82,677	\$ 86,509	\$ 0	\$ 59,899
55-59	Number	757	627	507	638	590	531	593	114	4,357
	Total Salary	\$ 24,638,315	\$ 23,877,116	\$ 23,486,823	\$ 34,689,142	\$ 36,410,257	\$ 40,524,444	\$ 48,281,098	\$ 9,121,174	\$ 241,028,369
	Average Sal.	\$ 32,547	\$ 38,082	\$ 46,325	\$ 54,372	\$ 61,712	\$ 76,317	\$ 81,418	\$ 80,010	\$ 55,320
60-64	Number	783	574	433	570	586	317	230	308	3,801
	Total Salary	\$ 25,275,960	\$ 22,233,560	\$ 17,552,712	\$ 27,116,846	\$ 31,350,553	\$ 19,147,919	\$ 15,874,463	\$ 23,526,314	\$ 182,078,327
	Average Sal.	\$ 32,281	\$ 38,734	\$ 40,537	\$ 47,573	\$ 53,499	\$ 60,404	\$ 69,019	\$ 76,384	\$ 47,903
65 & Up	Number	812	493	290	255	206	129	112	135	2,432
	Total Salary	\$ 19,045,815	\$ 14,134,606	\$ 9,094,071	\$ 10,427,372	\$ 8,824,234	\$ 6,273,500	\$ 6,078,676	\$ 9,597,510	\$ 83,475,784
	Average Sal.	\$ 23,455	\$ 28,671	\$ 31,359	\$ 40,892	\$ 42,836	\$ 48,632	\$ 54,274	\$ 71,093	\$ 34,324
Total	Number	14,729	9,534	6,314	5,291	3,788	2,453	1,187	557	43,853
	Total Salary	\$ 507,212,798	\$ 458,349,753	\$ 364,628,443	\$ 341,519,666	\$ 263,251,438	\$ 187,475,727	\$ 92,034,594	\$ 42,244,998	\$ 2,256,717,417
	Average Sal.	\$ 34,436	\$ 48,075	\$ 57,749	\$ 64,547	\$ 69,496	\$ 76,427	\$ 77,535	\$ 75,844	\$ 51,461

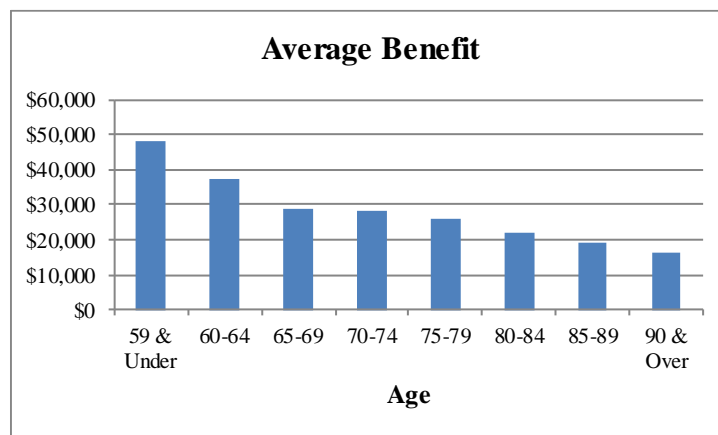
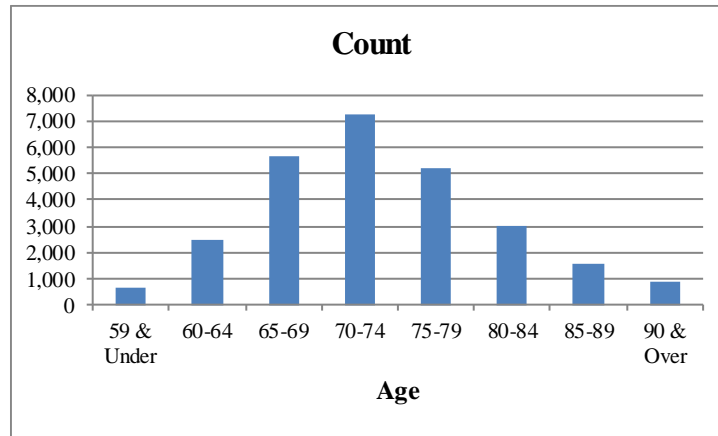
**INACTIVE VESTED MEMBERS
AS OF JULY 1, 2023**

Age	Count			Estimated Deferred Annual Benefits		
	Male	Female	Total	Male	Female	Total
24 & Under	0	0	0	\$ 0	\$ 0	\$ 0
25-29	12	59	71	55,530	242,365	297,895
30-34	93	383	476	591,081	2,171,415	2,762,496
35-39	150	626	776	1,260,624	4,559,858	5,820,482
40-44	194	752	946	2,109,723	6,014,446	8,124,169
45-49	172	732	904	2,321,450	6,017,639	8,339,089
50-54	204	897	1,101	3,039,179	7,974,087	11,013,266
55-59	189	1,085	1,274	2,526,687	9,052,557	11,579,244
60-64	205	1,246	1,451	2,078,951	8,424,338	10,503,289
65 & Up	<u>91</u>	<u>447</u>	<u>538</u>	<u>532,808</u>	<u>1,999,824</u>	<u>2,532,632</u>
Total	1,310	6,227	7,537	\$ 14,516,033	\$ 46,456,529	\$ 60,972,562



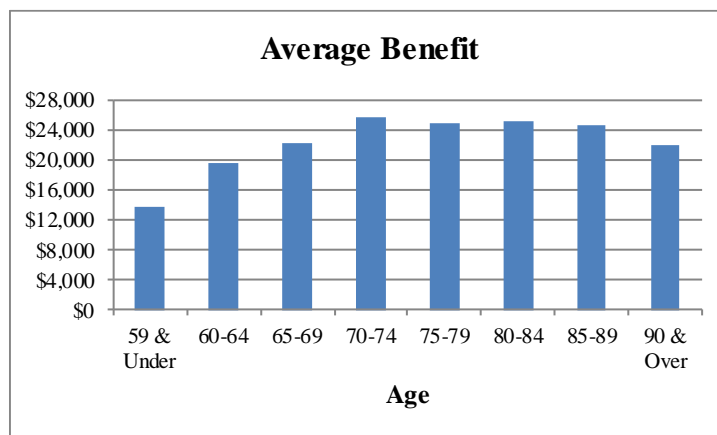
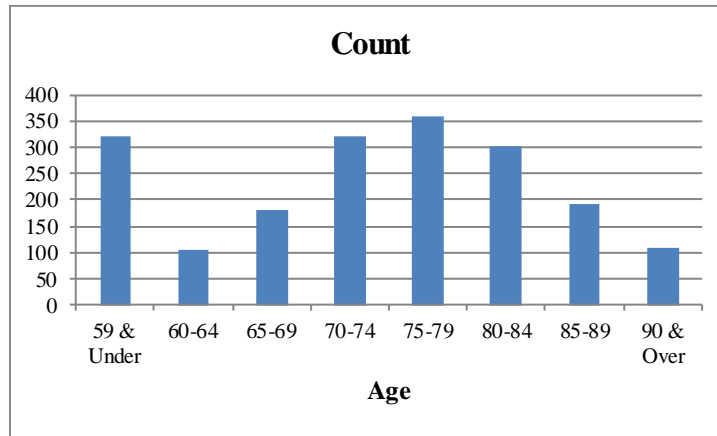
**RETIRED MEMBERS
AS OF JULY 1, 2023**

Age	Count			Annual Benefits		
	Male	Female	Total	Male	Female	Total
59 & Under	190	444	634	\$ 10,171,993	\$ 20,348,066	\$ 30,520,059
60-64	618	1,846	2,464	27,076,595	64,276,015	91,352,610
65-69	1,413	4,264	5,677	49,015,238	113,300,179	162,315,417
70-74	1,845	5,397	7,242	64,084,777	140,885,134	204,969,911
75-79	1,691	3,483	5,174	54,661,336	80,705,940	135,367,276
80-84	942	2,061	3,003	28,494,939	37,665,034	66,159,973
85-89	457	1,129	1,586	11,927,493	18,312,096	30,239,589
90 & Over	<u>192</u>	<u>694</u>	<u>886</u>	<u>4,556,893</u>	<u>9,993,209</u>	<u>14,550,102</u>
Total	7,348	19,318	26,666	\$ 249,989,264	\$ 485,485,673	\$ 735,474,937



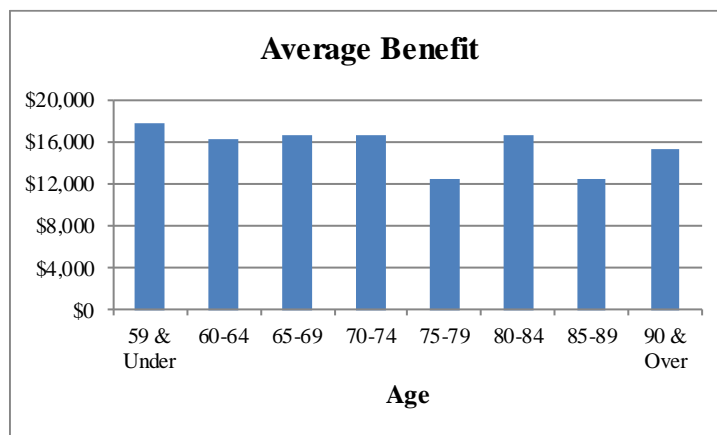
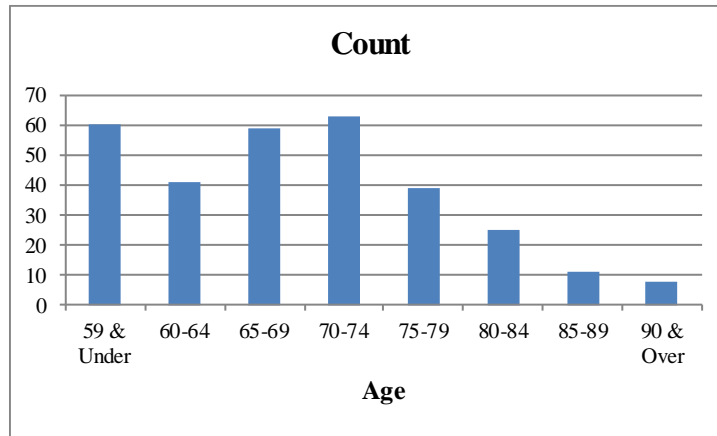
**BENEFICIARIES RECEIVING BENEFITS
AS OF JULY 1, 2023**

Age	Count			Annual Benefits		
	Male	Female	Total	Male	Female	Total
59 & Under	154	165	319	\$ 1,841,650	\$ 2,548,320	\$ 4,389,970
60-64	43	64	107	756,421	1,328,059	2,084,480
65-69	77	102	179	1,440,248	2,521,356	3,961,604
70-74	118	202	320	2,829,049	5,357,268	8,186,317
75-79	132	225	357	2,655,778	6,230,960	8,886,738
80-84	100	201	301	1,981,199	5,589,715	7,570,914
85-89	46	145	191	753,096	3,963,134	4,716,230
90 & Over	<u>19</u>	<u>89</u>	<u>108</u>	<u>298,620</u>	<u>2,063,169</u>	<u>2,361,789</u>
Total	689	1,193	1,882	\$ 12,556,061	\$ 29,601,981	\$ 42,158,042



**DISABLED MEMBERS
AS OF JULY 1, 2023**

Age	Count			Annual Benefits		
	Male	Female	Total	Male	Female	Total
59 & Under	9	51	60	\$ 217,367	\$ 852,377	\$ 1,069,744
60-64	15	26	41	244,123	420,973	665,096
65-69	18	41	59	248,603	731,833	980,436
70-74	18	45	63	277,059	763,700	1,040,759
75-79	16	23	39	198,774	283,921	482,695
80-84	8	17	25	137,986	278,086	416,072
85-89	2	9	11	13,014	122,923	135,937
90 & Over	<u>2</u>	<u>6</u>	<u>8</u>	<u>39,856</u>	<u>83,059</u>	<u>122,915</u>
Total	88	218	306	\$ 1,376,782	\$ 3,536,872	\$ 4,913,654



APPENDIX B – SUMMARY OF PLAN PROVISIONS

Member	Any person employed by a public school 20 or more hours per week shall be a member of the system. Employees at the date of establishment could have elected not to participate, and those covered under another system do not participate. The Tier Two benefit structure covers members joining the System on or after July 1, 2013, but before July 1, 2017. The Tier Three benefit structure covers members joining the System on or after July 1, 2017, but before July 1, 2018. The Tier Four benefit structure covers members joining the System on or after July 1, 2018.
Participation Date	Date of becoming a member.
Definitions	
Final average earnings	The average of the three highest twelve-month periods of service during the period ending on the earlier of the participant's termination date or retirement date. For employees who become a member on or after July 1, 1996, earnings will be capped at the maximum earning defined in Code 401(a) (17). For Tier Two, Three and Four members, it is the average of the five highest twelve-month periods of service.
Fiscal year	Twelve-month period ending June 30.
Contributions	Members contribute 9.78% of pay. Such contributions are credited with interest based on the 1-year Treasury yield curve on July 1 of each year, as determined by State Statutes. The School Districts contribute at a rate equal to 101% of the members' rate. The State contributes 2% of pay, effective July 1, 2014 (previously 1%).
Monthly pension benefit	The greater of (1) or (2). (1) Amount: A monthly benefit equal to the sum of: (a) A savings annuity which is the actuarial equivalent of the member's accumulated contributions, and (b) A service annuity equal to \$3.50 per year of service. (2) Amount: Members employed by a class I, II, III, IV, VI School District may receive a formula annuity. The formula annuity is a monthly amount equal to the product of 2.00% of final average earnings times total years of service for those members who are employed on or after July 1, 2001. To receive this benefit, retirement must occur after attaining age 65 or meeting the Rule of 85 requirements (minimum age is 55 for Tier One, Two and Three members and 60 for Tier Four members).

APPENDIX B – SUMMARY OF PLAN PROVISIONS

	<p>An automatic annual cost-of-living adjustment (COLA) equal to the change in the CPI-W index, with a maximum increase of 2.5% in any one year is provided for current and future retirees. Also provided is a minimum floor benefit equal to 75% of the purchasing power of the original benefit. For Tier Two, Three and Four members, who are hired on or after July 1, 2013, an automatic cost-of-living adjustment (COLA) equal to the change in the CPI-W index, not to exceed 1.0% in any one year. No purchasing power COLA applies.</p>
Normal Retirement Date (NRD)	First of month coinciding with or next following the attainment of age 65 and one-half year of service.
Service	Length of service includes all service as a school employee for which contributions have been made. This service only includes years for which the member was employed on at least a half-time basis, and includes declared emergency service in the armed forces, provided certain conditions are met. Special provisions allow credit for service prior to 1945 and for up to ten years of service in another State upon payment of the actuarial cost of the additional benefit granted.
Pensionable pay	Gross earnings subject to contributions.
Eligibility for Benefits	
Deferred vested	Termination for reasons other than death or disability retirement after completing five years of service.
Disability retirement	Retirement by reason of disability.
Early retirement	Retirement before NRD, as well as one of the following criteria: <ol style="list-style-type: none">1. Attaining age 60 and completing 5 years of service,2. Attaining 35 years of service regardless of age,3. For members hired before July 1, 2018, attaining age 55 and age plus service equals at least 85 (Rule of 85).4. For members hired on or after July 1, 2018, attaining age 60 and age plus service equals at least 85 (Rule of 85).
Normal retirement	Retire on NRD.
Postponed retirement	Retire after NRD.
Pre-retirement spouse benefit	Death prior to retirement.
Monthly Benefits Payable	
Normal retirement	Monthly pension benefit determined as of NRD.

APPENDIX B – SUMMARY OF PLAN PROVISIONS

Early retirement	Monthly pension benefit determined as of early retirement date, reduced by 3% for each year that commencement of payment precedes age 65 (members must be age 60 with five years of service). Unreduced benefits are available to members who have met the applicable criteria for the Rule of 85. Benefits payable upon retirement prior to age 60 (based on the 35 year service rule) are actuarially reduced from age 65. The service annuity is a life annuity actuarially reduced before age 65. Actuarial reductions are based on the 1994 Group Annuity Mortality Table, 75% female, 25% male and 8% interest for members hired prior to July 1, 2017. For members hired on or after July 1, 2017, the Public Employees Retirement Board sets the actuarial assumptions used for actuarial reductions, with guidance from the System's actuary.
Postponed retirement	Monthly pension benefit determined as of actual retirement date.
Termination with deferred vested benefit	Monthly pension benefit determined as of termination date, reduced by 3% for each year that commencement of payment precedes age 65 (Early Commencement requires attainment of age 60).
Disability retirement	Monthly pension benefit determined as of disability retirement date.
Death with pre-retirement benefits	<p>Survivor portion of 100% Joint and Survivor Annuity paid to spouse assuming retirement by member at death if the member is age 65 or has 20 years of service at death. If the member has met the 5-year vesting service requirement, has less than 20 years of service and is under age 65, the spouse may choose between the following two options:</p> <ol style="list-style-type: none">(1) a lump sum equal to the member's contributions with interest plus 101% of the member's contributions with interest, and(2) an annuity which equals the survivor portion of the 100% Joint and Survivor value of the member's accrued benefit, payable immediately, reduced for commencement before age 65 and the 100% joint and survivor form of payment.
Forms of payment	<p>Pre-retirement death benefits are payable only as described above.</p> <p>Monthly pension benefits are paid under the form of payment elected by the retiree at retirement. Payment forms include: life annuity, 50% joint and survivor annuity, 75% joint and survivor annuity (spouse only), 100% joint and survivor annuity (spouse only), 5-year certain and life annuity, 10-year certain and life annuity, 15-year certain and life annuity, or a modified cash refund annuity. The normal form of payment for the formula annuity is a 5-year certain and life annuity.</p> <p>For members hired on or after July 1, 2017, the Public Employee Retirement Board sets the actuarial assumptions used to determine</p>

APPENDIX B – SUMMARY OF PLAN PROVISIONS

the benefit amounts payable under optional forms of payment, with guidance from the System’s actuary.

Funding Arrangement

Legislation enacted in 2002 created the School Retirement Fund. Balances existing on June 30, 2002 in the School Employers Deposit Account, the School Employees Savings Account, the Service Annuity Account, the Annuity Reserve Account, and the School Employees Retirement System Reserve Fund (RSRF) shall be combined and transferred into the School Retirement Fund.

There are four funds established in the State Treasury, which receive monies and pay the expenses and benefits of the retirement system, as follows:

1. School Retirement Fund – receives required deposits of the employers, the State, and employees. Upon retirement, the fund pays all savings annuities, service annuities, and formula annuities.
2. Contingent Account – receives all interest, dividends, and miscellaneous income, pays all regular interest allocated to the other accounts or funds, and meets any deficiencies occurring in the other accounts or funds.
3. Expense Fund – pays all expenses connected with the operation and administration of the system, and receives annual contributions to cover anticipated expenses.
4. Omaha Service Annuity Fund – pays service annuity benefits to Omaha members.

Benefits Reflected in Valuation

All benefits were valued, including future cost-of-living increases granted by statute.

Plan Provisions Effective after July 1, 2023

No future changes in plan provisions were recognized in determining the funded status or in determining the sufficiency of statutory contribution levels.

Changes in Plan Provisions Since the Prior Year

There have been no changes to the plan provisions since the prior year.

A. ACTUARIAL METHODS

- 1. Calculation of Normal Cost and Actuarial Accrued Liability:** The method used to determine the normal cost and actuarial accrued liability was the Entry Age Actuarial Cost Method described below.

Entry Age Actuarial Cost Method

Projected pension and preretirement spouse’s death benefits were determined for all active members under age 80. Cost factors designed to produce annual costs as a constant percentage of each member’s expected compensation in each year from the assumed entry age to the assumed retirement age were applied to the projected benefits to determine the normal cost (the portion of the total cost of the plan allocated to the current year under the method). The normal cost is determined by summing intermediate results for active members under age 80 and determining an average normal cost rate which is then related to the total payroll of active members. The actuarial assumptions shown on the following page were used in determining the projected benefits and cost factors. The actuarial accrued liability for active members (the portion of the total cost of the plan allocated to prior years under the method) was determined as the excess of the actuarial present value of projected benefits over the actuarial present value of future normal costs.

The actuarial accrued liability for retired members and their beneficiaries currently receiving benefits, active members age 80 and over, terminated vested members and disabled members not yet receiving benefits was determined as the actuarial present value of the benefits expected to be paid. No future normal costs are payable for these members.

The actuarial accrued liability under this method at any point in time is the theoretical amount of the fund that would have been accumulated had annual contributions equal to the normal cost been made in prior years (it does not represent the liability for benefits accrued to the valuation date). The unfunded actuarial accrued liability is the excess of the actuarial accrued liability over the actuarial value of plan assets measured on the valuation date. Under this Entry Age method, experience gains or losses, i.e., decreases or increases in accrued liabilities attributable to deviations in experience from the actuarial assumptions, adjust the unfunded actuarial accrued liability.

The unfunded actuarial accrued liability is amortized using the “layered” approach. The unfunded actuarial accrued liability as of July 1, 2006 was the initial or legacy amortization base, amortized over a closed 30-year period. Changes in the unfunded actuarial accrued liability due to assumption changes or actuarial experience gains/losses are amortized over separate 25-year amortization bases, each with their own individual payment schedules, beginning June 30, 2021 and after. If the UAAL is less than or equal to zero, then all prior bases shall be considered fully funded and the UAAL shall be amortized over a 25-year period as of the actuarial valuation date. The UAAL amortization payment schedules are determined using the level percent of payroll methodology, where payments escalate annually with the assumed increase in payroll growth.

Please note that the use of closed amortization periods, coupled with the State contributing the full actuarial required contribution each year, will result in the System being fully funded at the end of the amortization period, if all actuarial assumptions are met. In our opinion, the amortization policy meets the requirements of Actuarial Standard of Practice Number 4.

APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

In our professional judgement, the funding policy adopted by the Board produces a reasonable actuarial required contribution as defined in Actuarial Standard of Practice Number 4. Contributions are developed with the intent of being level as a percentage of covered payroll, assuming the number of active members remains stable. Furthermore, the funding policy is expected to accumulate sufficient assets to make all future benefit payments as they become due, if all assumptions are met.

- 2. Calculation of the Actuarial Value of Assets:** The actuarial value of assets is based on a five-year smoothing method and is determined by spreading the effect of each year's investment return in excess of or below the expected return. The market value of assets as the valuation date is reduced by the sum of the following:
- i. 80% of the return to be spread during the first year preceding the valuation date,
 - ii. 60% of the return to be spread during the second year preceding the valuation date,
 - iii. 40% of the return to be spread during the third year preceding the valuation date, and
 - iv. 20% of the return to be spread during the fourth year preceding the valuation date.

The return to be spread is the difference between (1) the actual investment return on market value of assets and (2) the expected return of actuarial value of assets. Effective July 1, 2000, the expected return on actuarial value of assets includes interest on the previous year's unrecognized return.

B. VALUATION PROCEDURES

Data Procedures

Salaries for first year members are annualized by NPERS and reflected in the Calculated Salary field in the census data. This is used in the valuation process for new members. For continuing active members, the Accumulated Salary field from the data, representing the actual salary earned in the prior fiscal year, is used in the valuation process.

Active members who are missing a date of birth on their record are assumed to have been hired at age 35.

Members who are missing a gender are assumed to be female.

Other Valuation Procedures

The compensation amounts used in the projection of benefits and liabilities for active members were prior plan year compensations. Salary increases are assumed to apply to annual amounts.

Projected benefits were limited by the dollar limitation required by the Internal Revenue Code Section 415 as it applies to governmental plans and compensation limited by Section 401(a)(17).

Decrements are assumed to occur mid-year, except that immediate retirement is assumed for those who are at or above the age at which retirement rates are 100%. Standard adjustments are made for multiple decrements.

APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

No actuarial accrued liability is included for participants who terminated without being vested prior to the valuation date, except those due a refund of contributions.

Changes in Methods and Procedures since the Prior Year

There have been no changes to the methods and procedures since the prior year.

APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

ACTUARIAL ASSUMPTIONS

Economic Assumptions

- 1. Investment Return 7.10% per annum, compounded annually, net of expenses.
Note: This assumption will decrease by 0.10% per year until reaching the ultimate rate of 7.00% in the 2024 valuation.

- 2. Inflation 2.45% per annum, compounded annually
Note: This assumption will decrease by 0.10% per year until reaching the ultimate rate of 2.35% in the 2024 valuation.

- 3. Salary Increases Rates vary by service. Sample rates are as follows:

Rates by Service				
Years	Inflation	Productivity	Merit	Total
1	2.45%	0.50%	10.00%	12.95%
2	2.45	0.50	5.00	7.95
3	2.45	0.50	4.50	7.45
4	2.45	0.50	3.50	6.45
5	2.45	0.50	3.00	5.95
6	2.45	0.50	3.00	5.95
7	2.45	0.50	2.75	5.70
8	2.45	0.50	2.50	5.45
9	2.45	0.50	2.25	5.20
10	2.45	0.50	2.00	4.95
11	2.45	0.50	1.75	4.70
12	2.45	0.50	1.50	4.45
13	2.45	0.50	1.30	4.25
14	2.45	0.50	1.15	4.10
15	2.45	0.50	1.05	4.00
16	2.45	0.50	0.95	3.90
17	2.45	0.50	0.85	3.80
18	2.45	0.50	0.75	3.70
19	2.45	0.50	0.65	3.60
20	2.45	0.50	0.55	3.50
21	2.45	0.50	0.45	3.40
22	2.45	0.50	0.35	3.30
23	2.45	0.50	0.25	3.20
24-39	2.45	0.50	0.15	3.10
40+	2.45	0.50	0.00	2.95

Note: The inflation assumption will decrease by 0.10% per year until reaching the ultimate rate of 2.35% in the 2024 valuation.

APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

- 4. Payroll Growth 2.95% per annum
 Note: This assumption will decrease by 0.10% per year until reaching the ultimate rate of 2.85% in the 2024 valuation.

- 5. Investment on Employee Contributions 2.50% per annum compounded annually.

- 6. Increase in Compensation And Benefit Limits 2.45% per annum on the 401(a)(17) compensation limit and 415 benefit limit
 Note: This assumption will decrease by 0.10% per year until reaching the ultimate rate of 2.35% in the 2024 valuation.

Demographic Assumptions

1. Mortality

- a. Healthy lives - Active members Pub-2010 General Members (Above Median) Employee Mortality Table (100% of male rates, 95% of female rates), both male and female rates set back one year, projected generationally using MP-2019 modified to 75% of the ultimate rates.

- b. Healthy lives – Retired members Pub-2010 General Members (Above Median) Retiree Mortality Table (100% of male rates, 95% of female rates), both male and female rates set back one year, projected generationally using MP-2019 modified to 75% of the ultimate rates.

- c. Healthy lives – Beneficiaries Pub-2010 General Members (Above Median) Contingent Survivor Mortality Table (100% of male rates, 95% of female rates), both male and female rates set back one year, projected generationally using MP-2019 modified to 75% of the ultimate rates.

- d. Disabled lives Pub-2010 Non-Safety Disabled Retiree Mortality Table (static table).

e. Healthy mortality rates and life expectancies are shown below at sample ages:

Pre-retirement Mortality		
Mortality Rate (Base Rates)		
Sample Age	Males	Females
20	0.04%	0.01%
30	0.04	0.01
40	0.07	0.03
50	0.11	0.06
60	0.27	0.16

APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

Post-retirement Mortality		
Sample Age	Mortality Rate (Base Rates)	
	Males	Females
50	0.11%	0.06%
60	0.53	0.35
70	1.17	0.80
80	3.60	2.60
90	11.73	9.07

Projection Scale – Post-retirement Mortality						
Sample Age	Scale (2020)		Scale (2030)		Scale (2040)	
	Males	Females	Males	Females	Males	Females
50	0.0004	0.0030	0.0026	0.0036	0.0075	0.0075
60	0.0004	-0.0041	0.0063	0.0069	0.0075	0.0075
70	0.0017	0.0052	0.0069	0.0063	0.0075	0.0075
80	0.0067	0.0061	0.0066	0.0070	0.0075	0.0075
90	0.0048	0.0032	0.0067	0.0067	0.0069	0.0069

f. Disabled mortality rates and life expectancies are shown below at sample ages:

Sample Age	Males	Females
30	0.35%	0.26%
40	0.65	0.63
50	1.61	1.48
60	2.50	1.96
70	3.90	2.86
80	7.35	6.01

APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

2. Retirement

Rates vary by age and eligibility for benefits.
Rates are as follows:

Retirement Rates When Eligible for Unreduced Benefits	
Age	Rate
<62	17%
62	24
63	24
64	24
65	30
66	38
67	35
68	25
69	25
70	30
71	30
72	25
73	25
74	25
75	25
76	30
77	30
78	30
79	30
80	100

Retirement Rates When Eligible for Reduced Benefits	
Age	Rate
60	5%
61	6
62	8
63	10
64	12

3. Termination

Rates vary by service.
Sample rates are as follows:

Rates by Service		
Years	Male	Female
<1	27.5%	31.7%
1	17.0	19.0
5	6.0	8.0
10	3.5	4.7
15	2.3	3.1
20	1.0	2.0
25+	1.0	1.0

APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

4. Disability

Rates vary by age.
Sample rates are as follows:

Age	Male	Female
Under 35	0.00%	0.00%
35	0.02	0.01
40	0.02	0.01
45	0.03	0.03
50	0.05	0.04
55	0.07	0.06
60	0.10	0.08

Other Assumptions

1. Form of Payment

Service annuity – Life annuity
Formula annuity – Five year certain and life annuity.

Members who terminated vested are assumed to take a refund of contributions if it is more valuable than their deferred benefit.

For members who die with between 5 and 20 years of service before reaching age 65, their surviving spouse is assumed to take the lump sum benefit if it is more valuable than the annuity.

For inactive vested members who die with between 5 and 20 years of service before reaching age 65, their surviving spouse is assumed to take the lump sum benefit.

2. Actuarial Equivalence Basis for Members Hired After July 1, 2017

- a. Interest
- b. Mortality

7.00%
Pub-2010 General members (Above Median) Retiree Mortality Table (100% of male rates, 95% of female rates), both male and female rates set back one year, projected to 2040 using MP-2019 modified to 75% of the ultimate rates using a 30% male, 70% female blend.

3. Marital Status

- a. Percent married
- b. Spouse’s age

85% married
Females assumed to be two years younger than males.

4. Administrative Expense

0.16% of covered payroll

5. Commencement age for deferred vested benefit

Age 64

APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

6. Cost of Living Adjustment

Service annuity – None

Formula annuity – 2.05% per annum, compounded annually, for members hired before January 1, 2013.

Note: This assumption will decrease by 0.05% per year until reaching the ultimate rate of 2.00% in the 2024 valuation.

1.00% per annum, compounded annually, for members hired on or after January 1, 2013.

7. State Contribution

State contributions for the current plan year are assumed to be contributed in a lump sum on the July 1 following the plan year end. These amounts from the prior plan year are treated as a contribution receivable on the plan's financial statements.

Changes in Assumptions since the Prior Year

At their meeting on December 21, 2020, the Public Employees Retirement Board adopted a new set of actuarial assumptions, based on the recommendations in the 2020 experience study. Changes to the set of economic assumptions are phased in over a four-year period, beginning with the July 1, 2021 valuation. Below is a summary of the key assumption changes in this valuation:

- Price inflation assumption was lowered from 2.55% to 2.45%.
- Investment return assumption was lowered from 7.20% to 7.10%.
- COLA assumption for Tier 1 members was lowered from 2.10% to 2.05%.
- General wage inflation assumption was lowered from 3.05% to 2.95%.
- Payroll growth assumption was lowered from 3.05% to 2.95%.

APPENDIX D – GLOSSARY OF TERMS

Actuarial Accrued Liability	The difference between the actuarial present value of system benefits and the actuarial value of future normal costs. Also referred to as “accrued liability” or “actuarial accrued liability”.
Actuarial Assumptions	Estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.
Accrued Service	Service credited under the system which was rendered before the date of the actuarial valuation.
Actuarial Equivalent	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate assumptions.
Actuarial Cost Method	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of retirement system benefit between future normal cost and actuarial accrued liability. Sometimes referred to as the “actuarial funding method”.
Experience Gain (Loss)	The difference between actual experience and actuarial assumptions anticipated experience during the period between two actuarial valuation dates.
Actuarial Present Value	The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest and by probabilities of payment.
Amortization	Paying off an interest-discounted amount with periodic payments of interest and principal, as opposed to paying off with lump sum payment.
Normal Cost	The actuarial present value of retirement system benefits allocated to the current year by the actuarial cost method.
Unfunded Actuarial Accrued Liability	The difference between actuarial accrued liability and the valuation assets. Sometimes referred to as “unfunded actuarial accrued liability” or “unfunded accrued liability.”