

**NEBRASKA PUBLIC EMPLOYEES
RETIREMENT SYSTEM
STATE PATROL
RETIREMENT SYSTEM**



**SEVENTIETH ACTUARIAL REPORT
FOR SYSTEM PLAN YEAR
BEGINNING JULY 1, 2025
AND
STATE FISCAL YEAR
ENDING JUNE 30, 2027**

SUBMITTED: November 11, 2025



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November 11, 2025

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 performed an actuarial valuation of the State Patrol Retirement System as of July 1, 2025 for purposes of determining the actuarial required contribution rate for the plan year ending June 30, 2026. It is our understanding that any additional required State contributions for this plan year will be made on July 1, 2026 (State fiscal year end 2027). The major findings of the valuation are contained in this report, which reflects the benefit and funding provisions in place on July 1, 2025. The 2025 Legislature passed Legislative Bill 645 (LB 645), which increased the pre-retirement and post-retirement death benefits for surviving spouses from 75% to 100% of the member's benefit. There were several changes to the actuarial assumptions as a result of the quadrennial experience study completed in 2024. These changes, as well as their impact on the current valuation results, are 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 State Patrol 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.

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. CavMac's advice is not intended to be a substitute for qualified legal or accounting counsel.

Based on 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, 2025 actuarial valuation of the State Patrol Retirement System (System). The primary purposes of performing this actuarial valuation are to:

- Determine the level of State contributions for the plan year ending June 30, 2026 which are sufficient to meet the funding policy set out in the Nebraska state statutes.
- Disclose asset and liability measurements as well as the current funded status of the System as of the valuation date.
- Assess and disclose the key risks associated with funding the System.
- Compare actual and expected experience under the System during the plan year ended June 30, 2025.
- 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, 2025. As the result of various factors, the System’s unfunded actuarial accrued liability (UAAL) increased from \$99.3 million last year to \$114.8 million this year and the funded ratio decreased from 85% to 84%. In addition, the actuarial required contribution rate increased from 49.93% of pay last year to 54.94% of pay in this year’s valuation, an increase of 5.01% of pay.

The Nebraska statutes require the State to make an additional contribution if the regular, payroll-related contributions by members and the State are insufficient to meet the actuarial required contribution for the plan year. **Based on the results of the July 1, 2025 actuarial valuation, an additional State contribution of \$9,416,612 is required for the plan year ending June 30, 2026 (expected to be paid July 1, 2026).** This is a \$2.6 million increase from the additional amount of \$6.8 million in the July 1, 2024 actuarial valuation.

Changes Since the Prior Valuation

By statute, an experience study for the Nebraska Public Employees Retirement System, which includes the Nebraska State Patrol Retirement System, is performed every four years. As a result of the 2024 quadrennial experience study, several changes to the actuarial assumptions and methods were recommended and adopted by the Board at their March 17, 2025 meeting. Please see the Experience Study report, dated February 19, 2025, for complete details and discussion on all of the assumption and method changes. The key assumption changes include:

- Investment return assumption was lowered from 7.00% to 6.75%.
- Administrative expenses assumption was increased from 0.26% to 0.35% of payroll.
- Salary increase assumptions were adjusted to better reflect observed experience.

The change to the investment return assumption is being phased in over four years, beginning with the July 1, 2025 valuation (6.95% for July 1, 2025, 6.90% for July 1, 2026, 6.85% for July 1, 2027, and 6.75% thereafter).





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As the investment return assumption decreases over the next three valuations, it will result in increases in the actuarial accrued liability, normal cost rate and actuarial contribution rate. To the extent those increases are not offset by favorable experience (actuarial gains), the funded ratio is expected to decrease and the actuarial contribution rate is expected to increase.

The net impact of the assumption changes was an increase of \$7.4 million in the actuarial accrued liability, as well as an increase of 3.31% in the actuarial required contribution rate.

It is worth noting that if the PERB had not elected to phase-in the change to the discount rate and, instead, reflected the ultimate assumption of 6.75% in the current valuation, then the actuarial accrued liability would have increased by an additional \$19.3 million, the funded ratio would have decreased by an additional 2.16%, and the employer required contribution would have increased from the current level by 4.22% of payroll (see Table 16).

There has also been a change to the plan provisions since the prior valuation. In the 2025 session, the Legislature passed Legislative Bill 645 (LB 645) which changed the pre-retirement and post-retirement death benefits that currently provide for a survivor benefit from 75% of the member's benefit to a 100% survivor benefit. The impact of LB 645 was an increase of \$24.0 million in the actuarial accrued liability and an increase of 4.40% in the actuarial required contribution rate.

Actual Experience Impacting the July 1, 2025 Valuation

The valuation results reflect net favorable experience for the past plan year as demonstrated by a UAAL that was lower than expected. The UAAL as of July 1, 2025 is \$114.8 million compared to an expected UAAL of \$127.7 million. The key factors impacting the 2025 valuation include:

- There was a net actuarial experience loss of \$5.5 million on System liabilities, primarily due to actual salary increases that were higher than expected based on the actuarial assumptions. There was also an actuarial experience loss due to COLAs that were larger than expected.
- As a result of the higher pay rates, the covered payroll increased by 4.8% from the prior valuation compared to the 2.85% assumed increase in the July 1, 2024 actuarial valuation. As a result, the UAAL payment was divided by larger payroll, resulting in the UAAL contribution rate decreasing by 0.24%.
- The rate of return on the market value of assets for the year ending June 30, 2025 was 11.8%, as reported by the Nebraska Investment Council, compared to the assumed return of 7.0% for that year. 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 2025 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 10.3%. Because





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this return is higher than the assumed rate of return (7.0% for FY 2025), there was an actuarial experience gain of \$18.3 million on the actuarial value of assets.

- Tier 2 members (hired on or after July 1, 2016) have lower benefits and a lower normal cost. As a result of an increase in the number of active members covered by Tier 2, the normal cost rate decreased by 0.32%.

A summary of the key results from the July 1, 2025 actuarial valuation is shown in the following table. As the table indicates, the statutory contribution rates are not sufficient to meet the actuarial required contribution rate and an additional State appropriation of 20.94% of pay, or \$9,416,612, is required. Further detail on the valuation results can be found in the following sections of this Board Summary.

	Valuation Results	
	July 1, 2025	July 1, 2024
Unfunded Actuarial Accrued Liability	\$114,830,671	\$99,284,719
Funded Ratio (Actuarial Assets)	84.32%	85.14%
Actuarial Required Contribution	54.94%	49.93%
Member Contribution Rate	(10.00%)	(10.00%)
Employer Contribution Rate	<u>(24.00%)</u>	<u>(24.00%)</u>
Additional Required State Contribution Rate	20.94%	15.93%
Additional Required State Contribution*	\$9,416,612	\$6,834,870

* Reflects interest to the expected contribution date, which is July 1 of the following year.

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, 2024 and July 1, 2025. The components of the System’s experience are examined in the following discussion.

MEMBERSHIP

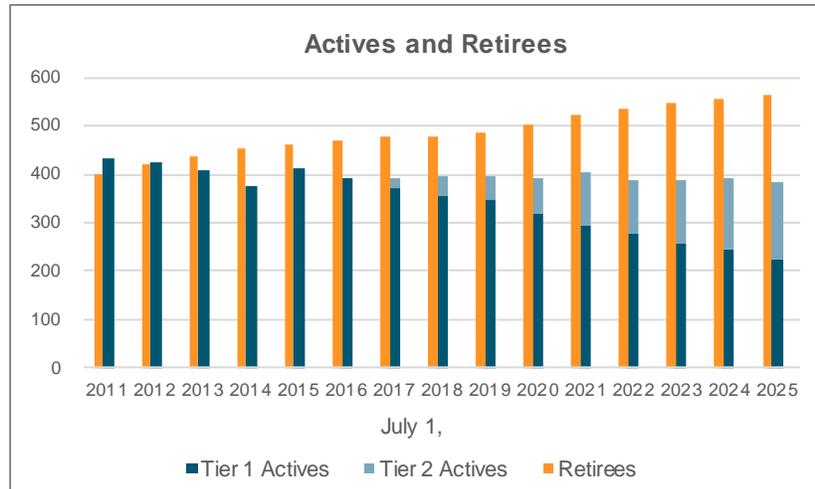
The active membership count decreased slightly with 386 active members (excluding DROP members) in the 2025 valuation compared to 392 in the 2024 valuation. The following graph compares the number of active members and members receiving benefits (retirees and beneficiaries) in each valuation since 2011. While the number of active members fluctuated at times over this period, the number of members receiving a benefit has steadily increased, reaching 564 in this valuation. This is a standard indicator of the maturity of the system and is not necessarily unexpected or problematic. However, this metric does indicate the likelihood of





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a higher degree of contribution rate volatility when actual experience varies from that expected by the assumptions.



ASSETS

As of June 30, 2025, the System had net assets of \$647.5 million, when measured on a market value basis, an increase of \$59.2 million from the prior year. The rate of return on the market value of assets for FY 2025 was 11.8%.

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 smooths the effect of market fluctuations, is applied 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 \$617.5 million, an increase of \$48.7 million from the prior year. The components of change in the asset values are shown in the following table.

	Market Value (\$M)		Actuarial Value (\$M)	
Net Assets, June 30, 2024	\$	588.3	\$	568.8
- Employer and Member Contributions	+	21.5	+	21.5
- Benefit Payments and Admin Expenses	-	30.5	-	30.5
- Net Investment Income	+	68.2	+	57.7
Net Assets, June 30, 2025	\$	647.5	\$	617.5
Estimated Rate of Return*		11.8%		10.3%

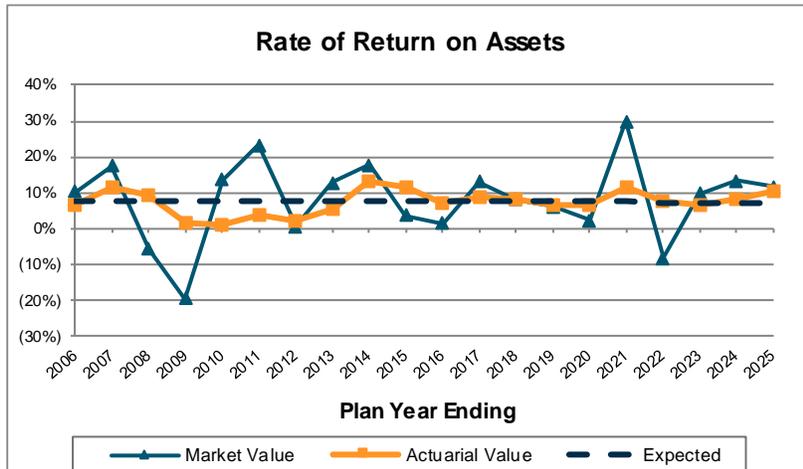
* Rate of return on the market value of assets was provided by the Nebraska Investment Council.





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Due to the smoothing of actual investment experience over the last five years, the rate of return on the actuarial value of assets was 10.3%, which is above the investment return assumption of 7.0% for FY 2025. As a result, there was an experience gain on assets of \$18.3 million. As a result of the combined impact of the favorable investment experience for FY 2025 and the scheduled recognition of deferred investment gains and losses, the net deferred investment gain of \$19.5 million in last year's valuation has increased to \$30.0 million in the current valuation (actuarial value of assets is lower than market value). 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 of service. 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.

The unfunded actuarial accrued liability as of July 1, 2025, 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	\$732,345,270	\$732,345,270
Value of Assets	<u>617,514,599</u>	<u>647,545,587</u>
Unfunded Actuarial Accrued Liability	\$114,830,671	\$84,799,683
Funded Ratio	84.32%	88.42%





SECTION 1 – BOARD SUMMARY

The net deferred investment gain means that, absent investment returns below than expected (6.95% for FY 2026) or other unfavorable experience, the funded ratio is expected to increase over the next four years as the deferred investment experience is recognized. There will also be an expected decrease in the funded ratio as the lower expected investment return assumption is phased in. See Section 4 of the report for the detailed development of the unfunded actuarial accrued liability.

The components of the net increase of \$15.59 million in the UAAL from July 1, 2024 to July 1, 2025 are shown in the following table:

	(\$ Millions)
Unfunded Actuarial Accrued Liability, July 1, 2024	\$99.28
- Expected change from amortization method	(1.44)
- Investment experience	(18.31)
- Liability experience	5.45
- Assumption changes	7.38
- Plan changes	23.96
- Other experience	(1.49)
Unfunded Actuarial Accrued Liability, July 1, 2025	\$114.83

As shown above, various factors impacted the amount of the UAAL in the current valuation. Actuarial experience gains/(losses), which result from actual experience that is more/(less) favorable than anticipated by 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 gain of \$12.9 million which may be explained by considering the separate experience of assets and liabilities. As noted earlier, there was an actuarial experience gain of \$18.3 million on the actuarial value of assets. Unfavorable experience on System liabilities resulted in a net liability experience loss of \$5.5 million, primarily due to salary increases that were higher than expected based on the actuarial assumptions. A breakdown of actuarial experience gains and losses by amount can be found in Table 8 of this report.

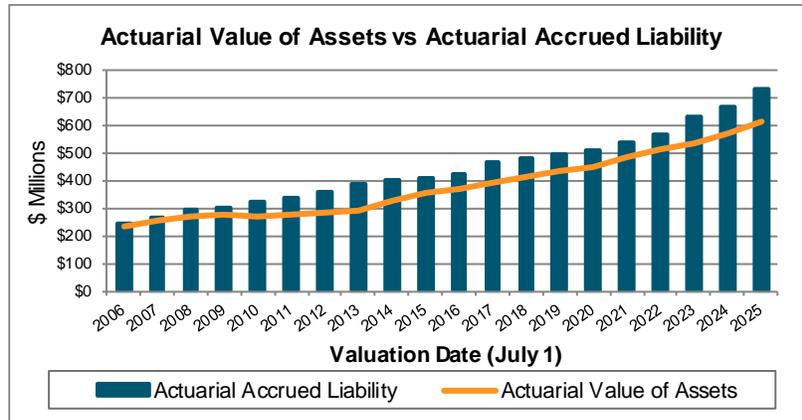
As the following graph of historical actuarial assets and actuarial accrued liabilities shows, the System's liabilities grew at a faster pace than the System's assets for the five-year period beginning after the FY 2009 market downturn as that experience was reflected in the smoothing method. As a result, the funded ratio declined over that period. Following legislative changes and better than expected investment returns, the funded ratio improved through 2022. However, changed to the actuarial assumptions, including lowering the assumed rate of return from 8.0% to 6.95%, improved benefits, and significant pay increases in recent years have increased the





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System's liabilities and lowered the funded ratio. The 2025 funded ratio remained steady as investment gains were offset by plan changes and increasing liabilities.



An evaluation of the UAAL purely on a dollar basis may not provide a complete analysis since only the difference between the assets and liabilities (which are both 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, which is based on the actuarial value of assets, is shown below (in millions).

	7/1/2021	7/1/2022	7/1/2023	7/1/2024	7/1/2025
Funded Ratio (AVA/AAL)	90.50%	90.67%	84.27%	85.14%	84.32%
UAAL	\$51.37	\$52.93	\$99.96	\$99.28	\$114.83

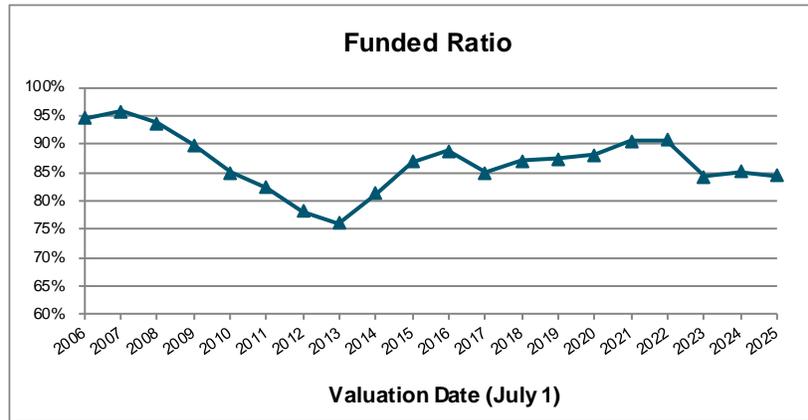
Note that the funded ratio does not indicate whether or not the System assets are sufficient to settle benefits earned to date. The funded ratio, by itself, also may not be indicative of future funding requirements. In addition, if the funded ratios were shown using the market value of assets, the results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

The funded ratio over a longer period is shown in the following graph. Given the statutory contribution rate of 34.00% of pay (10.00% by members and 24.00% by the employer) and a combined contribution rate of 33.34% allocated to normal cost and administrative expenses, only a small portion of the total fixed contribution rate is available to fund the UAAL. As a result, additional contributions from the State will be necessary to improve the funded ratio absent actual investment experience in future years that is higher than the assumed rate of return.





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ACTUARIAL REQUIRED CONTRIBUTION RATE

Effective July 1, 2024, the System is funded by statutory contribution rates of 10.00% of pay for members and 24.00% of pay by the employer. State statutes require the state of Nebraska to make an additional contribution if the regular, payroll-related contributions by employees and employers are insufficient to meet the actuarial required contribution rate for the plan year. The additional State contribution for each plan year is made on the July 1 following the plan year-end. **Based on the results of the July 1, 2025 actuarial valuation, an additional State contribution of 20.94% of pay, or \$9,416,612, is necessary for the plan year ending June 30, 2026.**

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. This methodology results in dollar amounts of payments that are lower in the initial years of the amortization period but increase each year in the future with the assumed payroll growth assumption (2.85% 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 each year in the future, even if all actuarial assumptions are met. Therefore, if the actual increase in covered payroll is more/less than assumed, the UAAL contribution rate will decrease/increase. The increase in covered payroll from the prior valuation was 4.8% compared to the 2.85% assumed increase in the July 1, 2024 valuation for plan year ending June 30, 2025, resulting in a decrease in the UAAL contribution rate of 0.24% in this valuation.





SECTION 1 – BOARD SUMMARY

See Section 5 of the report for the detailed development of the actuarial required contribution rate and the corresponding dollar amount, which are summarized in the following table.

Contribution Rates	July 1, 2025	July 1, 2024
1. Normal Cost Rate	32.99%	30.12%
2. Administrative Expenses	0.35%	0.26%
3. UAAL Contribution Rate	21.60%	19.55%
4. Total Actuarial Required Contribution Rate	54.94%	49.93%
5. Member Contribution Rate	(10.00%)	(10.00%)
6. Employer Contribution Rate	(24.00%)	(24.00%)
7. Total Statutory Contribution Rate	(34.00%)	(34.00%)
8. Additional Required State Contribution Rate [4 + 7]	20.94%	15.93%
9. Estimated Payroll	\$ 43,483,812	\$ 41,478,460
10. Additional State Required Contribution* [8 * 9 with interest, but not less than \$0]	\$ 9,416,612	\$ 6,834,870

* Reflects interest to the expected payment date, which is July 1 of the following year.

The actuarial required contribution rate for the plan year ending June 30, 2026 is 54.94%. The contribution rate of 10.00% for the member and 24.00% for the employer results in a total payroll-related statutory contribution rate of 34.00% of pay. As a result, there is a contribution shortfall this year of 20.94% of payroll, which is estimated to be \$9.4 million.

The actuarial required contribution, based on the snapshot of the System taken on the valuation date of July 1 each year, will change as the deferred investment experience is recognized and other experience (both investment and demographic) impacts the System. Therefore, it 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 as it is the difference between the actuarial required contribution rate and the statutory contribution rate. Any material change in the actuarial required contribution rate will directly flow through and impact the additional State contribution.





SECTION 1 – BOARD SUMMARY

The primary components of the change in the actuarial required contribution rate from the prior valuation are shown in the following table.

Total Actuarial Required Contribution Rate, July 1, 2024	49.93%
- Change in normal cost rate (before assumption changes)	(0.32%)
- Investment experience	(2.70%)
- Liability experience	0.80%
- Actual vs. expected payroll	(0.24%)
- Assumption changes	3.31%
- Plan changes	4.40%
- Other experience	<u>(0.24%)</u>
Total Actuarial Required Contribution Rate, July 1, 2025	54.94%

As shown above, various factors impacted the actuarial required contribution rate since the prior valuation, resulting in a net increase of 5.01% of pay. The largest factors that impacted the actuarial required contribution rate were the changes to the set of actuarial assumptions and benefit provisions. These two events combined to increase the actuarial required contribution rate by 7.71% of pay. However, their impact was partially offset by favorable investment experience, which resulted in an actuarial experience gain on the actuarial value of assets and lowered the actuarial required contribution rate by 2.70% of pay. Unfavorable net experience on System liabilities, primarily due to higher salary increases and expected, also increased the actuarial required contribution rate by 0.80% of pay.





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The historical actuarial required contributions and any resulting additional required State contributions as shown in the actuarial valuation report, whether or not actually contributed, are shown below:

History of Expected State Contributions				
Plan Year	Statutory State Contributions	Additional Appropriations	Total	
2025/2026	\$ 10,436,115	\$ 9,416,612	\$ 19,852,727	
2024/2025	9,954,830	6,834,870	16,789,700	
2023/2024	6,310,348	7,253,460	13,563,808	
2022/2023	5,266,353	4,092,005	9,358,358	
2021/2022	5,188,155	3,752,980	8,941,135	
2020/2021	5,024,748	4,082,024	9,106,772	
2019/2020	4,926,271	4,112,870	9,039,141	
2018/2019	4,791,164	3,983,698	8,774,862	
2017/2018	4,592,242	4,337,435	8,929,677	
2016/2017	4,449,116	2,541,558	6,990,674	
2015/2016	4,547,633	2,725,738	7,273,371	
2014/2015	4,149,416	3,866,737	8,016,153	
2013/2014	4,386,823	4,652,774	9,039,597	
2012/2013	5,005,482	4,552,680	9,558,162	
2011/2012	5,291,940	2,255,430	7,547,370	
2010/2011	4,597,331	2,770,262	7,367,593	
2009/2010	4,203,166	1,801,610	6,004,776	
2008/2009	4,361,746	812,087	5,173,833	
2007/2008	4,225,729	365,020	4,590,749	
2006/2007	3,942,430	813,159	4,755,589	

Note: Information before Plan Year 2013/2014 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 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 State Patrol Retirement System.





SECTION 1 – BOARD SUMMARY

SUMMARY OF PRINCIPAL RESULTS

	7/1/2025 Valuation	7/1/2024 Valuation	% Change
1. PARTICIPANT DATA			
Number of:			
Active Members			
- Tier 1	226	245	(7.8%)
- Tier 2	160	147	8.8%
- Total	386	392	(1.5%)
Retired Members and Beneficiaries	515	509	1.2%
DROP Participants	33	32	3.1%
Disabled Members	16	15	6.7%
Inactive Members	49	45	8.9%
Total Members	999	993	0.6%
Projected Annual Salaries of Active Members	\$ 43,483,812	\$ 41,478,460	4.8%
Annual Retirement Payments for Members in Receipt and DROP Participants	\$ 32,046,479	\$ 30,434,076	5.3%
2. ASSETS AND LIABILITIES			
a. Market Value of Assets	\$ 647,545,587	\$ 588,340,252	10.1%
b. Actuarial Value of Assets	617,514,599	568,802,007	8.6%
c. Total Actuarial Accrued Liability	732,345,270	668,086,726	9.6%
d. Unfunded Actuarial Accrued Liability [c - b]	\$ 114,830,671	\$ 99,284,719	15.7%
e. Funded Ratio (Actuarial Value of Assets) [b / c]	84.32%	85.14%	(1.0%)
f. Funded Ratio (Market Value of Assets) [a / c]	88.42%	88.06%	0.4%
3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL			
Normal Cost	32.99%	30.12%	9.5%
Administrative Expenses	0.35%	0.26%	34.6%
Amortization of Unfunded Actuarial Accrued Liability	21.60%	19.55%	10.5%
Actuarial Required Contribution Rate	54.94%	49.93%	10.0%
Member Contribution Rate	(10.00%)	(10.00%)	0.0%
Employer Contribution Rate	(24.00%)	(24.00%)	0.0%
Additional Required State Contribution Rate	20.94%	15.93%	31.5%
Additional Required State Contribution	\$ 9,416,612	\$ 6,834,870	37.8%

* Reflects interest to the expected payment date, which is July 1 of the following year.





SECTION 2 – SCOPE OF THE REPORT

This report presents the actuarial valuation of the State Patrol Retirement System as of July 1, 2025. 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 (liabilities) of the System are to be met under the actuarial cost method in use. Section 6 discloses key maturity measurements and discusses the key risks facing the funding of the System. Section 7 includes some historical funding 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, 2025.
- 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 2 – SCOPE OF THE REPORT

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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, 2025. 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, 2025 and July 1, 2024, in total and by investment category. Table 2 summarizes the change in the market value of assets from July 1, 2024 to July 1, 2025.

Actuarial Value of Assets

Due to extreme volatility, 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 dollar amount of the actual and expected 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
STATE PATROL RETIREMENT SYSTEM
MARKET VALUE OF ASSETS
BY INVESTMENT CATEGORY

	<u>June 30, 2025</u>	<u>June 30, 2024</u>
1. Cash and Equivalents	\$ 55,656	\$ 381,990
2. Investments*	650,372,500	596,076,419
3. Capital Assets	34	46
4. Receivables and Prepaids	53,416,090	42,265,806
5. Accounts Payable	<u>(56,298,693)</u>	<u>(50,384,009)</u>
6. Net Assets Available for Pension Benefits	\$ 647,545,587	\$ 588,340,252

* Includes DROP account balances.





TABLE 2

STATE PATROL RETIREMENT SYSTEM

CHANGE IN MARKET VALUE OF ASSETS

	<u>2025</u>	<u>2024</u>
1. Market Value of Assets, Beginning of Year	\$ 588,340,252	\$ 528,686,000
2. Contributions		
(a) Member (includes purchased service)	\$ 4,323,828	\$ 6,349,386
(b) State	10,333,217	6,349,386
(c) State appropriations	6,834,870	7,253,460
(d) Total	<u>\$ 21,491,915</u>	<u>\$ 19,952,232</u>
3. Expenditures		
(a) Benefit payments	\$ 28,444,674	\$ 27,591,777
(b) Refunds	0	250,250
(c) DROP disbursements	1,861,746	2,499,805
(d) Administrative expenses	147,598	133,981
(e) Total	<u>\$ 30,454,018</u>	<u>\$ 30,475,813</u>
4. Investment Return, Net of Investment Expenses		
(a) Investment income	\$ 13,213,622	\$ 11,532,041
(b) Securities lending income	1,729,399	124,222
(c) Securities lending expense	(1,729,399)	(119,202)
(d) Net appreciation/(depreciation) in fair value of investments	54,933,083	58,622,238
(e) Other	20,733	18,534
(f) Net investment return	<u>\$ 68,167,438</u>	<u>\$ 70,177,833</u>
5. Market Value of Assets, End of Year [1 + 2(d) - 3(e) + 4(f)]	\$ 647,545,587	\$ 588,340,252
6. Rate of Return, Net of Expenses*	11.8%	13.4%

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





TABLE 3

STATE PATROL RETIREMENT SYSTEM

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

	Year End			
	6/30/2022	6/30/2023	6/30/2024	6/30/2025
1. Actuarial Value of Assets, Beginning of Year	\$ 489,208,407	\$ 514,558,364	\$ 535,331,442	\$ 568,802,007
2. Unrecognized Return Beginning of Year	62,873,314	(19,941,761)	(6,645,442)	19,538,245
3. Contributions During Year				
(a) Member	\$ 5,121,375	\$ 5,162,332	\$ 6,349,386	\$ 4,323,828
(b) State	5,121,375	5,162,332	6,349,386	10,333,217
(c) State appropriations	3,752,980	4,092,005	7,253,460	6,834,870
(d) Total	\$ 13,995,730	\$ 14,416,669	\$ 19,952,232	\$ 21,491,915
4. Benefit Payments and Admin Expenses During Year	24,454,760	26,001,791	27,725,758	28,592,272
5. Refund of Contributions/DROP Disbursements	1,888,119	2,311,102	2,750,055	1,861,746
6. Assumed Rate of Return	7.30%	7.20%	7.10%	7.00%
7. Expected Investment Income on (1), (2), (3), (4) and (5)	39,804,653	35,060,873	37,006,453	40,728,957
8. Actual Return on Market Value Net of Investment Expenses	(45,117,969)	47,965,621	70,177,833	68,167,438
9. Return to be Spread, End of Year [8 - 7]	\$ (84,922,622)	\$ 12,904,748	\$ 33,171,380	\$ 27,438,481





SECTION 3 – ASSETS

**TABLE 3
(continued)**

**STATE PATROL RETIREMENT SYSTEM
AS OF JULY 1, 2025**

10. Return to be Spread

<u>Plan Year Ending</u>	<u>Return to be Spread</u>	<u>Unrecognized Percent</u>	<u>Unrecognized Return</u>
2025	\$27,438,481	80%	\$21,950,785
2024	33,171,380	60%	19,902,828
2023	12,904,748	40%	5,161,899
2022	(84,922,622)	20%	(16,984,524)
			<u>\$30,030,988</u>

11. Total Market Value of Assets as of July 1, 2025 \$647,545,587

12. Total Actuarial Value of Assets as of July 1, 2025 \$617,514,599
[11 - 10]

13. Asset Ratios

(a) Actuarial Value to Market Value [12 / 11] 95.36%
(b) Market Value to Actuarial Value [11 / 12] 104.86%

<u>Plan Year Ended</u>	<u>Gain/(Loss) Deferred to Future Years</u>	<u>Gain/(Loss) to be Recognized in Plan Year Ending</u>			
		<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>
6/30/2022	(\$16,984,524)	(16,984,524)			
6/30/2023	5,161,899	2,580,950	2,580,949		
6/30/2024	19,902,828	6,634,276	6,634,276	6,634,276	
6/30/2025	21,950,785	5,487,696	5,487,696	5,487,696	5,487,697
Total	\$30,030,988	(\$2,281,602)	\$14,702,921	\$12,121,972	\$5,487,697





SECTION 3 – ASSETS

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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 State Patrol Retirement System as of the valuation date, July 1, 2025. 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 active 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, 2025.

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.





SECTION 4 – SYSTEM LIABILITIES

TABLE 4

STATE PATROL RETIREMENT SYSTEM

PRESENT VALUE OF FUTURE BENEFITS (PVFB) AS OF JULY 1, 2025

1. Active Employees	
(a) Retirement	\$ 359,894,758
(b) Termination	5,016,450
(c) Disability	10,842,579
(d) Death	2,648,930
(e) Total	<u>\$ 378,402,717</u>
2. Inactive Vested Members	10,669,387
3. Inactive Nonvested Members	372,144
4. DROP Account Balances	6,630,358
5. Disabled Members	9,551,975
6. Retirees	399,737,680
7. Beneficiaries	<u>35,925,087</u>
8. Total Present Value of Future Benefits	\$ 841,289,348





SECTION 4 – SYSTEM LIABILITIES

TABLE 5

STATE PATROL RETIREMENT SYSTEM

ACTUARIAL ACCRUED LIABILITY AS OF JULY 1, 2025

1. Present Value of Future Benefits for Active Members	\$	378,402,717
2. Present Value of Future Normal Costs for Active Members		
(a) Retirement	\$	94,772,059
(b) Termination		5,686,312
(c) Disability		6,648,933
(d) Death		1,836,774
(e) Total	\$	<u>108,944,078</u>
3. Actuarial Accrued Liability for Active Members [1 - 2(e)]	\$	269,458,639
4. Actuarial Accrued Liability for Inactive Members	\$	462,886,631
5. Total Actuarial Accrued Liability [3 + 4]	\$	732,345,270
6. Actuarial Value of Assets	\$	617,514,599
7. Unfunded Actuarial Accrued Liability [5 - 6]	\$	114,830,671
8. Funded Ratio [6 / 5]		84.32%





SECTION 4 – SYSTEM LIABILITIES

TABLE 6

STATE PATROL RETIREMENT SYSTEM

ACTUARIAL BALANCE SHEET AS OF JULY 1, 2025

ASSETS

Actuarial Value of Assets	\$	617,514,599
Unfunded Actuarial Accrued Liability		114,830,671
Present Value of Future Normal Costs		<u>108,944,078</u>
Total Assets	\$	841,289,348

LIABILITIES

Present Value of Future Benefits			
Active members			
Retirement	\$	359,894,758	
Termination		5,016,450	
Disability		10,842,579	
Death		<u>2,648,930</u>	
Total			378,402,717
Inactive members			11,041,531
Retirees, disabilities and beneficiaries*			<u>451,845,100</u>
Total	\$		841,289,348

* Includes DROP account balances.





SECTION 4 – SYSTEM LIABILITIES

TABLE 7

STATE PATROL RETIREMENT SYSTEM

ACTUARIAL GAIN/(LOSS)

Liabilities

1. Actuarial Accrued Liability as of July 1, 2024	\$	668,086,726
2. Normal Cost for Plan Year Ending June 30, 2025, Including New Hires		11,175,401
3. Benefit Payments During Plan Year Ending June 30, 2025		(30,306,420)
4. Interest at 7.00%		46,593,817
5. Assumption Changes		7,384,800
6. Plan Changes		<u>23,958,015</u>
7. Expected Actuarial Accrued Liability as of July 1, 2025	\$	726,892,339
8. Actuarial Accrued Liability as of July 1, 2025	\$	732,345,270

Assets

9. Actuarial Value of Assets as of July 1, 2024	\$	568,802,007
10. Contributions During Plan Year Ending June 30, 2025		21,491,915
11. Benefit Payments and Expenses During Plan Year Ending June 30, 2025		(30,454,018)
12. Interest at 7.00%		<u>39,361,280</u>
13. Expected Actuarial Value of Assets as of July 1, 2025	\$	599,201,184
14. Actuarial Value of Assets as of July 1, 2025	\$	617,514,599

Gain / (Loss)

15. Actuarial Gain / (Loss) on Liabilities [7 - 8]	\$	(5,452,931)
16. Actuarial Gain / (Loss) on Assets [14 - 13]		18,313,415
17. Total Actuarial Gain / (Loss) for Plan Year Ending June 30, 2025 [15 + 16]	\$	12,860,484





SECTION 4 – SYSTEM LIABILITIES

TABLE 8

STATE PATROL RETIREMENT SYSTEM

GAIN/(LOSS) ANALYSIS BY SOURCE

Liability Sources	Gain/(Loss)
Retirement	\$ 1,914,000
Termination	371,000
Disability	(467,000)
Mortality	280,000
Salary	(5,579,000)
COLA	(1,985,000)
Miscellaneous	13,000
Total Liability Gain/(Loss)	\$ (5,453,000)
Asset Gain/(Loss)	\$ 18,313,000
Net Actuarial Gain/(Loss)	\$ 12,860,000

Note: Numbers may not add due to rounding.





SECTION 4 – SYSTEM LIABILITIES

TABLE 9
STATE PATROL RETIREMENT SYSTEM
PROJECTED BENEFIT PAYMENTS
AS OF JULY 1, 2025

Plan Year Ending June 30	Current Active Members	Current In-Pay Members	Total
2026	\$ 3,016,000	\$ 31,977,000	\$ 34,993,000
2027	4,470,000	32,362,000	36,832,000
2028	8,698,000	32,812,000	41,510,000
2029	10,169,000	33,279,000	43,448,000
2030	11,595,000	33,689,000	45,284,000
2031	13,353,000	34,036,000	47,389,000
2032	14,421,000	34,442,000	48,863,000
2033	16,692,000	34,735,000	51,427,000
2034	18,183,000	34,978,000	53,161,000
2035	18,955,000	35,208,000	54,163,000
2036	20,236,000	35,332,000	55,568,000
2037	20,924,000	35,394,000	56,318,000
2038	22,594,000	35,473,000	58,067,000
2039	23,312,000	35,427,000	58,739,000
2040	24,862,000	35,351,000	60,213,000
2041	27,829,000	35,189,000	63,018,000
2042	30,542,000	35,005,000	65,547,000
2043	32,393,000	34,741,000	67,134,000
2044	34,835,000	34,390,000	69,225,000
2045	37,396,000	33,973,000	71,369,000
2046	40,461,000	33,487,000	73,948,000
2047	42,577,000	32,962,000	75,539,000
2048	44,545,000	32,336,000	76,881,000
2049	48,020,000	31,659,000	79,679,000
2050	50,983,000	30,892,000	81,875,000
2051	53,201,000	30,055,000	83,256,000
2052	54,648,000	29,150,000	83,798,000
2053	56,329,000	28,179,000	84,508,000
2054	57,756,000	27,146,000	84,902,000
2055	58,804,000	26,055,000	84,859,000

Note: Cash flows are the expected future non-discounted payments to current members. These numbers exclude refund payouts to any current nonvested inactive members and assume future retirees elect the normal form of payment.





SECTION 4 – SYSTEM LIABILITIES

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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 three elements: (1) the normal cost rate, (2) administrative expenses and (3) 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 actuarial required contribution rate, based on the July 1, 2025 actuarial valuation, will be used to determine the actuarial required employer contribution rate to the State Patrol Retirement System for the plan year ending June 30, 2026. Any additional State contributions are expected to be deposited on July 1, 2026 (State fiscal year end 2027). 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 payments currently exceed the interest on the UAAL.





SECTION 5 – EMPLOYER CONTRIBUTIONS

Contribution Rate Summary

In Table 10 the amortization payment related to the unfunded actuarial accrued liability, as of July 1, 2025, is developed. Table 11 develops the actuarial required contribution rate for the System and the amount of the required state contribution.

The actuarial required 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
STATE PATROL RETIREMENT SYSTEM
SCHEDULE OF AMORTIZATION BASES

Amortization Bases	Original Amount	July 1, 2025 Remaining Payments	Date of Last Payment	Outstanding Balance as of July 1, 2025	Annual Contribution*
2006 UAAL Base	\$ 13,632,330	11	7/1/2036	\$ 11,146,871	\$ 1,264,504
2007 UAAL Base	(2,328,213)	12	7/1/2037	(2,017,619)	(213,635)
2008 UAAL Base	7,528,427	13	7/1/2038	6,869,282	683,569
2009 UAAL Base	12,752,991	14	7/1/2039	12,184,670	1,146,159
2010 UAAL Base	17,735,331	15	7/1/2040	17,660,119	1,578,164
2011 UAAL Base	12,260,750	16	7/1/2041	12,672,612	1,080,519
2012 UAAL Base	19,767,597	17	7/1/2042	21,133,553	1,725,805
2013 Experience Base	13,785,867	18	7/1/2043	15,198,084	1,192,649
2014 Experience Base	(18,572,226)	19	7/1/2044	(20,436,049)	(1,545,658)
2015 Experience Base	(22,807,048)	20	7/1/2045	(24,981,930)	(1,825,939)
2016 Experience Base	(6,583,578)	21	7/1/2046	(7,161,531)	(507,042)
2017 Assumption Change Base	27,947,994	22	7/1/2047	30,126,301	2,070,585
2017 Experience Base	(6,040,886)	22	7/1/2047	(6,511,722)	(447,552)
2018 Experience Base	(7,711,191)	23	7/1/2048	(8,260,152)	(552,192)
2019 Experience Base	335,966	24	7/1/2049	356,994	23,253
2020 Experience Base	(2,126,062)	25	7/1/2050	(2,237,368)	(142,229)
2021 Assumption Change Base	6,936,227	21	7/1/2046	7,013,523	496,562
2021 Experience Base	(15,827,503)	21	7/1/2046	(16,003,883)	(1,133,086)
2022 Assumption Change Base	3,850,944	22	7/1/2047	3,888,166	267,234
2022 Experience Base	(1,523,975)	22	7/1/2047	(1,538,705)	(105,755)
2023 Assumption Change Base	4,214,934	23	7/1/2048	4,245,266	283,796
2023 Experience Base	43,821,349	23	7/1/2048	44,136,697	2,950,541
2024 Assumption Change Base	4,456,301	24	7/1/2049	4,473,769	291,406
2024 Plan Change Base	(75,480)	24	7/1/2049	(75,776)	(4,936)
2024 Experience Base	(4,020,825)	24	7/1/2049	(4,036,586)	(262,929)
2025 Assumption Change Base	7,384,800	25	7/1/2050	7,384,800	469,449
2025 Plan Change Base	23,958,015	25	7/1/2050	23,958,015	1,523,003
2025 Experience Base	(14,356,730)	25	7/1/2050	(14,356,730)	(912,653)
Total				\$ 114,830,671	\$ 9,393,592

* Contribution amount reflects mid-year timing.





SECTION 5 – EMPLOYER CONTRIBUTIONS

**TABLE 10
(continued)**

STATE PATROL RETIREMENT SYSTEM

AMORTIZATION SCHEDULE FOR THE UNFUNDED ACTUARIAL ACCRUED LIABILITY

1. Total UAAL Amortization Payments	\$	9,393,592
2. Projected Payroll for FY 2026	\$	43,483,812
3. UAAL Amortization Payment Rate		21.60%





SECTION 5 – EMPLOYER CONTRIBUTIONS

TABLE 11

STATE PATROL RETIREMENT SYSTEM

ACTUARIAL REQUIRED CONTRIBUTION FOR PLAN YEAR ENDING JUNE 30, 2026

and

DEVELOPMENT OF ADDITIONAL STATE CONTRIBUTION

1. Normal Cost Rate	32.99%
2. Administrative Expenses	0.35%
3. UAAL Amortization Rate (see Table 10)	21.60%
4. Total Actuarial Required Contribution Rate [1 + 2 + 3]	54.94%
5. Statutory Member Contribution Rate	10.00%
6. Statutory Employer Contribution Rate	24.00%
7. Additional Required State Contribution Rate [4 - 5 - 6, but not less than 0%]	20.94%
8. Projected Payroll for FY 2026	\$ 43,483,812
9. Additional Required State Contribution as of July 1, 2026 [7 * 8 * 1.0695 ^{1/2}]	\$ 9,416,612
10. Total State Contributions	
(a) State statutory amount	\$ 10,436,115
(b) Additional State contribution as of July 1, 2026	<u>9,416,612</u>
(c) Total	\$ 19,852,727





SECTION 5 – EMPLOYER CONTRIBUTIONS

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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 State Patrol 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. 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. 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 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, so no discussion is included here.

Actual vs Actuarial Contributions

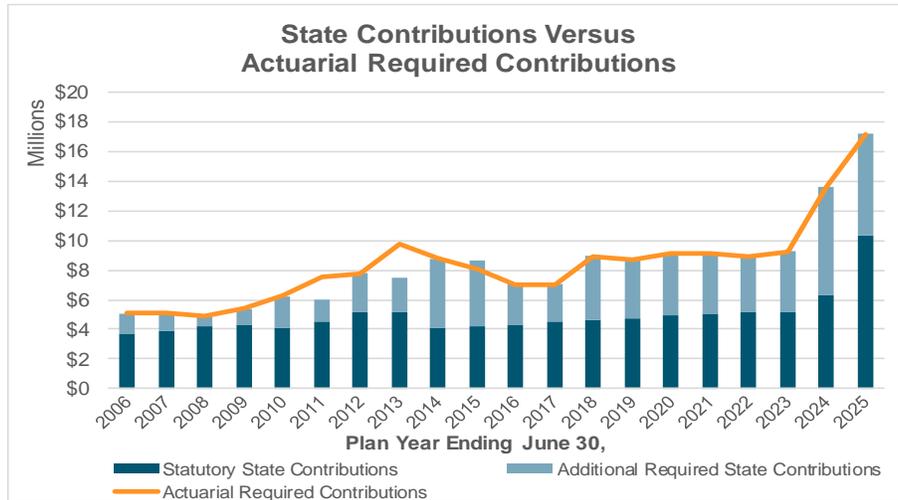
The System is funded by statutory contribution rates of 10.00% of pay for members and 24.00% of pay for the employer. State statutes require the State to make an additional contribution if the regular, payroll-related contributions by employees and the employer are insufficient to meet the actuarial required contribution amount 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 systems and consistent contributions equal to the full actuarial





SECTION 6 – RISK CONSIDERATIONS

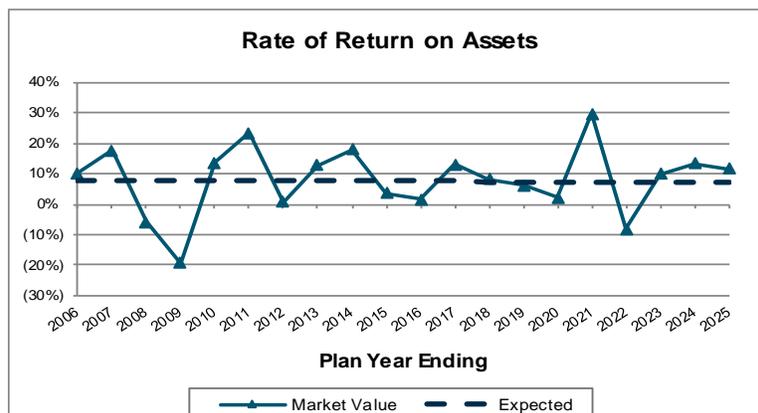
required contribution rate each year. As the following graph shows, at least the full actuarial required contribution has been contributed in 18 of the last 20 years.



One of the positive factors regarding the funding of the State Patrol Retirement System is the State's commitment to make contributions that are at least equal to the full actuarial required contribution. As a result, the funded ratio for the System has historically been strong.

Investment Return Risk

The most significant risk factor for most public retirement systems, including the Nebraska State Patrol 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 10-20 years reveals that the actual return each year is rarely close to the assumed return.



This is not unexpected, given the underlying capital market assumptions and the System's asset allocation, but it creates significant contribution risk. As Table 12 illustrates, a return that varies from the 6.95% assumption by 10.0% (-3.05% or 16.95%) equates to 149% of payroll. Even with





SECTION 6 – RISK CONSIDERATIONS

amortizing the actuarial experience loss over 25 years, the impact on the actuarial required contribution rate is dramatic (9.47% once the experience is fully recognized).

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, 2025 and with the 30-year spot rate used for all durations beyond 30. Using these assumptions, we calculate a liability of approximately \$823.1 million. 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.

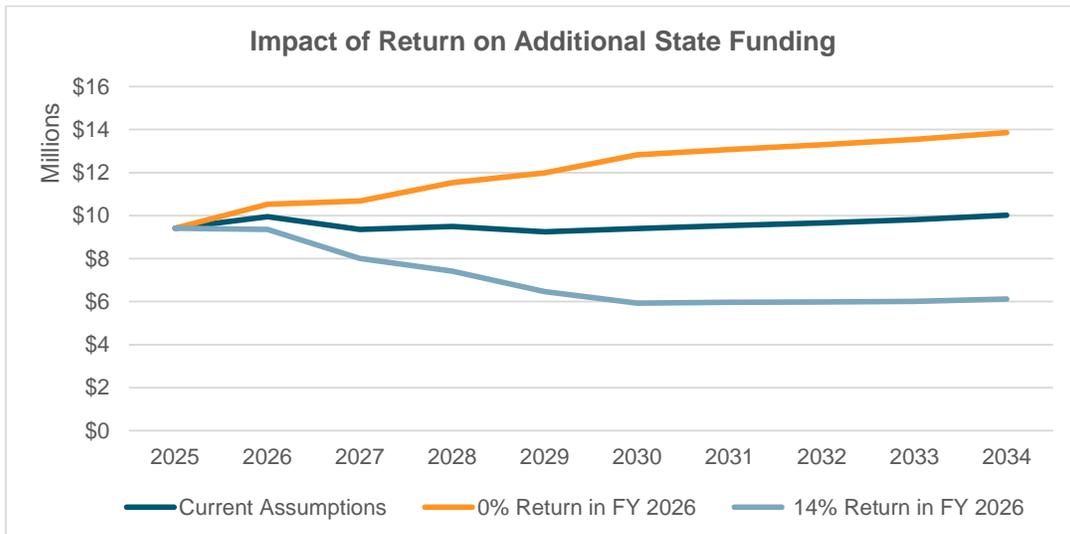
Contribution Risks

The actuarial required contribution, determined this year, based on the snapshot of the System taken on the valuation date of July 1, will change each year as the deferred investment experience is recognized and other 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 results in potentially extreme volatility in the additional State contribution (see graph below) due to the fact it is the difference between the actuarial required contribution rate and the statutory contribution rates. Any material difference in the actuarial required contribution rate will impact the additional State contribution.

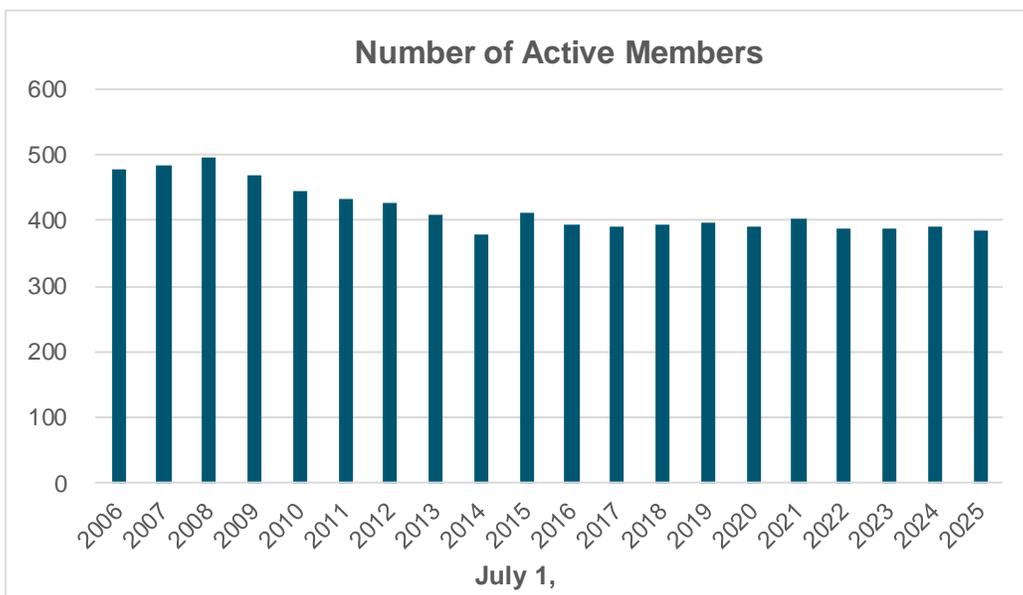




SECTION 6 – RISK CONSIDERATIONS



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. However, payroll generally does not grow as expected if the number of active members is not stable or increasing. When payroll does not grow as expected, the UAAL contribution rate will be higher than expected even if the dollar amount of the payment is the same as scheduled. The following graph shows the number of active members in the last twenty valuations:



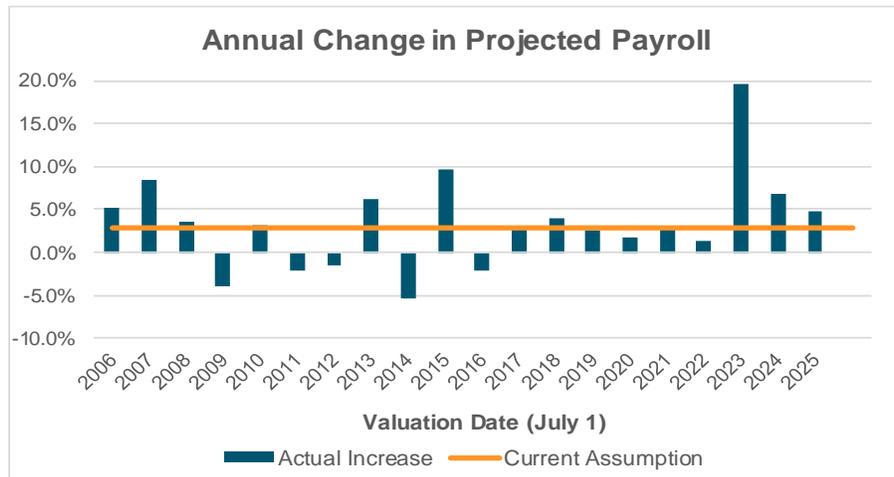
While the valuation process captures differences between actual and expected number of active members (and payroll) each year and adjusts the actuarial required contribution rate, a decline in the active member count will create pressure on the contribution rate and push more of the funding of the UAAL to the additional State contribution.





SECTION 6 – RISK CONSIDERATIONS

The decline in the number of active members and low salary increases over much of this period has resulted in actual payroll changes that have been below the expected increase (based on the payroll growth assumption). The following graph shows the actual versus expected increase in the projected payroll from FY 2006 through FY 2025. Actual increases in covered payroll have been both higher and lower than the current assumption over this period. While this does not necessarily impact the amount of the UAAL payment directly, it does impact the UAAL contribution rate.



Demographic Risks

A key demographic risk for all retirement systems, including the Nebraska State Patrol 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 due to 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 the COVID-19 pandemic. This type of event is also 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.

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.





SECTION 6 – RISK CONSIDERATIONS

TABLE 12
STATE PATROL 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, 2006	\$241,017,483	\$24,057,960	10.02	6.37%
July 1, 2007	279,618,100	26,072,859	10.72	6.81%
July 1, 2008	259,479,803	26,979,643	9.62	6.12%
July 1, 2009	205,033,476	25,922,439	7.91	5.03%
July 1, 2010	229,574,640	26,765,816	8.58	5.45%
July 1, 2011	278,146,750	26,195,473	10.62	6.75%
July 1, 2012	278,311,367	25,794,219	10.79	6.86%
July 1, 2013	309,589,784	27,417,644	11.29	7.18%
July 1, 2014	357,316,892	25,933,848	13.78	8.76%
July 1, 2015	363,922,631	28,422,706	12.80	8.14%
July 1, 2016	361,155,486	27,806,977	12.99	8.26%
July 1, 2017	397,137,172	28,629,936	13.87	8.82%
July 1, 2018	420,683,030	29,795,799	14.12	8.98%
July 1, 2019	436,611,997	30,578,962	14.28	9.08%
July 1, 2020	435,782,874	31,112,989	14.01	8.91%
July 1, 2021	552,081,721	32,005,893	17.25	10.97%
July 1, 2022	494,616,603	32,448,265	15.24	9.69%
July 1, 2023	528,686,000	38,809,028	13.62	8.66%
July 1, 2024	588,340,252	41,478,460	14.18	9.01%
July 1, 2025	647,545,587	43,483,812	14.89	9.47%

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, 2025 are 15 times payroll, so underperforming the investment return assumption by 10.00% (i.e., earn -3.05% for one year) creates an actuarial loss of about \$65 million, or 149% 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.





SECTION 6 – RISK CONSIDERATIONS

TABLE 13

STATE PATROL 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
6/30/2006	\$241,017,483	\$8,261,575	\$11,313,637	(\$3,052,062)	(1.27%)
6/30/2007	279,618,100	8,535,103	12,180,422	(3,645,319)	(1.30%)
6/30/2008	259,479,803	8,525,981	12,936,189	(4,410,208)	(1.70%)
6/30/2009	205,033,476	9,073,382	13,450,493	(4,377,111)	(2.13%)
6/30/2010	229,574,640	10,403,865	13,756,761	(3,352,896)	(1.46%)
6/30/2011	278,146,750	10,433,680	14,951,984	(4,518,304)	(1.62%)
6/30/2012	278,311,367	12,983,827	15,159,390	(2,175,563)	(0.78%)
6/30/2013	309,589,784	12,622,461	16,928,305	(4,305,844)	(1.39%)
6/30/2014	357,316,892	12,887,225	20,010,413	(7,123,188)	(1.99%)
6/30/2015	363,922,631	12,826,689	19,458,540	(6,631,851)	(1.82%)
6/30/2016	361,155,486	11,419,059	19,576,376	(8,157,317)	(2.26%)
6/30/2017	397,137,172	11,554,062	24,139,604	(12,585,542)	(3.17%)
6/30/2018	420,683,030	13,567,863	23,828,680	(10,260,817)	(2.44%)
6/30/2019	436,611,997	13,403,910	24,953,776	(11,549,866)	(2.65%)
6/30/2020	435,782,874	14,053,288	24,953,060	(10,899,772)	(2.50%)
6/30/2021	552,081,721	14,245,632	26,256,542	(12,010,910)	(2.18%)
6/30/2022	494,616,603	13,995,730	26,231,520	(12,235,790)	(2.47%)
6/30/2023	528,686,000	14,416,669	28,171,117	(13,754,448)	(2.60%)
6/30/2024	588,340,252	19,952,232	30,341,832	(10,389,600)	(1.77%)
6/30/2025	647,545,587	21,491,915	30,306,420	(8,814,505)	(1.36%)

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





SECTION 6 – RISK CONSIDERATIONS

TABLE 14

STATE PATROL 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, 2006	151,774,452	245,373,102	61.9%
July 1, 2007	162,565,102	265,846,597	61.1%
July 1, 2008	171,898,267	291,996,719	58.9%
July 1, 2009	186,078,948	305,291,065	61.0%
July 1, 2010	201,734,175	321,901,446	62.7%
July 1, 2011	210,595,076	339,554,456	62.0%
July 1, 2012	232,413,652	362,298,975	64.1%
July 1, 2013	246,649,393	386,875,100	63.8%
July 1, 2014	263,401,639	401,415,518	65.6%
July 1, 2015	272,309,342	410,210,579	66.4%
July 1, 2016	279,581,643	421,923,380	66.3%
July 1, 2017	303,829,524	465,066,035	65.3%
July 1, 2018	307,996,815	480,092,201	64.2%
July 1, 2019	315,463,480	496,519,265	63.5%
July 1, 2020	327,900,484	510,757,085	64.2%
July 1, 2021	355,959,053	540,576,453	65.8%
July 1, 2022	375,264,749	567,483,653	66.1%
July 1, 2023	393,622,869	635,290,980	62.0%
July 1, 2024	410,907,680	668,086,726	61.5%
July 1, 2025	451,845,100	732,345,270	61.7%

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





SECTION 6 – RISK CONSIDERATIONS

TABLE 15

STATE PATROL RETIREMENT SYSTEM

HISTORICAL MEMBER STATISTICS

Valuation Date July 1,	Number of Active Members	Number of Retired Members	Active/Retired
2006	477	331	1.44
2007	484	341	1.42
2008	496	352	1.41
2009	468	372	1.26
2010	444	390	1.14
2011	433	402	1.08
2012	427	422	1.01
2013	409	438	0.93
2014	378	453	0.83
2015	413	464	0.89
2016	393	471	0.83
2017	391	478	0.82
2018	395	478	0.83
2019	397	488	0.81
2020	392	503	0.78
2021	403	525	0.77
2022	388	537	0.72
2023	389	548	0.71
2024	392	556	0.71
2025	386	564	0.68

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

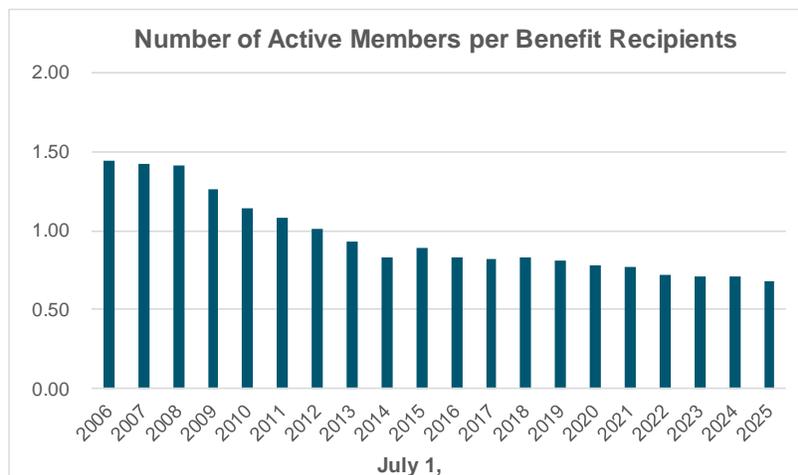




TABLE 16

STATE PATROL RETIREMENT SYSTEM

COMPARISON OF VALUATION RESULTS UNDER ALTERNATE
INVESTMENT RETURN ASSUMPTIONS
(\$ in Thousands)

This exhibit compares the key July 1, 2025 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	6.50%	6.75%	6.95%	7.25%	7.50%
Contributions					
Normal Cost Rate	37.11%	34.75%	32.99%	30.54%	28.67%
Administrative Expenses	0.35%	0.35%	0.35%	0.35%	0.35%
UAAL Amortization Rate	<u>27.14%</u>	<u>24.06%</u>	<u>21.60%</u>	<u>17.95%</u>	<u>14.92%</u>
Total Actuarial Required Contribution	64.60%	59.16%	54.94%	48.84%	43.94%
Member Contribution Rate	(10.00%)	(10.00%)	(10.00%)	(10.00%)	(10.00%)
Employer Contribution Rate	<u>(24.00%)</u>	<u>(24.00%)</u>	<u>(24.00%)</u>	<u>(24.00%)</u>	<u>(24.00%)</u>
Additional Required State Contribution Rate	30.60%	25.16%	20.94%	14.84%	9.94%
Additional Required State Contribution	\$13,732	\$11,304	\$9,417	\$6,683	\$4,481
Actuarial Accrued Liability	\$776,912	\$751,611	\$732,345	\$704,962	\$683,438
Actuarial Value of Assets	<u>617,515</u>	<u>617,515</u>	<u>617,515</u>	<u>617,515</u>	<u>617,515</u>
Unfunded Actuarial Accrued Liability*	\$159,397	\$134,096	\$114,831	\$87,448	\$65,924
Funded Ratio	79.48%	82.16%	84.32%	87.60%	90.35%

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

*Numbers may not add due to rounding.





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
STATE PATROL 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, 2006	231,740,772	245,373,102	13,632,330	94.4%	24,057,960	56.7%
June 30, 2007	254,662,819	265,846,597	11,183,778	95.8%	26,072,859	42.9%
June 30, 2008	273,393,928	291,996,719	18,602,791	93.6%	26,979,643	69.0%
June 30, 2009	274,119,906	305,291,065	31,171,159	89.8%	25,922,439	120.2%
June 30, 2010	273,306,925	321,901,446	48,594,521	84.9%	26,765,816	181.6%
June 30, 2011	279,192,669	339,554,456	60,361,787	82.2%	26,195,473	230.4%
June 30, 2012	282,810,785	362,298,975	79,488,190	78.1%	25,794,219	308.2%
June 30, 2013	294,468,029	386,875,100	92,407,071	76.1%	27,417,644	337.0%
June 30, 2014	325,966,725	401,415,518	75,448,793	81.2%	25,933,848	290.9%
June 30, 2015	356,446,470	410,210,579	53,764,109	86.9%	28,422,706	189.2%
June 30, 2016	374,205,616	421,923,380	47,717,764	88.7%	27,806,977	171.6%
June 30, 2017	395,149,596	465,066,035	69,916,439	85.0%	28,629,936	244.2%
June 30, 2018	417,588,175	480,092,201	62,504,026	87.0%	29,795,799	209.8%
June 30, 2019	433,655,500	496,519,265	62,863,765	87.3%	30,578,962	205.6%
June 30, 2020	450,151,647	510,757,085	60,605,438	88.1%	31,112,989	194.8%
June 30, 2021	489,208,407	540,576,453	51,368,046	90.5%	32,005,893	160.5%
June 30, 2022	514,558,364	567,483,653	52,925,289	90.7%	32,448,265	163.1%
June 30, 2023	535,331,442	635,290,980	99,959,538	84.3%	38,809,028	257.6%
June 30, 2024	568,802,007	668,086,726	99,284,719	85.1%	41,478,460	239.4%
June 30, 2025	617,514,599	732,345,270	114,830,671	84.3%	43,483,812	264.1%

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





SECTION 7 – HISTORICAL FUNDING AND OTHER INFORMATION

TABLE 18
STATE PATROL RETIREMENT SYSTEM
HISTORICAL FUNDING INFORMATION
SCHEDULE OF CONTRIBUTIONS FROM THE EMPLOYER

Plan Year Ending	Actuarial Required Contributions	Percent Contributed
June 30, 2006	\$ 5,081,930	100%
June 30, 2007	5,058,621	100%
June 30, 2008	4,855,700	100%
June 30, 2009	5,384,789	100%
June 30, 2010	6,260,122	100%
June 30, 2011	7,563,126	79%
June 30, 2012	7,774,506	100%
June 30, 2013	9,768,585	77%
June 30, 2014	8,752,627	100%
June 30, 2015	8,073,824	100%
June 30, 2016	7,053,408	100%
June 30, 2017	7,053,110	100%
June 30, 2018	8,952,649	100%
June 30, 2019	8,693,805	100%
June 30, 2020	9,083,079	100%
June 30, 2021	9,163,828	100%
June 30, 2022	8,874,355	100%
June 30, 2023	9,254,337	100%
June 30, 2024	13,602,846	100%
June 30, 2025	17,168,087	100%

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





SECTION 7 – HISTORICAL FUNDING AND OTHER INFORMATION

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APPENDIX A – MEMBERSHIP DATA

MEMBER DATA RECONCILIATION

	Active Members	Members in DROP	Inactive Vested	Inactive Non-vested	Retirees and Beneficiaries	Disabled Members	Total
As of July 1, 2024	392	32	28	17	509	15	993
Changes in status							
a) Retirement	(5)	(9)	(2)	0	16	0	0
b) DROP	(10)	10	0	0	0	0	0
c) Death	0	0	0	0	(17)	0	(17)
d) Non-vested terminations	(2)	0	0	2	0	0	0
e) Vested terminations	(5)	0	5	0	0	0	0
f) Contribution refund	0	0	0	0	0	0	0
g) Beneficiaries in receipt	0	0	0	0	7	0	7
h) Disability retirements	(1)	0	0	0	0	1	0
i) Return to active service	1	0	(1)	0	0	0	0
j) Expired benefits	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total changes in status	(22)	1	2	2	6	1	(10)
New entrants	16	0	0	0	0	0	16
Data Corrections	0	0	0	0	0	0	0
Net Change	(6)	1	2	2	6	1	6
As of July 1, 2025	386	33	30	19	515	16	999





APPENDIX A – MEMBERSHIP DATA

SUMMARY OF MEMBERSHIP DATA

A. ACTIVE MEMBERS	July 1, 2025	July 1, 2024	% Change
1. Number of Active Members			
(a) Before assumed retirement age	372	384	(3.1%)
(b) Beyond assumed retirement age	14	8	75.0%
(c) Total	386	392	(1.5%)
2. Annual Reported Salary			
(a) Before assumed retirement age	\$ 39,244,508	\$ 38,404,413	2.2%
(b) Beyond assumed retirement age	1,976,367	1,105,604	78.8%
(c) Total	\$ 41,220,875	\$ 39,510,017	4.3%
3. Accumulated Contributions	\$ 59,999,425	\$ 57,781,079	3.8%
4. Active Member Averages			
(a) Age	39.6	39.6	0.0%
(b) Service	13.2	13.0	1.5%
(c) Compensation	\$ 106,790	\$ 100,791	6.0%
(d) Accumulated contributions	\$ 155,439	\$ 147,401	5.5%
B. INACTIVE MEMBERS			
1. Number of Inactive Members			
(a) System nonvested (refund only)	19	17	11.8%
(b) System vested	30	28	7.1%
(c) Total	49	45	8.9%
2. Accumulated Member Contributions	\$ 4,906,285	\$ 4,485,382	9.4%
3. Inactive Members Averages			
(a) Age (vested members only)	46.6	48.4	(3.7%)
(b) Accumulated member contributions	\$ 100,128	\$ 99,675	0.5%
C. RETIREES, DISABLEDS, AND BENEFICIARIES			
1. Number of Members			
(a) Retired	394	389	1.3%
(b) Disabled	16	15	6.7%
(c) Beneficiaries	121	120	0.8%
(d) DROP	33	32	3.1%
(e) Total	564	556	1.4%
2. Annual Benefits			
(a) Retired	\$ 24,899,480	\$ 23,790,647	4.7%
(b) Disabled	657,257	599,659	9.6%
(c) Beneficiaries	3,847,490	3,656,517	5.2%
(d) DROP	2,642,252	2,387,253	10.7%
(e) Total	\$ 32,046,479	\$ 30,434,076	5.3%
3. Market Value of DROP Account Balances	\$ 6,630,358	\$ 5,466,688	21.3%



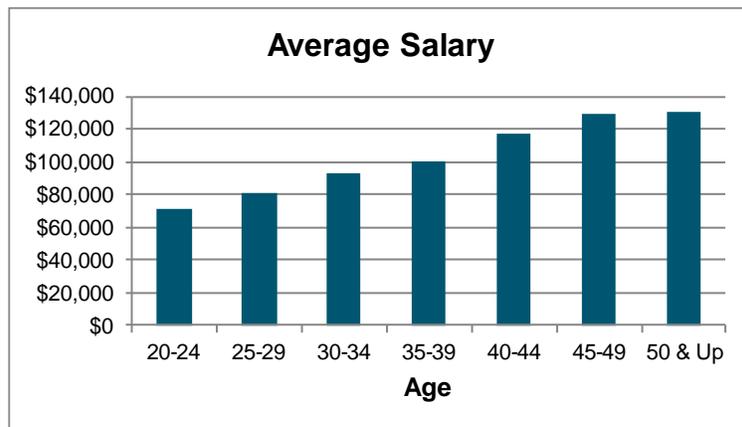
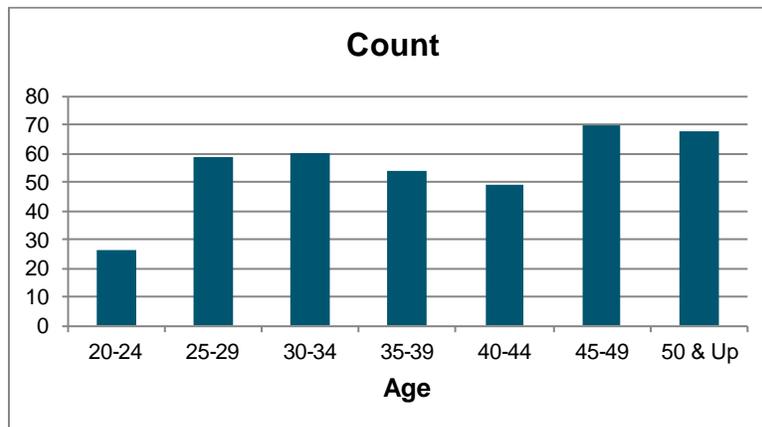


APPENDIX A – MEMBERSHIP DATA

ACTIVE MEMBERS AS OF JULY 1, 2025

Total

Age	Count			Reported FY 2025 Earnings		
	Male	Female	Total	Male	Female	Total
20-24	22	4	26	\$ 1,583,821	\$ 258,266	\$ 1,842,087
25-29	47	12	59	3,837,445	943,053	4,780,498
30-34	55	5	60	5,135,583	457,019	5,592,602
35-39	49	5	54	4,951,292	460,587	5,411,879
40-44	45	4	49	5,337,409	398,141	5,735,550
45-49	66	4	70	8,468,970	535,911	9,004,881
50 & Up	66	2	68	8,607,250	246,128	8,853,378
Total	350	36	386	\$ 37,921,770	\$ 3,299,105	\$ 41,220,875



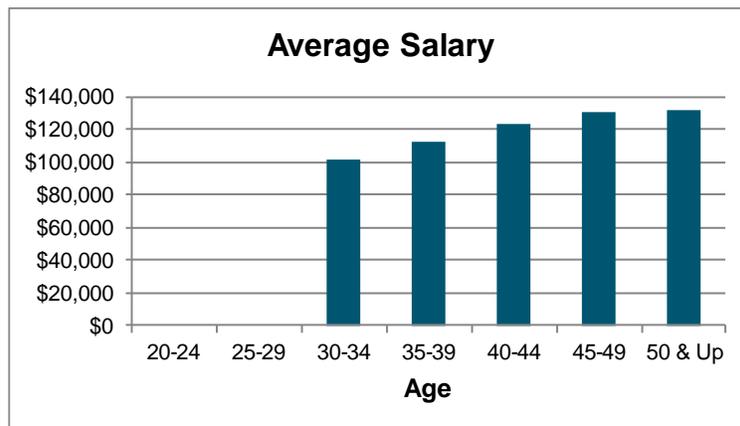
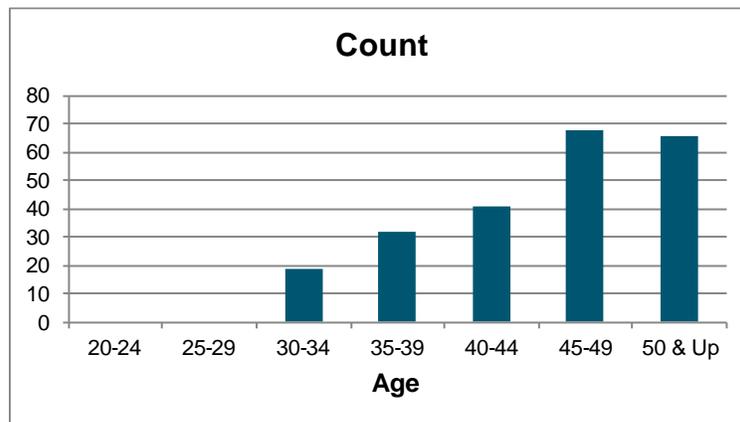


APPENDIX A – MEMBERSHIP DATA

ACTIVE MEMBERS AS OF JULY 1, 2025

Tier 1

Age	Count			Reported FY 2025 Earnings		
	Male	Female	Total	Male	Female	Total
20-24	0	0	0	\$ 0	\$ 0	\$ 0
25-29	0	0	0	0	0	0
30-34	18	1	19	1,816,002	102,126	1,918,128
35-39	29	3	32	3,281,258	293,552	3,574,810
40-44	39	2	41	4,837,972	236,497	5,074,469
45-49	64	4	68	8,306,776	535,911	8,842,687
50 & Up	64	2	66	8,428,504	246,128	8,674,632
Total	214	12	226	\$ 26,670,512	\$ 1,414,214	\$ 28,084,726



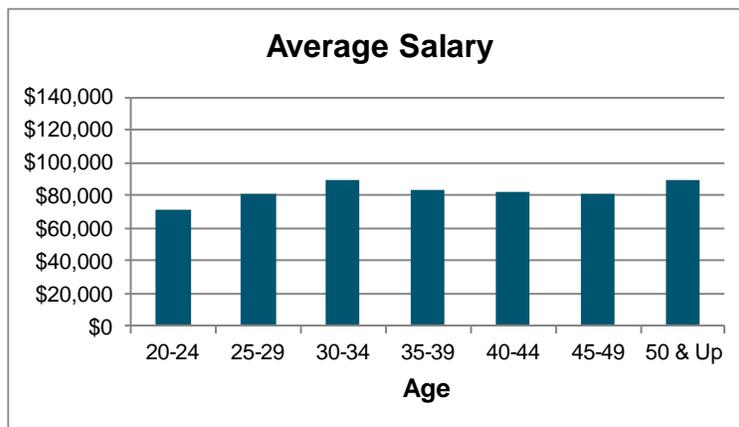
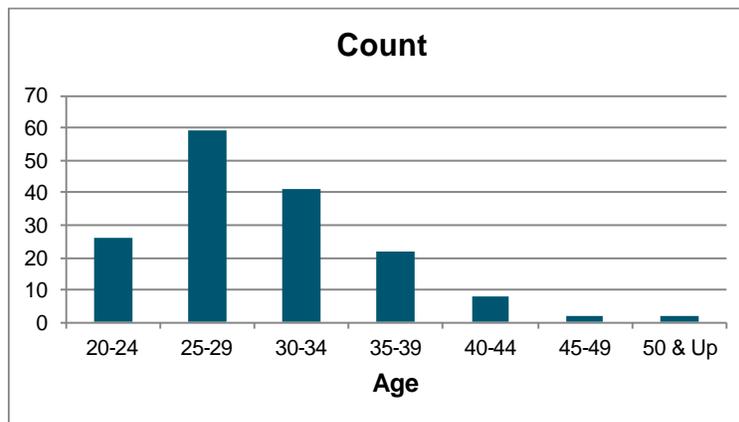


APPENDIX A – MEMBERSHIP DATA

ACTIVE MEMBERS AS OF JULY 1, 2025

Tier 2

Age	Count			Reported FY 2025 Earnings		
	Male	Female	Total	Male	Female	Total
20-24	22	4	26	\$ 1,583,821	\$ 258,266	\$ 1,842,087
25-29	47	12	59	3,837,445	943,053	4,780,498
30-34	37	4	41	3,319,581	354,893	3,674,474
35-39	20	2	22	1,670,034	167,035	1,837,069
40-44	6	2	8	499,437	161,644	661,081
45-49	2	0	2	162,194	0	162,194
50 & Up	2	0	2	178,746	0	178,746
Total	136	24	160	\$ 11,251,258	\$ 1,884,891	\$ 13,136,149





APPENDIX A – MEMBERSHIP DATA

AGE AND SERVICE DISTRIBUTION AS OF JULY 1, 2025

Age		0-4	5-9	10-14	15-19	20-24	Over 25	Total
20-24	Number	26	0	0	0	0	0	26
	Total Salary	\$ 1,842,087	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 1,842,087
	Average Sal.	\$ 70,850	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 70,850
25-29	Number	41	18	0	0	0	0	59
	Total Salary	\$ 3,230,362	\$ 1,550,136	\$ 0	\$ 0	\$ 0	\$ 0	\$ 4,780,498
	Average Sal.	\$ 78,789	\$ 86,119	\$ 0	\$ 0	\$ 0	\$ 0	\$ 81,025
30-34	Number	6	35	19	0	0	0	60
	Total Salary	\$ 507,069	\$ 3,167,404	\$ 1,918,129	\$ 0	\$ 0	\$ 0	\$ 5,592,602
	Average Sal.	\$ 84,512	\$ 90,497	\$ 100,954	\$ 0	\$ 0	\$ 0	\$ 93,210
35-39	Number	10	13	29	2	0	0	54
	Total Salary	\$ 792,988	\$ 1,151,599	\$ 3,218,959	\$ 248,333	\$ 0	\$ 0	\$ 5,411,879
	Average Sal.	\$ 79,299	\$ 88,585	\$ 110,999	\$ 124,167	\$ 0	\$ 0	\$ 100,220
40-44	Number	3	5	9	30	2	0	49
	Total Salary	\$ 196,285	\$ 464,797	\$ 964,088	\$ 3,808,548	\$ 301,832	\$ 0	\$ 5,735,550
	Average Sal.	\$ 65,428	\$ 92,959	\$ 107,121	\$ 126,952	\$ 150,916	\$ 0	\$ 117,052
45-49	Number	1	1	4	11	50	3	70
	Total Salary	\$ 78,988	\$ 83,206	\$ 442,403	\$ 1,303,395	\$ 6,648,455	\$ 448,434	\$ 9,004,881
	Average Sal.	\$ 78,988	\$ 83,206	\$ 110,601	\$ 118,490	\$ 132,969	\$ 149,478	\$ 128,641
50 & Up	Number	0	2	2	7	43	14	68
	Total Salary	\$ 0	\$ 178,746	\$ 209,144	\$ 863,389	\$ 5,625,732	\$ 1,976,367	\$ 8,853,378
	Average Sal.	\$ 0	\$ 89,373	\$ 104,572	\$ 123,341	\$ 130,831	\$ 141,169	\$ 130,197
Total	Number	87	74	63	50	95	17	386
	Total Salary	\$ 6,647,779	\$ 6,595,888	\$ 6,752,723	\$ 6,223,665	\$ 12,576,019	\$ 2,424,801	\$ 41,220,875
	Average Sal.	\$ 76,411	\$ 89,134	\$ 107,186	\$ 124,473	\$ 132,379	\$ 142,635	\$ 106,790





APPENDIX A – MEMBERSHIP DATA

MEMBERS PARTICIPATING IN DROP AS OF JULY 1, 2025

Age	Count			Annual Benefits		
	Male	Female	Total	Male	Female	Total
49 & Under	0	0	0	\$ 0	\$ 0	\$ 0
50-51	9	0	9	838,855	0	838,855
52-53	5	0	5	410,441	0	410,441
54-55	10	0	10	735,109	0	735,109
56-57	6	0	6	439,897	0	439,897
58-59	3	0	3	217,950	0	217,950
60 & Up	0	0	0	0	0	0
Total	33	0	33	\$2,642,252	\$ 0	\$2,642,252





APPENDIX A – MEMBERSHIP DATA

INACTIVE VESTED MEMBERS AS OF JULY 1, 2025

<u>Age</u>	<u>Count</u>			<u>Annual Benefits</u>		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
20-24	0	0	0	\$ 0	\$ 0	\$ 0
25-29	0	0	0	0	0	0
30-34	3	0	3	52,527	0	52,527
35-39	1	1	2	40,926	22,368	63,294
40-44	3	0	3	99,835	0	99,835
45-49	13	0	13	388,822	0	388,822
50-54	7	2	9	261,872	71,124	332,996
55 & Up	0	0	0	0	0	0
Total	27	3	30	\$ 843,982	\$ 93,492	\$ 937,474

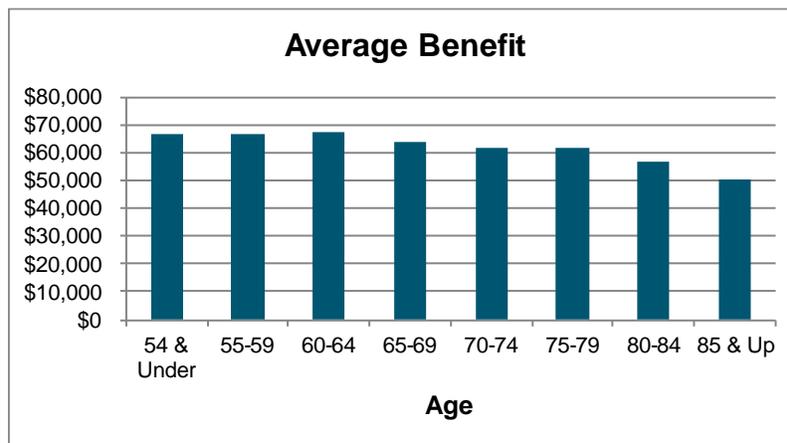
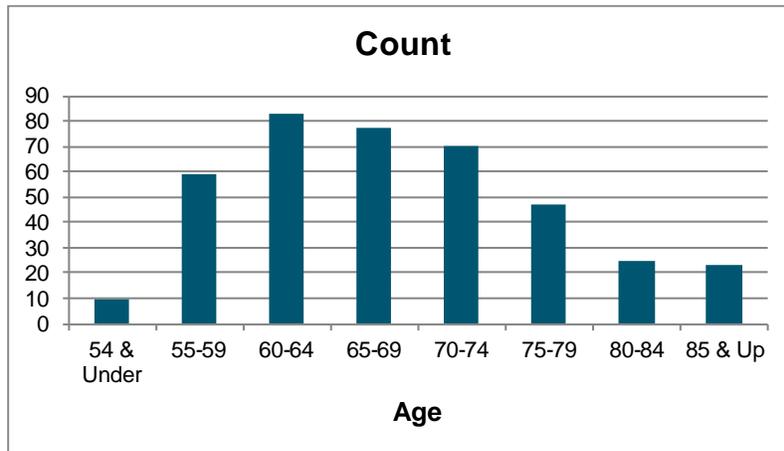




APPENDIX A – MEMBERSHIP DATA

RETIRED MEMBERS AS OF JULY 1, 2025

Age	Count			Annual Benefits		
	Male	Female	Total	Male	Female	Total
54 & Under	10	0	10	\$ 666,928	\$ 0	\$ 666,928
55-59	56	3	59	3,735,161	210,172	3,945,333
60-64	77	6	83	5,155,188	408,509	5,563,697
65-69	71	6	77	4,549,524	371,965	4,921,489
70-74	68	2	70	4,277,228	58,188	4,335,416
75-79	46	1	47	2,816,618	71,055	2,887,673
80-84	25	0	25	1,419,681	0	1,419,681
85 & Up	23	0	23	1,159,263	0	1,159,263
Total	376	18	394	\$23,779,591	\$1,119,889	\$24,899,480

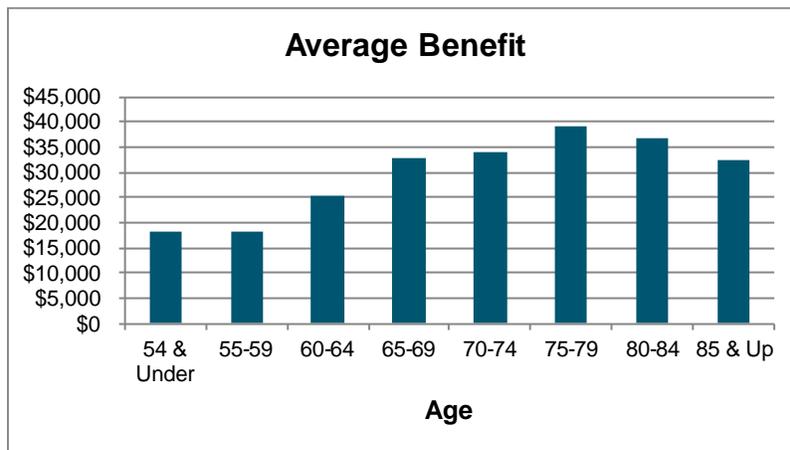
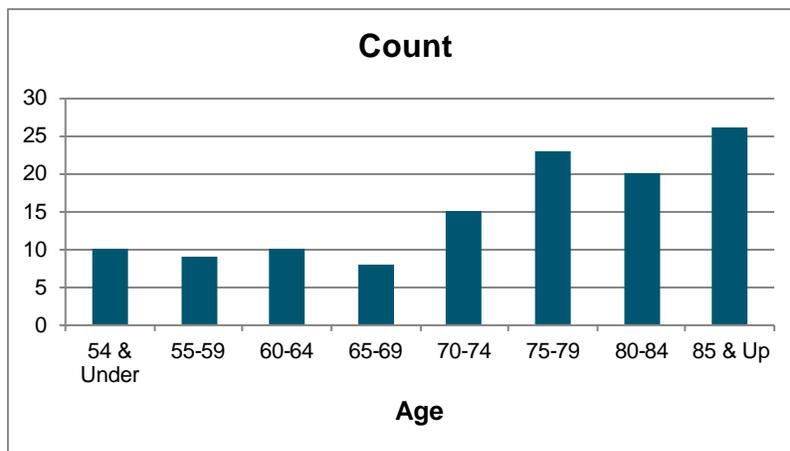




APPENDIX A – MEMBERSHIP DATA

BENEFICIARIES AS OF JULY 1, 2025

Age	Count			Annual Benefits		
	Male	Female	Total	Male	Female	Total
54 & Under	1	9	10	\$ 24,396	\$ 156,399	\$ 180,795
55-59	0	9	9	0	162,629	162,629
60-64	0	10	10	0	251,131	251,131
65-69	0	8	8	0	262,571	262,571
70-74	0	15	15	0	511,657	511,657
75-79	0	23	23	0	899,181	899,181
80-84	0	20	20	0	738,646	738,646
85 & Up	0	26	26	0	840,880	840,880
Total	1	120	121	\$ 24,396	\$ 3,823,094	\$ 3,847,490





APPENDIX A – MEMBERSHIP DATA

DISABLED MEMBERS AS OF JULY 1, 2025

Age	Count			Annual Benefits		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
54 & Under	7	2	9	\$ 296,726	\$ 76,668	\$ 373,394
55-59	1	0	1	29,651	0	29,651
60-64	0	0	0	0	0	0
65-69	0	1	1	0	41,415	41,415
70-74	3	0	3	122,363	0	122,363
75-79	1	0	1	49,277	0	49,277
80-84	1	0	1	41,157	0	41,157
85 & Up	0	0	0	0	0	0
Total	13	3	16	\$ 539,174	\$ 118,083	\$ 657,257





APPENDIX A – MEMBERSHIP DATA

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APPENDIX B – SUMMARY OF PLAN PROVISIONS

Member	Any member of the Nebraska State Patrol, permanent force.
Participation Date	Date of becoming a member.
Benefit Tiers	<p>Tier 1 refers to participants who joined the plan prior to July 1, 2016.</p> <p>Tier 2 refers to participants who joined the plan on or after July 1, 2016, as well as Tier 1 participants who took a refund and returned to the plan on or after July 1, 2016.</p>
Definitions	
<i>Covered pay</i>	Gross annual earnings subject to contributions.
<i>Final average compensation</i>	<p>For Tier 1 participants, it is the average of the highest three 12-month periods of covered pay, ending on the earlier of the participant's termination date or retirement date.</p> <p>For Tier 2 participants, it is the average of the highest five 12-month periods of covered pay, ending on the earlier of the participant's termination date or retirement date.</p>
<i>Salary caps</i>	For Tier 2 participants only, increases in compensation during the final five plan years of employment will be capped at 8% per year.
<i>Pension service</i>	Length of service includes all service with the Nebraska State Patrol, permanent force, computed to the nearest one-twelfth year, plus declared emergency service in the armed forces.
<i>Fiscal year</i>	Twelve month period ending June 30.
<i>Member and employer contributions</i>	<p>Participants contribute 10.0% of covered 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. Employer contributions on covered pay are 24.0% of monthly salary. (From July 1, 2013 to July 1, 2024, employee and employer contribution rates were 16.0% of pay for Tier 1 members and 17.0% for Tier 2 members. Prior to July 1, 2013, employee and employer contribution rates were 19.0% of pay.).</p> <p>The State makes any additional contributions that are actuarially required.</p>





APPENDIX B – SUMMARY OF PLAN PROVISIONS

Pension benefit 3.0% of Final Average Compensation times Pension Service. The benefit is subject to a maximum of 75% of Final Average Compensation. Effective July 1, 2001, an automatic annual cost-of-living adjustment (COLA) equal to the CPI-W index is granted to each participant who has been retired for at least one full fiscal year.

For Tier 1 participants, the COLA is capped at 2.5%, unless the benefit drops below 60% of the purchasing power of the original benefit. For Tier 2 participants, the COLA is capped at 1.0% and there is no purchasing power floor.

Normal Retirement Date (NRD) First of month coinciding with or next following (a) the completion of 25 years of service and attaining age 50, (b) the completion of ten years of service and attaining age 55, (c) the completion of 30 years of service at any age, or (d) attaining age 60 regardless of service.

Mandatory Retirement Age Members must retire at age 60.

Eligibility for Benefits

Deferred vested Termination for reasons other than death, disability, or retirement after completing at least six years of pension service.

Disability retirement Retirement by reason of disability as defined by State Statutes.

Early retirement Retirement before NRD and on or after both attaining age 50 and completing ten years of pension service.

Normal retirement Retire on NRD.

Postponed retirement Retire after NRD.

Post-retirement death benefit Death after retirement with surviving spouse or dependent children under age 19. For non-disability retirement, the surviving spouse must have been married to the member at the date of retirement.

Pre-retirement death benefit Death prior to retirement.





APPENDIX B – SUMMARY OF PLAN PROVISIONS

Monthly Benefits Paid Upon the Following Events

<i>Normal retirement</i>	Pension benefit determined as of NRD.
<i>Early retirement</i>	Pension benefit determined as of early retirement date, reduced by 5/9% for each month that commencement (which must be after age 50 and ten years of service) of payment precedes the earlier of age 55 or completion of 25 years of service. No reduction is made after 25 years of service.
<i>Postponed retirement</i>	Monthly pension benefit determined as of actual retirement date.
<i>Termination with deferred vested benefit</i>	Refund of contributions with regular interest <u>or</u> a percentage of the pension benefit determined as of termination date, reduced by 5/9% for each month that commencement (which must be after age 50 and ten years of service) of payment precedes the earlier of age 55 or completion of 25 years of service. This percentage is based upon completed years of pension service as follows:

<u>Years</u>	<u>Vested Percentage</u>
5 and under	0%
6	20
7	40
8	60
9	80
10 or more	100

Disability retirement A monthly benefit equal to 50% of current monthly salary at the date of disablement for members with less than 17 years of service.

For members with more than 17 years of service, a monthly benefit equal to the product of 3% of final monthly salary, times total years of service subject to a maximum of 75% of Final Average Compensation.

Pre-retirement death benefits **Surviving spouse or dependent children under age 19:** Benefit is computed as if member retired for disability on the date of death. This benefit is payable to the surviving spouse as long as spouse has dependent children under age 19. If spouse dies, 100% of this benefit continues to children until the youngest attains age 19. If there are no dependent children under age 19, 100% of this benefit is payable for the life of the surviving spouse.





APPENDIX B – SUMMARY OF PLAN PROVISIONS

No surviving spouse or dependent children under age 19:

A lump sum equal to the member's contributions plus regular interest.

Post-retirement death benefits

100% of member's annuity is payable to the surviving spouse provided spouse has dependent children under 19. If there is no surviving spouse or the spouse dies, 100% of member's annuity continues to children until the youngest attains age 19. If there are no dependent children under age 19, 100% of member's annuity continues to the surviving spouse.

Forms of payment

Normal form is 100% Joint and Survivor benefit. Members may also elect a refund of contributions. If there is no surviving spouse or dependent children under age 19, the member's accumulated contributions with interest are paid to the beneficiary or estate.

Deferred Retirement Option Plan (DROP)

A Tier 1 member may elect to participate in the DROP after they attain age 50 with 25 years of service. A member can continue to work while participating in the DROP, but must terminate employment within 5 years of entry into the DROP. The member's retirement benefits would be calculated as of the DROP entry date. The monthly payments that begin at entry into the DROP are accumulated until the member terminates service, at which time the DROP accumulated benefits and investment income can be paid as a lump sum, rollover or annuity. The COLA for retirees would not apply to the member during participation in the DROP and both the member and employer contributions cease upon entry into the DROP.

Tier 2 members cannot participate in DROP.

Benefits Reflected in Valuation

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

Plan Provisions Effective After July 1, 2025

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





APPENDIX B – SUMMARY OF PLAN PROVISIONS

Changes in Plan Provisions Since the Prior Year

There has been a change to the plan provisions since the prior valuation. In the 2025 session, the Legislature passed Legislative Bill 645 (LB 645) which changed the pre-retirement and post-retirement death benefits that currently provide for a survivor benefit from 75% of the member's benefit to a 100% survivor benefit.





APPENDIX B – SUMMARY OF PLAN PROVISIONS

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APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

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

The actuarial cost method is a procedure for allocating the actuarial present value of pension benefits and expenses to time periods. The method used for the valuation is known as the Entry Age Normal actuarial cost method and has the following characteristics:

- (i) The annual normal costs for each individual active participant are sufficient to accumulate the value of the participant's pension at the time of retirement.
- (ii) Each annual normal cost is a constant percentage of the participant's year-by-year projected covered compensation.

The Entry Age Normal actuarial cost method allocates the actuarial present value of each participant's projected benefits on a level basis over the participant's expected pensionable compensation between the participant's entry age and their assumed exit age (currently age 60 or age 50 with 25 years of service).

The portion of the actuarial present value allocated to the valuation each year is called the normal cost. The portion of the actuarial present value in excess of the actuarial present value of future normal costs is called actuarial accrued liability.

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 the Entry Age Normal method, experience gains or losses, i.e., decreases or increases in actuarial 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,





APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

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.

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. 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. 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.





APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

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.

When multiple records are received, the record with the oldest beneficiary date of birth is valued.

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.

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

Changes in Methods and Procedures Since the Prior Year

There have been no changes to methods or procedures since the prior valuation.





APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

ECONOMIC ASSUMPTIONS

1. Investment Return 6.95% per annum, compounded annually, net of expenses.
 Note: the assumption will decrease each year until reaching the ultimate rate of 6.75% in the 2028 valuation.

2. Inflation 2.35% per annum, compounded annually.

3. Salary Increase Rates vary by service as follows:

Years	Rates by Service			
	Inflation	Productivity	Merit	Total
1	2.35%	0.60%	5.50%	8.45%
2	2.35	0.60	4.50	7.45
3	2.35	0.60	3.50	6.45
4	2.35	0.60	3.25	6.20
5	2.35	0.60	3.00	5.95
6	2.35	0.60	2.80	5.75
7	2.35	0.60	2.55	5.50
8	2.35	0.60	2.35	5.30
9	2.35	0.60	2.15	5.10
10	2.35	0.60	2.10	5.05
11	2.35	0.60	2.06	5.01
12	2.35	0.60	2.03	4.98
13-25	2.35	0.60	2.00	4.95
26	2.35	0.60	1.70	4.65
27	2.35	0.60	1.40	4.35
28	2.35	0.60	1.10	4.05
29	2.35	0.60	0.80	3.75
30	2.35	0.60	0.00	2.95

4. Payroll Growth 2.85% per annum.

5. Interest on Employee Contributions 2.50% per annum, compounded annually.

6. Increases on Compensation And Benefit Limits 2.35% per annum on the 401(a)(17) compensation limit and the 415 benefit limit.





APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

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 projection scale 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

Post-retirement Mortality		
Mortality Rate (Base Rates)		
Sample Age	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





APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

Sample Age	Projection Scale – Post-retirement Mortality					
	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 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

2. Retirement

Retirement is assumed to occur upon attaining certain age and service requirements. The retirement assumption varies depending on benefit eligibility and age at retirement.

Early/Normal Retirement Eligibility	Age and Service Requirements	Retirement Assumption
Reduced	Age 50 Service: 10 years	1% at each age
Unreduced	Age 55 Service: 10 years	10% at each age
Unreduced (Eligible for DROP)	Age 50 Service: 25 years	100% at each age
Unreduced (Mandatory)	Age 60	100% at each age





APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

3. Termination

Rates vary by service. Sample rates are as follows:

Rates by Service	
Years	Rate
<1	4.00%
1	3.75
5	2.75
10	2.00
15	1.25
20+	0.00

4. Disability

Rates vary by age. Sample rates are as follows:

Rates by Age	
Age	Rate
25	0.08%
30	0.10
35	0.13
40	0.20
45	0.31
50	0.52
55	0.91
60	1.36

OTHER ASSUMPTIONS

1. Form of Payment

100% Joint & Survivor Annuity. Deferred vesteds are assumed to take the greater of the present value of an annuity at earliest unreduced eligibility or a refund of contributions.

2. Marital Status

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

100% married
Females assumed to be three years younger than males.

3. Children

All members are assumed to have one dependent child at death or retirement. The child is assumed to be 28 years younger than the member and is assumed to always survive until age 19.

4. Administrative Expense

0.35% of payroll





APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

5. Commencement Age for Deferred Vested Benefit	Age 55
6. Cost of Living Adjustments	2.00% per annum, compounded annually for Tier 1 members. 1.00% per annum, compounded annually for Tier 2 members.
7. DROP Participation for COLA valuation	All members elect the DROP at the earliest possible date and remain in the DROP for 4 years or to age 60, if earlier. No COLA is received during DROP.
8. State Contribution	Additional 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 March 17, 2025, the Public Employees Retirement Board adopted a new set of actuarial assumptions, based on the recommendations in the 2024 experience study. The investment return assumption will be phased in over a four-year period, beginning with the July 1, 2025 valuation. Below is a summary of the key assumption changed in the valuation:

- Investment return assumption was lowered from 7.00% to 6.95% (6.75% ultimately).
- Administrative expenses increased from 0.26% to 0.35%
- Salary increase assumptions were adjusted to better reflect observed experience.





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 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.





APPENDIX D – GLOSSARY OF TERMS

Unfunded Actuarial Accrued Liability

The difference between actuarial accrued liability and the valuation assets. Sometimes referred to as “unfunded actuarial liability” or “unfunded accrued liability.”

