# Public Employees Retirement Association of Minnesota

## Public Employees Police and Fire Plan

## Actuarial Valuation Report as of July 1, 2025

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November 19, 2025

Public Employees Retirement Association of Minnesota
Trustees of the Public Employees Police and Fire Plan
St. Paul, Minnesota

Dear Trustees of the Public Employees Police and Fire Plan:

The results of the July 1, 2025 annual actuarial valuation of the Public Employees Police and Fire Plan are presented in this report. This report was prepared at the request of the Board and is intended for use by the Board and staff and those designated or approved by the Board. This report may be provided to parties other than the Board and staff only in its entirety and only with permission of the Board. GRS is not responsible for the consequences of any unauthorized use of this report by persons other than the intended users as described above.

The purpose of the valuation is to measure the Fund's funding progress and to determine the required contribution rate for the fiscal year beginning July 1, 2025 according to prescribed assumptions. Note that the impact of GASB Statements No. 67 and No. 68 is provided in a separate report. This report should not be relied on for any purpose other than the purpose described herein. Determinations of the financial results associated with the benefits described in this report in a manner other than the intended purpose may produce significantly different results.

Actuarial assumptions, including discount rates, mortality tables and others identified in this report, are prescribed by Minnesota Statutes Section 356.215, the Legislative Commission on Pensions and Retirement (LCPR), and the Trustees. These parties are responsible for selecting the plan's funding policy, actuarial valuation methods, asset valuation methods and assumptions. The policies, methods and assumptions used in this valuation are those that have been so prescribed and are described in the Actuarial Basis section of this report. PERA is solely responsible for communicating to GRS any changes required thereto.

All actuarial assumptions used in this report are reasonable for the purposes of this valuation. The combined effect of the assumptions is expected to have no significant bias (i.e., not significantly optimistic or pessimistic). All actuarial assumptions and methods used in the valuation follow the guidance in the applicable Actuarial Standards of Practice. Additional information about the actuarial assumptions is included in the Actuarial Basis section of this report.

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The contribution rate in this report is determined using the actuarial assumptions and methods disclosed in the Actuarial Basis section of this report. This report includes risk metrics on pages 7-10, but does not include a more robust assessment of the risks of future experience differing materially from the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment. We encourage a review and assessment of investment and other significant risks that may have a material effect on the plan's financial condition.

We have assessed that the contribution rate calculated under the current funding policy is a reasonable Actuarially Determined Employer Contribution (ADEC) and it is consistent with the plan accumulating adequate assets to make benefit payments when due.

The valuation assumed the continuing ability of the plan sponsor to make the contributions necessary to fund this plan. A determination regarding whether or not the plan sponsor is actually able to do so is outside our scope of expertise and was not performed.

The findings in this report are based on data and other information through June 30, 2025. The valuation was based upon information furnished by the Public Employees Retirement Association of Minnesota (PERA), concerning benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by PERA.

This report was prepared using our proprietary valuation model and related software which, in our professional judgment, has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

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 such future measurements.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge and belief, the information contained in this report is accurate and fairly presents the actuarial position of the Public Employees Police and Fire Plan as of the valuation date and was performed in accordance with the requirements of Minnesota Statutes Section 356.215, and the requirements of the Standards for Actuarial Work established by the LCPR. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board, and with applicable statutes.

The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

Bonita J. Wurst and Sheryl L. Christensen are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. In addition, GRS meets the requirements of "approved actuary" under Minnesota Statutes Section 356.215, Subdivision 1, Paragraph (c).

We are available to answer any questions or provide further details.

Respectfully submitted,
Gabriel, Roeder, Smith & Company

Bonita J. Wurst, ASA, EA, FCA, MAAA

Sheryl L. Christensen, FSA, EA, FCA, MAAA

BJW/SLC:rmn

# Other Observations

## General Implications of Contribution Allocation Procedure or Funding Policy on Future Expected Plan Contributions and Funded Status

Given the plan's contribution allocation procedure, if there are no changes in benefits, Chapter 356 required contributions are made, and all actuarial assumptions are met (including the assumption of the plan earning 7.00% on the actuarial value of assets, as prescribed by statutes), it is expected that:

(1) The normal cost of the plan is expected to remain approximately level as a percent of pay;
(2) The funded status of the plan is expected to gradually improve and is expected to be 100% funded within the next 23 years; and
(3) The unfunded liability will grow initially as a dollar amount for 3 years (based on the current layered amortization schedule and if contributions are equal to the required contribution amount) before beginning to decline.

## Limitations of Funded Status Measurements

Unless otherwise indicated, a funded status measurement presented in this report is based upon the actuarial accrued liability and the actuarial value of assets. Unless otherwise indicated, with regard to any funded status measurements presented in this report:

(1) The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations; in other words, of transferring the obligations to an unrelated third party in an arm's length market value type transaction.
(2) The measurement is dependent upon the actuarial cost method which, in combination with the plan's amortization policy, affects the timing and amounts of future contributions. The amounts of future contributions will most certainly differ from those assumed in this report due to future actual experience differing from assumed experience based upon the actuarial assumptions. A funded status measurement in this report of 100% is not synonymous with no required future contributions. If the funded status were 100%, the plan would still require future normal cost contributions (i.e., contributions to cover the cost of the active membership accruing an additional year of service credit).
(3) The measurement would produce a different result if the market value of assets were used instead of the actuarial value of assets.

## Limitations of Project Scope

Actuarial standards do not require the actuary to evaluate the ability of the plan sponsor or other contributing entity to make required contributions to the plan when due. Such an evaluation was not within the scope of this project and is not within the actuary's domain of expertise. Consequently, the actuary performed no such evaluation.

# Contents

# Summary of Valuation Results

## Contributions

The following table summarizes important contribution information as described in the Development of Costs section.

| Contributions | Actuarial Valuation as of July 1, 2025 | July 1, 2024 |
|---|---|---|
| Statutory Contributions - Chapter 353 (% of Payroll) | 32.51% | 31.44% |
| Required Contributions - Chapter 356 (% of Payroll) | 33.99% | 31.50% |
| Sufficiency / (Deficiency) | (1.48%) | (0.06%) |

Statutory contributions represent the amount actually contributed to the Fund and include fixed percentage of payroll contributions plus any supplemental contributions. Required contributions are defined in statutes and the LCPR Standards for Actuarial Work, and represent the amount needed to fully fund the plan according to the layered amortization schedule (normal cost, expenses and a payment to amortize the unfunded liability). When member contributions of 11.80% of pay are reflected, the remaining employer statutory contribution is 20.71% of pay, and the remaining employer required contribution is 22.19% of pay.

The statutory contribution deficiency in the prior valuation was (0.06%) of payroll. This deficiency worsened, from (0.06%) of payroll to (1.48%) of payroll in the current valuation due to the changes in plan provisions and assumptions, and was partially offset by greater than expected return on assets and additional state contributions.

Based on the actuarial value of assets, scheduled contribution rates, and actuarial assumptions described in this report, statutory contributions are expected to bring the plan to full funding within approximately 26 years.

The Plan Assets section provides detail on the plan assets used for the valuation including a development of the Actuarial Value of Assets (AVA). The Market Value of Assets (MVA) earned 11.0% for the plan year ending June 30, 2025. The AVA earned approximately 10.0% for the plan year ending June 30, 2025 compared to the assumed rate of 7.0%.

Participant reconciliation and statistics are detailed in the Membership Data section. The Actuarial Basis section includes a summary of plan provisions and actuarial methods and assumptions used for the calculations in this report.

Accounting information prepared according to the Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68 will be provided in a separate report.

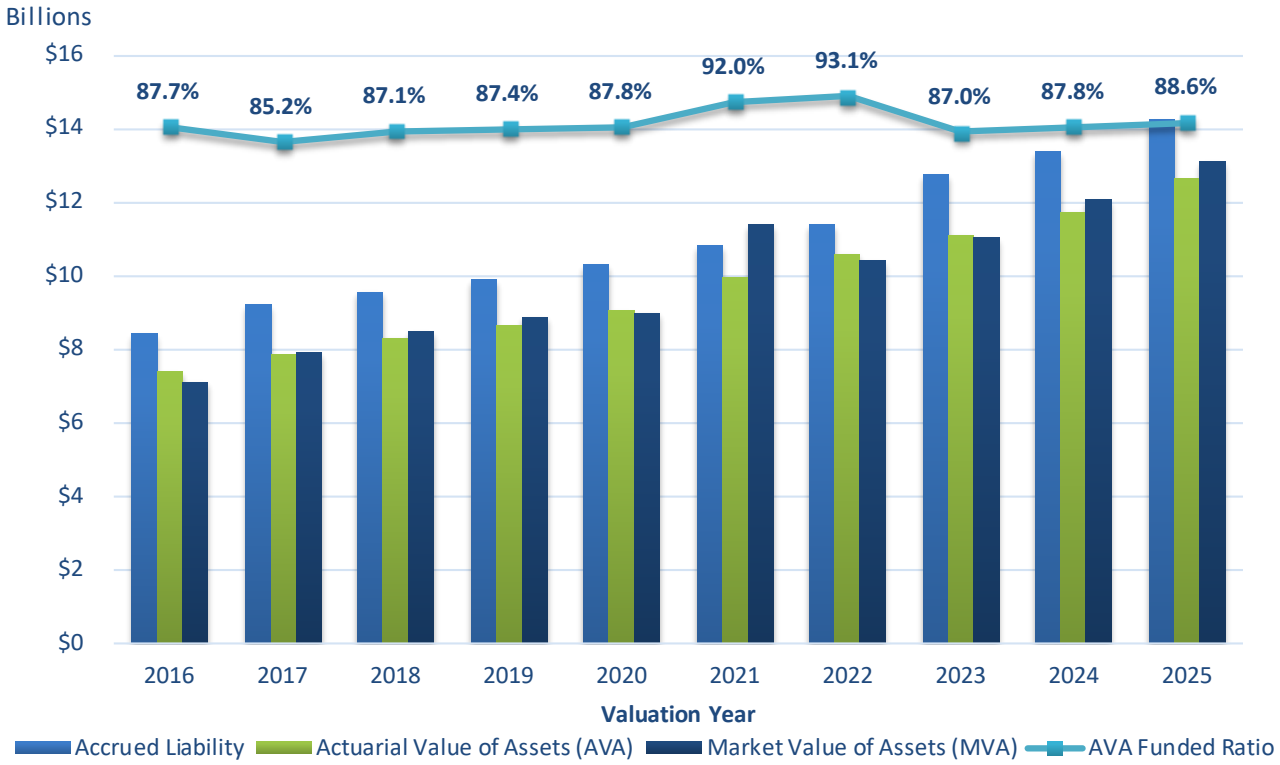
# Summary of Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in plan provisions, actuarial assumptions or valuation methods and procedures between the two valuations are described after the summary.

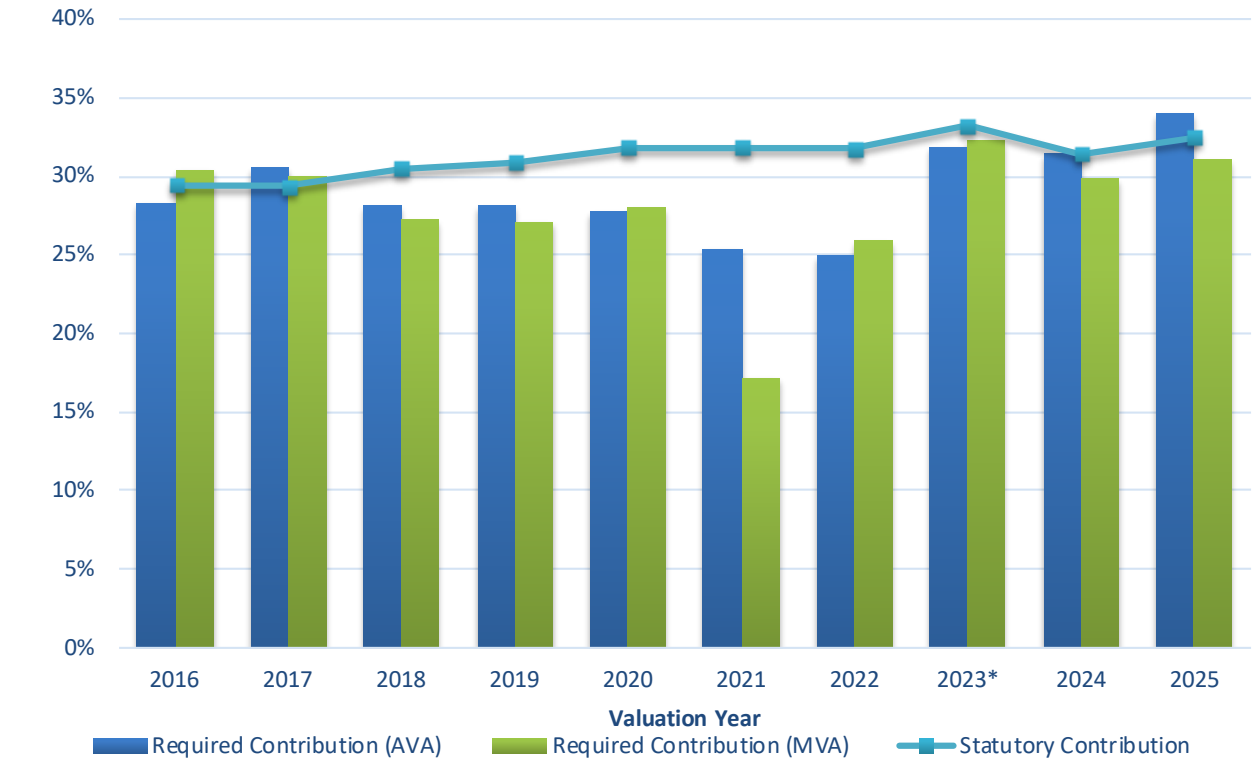
| | Actuarial Valuation as of | |
|---|---|---|
| | **July 1, 2025** | **July 1, 2024** |
| **Contributions** (*% of Payroll* ) | | |
| Statutory - Chapter 353 | 32.51% | 31.44% |
| Required - Chapter 356 | 33.99% | 31.50% |
| Sufficiency / (Deficiency) | (1.48)% | (0.06)% |
| | | |
| **Funding Ratios** (*dollars in thousands* ) | | |
| Assets | | |
| - Current assets (AVA) | $ 12,618,950 | $ 11,744,115 |
| - Current assets (MVA) | $ 13,078,280 | $ 12,065,232 |
| Accrued Benefit Funding Ratio | | |
| - Current benefit obligations | $ 14,081,637 | $ 13,034,240 |
| - Funding ratio (AVA) | 89.61% | 90.10% |
| - Funding ratio (MVA) | 92.87% | 92.57% |
| Accrued Liability Funding Ratio | | |
| - Actuarial accrued liability | $ 14,249,944 | $ 13,380,841 |
| - Funding ratio (AVA) | 88.55% | 87.77% |
| - Funding ratio (MVA) | 91.78% | 90.17% |
| Projected Benefit Funding Ratio | | |
| - Current and expected future assets | $ 17,100,867 | $ 16,290,272 |
| - Current and expected future benefit obligations | $ 17,486,360 | $ 16,303,394 |
| - Projected benefit funding ratio (AVA) | 97.80% | 99.92% |
| | | |
| **Participant Data** | | |
| Active members | | |
| - Number | 12,326 | 11,994 |
| - Actual covered payroll (GASB) *(000s)* | $ 1,430,822 | $ 1,296,500 |
| - Annual valuation earnings *(000s)* | $ 1,375,545 | $ 1,261,781 |
| - Average annual valuation earnings | $ 111,597 | $ 105,201 |
| - Projected annual earnings *(000s)* | $ 1,436,638 | $ 1,321,631 |
| - Average projected annual earnings | $ 116,553 | $ 110,191 |
| - Average age | 39.6 | 39.7 |
| - Average service | 11.3 | 11.5 |
| Service retirements | 8,823 | 8,680 |
| Survivors | 2,040 | 2,026 |
| Disability retirements | 2,257 | 2,186 |
| Deferred retirements | 1,933 | 1,940 |
| Non-vested terminations eligible for refunds only | 889 | 894 |
| **Total** | **28,268** | **27,720** |

# Summary of Valuation Results

## Funded Ratio History




## Contribution Rate History (% of Pay)




**Includes 1.61% of Payroll ($19.4 million) in one-time direct State aid payable in October 2023.*

# Summary of Valuation Results

## Effects of Changes

The following changes in plan provisions were recognized as of July 1, 2025:

- The period of time needed for benefit recipients to receive their first benefit increase was reduced by one year (i.e., from 36 months to 24 months for a full increase).
- The January 1, 2026 benefit increase changed from 1.0% to 3.0%; subsequent January 1 increases are 1.0%.
- The threshold to cease the $9 million annual State contribution was changed from the earlier of July 1, 2048 or 90% funded for both PERA Police and Fire and MSRS State Patrol for three consecutive years to 100% funded for both PERA Police and Fire and MSRS State Patrol for three consecutive years (on an actuarial value of assets basis).
- The threshold to cease the additional $9 million annual State contribution was changed from the earlier of July 1, 2048 or 100% funded for a minimum of three consecutive years to 110% funded for a minimum of three consecutive years (on an actuarial value of assets basis).
- An additional $17.7 million in direct State aid is paid annually each October 1 beginning October 1, 2025 through June 30, 2048.
- Joint and Survivor actuarial equivalent factors were updated to reflect changes in assumptions.

The following changes in actuarial assumptions were recognized as of July 1, 2025:

- Assumed rates of salary increases were reduced slightly.
- Assumed rates of retirement were adjusted resulting in an overall increase in unreduced (Normal) retirements and an overall increase in reduced (Early) retirements.
- Assumed rates of withdrawal were modified; the new rates result in an increase in predicted terminations for males and females, especially in the first few years of employment.
- Assumed rates of disabled retirement were significantly increased, especially for ages over age 30.
- Continued use of Pub-2010 Public Safety mortality table with rates adjusted to better fit observed experience.
- Lower percent married assumption for female retirees from 70% to 65%.
- Minor changes to form of payment assumptions for retirees.
- Minor changes to assumptions made with respect to missing participant data.
- The combined service annuity load was changed from 33% to 13% for vested terminated members and from 2% to 38% for non-vested terminated members.

The following change in actuarial methods was recognized as of July 1, 2025:

- Layered amortization was implemented with the amortization periods as defined in the Assumptions and Methods section of this report.

Refer to the Actuarial Basis section of this report for a complete description of these changes. The combined impact of the above changes was to increase the liability by $165 million and increase the required contribution by 3.98% of pay, as shown on the following page.

# Summary of Valuation Results

## Effects of Changes (Concluded)

| | Before Changes | Reflecting Method Changes | Reflecting Plan Provision and Method Changes | Reflecting Assumption, Plan Provision and Method Changes |
|---|---|---|---|---|
| Normal Cost Rate, % of Pay | 23.43% | 23.43% | 23.62% | 26.63% |
| Amortization of UAAL*, % of pay | 6.76% | 6.49% | 7.35% | 7.24% |
| Expenses, % of Pay | 0.12% | 0.12% | 0.12% | 0.12% |
| Total Required Contribution, % of pay | 30.31% | 30.04% | 31.09% | 33.99% |
| Accrued Liability Funding Ratio | 89.59% | 89.59% | 88.42% | 88.55% |
| Projected Benefit Funding Ratio | 101.22% | 101.22% | 101.43% | 97.80% |
| UAAL* (in billions) | $1.5 | $1.5 | $1.7 | $1.6 |

** Unfunded Actuarial Accrued Liability.*

Note: Totals may not add due to rounding.

# Summary of Valuation Results

## Sensitivity Tests

During the 2017 legislative session, the Legislative Commission on Pensions and Retirement (LCPR) enacted a new sensitivity disclosure requirement for PERA's valuations. Per the LCPR's requirement, we have calculated the liabilities associated with the following scenarios:

1) 6.00% interest rate assumption
2) 8.00% interest rate assumption

In each case, all other assumptions were unchanged from those used to develop the final valuation results in this report. Note that we believe the 8.00% interest rate assumption does not comply with Actuarial Standards of Practice.

| $ in billions | Final Valuation Assumptions (7.00% Interest) | Final Valuation Assumptions with 6.00% Interest | Final Valuation Assumptions with 8.00% Interest |
|---|---|---|---|
| Normal Cost Rate, % of Pay | 26.63% | 33.41% | 21.59% |
| Amortization of Unfunded Accrued Liability, % of pay* | 7.24% | 15.39% | -0.58% |
| Expenses, % of Pay | 0.12% | 0.12% | 0.12% |
| Total Required Contribution, % of Pay | 33.99% | 48.92% | 21.13% |
| Contribution Sufficiency/(Deficiency), % of Pay | (1.48)% | (16.41)% | 11.38 % |
| Accrued Liability Funding Ratio | 88.6% | 78.1% | 99.4% |
| Present Value of Projected Benefits | $17.5 | $20.5 | $ 15.1 |
| Present Value of Future Normal Costs | 3.3 | 4.4 | 2.4 |
| Actuarial Accrued Liability | $14.2 | $16.1 | $ 12.7 |
| Unfunded/(Surplus) Accrued Liability | $ 1.6 | $ 3.5 | $ 0.1 |

**The change in liability from the final valuation assumptions is amortized over the 20-year assumption change layer.*

Note: Totals may not add due to rounding.

# Summary of Valuation Results

## Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

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 due to changing conditions; 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. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. **Investment Risk** – actual investment returns may differ from the expected returns;
2. **Asset/Liability Mismatch** – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
3. **Contribution Risk** – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
4. **Salary and Payroll Risk** – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
5. **Longevity Risk** – members may live longer or shorter than expected and receive pensions for a period of time other than assumed; and
6. **Other Demographic Risks** – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

The effects of certain trends in experience can generally be anticipated. For example, if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise, if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

# Summary of Valuation Results

The Required Contribution rate shown on page 1 may be considered as a minimum contribution rate that complies with Minnesota Statutes and the requirements of the Standards for Actuarial Work published by the LCPR. The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

## Plan Maturity Measures

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures include the following. Additional maturity measures are shown on the following page.

| | 2025 | 2024 |
|---|---|---|
| Ratio of market value of assets to total payroll | 9.14 | 9.31 |
| Ratio of actuarial accrued liability to total payroll | 9.96 | 10.32 |
| Ratio of actives to retirees and beneficiaries | 0.94 | 0.93 |
| Ratio of net cash flow to market value of assets | -2.2% | -2.5% |
| Approximate modified duration* of: | | |
| ▪ Total projected benefits: | 15.42 | 15.82 |
| ▪ Actuarial accrued liability: | 12.13 | 12.20 |
| ▪ Retiree liability: | 9.25 | 9.27 |

* *Based on 7.00% interest.*

## Ratio of Market Value of Assets to Payroll

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 5.0 times the payroll, a return on assets 5% different than assumed would equal 25% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll.

## Ratio of Actuarial Accrued Liability to Payroll

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

The ratio of liability to payroll may also be used as a measure of sensitivity of contribution rates to liability gains and losses. For example, if the actuarial accrued liability is 5.0 times the payroll, a change in liability 2% other than assumed would equal 10% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in liability (and also plan sponsor contributions) as a percentage of payroll.

# Summary of Valuation Results

## Ratio of Actives to Retirees and Beneficiaries

A young plan with many active members and few retirees will have a high ratio of actives to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0.

## Ratio of Net Cash Flow to Market Value of Assets

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means benefits and expenses exceed contributions and existing funds may be used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

## Duration of Liabilities

The modified duration (as opposed to the Macaulay duration) may be used to approximate the sensitivity of the Liability to a small change in the assumed rate of return. For example, a modified duration of 10 indicates that the liability would change by approximately 10% if the assumed rate of return were changed by 1% (e.g., from 7.00% to 6.00%).

## Additional Risk Assessment

Additional risk assessment is outside the scope of the annual actuarial valuation. Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability. We would be please to perform such assessments upon request.

# Summary of Valuation Results

## Risk Measures Summary *(Dollars in Thousands)*

| Valuation Date (6/30) | (1) Accrued Liabilities (AAL) | (2) Market Value of Assets | (3) Market Value Unfunded AAL | (4) Actual Covered Payroll | (5) Market Value Funded Ratio (2)/(1) | (6) Retiree Liabilities | (7) Retiree Liabilities/ AAL (6)/(1) | (8) AAL/ Payroll (1)/(4) | (9) Assets/ Payroll (2)/(4) |
|---|---|---|---|---|---|---|---|---|---|
| 2016 | $ 8,417,621 | $ 7,098,090 | $ 1,319,531 | $ 881,222 | 84.3% | $ 5,066,605 | 60.2% | 955.2% | 805.5% |
| 2017 | 9,199,208 | 7,918,879 | 1,280,329 | 944,296 | 86.1% | 5,532,560 | 60.1% | 974.2% | 838.6% |
| 2018 | 9,552,804 | 8,486,907 | 1,065,897 | 976,657 | 88.8% | 5,780,590 | 60.5% | 978.1% | 869.0% |
| 2019 | 9,909,153 | 8,844,552 | 1,064,601 | 1,011,421 | 89.3% | 6,022,997 | 60.8% | 979.7% | 874.5% |
| 2020 | 10,291,567 | 8,973,460 | 1,318,107 | 1,069,481 | 87.2% | 6,164,792 | 59.9% | 962.3% | 839.0% |
| 2021 | 10,793,845 | 11,398,101 | (604,256) | 1,096,195 | 105.6% | 6,603,316 | 61.2% | 984.7% | 1039.8% |
| 2022 | 11,351,467 | 10,415,493 | 935,974 | 1,127,314 | 91.8% | 7,055,903 | 62.2% | 1006.9% | 923.9% |
| 2023 | 12,765,798 | 11,038,928 | 1,726,870 | 1,224,322 | 86.5% | 7,897,510 | 61.9% | 1042.7% | 901.6% |
| 2024 | 13,380,841 | 12,065,232 | 1,315,609 | 1,296,500 | 90.2% | 8,204,883 | 61.3% | 1032.1% | 930.6% |
| 2025 | 14,249,944 | 13,078,280 | 1,171,664 | 1,430,822 | 91.8% | 8,651,195 | 60.7% | 995.9% | 914.0% |

| Valuation Date (6/30) | (10) Portfolio Std Dev | (11) Std Dev % of Pay (9) x (10) | (12) Unfunded AAL/ Payroll (3)/(4) | (13) Non-Investment Cash Flow (NICF) | (14) NICF/ Assets (13)/(2) | (15) SBI Market Rate of Return | (16) SBI 5-Year Average | (17) SBI 10-Year Average |
|---|---|---|---|---|---|---|---|---|
| 2016 | 14.1% | 113.6% | 149.7% | $(241,668) | (3.4%) | -0.1% | 7.7% | N/A |
| 2017 | 14.1% | 118.2% | 135.6% | (238,177) | (3.0%) | 15.1% | 10.2% | 6.2% |
| 2018 | 14.1% | 122.5% | 109.1% | (245,996) | (2.9%) | 10.3% | 9.4% | 7.8% |
| 2019 | 14.3% | 125.0% | 105.3% | (251,921) | (2.8%) | 7.3% | 7.3% | 10.8% |
| 2020 | 14.3% | 120.0% | 123.2% | (240,301) | (2.7%) | 4.2% | 7.2% | 9.7% |
| 2021 | 13.9% | 144.5% | -55.1% | (248,208) | (2.2%) | 30.3% | 13.1% | 10.3% |
| 2022 | 14.0% | 129.3% | 83.0% | (281,646) | (2.7%) | -6.4% | 8.5% | 9.4% |
| 2023 | 14.2% | 128.0% | 141.0% | (289,023) | (2.6%) | 8.9% | 8.2% | 8.8% |
| 2024 | 14.2% | 132.1% | 101.5% | (300,356) | (2.5%) | 12.3% | 9.2% | 8.2% |
| 2025 | 14.2% | 129.8% | 81.9% | (287,695) | (2.2%) | 11.0% | 10.6% | 8.9% |

*(5) The Funded ratio is the most widely known measure of a plan's financial strength, but the trend in the funded ratio is much more important than the absolute ratio. The funded ratio should trend to 100%. As it approaches 100%, it is important to re-evaluate the level of investment risk in the portfolio and potentially to re-evaluate the assumed rate of return.*

*(6) and (7) The ratio of Retiree liabilities to total accrued liabilities gives an indication of the maturity of the system. As the ratio increases, cash flow needs increase, and the liquidity needs of the portfolio change. A ratio on the order of 50% indicates a maturing system.*

*(8) and (9) The ratios of liabilities and assets to payroll gives an indication of both maturity and volatility. Many systems have ratios between 500% and 700%. Ratios significantly above that range may indicate difficulty in supporting the benefit level as a level % of payroll.*

*(10) and (11) The portfolio standard deviation measures the volatility of investment return. When multiplied by the ratio of assets to payroll it gives the effect of a one standard deviation asset move as a percent of payroll. This figure helps users understand the difficulty of dealing with investment volatility and the challenges volatility brings to sustainability.*

*(12) The ratio of unfunded liability to payroll gives an indication of the plan sponsor's ability to actually pay off the unfunded liability. A ratio above approximately 300% or 400% may indicate difficulty in discharging the unfunded liability within a reasonable time frame.*

*(13) and (14) The ratio of Non-Investment Cash Flow to assets is an important measure of sustainability. Negative ratios are common and expected for a maturing system. In the longer term, this ratio should be on the order of approximately -4%. A ratio that is significantly more negative than that for an extended period could be a leading indicator of potential exhaustion of assets.*

*(15) (16) and (17) Investment return is probably the largest single risk that most systems face. The year by year return and the 5-year and 10-year geometric average give an indicator of past performance. Of course, past performance is not a guarantee of future results, may not even be reflective of potential future results, and historical averages are very sensitive to the time period chosen. The performance data for the Combined Funds (pooled investments of major Minnesota Public Retirement Systems) is presented in these columns. The source of this data is the Minnesota State Board of Investment.*

# Low-Default-Risk Obligation Measure

Actuarial Standards of Practice No. 4 (ASOP No. 4) was revised and reissued in December 2021 by the Actuarial Standards Board (ASB). It includes a new calculation called a Low-Default-Risk Obligation Measure (LDROM) to be prepared and issued annually for defined benefit pension plans. The transmittal memorandum for ASOP No. 4 includes the following explanation:

"The ASB believes that the calculation and disclosure of this measure provides appropriate, useful information for the intended user regarding the funded status of a pension plan. The calculation and disclosure of this additional measure is not intended to suggest that this is the "right" liability measure for a pension plan. However, the ASB does believe that this additional disclosure provides a more complete assessment of a plan's funded status and provides additional information regarding the security of benefits that members have earned as of the measurement date."

The following information has been prepared in compliance with this new requirement. Unless otherwise noted, the measurement date, actuarial cost methods, and assumptions used are the same as for the funding valuation covered in this actuarial valuation report.

A. Low-Default-Risk Obligation Measure of benefits earned as of the measurement date: $17,068,889,000

B. Discount rate used to calculate the LDROM: 5.58%
*(Based on the FTSE Pension Liability Index as of the valuation date)*

C. Other significant assumptions that differ from those used for the funding valuation: none

D. Actuarial cost method used to calculate the LDROM: Entry Age Actuarial Cost Method

E. Valuation procedures to value any significant plan provisions that are difficult to measure using traditional valuation procedures, and that differ from the procedures used in the funding valuation: none

F. The LDROM is a market-based measurement of the pension obligation. It estimates the amount the plan would need to invest in low-risk securities to provide the benefits with greater certainty. This measure may not be appropriate for assessing the need for or amount of future contributions. This measure may not be appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligation.

**The difference between the two measures (Valuation and LDROM) is one illustration of the savings the sponsor anticipates by taking on the risk in a diversified portfolio.**

| | |
|---|---|
| Funding Valuation Actuarial Accrued Liability: | $14,249,944,000 |
| LDROM: | $17,068,889,000 |
| Difference: | $(2,818,945,000) |

# Supplemental Information

The remainder of the report includes information supporting the results presented in the previous sections.

- **Plan assets** presents information about the plan's assets as reported by the Public Employees Retirement Association of Minnesota. The assets represent the portion of total fund liabilities that have been funded.
- **Membership data** presents and describes the membership data used in the valuation.
- **Development of costs** shows the liabilities for plan benefits and the derivation of the contribution amount.
- **Actuarial basis** describes the plan provisions, as well as the methods and assumptions used to value the plan. The valuation is based on the premise that the plan is ongoing.
- **Additional schedules** show the Schedule of Funding Progress and Schedule of Contributions.
- **Glossary** defines the terms used in this report.

# Plan Assets

## Statement of Fiduciary Net Position *(Dollars in Thousands)*

| Assets in Trust | Market Value June 30, 2025 | Market Value June 30, 2024 |
|---|---|---|
| Cash, equivalents, short term securities | $ 372,220 | $ 207,797 |
| Fixed income | $ 3,019,634 | $ 2,817,784 |
| Equity | $ 6,800,678 | $ 6,096,214 |
| Private Markets | $ 2,885,288 | $ 2,941,285 |
| Other | $ - | $ - |
| **Total Assets in Trust** | **$ 13,077,820** | **$ 12,063,080** |
| Assets receivable | $ 18,557 | $ 19,120 |
| Amounts payable | $ (18,097) | $ (16,968) |
| **Net Assets Held in Trust for Pension Benefits** | **$ 13,078,280** | **$ 12,065,232** |

# Plan Assets

## Reconciliation of Plan Assets *(Dollars in Thousands)*

The following exhibit shows the revenue, expenses and resulting assets of the Fund as reported by the Public Employees Retirement Association for the prior two fiscal years.

| **Change in Assets** | | **Market Value** | |
|---|---|---|---|
| **Year Ending** | | **June 30, 2025** | **June 30, 2024** |
| 1. | Fund balance at market value at beginning of year | **$ 12,065,232** | **$ 11,038,928** |
| 2. | Contributions | | |
| | a. Member | $ 168,837 | $ 152,987 |
| | b. Employer | $ 259,631 | $ 236,216 |
| | c. Other sources (State contribution) | $ 18,000 | $ 37,397 |
| | d. Total contributions | $ 446,468 | $ 426,600 |
| 3. | Investment income | | |
| | a. Investment income/(loss) | $ 1,347,626 | $ 1,372,483 |
| | b. Investment expenses | $ (47,547) | $ (45,207) |
| | c. Net subtotal | $ 1,300,079 | $ 1,327,276 |
| 4. | Other | $ 664 | $ (616) |
| **5.** | **Total income:** *(2.d.) + (3.c.) + (4.)* | **$ 1,747,211** | **$ 1,753,260** |
| 6. | Benefits Paid | | |
| | a. Annuity benefits | $ (727,044) | $ (720,158) |
| | b. Refunds | $ (5,473) | $ (5,051) |
| | c. Total benefits paid | $ (732,517) | $ (725,209) |
| 7. | Expenses | | |
| | a. Other | $ - | $ - |
| | b. Administrative | $ (1,646) | $ (1,747) |
| | c. Total expenses | $ (1,646) | $ (1,747) |
| **8.** | **Total disbursements:** *(6.c.) + (7.c.)* | **$ (734,163)** | **$ (726,956)** |
| **9.** | **Fund balance at market value at end of year** | **$ 13,078,280** | **$ 12,065,232** |
| 10. | State Board of Investment calculated investment return[#] | 10.9% | 12.3% |

[#] *Provided by PERA and calculated by the State Board of Investment.*

# Plan Assets

## Actuarial Asset Value *(Dollars in Thousands)*

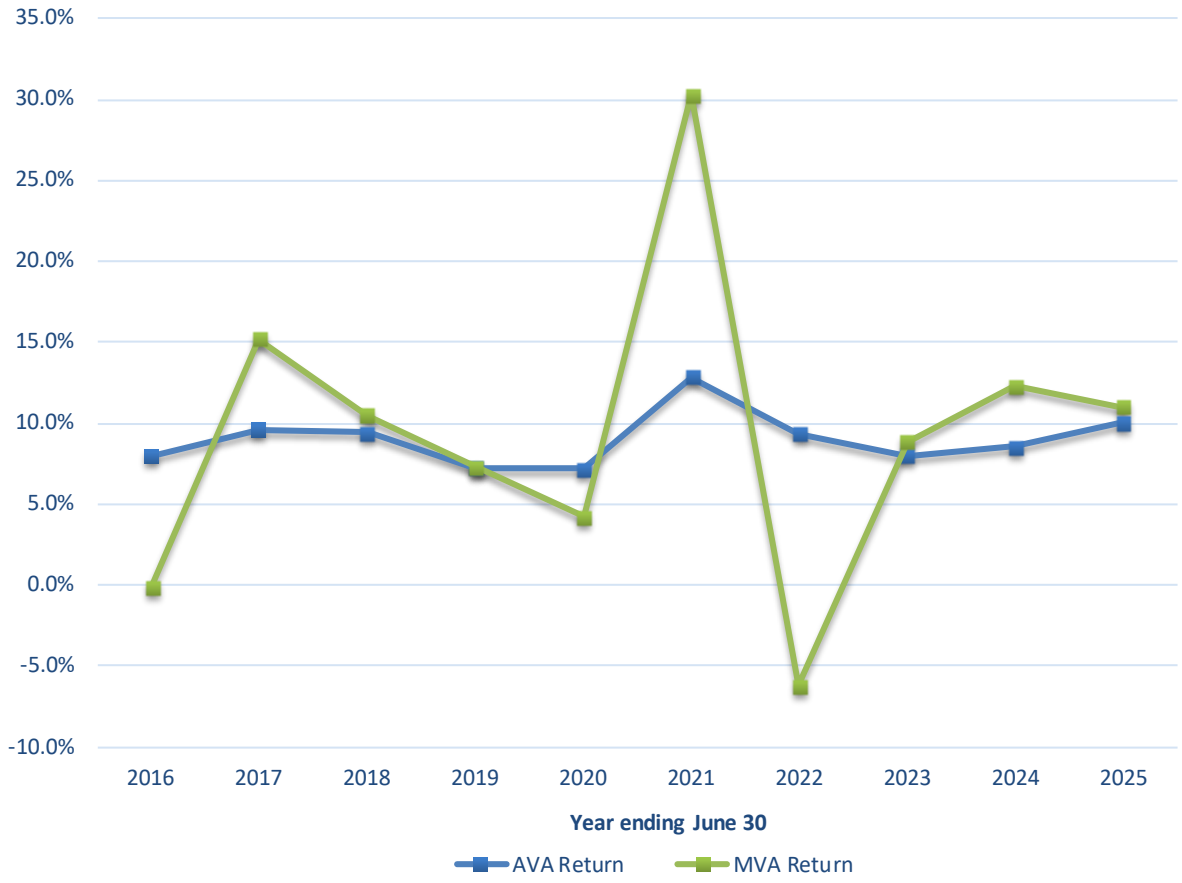
| | June 30, 2025 | June 30, 2024 |
|---|---|---|
| 1. Market value of assets available for benefits | **$ 13,078,280** | **$ 12,065,232** |
| 2. Determination of average balance | | |
| a. Total assets available at beginning of year | $ 12,065,232 | $ 11,038,928 |
| b. Total assets available at end of year | $ 13,078,280 | $ 12,065,232 |
| c. Net investment income for fiscal year | $ 1,300,079 | $ 1,327,276 |
| d. Average balance *[a. + b. - c.] / 2* | $ 11,921,717 | $ 10,888,442 |
| 3. Expected return *[7.0% x 2.d.]* | $ 834,520 | $ 762,191 |
| 4. Actual return | $ 1,300,079 | $ 1,327,276 |
| 5. Current year asset gain/(loss) *[4. - 3.]* | $ 465,559 | $ 565,085 |
| 6. Unrecognized asset returns | | |

| | Original Amount | Unrecognized Amount | |
|---|---|---|---|
| a. Year ended June 30, 2025 | $ 465,559 | $ 372,447 | N/A |
| b. Year ended June 30, 2024 | $ 565,085 | $ 339,051 | $ 452,068 |
| c. Year ended June 30, 2023 | $ 142,198 | $ 56,879 | $ 85,319 |
| d. Year ended June 30, 2022 | $ (1,545,237) | $ (309,047) | $ (618,095) |
| e. Year ended June 30, 2021 | $ 2,009,123 | N/A | $ 401,825 |
| f. Unrecognized return adjustment | | $ 459,330 | $ 321,117 |

| | | |
|---|---|---|
| 7. **Actuarial value at end of year** *(1. - 6.f.)* | **$ 12,618,950** | **$ 11,744,115** |
| 8. Approximate return on actuarial value of assets during fiscal year | 10.0% | 8.6% |
| 9. Ratio of actuarial value of assets to market value of assets | 0.96 | 0.97 |

# Plan Assets

## 10-Year History of AVA and MVA Asset Returns



# Membership Data

## Distribution of Active Members

| | Years of Service as of June 30, 2025 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Age** | **<3*** | **3 - 4** | **5 - 9** | **10 - 14** | **15 - 19** | **20 - 24** | **25 - 29** | **30 - 34** | **35+** | **Total** |
| < 25 | 574 | 35 | 1 | | | | | | | **610** |
| Avg. Earnings | $ 70,006 | $ 93,239 | $ 100,924 | | | | | | | **$ 71,390** |
| 25 - 29 | 739 | 530 | 322 | | | | | | | **1,591** |
| Avg. Earnings | $ 79,765 | $ 98,451 | $ 106,297 | | | | | | | **$ 91,360** |
| 30 - 34 | 495 | 334 | 984 | 182 | | | | | | **1,995** |
| Avg. Earnings | $ 81,503 | $ 100,476 | $ 110,848 | $ 116,613 | | | | | | **$ 102,356** |
| 35 - 39 | 327 | 211 | 673 | 649 | 124 | | | | | **1,984** |
| Avg. Earnings | $ 80,851 | $ 98,738 | $ 111,678 | $ 118,707 | $ 123,404 | | | | | **$ 108,253** |
| 40 - 44 | 209 | 119 | 415 | 546 | 706 | 166 | | | | **2,161** |
| Avg. Earnings | $ 86,023 | $ 100,140 | $ 109,497 | $ 121,152 | $ 127,155 | $ 132,426 | | | | **$ 117,186** |
| 45 - 49 | 116 | 63 | 165 | 242 | 386 | 624 | 153 | | | **1,749** |
| Avg. Earnings | $ 90,799 | $ 101,765 | $ 105,315 | $ 117,384 | $ 124,539 | $ 132,426 | $ 137,631 | | | **$ 122,636** |
| 50 - 54 | 55 | 17 | 58 | 104 | 194 | 368 | 668 | 66 | | **1,530** |
| Avg. Earnings | $ 89,632 | $ 92,991 | $ 111,139 | $ 113,185 | $ 127,433 | $ 131,378 | $ 146,888 | $ 149,291 | | **$ 134,491** |
| 55 - 59 | 28 | 10 | 29 | 62 | 76 | 104 | 173 | 73 | 6 | **561** |
| Avg. Earnings | $ 82,162 | $ 88,624 | $ 112,407 | $ 114,269 | $ 127,670 | $ 130,187 | $ 153,650 | $ 159,500 | $ 167,086 | **$ 135,474** |
| 60 - 64 | 8 | 4 | 10 | 12 | 21 | 19 | 25 | 11 | 14 | **124** |
| Avg. Earnings | $ 102,444 | $ 64,487 | $ 104,887 | $ 111,389 | $ 120,963 | $ 136,025 | $ 131,440 | $ 141,548 | $ 149,737 | **$ 125,218** |
| 65 - 69 | | 2 | 1 | 1 | 1 | 3 | 5 | | 5 | **18** |
| Avg. Earnings | | $ 87,108 | $ 71,463 | $ 70,645 | $ 103,520 | $ 117,738 | $ 126,610 | | $ 171,011 | **$ 125,620** |
| 70+ | | 1 | 1 | | | 1 | | | | **3** |
| Avg. Earnings | | $ 98,825 | $ 143,429 | | | $ 139,460 | | | | **$ 127,238** |
| **Total** | **2,551** | **1,326** | **2,659** | **1,798** | **1,508** | **1,285** | **1,024** | **150** | **25** | **12,326** |
| **Avg. Earnings** | **$ 79,370** | **$ 98,915** | **$ 109,947** | **$ 118,511** | **$ 126,137** | **$ 131,969** | **$ 146,171** | **$ 153,692** | **$ 158,156** | **$ 111,597** |

* *This exhibit does not reflect service earned in other PERA funds or service earned in a Combined Service Annuity arrangement. It should not be relied upon as an indicator of non-vested status.*

In each cell, the top number is the count of active participants for the age/service combination and the bottom number is average valuation earnings for the fiscal year ending on the valuation date.

# Membership Data

## Distribution of Service Retirements

| | Years Retired as of June 30, 2025 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Age** | **<1** | **1 - 4** | **5 - 9** | **10 - 14** | **15 - 19** | **20 - 24** | **25+** | **Total** |
| <50 | | | | | | | | |
| Avg. Benefit | | | | | | | | |
| 50 - 54 | 71 | 158 | | | | | | **229** |
| Avg. Benefit | $ 64,309 | $ 41,929 | | | | | | **$ 48,868** |
| 55 - 59 | 215 | 928 | 245 | | | | | **1,388** |
| Avg. Benefit | $ 83,714 | $ 73,116 | $ 42,769 | | | | | **$ 69,401** |
| 60 - 64 | 42 | 439 | 746 | 469 | | | | **1,696** |
| Avg. Benefit | $ 77,011 | $ 75,100 | $ 66,315 | $ 54,025 | | | | **$ 65,455** |
| 65 - 69 | 13 | 113 | 361 | 710 | 333 | | | **1,530** |
| Avg. Benefit | $ 59,035 | $ 61,979 | $ 63,595 | $ 64,364 | $ 52,732 | | | **$ 61,429** |
| 70 - 74 | 2 | 22 | 116 | 373 | 512 | 379 | 14 | **1,418** |
| Avg. Benefit | $ 105,463 | $ 43,708 | $ 58,001 | $ 60,890 | $ 60,829 | $ 53,178 | $ 67,944 | **$ 58,437** |
| 75 - 79 | | 3 | 13 | 96 | 224 | 516 | 408 | **1,260** |
| Avg. Benefit | | $ 5,924 | $ 42,158 | $ 57,755 | $ 52,433 | $ 57,840 | $ 58,140 | **$ 56,684** |
| 80 - 84 | | | 2 | 16 | 35 | 105 | 541 | **699** |
| Avg. Benefit | | | $ 6,860 | $ 29,858 | $ 39,502 | $ 48,358 | $ 63,142 | **$ 58,815** |
| 85 - 89 | | | | 3 | 1 | 19 | 395 | **418** |
| Avg. Benefit | | | | $ 42,621 | $ 2,127 | $ 29,350 | $ 64,533 | **$ 62,627** |
| 90+ | | | | 1 | 1 | 2 | 181 | **185** |
| Avg. Benefit | | | | $ 22,791 | $ 32,025 | $ 33,257 | $ 65,464 | **$ 64,704** |
| **Total** | **343** | **1,663** | **1,483** | **1,668** | **1,106** | **1,021** | **1,539** | **8,823** |
| **Avg. Benefit** | **$ 78,068** | **$ 69,410** | **$ 60,820** | **$ 59,905** | **$ 55,937** | **$ 54,556** | **$ 62,490** | **$ 61,891** |

In each cell, the top number is the count of retired participants for the age/years retired combination and the bottom number is the average annual benefit amount as of the valuation date.

# Membership Data

## Distribution of Survivors

| | Years Since Death as of June 30, 2025 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Age** | **<1** | **1 - 4** | **5 - 9** | **10 - 14** | **15 - 19** | **20 - 24** | **25+** | **Total** |
| <45 | 1 | 57 | 41 | 34 | 16 | 4 | 1 | **154** |
| Avg. Benefit | $ 14,847 | $ 19,184 | $ 16,001 | $ 14,670 | $ 11,960 | $ 22,255 | $ 32,663 | **$ 16,729** |
| 45 - 49 | 1 | 10 | 7 | 3 | 2 | | 1 | **24** |
| Avg. Benefit | $ 27,477 | $ 33,749 | $ 42,825 | $ 30,903 | $ 36,880 | | $ 28,340 | **$ 35,814** |
| 50 - 54 | 5 | 11 | 10 | 8 | 9 | 1 | 1 | **45** |
| Avg. Benefit | $ 74,055 | $ 41,375 | $ 35,040 | $ 37,753 | $ 32,369 | $ 22,445 | $ 34,085 | **$ 40,571** |
| 55 - 59 | 5 | 15 | 9 | 9 | 4 | 6 | 4 | **52** |
| Avg. Benefit | $ 46,366 | $ 38,247 | $ 43,735 | $ 40,107 | $ 38,396 | $ 42,853 | $ 47,808 | **$ 41,578** |
| 60 - 64 | 9 | 32 | 15 | 16 | 14 | 4 | 7 | **97** |
| Avg. Benefit | $ 27,915 | $ 46,348 | $ 50,762 | $ 45,328 | $ 38,624 | $ 37,770 | $ 34,995 | **$ 42,864** |
| 65 - 69 | 18 | 51 | 38 | 18 | 17 | 13 | 14 | **169** |
| Avg. Benefit | $ 42,503 | $ 39,474 | $ 38,776 | $ 30,370 | $ 39,496 | $ 40,443 | $ 43,558 | **$ 39,085** |
| 70 - 74 | 17 | 74 | 63 | 49 | 21 | 12 | 30 | **266** |
| Avg. Benefit | $ 40,180 | $ 35,241 | $ 34,677 | $ 36,051 | $ 34,276 | $ 37,571 | $ 40,727 | **$ 36,220** |
| 75 - 79 | 30 | 86 | 79 | 43 | 35 | 24 | 64 | **361** |
| Avg. Benefit | $ 37,259 | $ 36,884 | $ 34,586 | $ 39,946 | $ 38,014 | $ 34,500 | $ 40,399 | **$ 37,351** |
| 80 - 84 | 13 | 83 | 79 | 62 | 31 | 28 | 64 | **360** |
| Avg. Benefit | $ 31,932 | $ 36,311 | $ 37,818 | $ 31,807 | $ 35,510 | $ 33,513 | $ 38,576 | **$ 35,824** |
| 85 - 89 | 12 | 53 | 64 | 39 | 24 | 18 | 59 | **269** |
| Avg. Benefit | $ 37,031 | $ 35,191 | $ 37,775 | $ 34,744 | $ 37,958 | $ 30,642 | $ 37,529 | **$ 36,278** |
| 90+ | 4 | 31 | 42 | 41 | 23 | 23 | 79 | **243** |
| Avg. Benefit | $ 32,727 | $ 36,254 | $ 38,953 | $ 30,691 | $ 31,169 | $ 34,727 | $ 35,003 | **$ 34,691** |
| **Total** | **115** | **503** | **447** | **322** | **196** | **133** | **324** | **2,040** |
| **Avg. Benefit** | **$ 38,712** | **$ 35,266** | **$ 35,555** | **$ 32,907** | **$ 34,190** | **$ 34,684** | **$ 38,262** | **$ 35,485** |

In each cell, the top number is the count of survivors for the age/years since death combination and the bottom number is the average annual benefit amount as of the valuation date.

# Membership Data

## Distribution of Disability Retirements

| | Years Disabled* as of June 30, 2025 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Age** | **<1** | **1 - 4** | **5 - 9** | **10 - 14** | **15 - 19** | **20 - 24** | **25+** | **Total** |
| < 45 | 35 | 306 | 58 | 11 | 3 | | | **413** |
| Avg. Benefit | $ 57,850 | $ 49,386 | $ 44,735 | $ 38,795 | $ 22,000 | | | **$ 48,969** |
| 45 - 49 | 7 | 167 | 67 | 29 | 7 | 3 | | **280** |
| Avg. Benefit | $ 61,056 | $ 56,109 | $ 45,396 | $ 40,342 | $ 29,441 | $ 20,352 | | **$ 50,987** |
| 50 - 54 | 27 | 198 | 91 | 39 | 7 | 8 | 3 | **373** |
| Avg. Benefit | $ 78,665 | $ 64,183 | $ 47,747 | $ 41,606 | $ 37,991 | $ 29,285 | $ 10,444 | **$ 57,188** |
| 55 - 59 | 7 | 131 | 100 | 47 | 25 | 16 | 12 | **338** |
| Avg. Benefit | $ 89,971 | $ 68,372 | $ 57,537 | $ 50,163 | $ 40,539 | $ 37,051 | $ 31,713 | **$ 58,239** |
| 60 - 64 | 1 | 16 | 45 | 50 | 32 | 29 | 23 | **196** |
| Avg. Benefit | $ 50,020 | $ 54,605 | $ 62,311 | $ 54,211 | $ 40,022 | $ 41,071 | $ 38,741 | **$ 50,006** |
| 65 - 69 | | 1 | 6 | 23 | 45 | 42 | 34 | **151** |
| Avg. Benefit | | $ 99,125 | $ 39,634 | $ 53,983 | $ 47,957 | $ 40,844 | $ 45,524 | **$ 46,357** |
| 70 - 74 | | | | 8 | 38 | 94 | 53 | **193** |
| Avg. Benefit | | | | $ 45,989 | $ 52,116 | $ 52,015 | $ 45,517 | **$ 50,000** |
| 75+ | | | | 4 | 15 | 85 | 209 | **313** |
| Avg. Benefit | | | | $ 38,392 | $ 45,724 | $ 55,863 | $ 59,648 | **$ 57,681** |
| **Total** | **77** | **819** | **367** | **211** | **172** | **277** | **334** | **2,257** |
| **Avg. Benefit** | **$ 68,259** | **$ 57,534** | **$ 51,163** | **$ 47,633** | **$ 44,515** | **$ 48,492** | **$ 53,082** | **$ 53,178** |

** Based on effective date as provided by PERA; "Years Disabled" may reflect years since age 65 for members over age 65.*

In each cell, the top number is the count of disabled participants for the age/years disabled combination and the bottom number is the average annual benefit amount as of the valuation date.

# Membership Data

## Reconciliation of Members

| | | Terminated | | Recipients | | | |
|---|---|---|---|---|---|---|---|
| | Actives | Deferred Retirement | Other Non-Vested | Service Retirement | Disability Retirement | Survivor | Total |
| **Members on July 1, 2024** | **11,994** | **1,940** | **894** | **8,680** | **2,186** | **2,026** | **27,720** |
| New members | 895 | | | | | | 895 |
| Return to active | 96 | (50) | (45) | 0 | (1) | 0 | 0 |
| Terminated non-vested | (97) | 0 | 97 | 0 | 0 | 0 | 0 |
| Service retirements | (214) | (132) | 0 | 346 | 0 | 0 | 0 |
| Terminated deferred | (216) | 216 | 0 | 0 | 0 | 0 | 0 |
| Terminated refund/transfer | (46) | (42) | (98) | 0 | 0 | 0 | (186) |
| Deaths | (1) | (7) | (1) | (205) | (39) | (116) | (369) |
| New beneficiary | 0 | 0 | 0 | 0 | 0 | 130 | 130 |
| Disabled | (85) | 0 | 0 | 0 | 85 | 0 | 0 |
| Data adjustments | 0 | 8 | 42 | 2 | 26 | 0 | 78 |
| Net change | 332 | (7) | (5) | 143 | 71 | 14 | 548 |
| **Members on June 30, 2025** | **12,326** | **1,933** | **889** | **8,823** | **2,257** | **2,040** | **28,268** |

## Summary of Membership

| Active Member Statistics | Total |
|---|---|
| Number | 12,326 |
| Average age | 39.6 |
| Average service | 11.3 |
| Average salary | $ 111,597 |

| Terminated Member Statistics | Deferred Retirement | Other Non-Vested | Total |
|---|---|---|---|
| Number | 1,933 | 889 | 2,822 |
| Average age | 46.1 | 45.7 | 46.0 |
| Average service | 8.2 | 0.7 | 5.9 |
| Average annual benefit, with augmentation to December 31, 2018 and 13% Combined Service Annuity (CSA) load | $23,148 | N/A | $23,148 |
| Average refund value, with 13% CSA load (38% CSA load for Non-Vested) | $56,203 | $5,228 | $40,145 |

| Retiree & Survivor Member Statistics | Service Retirees | Disabled Retirees | Survivors | Total |
|---|---|---|---|---|
| Number | 8,823 | 2,257 | 2,040 | 13,120 |
| Average age | 69.0 | 57.1 | 73.4 | 67.6 |
| Average annual benefit | $ 61,891 | $ 53,178 | $ 35,485 | $ 56,286 |

# Development of Costs

## Actuarial Valuation Balance Sheet *(Dollars in Thousands)*

The actuarial balance sheet is based on the principle that the long-term projected benefit obligations of the plan should be ideally equal to the long-term resources available to fund those obligations. **A Projected Benefit Funding Ratio less than 100% indicates that contributions are insufficient.** The resources available to meet projected obligations for current members consist of current Fund assets plus the present value of anticipated future contributions intended to fund benefits for current members. In the exhibit below, B.2 is the estimated present value of contributions to fund the normal cost rate for current members until their respective termination dates. Per the LCPR Standards for Actuarial Work, Item B.1 is the present value of the total 32.51% statutory contribution (includes the annual Minneapolis Police/Fire and $35.7 million State contributions) net of normal cost and anticipated plan expenses during the period from the valuation date to the statutory amortization date. Item D. Current Benefit Obligation, is the liability based on current service and projected compensation (the Entry Age Normal cost method is used to determine liabilities and contributions elsewhere in the report).

The contributions made in excess of amounts required for current benefit payments are accumulated as a reserve to help meet benefit payments in later years. It is this reserve system which permits the establishment of a level rate of contribution each year.

| | | | | June 30, 2025 |
|---|---|---|---|---|
| A. Actuarial Value of Assets | | | | $ 12,618,950 |
| B. Expected Future Assets | | | | |
| 1. Present value of expected future statutory supplemental contributions | | | | $ 1,245,501 |
| 2. Present value of future normal cost contributions | | | | $ 3,236,416 |
| 3. Total expected future assets: *(1.) + (2.)* | | | | $ 4,481,917 |
| C. Total Current and Expected Future Assets *(A.+ B.3)* | | | | $ 17,100,867 |
| D. Current Benefit Obligations* | | | | |
| 1. Benefit recipients | **Non-Vested** | **Vested** | **Total** | |
| a. Service retirements | $ - | $ 6,383,554 | $ 6,383,554 | |
| b. Disability retirements | $ - | $ 1,646,587 | $ 1,646,587 | |
| c. Survivors | $ - | $ 621,054 | $ 621,054 | |
| 2. Deferred retirements with augmentation | $ - | $ 417,594 | $ 417,594 | |
| 3. Former members without vested rights | $ 2,269 | $ - | $ 2,269 | |
| 4. Active members | $ 372,554 | $ 4,638,025 | $ 5,010,579 | |
| 5. Total current benefit obligations | $ 374,823 | $ 13,706,814 | $ 14,081,637 | |
| E. Expected Future Benefit Obligations | | | | $ 3,404,723 |
| F. Total Current and Expected Future Benefit Obligations** | | | | $ 17,486,360 |
| G. Unfunded Current Benefit Obligations: *(D.5.) - (A.)* | | | | $ 1,462,687 |
| H. Unfunded Current and Future Benefit Obligations: *(F.) - (C.)* | | | | $ 385,493 |
| I. Accrued Benefit Funding Ratio: *(A.)/(D.5.)* | | | | 89.61% |
| J. Projected Benefit Funding Ratio: *(C.)/(F.)* | | | | 97.80% |

* *Present value of credited projected benefits (projected compensation, current service).*

** *Present value of projected benefits (projected compensation, projected service).*

# Development of Costs

## Determination of Unfunded Actuarial Accrued Liability *(Dollars in Thousands)*

| | Actuarial Present Value of Projected Benefits | Actuarial Present Value of Future Normal Costs | Actuarial Accrued Liability |
|---|---|---|---|
| A. Determination of Actuarial Accrued Liability (AAL) | | | |
| 1. Active members | | | |
| a. Retirement annuities | $ 6,353,447 | $ 1,702,455 | $ 4,650,992 |
| b. Disability benefits | $ 1,649,363 | $ 1,196,984 | $ 452,379 |
| c. Survivor's benefits | $ 100,455 | $ 70,831 | $ 29,624 |
| d. Deferred retirements | $ 302,020 | $ 237,168 | $ 64,852 |
| e. Refunds* | $ 10,017 | $ 28,978 | $ (18,961) |
| f. Total | $ 8,415,302 | $ 3,236,416 | $ 5,178,886 |
| 2. Deferred retirements with future augmentation | $ 417,594 | $ - | $ 417,594 |
| 3. Former members without vested rights | $ 2,269 | $ - | $ 2,269 |
| 4. Annuitants | $ 8,651,195 | $ - | $ 8,651,195 |
| 5. Total | $ 17,486,360 | $ 3,236,416 | $ 14,249,944 |
| B. Determination of Unfunded Actuarial Accrued Liability (UAAL) | | | |
| 1. Actuarial accrued liability | | | $ 14,249,944 |
| 2. Current assets (AVA) | | | $ 12,618,950 |
| 3. Unfunded actuarial accrued liability | | | $ 1,630,994 |

* *Includes non-vested refunds and non-married survivor benefits only.*

# Development of Costs

## Changes in Unfunded Actuarial Accrued Liability (UAAL) *(Dollars in Thousands)*

| | Year Ending June 30, 2025 | | |
|---|---|---|---|
| | Actuarial Accrued Liability | Current Assets | Unfunded Actuarial Accrued Liability |
| A. Values at beginning of year | $ 13,380,841 | $ 11,744,115 | $ 1,636,726 |
| B. Changes due to interest requirements and current rate of funding | | | |
| 1. Normal cost, including expenses | $ 308,601 | $ (1,646) | $ 310,247 |
| 2. Benefit payments | $ (732,517) | $ (732,517) | $ - |
| 3. Contributions | $ - | $ 446,468 | $ (446,468) |
| 4. Interest on A., B.1., B.2. and B.3. | $ 920,585 | $ 811,180 | $ 109,405 |
| 5. Total *(B.1. + B.2. + B.3. + B.4.)* | $ 496,669 | $ 523,485 | $ (26,816) |
| C. Expected values at end of year *(A. + B.5.)* | $ 13,877,510 | $ 12,267,600 | $ 1,609,910 |
| D. Increase (decrease) due to actuarial losses (gains) because of experience deviations from expected | | | |
| 1. Age and service retirements | | | $ 1,556 |
| 2. Disability retirements | | | $ 13,320 |
| 3. Death-in-service benefits | | | $ (4,652) |
| 4. Withdrawals | | | $ 10,104 |
| 5. Salary increases | | | $ 150,948 |
| 6. Investment income | | | $ (351,350) |
| 7. Mortality of annuitants | | | $ (9,644) |
| 8. Other items | | | $ 45,501 |
| 9. Total | | | $ (144,217) |
| E. Unfunded actuarial accrued liability at end of year before plan amendments and changes in actuarial assumptions *(C. + D.9.)* | | | $ 1,465,693 |
| F. Change in unfunded actuarial accrued liability due to changes in plan provisions | | | $ 187,132 |
| G. Change in unfunded actuarial accrued liability due to changes in actuarial assumptions | | | $ (21,831) |
| H. Change in unfunded actuarial accrued liability due to changes in methodology | | | $ - |
| I. Unfunded actuarial accrued liability at end of year *(E. + F. + G. + H.)** | | | $ 1,630,994 |

* *The unfunded actuarial accrued liability on a market value of assets basis is $1,171,664.*

# Development of Costs

## Determination of Supplemental Contribution Rate *(Dollars in Thousands)*

| Unfunded Actuarial Accrued Liability<br>Source of Unfunded Liability | Date Established | Initial Amount | Initial Period | Current Amount | Remaining Period 6/30/2025 | Contribution (% of Payroll) |
|---|---|---|---|---|---|---|
| Initial unfunded actuarial accrued liability | 6/30/2024 | $ 1,636,726 | 24 yrs. | $ 1,642,044 | 23 yrs. | 7.59% |
| Experience (Gain)/Loss | 6/30/2025 | 207,133 | 15 yrs. | 207,133 | 15 yrs. | 1.28% |
| Asset (Gain)/Loss | 6/30/2025 | (351,350) | 15 yrs. | (351,350) | 15 yrs. | (2.18)% |
| Assumption or Method Change | 6/30/2025 | (21,831) | 20 yrs. | (21,831) | 20 yrs. | (0.11)% |
| Benefit Changes - Active | 6/30/2025 | 43,903 | 23* yrs. | 43,903 | 23 yrs. | 0.20% |
| Benefit Changes - Inactive, Long Term | 6/30/2025 | 143,229 | 23* yrs. | 143,229 | 23 yrs. | 0.66% |
| Benefit Changes - Inactive, Short Term | 6/30/2025 | - | 1 yr. | - | 1 yr. | 0.00% |
| Contribution (Sufficiency)/Deficiency | 6/30/2025 | (32,134) | 15 yrs. | (32,134) | 15 yrs. | (0.20)% |
| **Total** | | | | **$ 1,630,994** | | **7.24%** |

* *The increase in UAAL due to the change in postretirement benefit increase enacted in 2025 is amortized over the period ending June 30, 2048. Future benefit change layers will be amortized over a closed 15-year period.*

*The amortization of the Unfunded Actuarial Accrued Liability (UAAL) using the current amortization method results in initial payments less than the "interest only" payment on the UAAL. Payments less than the interest only amount will result in the UAAL increasing for an initial period of time and is often referred to as "negative amortization".*

# Development of Costs

## Determination of Contribution Sufficiency/(Deficiency) *(Dollars in Thousands)*

The required contribution is defined in Minnesota statutes as the sum of normal cost, a supplemental contribution to amortize the UAAL, and an allowance for expenses. The dollar amounts shown are for illustration purposes and equal percent of pay multiplied by projected annual payroll.

| | Percent of Payroll | | Dollar Amount |
|---|---|---|---|
| A. Statutory contributions - Chapter 353 | | | |
| 1. Employee contributions | 11.80% | $ | 169,523 |
| 2. Employer contributions | 17.70% | | 254,285 |
| 3. Minneapolis Police contributions | 0.31% | | 4,490 |
| 4. Minneapolis Fire contributions | 0.22% | | 3,189 |
| 5. State contributions*** | 2.48% | | 35,700 |
| 6. Total | 32.51% | $ | 467,187 |
| B. Required contributions - Chapter 356 | | | |
| 1. Normal cost | | | |
| a. Retirement benefits | 14.03% | $ | 201,560 |
| b. Disability benefits | 9.93% | | 142,658 |
| c. Survivors | 0.58% | | 8,333 |
| d. Deferred retirement benefits | 1.87% | | 26,865 |
| e. Refunds* | 0.22% | | 3,161 |
| f. Total | 26.63% | $ | 382,577 |
| 2. Supplemental contribution amortization of Unfunded Actuarial Accrued Liability | 7.24% | $ | 104,013 |
| 3. Allowance for expenses | 0.12% | $ | 1,724 |
| 4. Total | 33.99% ** | $ | 488,314 |
| C. Contribution Sufficiency/(Deficiency) *(A.6. - B.4.)* | (1.48)% | $ | (21,127) |

Note: Projected annual payroll for fiscal year beginning on the valuation date: $1,436,638 (determined by increasing reported pay for each member by one full year's assumed pay increase according to the actuarial salary scale, as prescribed by the LCPR Standards for Actuarial Work).

* *Includes non-vested refunds and non-married survivor benefits only.*

** *The required contribution on a market value of assets basis is 31.14% of payroll.*

*** *$9.0 million contributions paid until both PERA P&F and MSRS State Patrol reach 100% funding for three consecutive years (on an Actuarial Value of Assets basis). In addition, $9.0 million starting in fiscal year 2021, paid each year until the plan reaches 110% funding for three consecutive years (on an Actuarial Value of Assets basis). In addition, $17.7 million paid annually by October 1, beginning in 2025, through June 30, 2048.*

# Development of Costs

## Consolidated Groups *(Dollars in Thousands)*

The Minneapolis Police Relief Association (MPRA) and Minneapolis Firefighters' Relief Association (MFRA) were consolidated with the P&F Plan on December 30, 2011, per 2011 legislation. Until July 15, 2018, each employer contributed annually an amount to amortize the unfunded liability by December 31, 2031. Beginning July 15, 2019, the employer will contribute $4,489,837 for MPRA and $3,188,735 for MFRA, each July 15th through 2031.

| | As of June 30, 2025 | | | | | |
|---|---|---|---|---|---|---|
| | MPRA | | | MFRA | | |
| Group | Number | Annual Benefits | Average Age | Number | Annual Benefits | Average Age |
| Active Members | 0 | N/A | N/A | 0 | N/A | N/A |
| Service Retirements | 268 | $ 18,134 | 81.5 | 170 | $ 11,897 | 80.5 |
| Disability Retirements | 9 | $ 568 | 77.0 | 21 | $ 1,416 | 79.3 |
| Survivors | 191 | $ 7,184 | 80.9 | 117 | $ 4,407 | 82.3 |
| **Total** | **468** | **$ 25,886** | **81.2** | **308** | **$ 17,720** | **81.1** |

# Actuarial Basis

## Actuarial Methods

All actuarial methods are prescribed by Minnesota Statutes, the Legislative Commission on Pensions and Retirement, or the Board of Trustees. Different methodologies may also be reasonable and results based on other methodologies would produce different results.

## Actuarial Cost Method

Actuarial Accrued Liability and required contributions in this report are computed using the Entry Age Normal Cost Method. This method is prescribed by Minnesota Statute. Under this method, a normal cost is developed by amortizing the actuarial value of benefits expected to be received by each active participant (as a level percentage of pay) over the total working lifetime of that participant, from hire to termination. Age as of the valuation date was calculated based on the dates of birth provided by the Fund. Entry age for valuation purposes was calculated as the age on the valuation date minus the provided years of service on the valuation date.

To the extent that current assets and future normal costs do not support participants' expected future benefits, an Unfunded Actuarial Accrued Liability ("UAAL") develops. The UAAL is amortized over the statutory amortization period using level percent-of-payroll. The total contribution developed under this method is the sum of normal cost, expenses, and the payment toward the UAAL.

## Funding Objective

The fundamental financing objective of the Plan is to establish contribution rates which, when expressed as a percentage of active member payroll, will remain approximately level from generation to generation and meet the required deadline for full funding.

# Actuarial Basis

## Actuarial Methods (Continued)

### Asset Valuation Method

The assets are valued based on a five-year moving average of expected and market values (five-year average actuarial value) and determined as follows:

- At the end of each plan year, an average asset value is calculated as the average of the market asset value at the beginning and end of the fiscal year net of investment income for the fiscal year;
- The investment gain or (loss) is taken as the excess of actual investment income over the expected investment income based on the average asset value as calculated above;
- The investment gain or (loss) so determined is recognized over five years at 20% per year; and
- The asset value is the sum of the market asset value plus the scheduled recognition of investment gains or (losses) during the current and the preceding four fiscal years.

### Payment on the Unfunded Actuarial Accrued Liability

Payments on the Unfunded Actuarial Accrued Liability (UAAL) are determined by source as a level percentage of payroll each year assuming payroll increases of 3.00% per annum, and amortized according to the following closed statutory amortization periods, beginning in the valuation year in which they arise:

| Source of UAAL | Closed Period |
|---|---|
| Legacy UAAL as of July 1, 2024 | Period ending June 30, 2048 |
| Experience gain or loss | 15 years |
| Assumption or method changes | 20 years |
| Active member benefit changes | 15 years* |
| Long-term inactive member benefit changes | 15 years* |
| Short-term inactive member benefit changes | Period during which benefit change is in effect |
| Statutory Contributions (per Chapter 353) that are more or less than the Total Required Contribution (per Chapter 356) | 15 years |

** The increase in UAAL due to the change in postretirement benefit increase enacted in 2025 is amortized over the period ending June 30, 2048.*

As required by the Standards for Actuarial Work, projected payroll is 1) determined by increasing reported payroll for each member by one full year's assumed pay increase according to the actuarial salary scale and 2) multiplied by 0.964 in the determination of the present value of future payroll to account for timing differences. This statutory method produces a required contribution that is similar to, but slightly below, the contribution that would be produced by more common actuarial methods.

PERA may consider synchronizing or accelerating bases with fewer than three years remaining in order to minimize potential volatility.

# Actuarial Basis

## Actuarial Methods (Concluded)

### Changes in Methods Since Prior Valuation

Layered amortization was implemented, effective with the July 1, 2025 valuation, with the amortization periods as defined on the prior page. Benefit changes enacted in 2025 are amortized over a period ending June 30, 2048.

# Actuarial Basis

## Summary of Actuarial Assumptions

The following assumptions were used in valuing the liabilities and benefits under the plan. All actuarial assumptions are prescribed by Minnesota Statutes, the Legislative Commission on Pensions and Retirement (LCPR), or the Board of Trustees. These parties are responsible for selecting the assumptions used for this valuation. Unless noted otherwise, the assumptions prescribed are based on the experience study dated July 31, 2024, and a review of inflation and investment assumptions in the General Employees Retirement Plan Experience Study dated June 29, 2023. The Allowance for Combined Service Annuity assumptions are based on an analysis completed by the LCPR actuary and documented in a report dated February 2025.

| | |
|---|---|
| **Investment return** | 7.00% per annum (prescribed by Minnesota Statutes). |
| **Salary increases** | Reported salary at valuation date increased according to the rate table, to current fiscal year and annually for each future year. Prior fiscal year salary is annualized for members with less than one year of service earned during the year. |
| **Inflation** | 2.25% per year. |
| **Payroll growth** | 3.00% per year. |
| **Mortality rates** | |
| Healthy pre-retirement | Pub-2010 Public Safety Employee Mortality Table adjusted for mortality improvements using projection scale MP-2021. |
| Healthy post-retirement | Pub-2010 Public Safety Healthy Retiree Mortality Table adjusted for mortality improvements using projection scale MP-2021. Male rates are multiplied by a factor of 1.01. |
| Disabled | Pub-2010 Public Safety Disabled Retiree Mortality Table, adjusted for mortality improvements using projection scale MP-2021. Male rates are multiplied by a factor of 1.17. |
| Notes | Pre-retirement deaths are assumed to be duty related.<br>The Pub-2010 employee mortality table as published by the Society of Actuaries (SOA) contains mortality rates for ages 18 to 80 and the annuitant mortality table contains mortality rates for ages 50 to 120. We have extended the annuitant mortality table as needed for members and beneficiaries younger than age 50 who are receiving a benefit by deriving rates based on the employee table and the juvenile table. Similarly, we have extended the employee table as needed for members older than age 80 by deriving rates based on the annuitant table. |
| **Retirement** | Members retiring from active status are assumed to retire according to the age-related rates shown in the rate table. Members who have attained the highest assumed retirement age are assumed to retire in one year. Note that plan changes reflected in this report may ultimately result in behavior changes that are not anticipated in the current retirement rates. |
| **Withdrawal** | Service-related rates based on actual experience; see table of sample rates. |

# Actuarial Basis

## Summary of Actuarial Assumptions (Continued)

| | |
|---|---|
| **Disability** | Age-related rates based on experience; see table of sample rates. All incidences are assumed to be duty-related. There is no assumed incidence of the total and permanent duty disability benefit; actual incidence of this benefit will be monitored and may be included in future valuations. |
| **Allowance for combined service annuity** | Liabilities for former members are increased by 13.0% for vested members and 38.0% for non-vested members to account for the effect of some participants having eligibility for a Combined Service Annuity. |
| **Administrative expenses** | Prior year administrative expenses expressed as a percentage of prior year projected payroll. |
| **Refund of contributions** | For non-vested members, account balances accumulate interest until the assumed commencement date and are discounted back to the valuation date. Active members decrementing after becoming eligible for a benefit are assumed to take the contributions accumulated with interest if larger than the value of the benefit. |
| **Commencement of deferred benefits** | Members receiving deferred annuities (including current terminated deferred members) are assumed to begin receiving benefits at age 55. |
| **Percentage married** | 85% of male and 65% of female active members are assumed to be married. Actual marital status is used for members in payment status. |
| **Age of spouse** | Males are assumed to be two years older than females. For members in payment status, actual spouse date of birth is used, if provided. |
| **Eligible children** | Retiring members are assumed to have no dependent children. |
| **Form of payment** | Married members retiring from active status are assumed to elect the subsidized joint and survivor form of annuity as follows:<br><br>Males: 7.5% elect 25% Joint & Survivor option<br>15.0% elect 50% Joint & Survivor option<br>15.0% elect 75% Joint & Survivor option<br>55.0% elect 100% Joint & Survivor option<br>Females: 15.0% elect 25% Joint & Survivor option<br>20.0% elect 50% Joint & Survivor option<br>10.0% elect 75% Joint & Survivor option<br>25.0% elect 100% Joint & Survivor option<br><br>Remaining married members and unmarried members are assumed to elect the Straight Life option.<br><br>Disabled members younger than Normal Retirement Age who are reported with a life annuity are assumed to instead have the 100% Joint & Survivor option to account for survivor benefits payable prior to Normal Retirement Age.<br><br>Members receiving deferred annuities (including current terminated deferred members) are assumed to elect a straight life annuity. |
| **Eligibility testing** | Eligibility for benefits is determined based upon the age nearest birthday and service on the date the decrement is assumed to occur. |
| **Decrement operation** | Withdrawal decrements do not operate during retirement eligibility. Decrements are assumed to occur mid-fiscal year. |

# Actuarial Basis

## Summary of Actuarial Assumptions (Continued)

| | |
|---|---|
| **Service credit accruals** | It is assumed that members accrue one year of service credit per year. |
| **Benefit service** | Exact fractional service is used to determine the amount of benefit payable. |
| **Pay Increases** | Pay increases are assumed to happen at the beginning of the fiscal year. This is equivalent to assuming that reported earnings are pensionable earnings for the year ending on the valuation date. |
| **Final average salary** | For present value of future benefit purposes, final average salary was calculated in accordance with pay increase assumptions, but was not permitted to fall below the final average salary reported in the data. |
| **Unknown data for certain members** | To prepare this report, GRS has used and relied on participant data supplied by the Fund. Although GRS has reviewed the data in accordance with Actuarial Standards of Practice No. 23, GRS has not verified or audited any of the data or information provided.<br><br>In cases where submitted data was missing or incomplete, the following assumptions, based on average results for applicable members at the time of the last experience study, were applied:<br><br><u>Data for active members:</u><br>There were 63 members reported with a salary less than $100 after annualization. We used prior year salary (48 members), if available; otherwise high five salary with a 10% load to account for salary increases (13 members). If neither prior year salary nor high five salary was available, we assumed a value of $80,900 (2 members).<br><br>There were also 378 members reported without a gender. We assumed male gender. There were 5 members reported with missing or invalid date of birth. We assumed these members were hired at age 29.<br><br><u>Data for terminated members:</u><br>We calculated benefits for these members using the reported Average Salary and credited service. If credited service was not reported (14 members), we used elapsed time from hire date to termination date (5 members); if elapsed time was not available, we assumed nine years of service. If termination date was invalid or not reported (8 members), we assumed the termination date was equal to the hire date plus credited service, otherwise the valuation date. If the reported termination date occurs prior to the reported hire date, the two dates were swapped.<br><br>There were 53 members reported without a gender; male was assumed.<br><br>There were 20 members reported with missing or invalid date of birth. We assumed these members are age 45. |

# Actuarial Basis

## Summary of Actuarial Assumptions (Continued)

| | |
|---|---|
| **Unknown data for certain members (Concluded)** | Data for retired members:<br>There were no members with missing or invalid dates of birth. There were no members reported with a $0 benefit amount. There were 31 members reported without a gender. We assumed retirees are male and beneficiaries are female.<br><br>Because PERA reclassifies disabled members as retirees once the member reaches Normal Retirement Age, we compare the members that PERA reports as retirees to our disabled group from the last valuation. If a member was disabled in the prior valuation, we reclassify that member as a disabled retiree in this year's valuation. We reclassified 475 retirees as disabled retirees in this valuation. |
| **Changes in actuarial assumptions since the prior valuation** | The following changes in assumptions are effective with the July 1, 2025 valuation, as recommended in the most recent experience study (dated July 31, 2024):<br>• Assumed rates of salary increases were reduced slightly.<br>• Assumed rates of retirement were adjusted resulting in an overall increase in unreduced (Normal) retirements and an overall increase in reduced (Early) retirements.<br>• Assumed rates of withdrawal were modified; the new rates result in an increase in predicted terminations for males and females, especially in the first few years of employment.<br>• Assumed rates of disabled retirement were significantly increased, especially for ages over age 30.<br>• Continued use of Pub-2010 Public Safety mortality table with rates adjusted to better fit observed experience.<br>• Lower percent married assumption for female retirees from 70% to 65%.<br>• Minor changes to form of payment assumptions for retirees.<br>• Minor changes to assumptions made with respect to missing participant data.<br><br>The combined service annuity load was changed from 33% to 13% for vested terminated members, and from 2% to 38% for non-vested terminated members. |

# Actuarial Basis

## Summary of Actuarial Assumptions (Continued)

| Age in 2025 | Percentage of Members Dying Each Year* | | | | | |
|---|---|---|---|---|---|---|
| | Healthy Post-Retirement Mortality** | | Healthy Pre-Retirement Mortality** | | Disability Mortality** | |
| | Males | Females | Males | Females | Males | Females |
| 20 | 0.04% | 0.02% | 0.04% | 0.02% | 0.15% | 0.06% |
| 25 | 0.04 | 0.02 | 0.04 | 0.02 | 0.15 | 0.08 |
| 30 | 0.06 | 0.04 | 0.06 | 0.04 | 0.20 | 0.12 |
| 35 | 0.07 | 0.05 | 0.07 | 0.05 | 0.25 | 0.17 |
| 40 | 0.09 | 0.06 | 0.08 | 0.06 | 0.28 | 0.20 |
| 45 | 0.14 | 0.09 | 0.09 | 0.07 | 0.31 | 0.22 |
| 50 | 0.18 | 0.13 | 0.11 | 0.08 | 0.39 | 0.27 |
| 55 | 0.29 | 0.25 | 0.16 | 0.12 | 0.53 | 0.44 |
| 60 | 0.52 | 0.45 | 0.27 | 0.17 | 0.86 | 0.71 |
| 65 | 0.88 | 0.72 | 0.41 | 0.21 | 1.38 | 1.00 |
| 70 | 1.45 | 1.15 | 0.70 | 0.39 | 2.04 | 1.39 |
| 75 | 2.49 | 1.97 | 1.25 | 0.77 | 3.30 | 2.09 |
| 80 | 4.51 | 3.53 | 2.34 | 1.60 | 5.73 | 3.53 |
| 85 | 8.30 | 6.32 | 7.36 | 5.54 | 9.70 | 6.32 |
| 90 | 14.79 | 11.14 | 14.64 | 11.14 | 17.13 | 11.14 |

* *Generally, mortality rates are expected to increase as age increases (with the exception of young ages, where expected mortality may decrease as age increases). In cases where the application of the projection scale would reverse the nature of this trend, standard mortality rates have been adjusted slightly. The adjustment has no material effect on these results.*

** *Rates are adjusted for mortality improvement using Scale MP-2021, from a base year of 2010.*

| Age | Rates of Disability Retirement | |
|---|---|---|
| | Males | Females |
| 20 | 0.11% | 0.11% |
| 25 | 0.18 | 0.18 |
| 30 | 0.51 | 0.51 |
| 35 | 0.90 | 0.90 |
| 40 | 1.35 | 1.35 |
| 45 | 1.55 | 1.55 |
| 50 | 1.97 | 1.97 |
| 55* | 2.19 | 2.19 |
| 60* | 2.56 | 2.56 |

* *Disability retirements are assumed to continue until the earlier of age 55 with 20 years of service or age 70.*

# Actuarial Basis

## Summary of Actuarial Assumptions (Concluded)

| Rates of Service | | Withdrawal | | Salary Scale | |
|---|---|---|---|---|---|
| Age | Retirement | Year | Rates | Year | Increase |
| 50 | 5.00% | 1 | 8.00% | 1 | 10.75% |
| 51 | 4.00 | 2 | 5.00 | 2 | 8.00 |
| 52 | 5.00 | 3 | 3.25 | 3 | 7.25 |
| 53 | 9.00 | 4 | 2.75 | 4 | 6.50 |
| 54 | 15.00 | 5 | 2.75 | 5 | 5.25 |
| 55 | 40.00 | 6 | 2.75 | 6 | 4.75 |
| 56 | 25.00 | 7 | 2.50 | 7 | 4.25 |
| 57 | 25.00 | 8 | 2.25 | 8 | 4.00 |
| 58 | 25.00 | 9 | 2.25 | 9 | 3.90 |
| 59 | 25.00 | 10 | 2.25 | 10 | 3.80 |
| 60 | 25.00 | 11 | 2.25 | 11 | 3.60 |
| 61 | 25.00 | 12 | 2.00 | 12 | 3.40 |
| 62 | 30.00 | 13 | 2.00 | 13 | 3.30 |
| 63 | 30.00 | 14 | 1.75 | 14 | 3.30 |
| 64 | 32.50 | 15 | 1.50 | 15 | 3.30 |
| 65 | 40.00 | 16 | 1.50 | 16 | 3.30 |
| 66 | 45.00 | 17 | 1.50 | 17 | 3.20 |
| 67 | 45.00 | 18 | 1.50 | 18 | 3.20 |
| 68 | 45.00 | 19 | 1.50 | 19 | 3.20 |
| 69 | 45.00 | 20 | 1.50 | 20 | 3.20 |
| 70+ | 100.00 | 21 | 1.25 | 21 | 3.10 |
| | | 22+ | 1.00 | 22 | 3.10 |
| | | | | 23 | 3.10 |
| | | | | 24+ | 3.00 |

# Actuarial Basis

## Summary of Plan Provisions – Police and Fire Plan

Following is a summary of the major plan provisions used in the valuation of this report. PERA is solely responsible for the validity, accuracy and comprehensiveness of this information. If any of the plan provisions shown below are not accurate and complete, the valuation results may differ significantly from those shown in this report and may require a revision of this report.

**Plan year**

July 1 through June 30.

**Eligibility**

All full-time and certain part-time police officers and fire fighters, and certain paramedics, who are not contributing to any other local retirement fund.

**Contributions**

| Effective as of | Member | Employer | Total |
|---|---|---|---|
| January 1, 2020 and later | 11.80% | 17.70% | 29.50% |

Member contributions are "picked up" according to the provisions of Internal Revenue Code 414(h).

**State contributions**

$9.0 million paid annually on October 1 until both PERA P&F and MSRS State Patrol achieve 100% funded status for three years (on an actuarial value of assets basis).

In addition, $17.7 million paid annually each October 1, beginning October 1, 2025 through June 30, 2048.

In addition, $9.0 million paid annually until the plan reaches 110% funding ratio for three years on an actuarial value of assets basis.

**Allowable service**

Police and Fire service during which member contributions were made. May also include certain leaves of absence and military service.

**Salary**

Includes amounts deducted for deferred compensation or supplemental retirement plans, net income from fees and sick leave payments funded by the employer. Excludes unused annual leaves and sick leave payments, severance payments, Workers' Compensation benefits and employer-paid flexible spending accounts, cafeteria plans, healthcare expense accounts, day-care expenses, fringe benefits and the cost of insurance coverage.

**Average salary**

Average of the five highest successive years of salary. Average Salary is based on all Allowable Service if less than five years.

**Vesting**

| | Vesting if First Hired | |
|---|---|---|
| Years of Service | Before 7/1/2010 | After 6/30/2010 |
| <3 | 0% | 0% |
| 3 – 4 | 100 | 0 |
| 5 | 100 | 50 |
| 6 | 100 | 60 |
| 7 | 100 | 70 |
| 8 | 100 | 80 |
| 9 | 100 | 90 |
| 10+ | 100 | 100 |

# Actuarial Basis

## Summary of Plan Provisions – Police and Fire Plan (Continued)

| | |
|---|---|
| **Retirement** | |
| Normal retirement benefit | |
| Age/service requirement | Age 55 and at least partially vested. Proportionate Retirement Annuity is available at age 65 and one year of Allowable Service. |
| Amount | 3.00% of Average Salary for each year of Allowable Service (up to 33 years if hired after June 30, 2014), pro-rata for completed months, adjusted for partial vesting if applicable. A pro-rata share of member contributions will be refunded at retirement for excess service. |
| Early Retirement | |
| Age/service requirement | Age 50 and at least partially vested. |
| Amount | Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date and 0.10% (0.20% for members enrolled in the plan after June 30, 2007) reduction for each month the member is under age 55. If the effective date of retirement is after June 30, 2019, the reduction is 5/12% for each month that the member is under age 55 at the time of retirement. |
| Form of payment | Life annuity with return on death of any balance of contributions over aggregate monthly payments. Actuarially equivalent options are:<br><br>25%, 50%, 75% or 100% Joint and Survivor with bounce back feature. The Joint and Survivor options are determined on an actuarially equivalent basis, but with no actuarial reduction for the bounce back feature. |
| Benefit increases | Eligible benefit recipients receive a 3.00% increase on January 1, 2026; subsequent January 1 increases are 1.00%.<br><br>A benefit recipient who has been receiving a benefit for at least 24 full months as of June 30 will receive a full increase. Members receiving benefits for at least 13 months but less than 24 full months as of June 30 will receive a pro rata increase. For retirements after May 31, 2014 and prior to July 1, 2025, the first increase was delayed one additional year.<br><br>Members retired under laws in effect before July 1, 1973 receive an additional lump sum payment each year. In 1989, this lump sum payment is the greater of $25 times each full year of Allowable Service or the difference between $400 times each full year of Allowable Service and the sum of benefits paid from any Minnesota public pension plan plus cash payments from the Social Security Administration for the preceding fiscal year July 1, 1988 through June 30, 1989. In each following year, the lump sum payment will increase by the same percentage increase that is applied to regular annuities paid from the Fund. Effective January 1, 2002, annual lump sum payment is divided by 12 and paid as a monthly life annuity in the annuity form elected. |

# Actuarial Basis

## Summary of Plan Provisions – Police and Fire Plan (Continued)

| | |
|---|---|
| **Disability** | |
| Duty disability benefit | |
| Age/service requirement | Physically or mentally unable to perform normal duties as a police officer or fire fighter as a direct result of an act of duty specific to protecting property and personal safety of others. Psychological treatment is required prior to approval for a duty disability benefit for a psychological condition relating to the member's occupation. Members age 55 or older with 20 or more years of Allowable Service are not eligible to apply for duty disability benefits. |
| Amount | 60.00%, plus an additional 3.00% for each year of service in excess of 20 years, of Average Salary paid until Normal Retirement Age, or for 60 months, whichever is later. The retirement benefit is then recalculated but is never lower than the disability benefit.<br><br>If a member became disabled prior to July 1, 1997 but did not commence their benefit before July 1, 1997, the benefit is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in post-retirement interest rates from 5.00% to 6.00%. |
| Regular disability benefit | |
| Age/service requirement | Physically or mentally unable to perform normal duties as a police officer or fire fighter with one year of Allowable Service. Members age 55 or older with 15 or more years of Allowable Service are not eligible to apply for regular disability benefits. |
| Amount | 45.00% of Average Salary, paid until Normal Retirement Age, or for 60 months, whichever is later. The retirement benefit is then recalculated but is never lower than the disability benefit. Benefits for total and permanent regular disability are calculated as 3.00% of Average Salary for each year of Allowable Service, with a minimum of 45.00% of Average Salary.<br><br>If a member became disabled prior to July 1, 1997 but did not commence his or her benefit before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in post-retirement interest rates from 5.00% to 6.00%. |
| Total and permanent duty disability benefit | |
| Age/service requirement | Member who cannot perform any substantial gainful activity as a direct result of a disability (physical or psychological) relating to an act of duty, which is expected to persist for a period of 12 months or more. If condition no longer qualifies as total and permanent, benefit will be recalculated under the duty disability benefit provisions. |
| Amount | 99% of member's average monthly salary. |

# Actuarial Basis

## Summary of Plan Provisions – Police and Fire Plan (Continued)

| | |
|---|---|
| **Disability (Concluded)** | |
| Retirement benefit | |
| Age/service requirement | Upon cessation of disability benefits. |
| Amount | Any optional annuity continues. Otherwise, the larger of the disability benefit paid before age 55 or the normal retirement benefit available at age 55, or an actuarially equivalent optional annuity. |
| Form of payment | Same as for retirement. |
| Benefit increases | Same as for retirement. |
| **Death** | |
| Surviving spouse benefit | |
| Age/service requirement | Death of active member or regular disabled member with surviving spouse whose disability benefit accrued before July 1, 2007, who is vested at death (service requirement is waived if death occurs in the line of duty). |
| Amount | 50.00% of salary (60.00% if death occurs in the line of duty after June 30, 2007) averaged over last six months. Benefit paid until spouse's death but no payments while spouse is remarried prior to July 1, 1991.<br><br>If a member died prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefits before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%. |
| Surviving dependent children's benefit | |
| Age/service requirement | Non-duty related death of active member or regular disabled member with eligible dependent child. |
| Amount | 10.00% of salary averaged over last six months for each child. Family benefit minimum (including spouse's benefit) of 50.00% of salary and maximum of 70.00% of salary. Benefits paid until child marries, dies, or attains age 18 (age 23 if full-time student). |
| Duty disability surviving spouse benefit | |
| Age/service requirement | Member who is totally and permanently disabled who dies before age 55 or within five years of the effective date of the disability benefit, whichever is later. |
| Amount | 60.00% of salary averaged over last six months. Benefits paid until spouse's death but no payments while spouse is remarried prior to July 1, 1991. |

# Actuarial Basis

## Summary of Plan Provisions – Police and Fire Plan (Continued)

| | |
|---|---|
| **Death (Concluded)** | |
| Duty disability surviving dependent children's benefit | |
| Age/service requirement | Death of a member with an eligible dependent child who was disabled in the line of duty and died as a direct result of the disability. |
| Amount | 10.00% of salary averaged over last six months for each child. Family benefit minimum (including spouse's benefit) of 60.00% of salary and maximum of 80.00% of salary. Benefits paid until child marries, dies, or attains age 18 (age 23 if full-time student).<br><br>If a member died prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefits before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%. |
| Surviving spouse optional annuity | |
| Age/service requirement | Active member dies before age 55. Benefits commence when member would have been age 55 or as early as age 50 if qualified for early retirement, benefits commence immediately if member had 30 years of service. |
| Amount | Survivor's payment of the 100% joint and survivor benefit the member could have elected if terminated. Alternatively, spouse may elect refund of deceased's contributions with interest if there are no dependent children.<br><br>If a member died prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefits before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%. |
| Benefit increases | Same as for retirement. |

# Actuarial Basis

## Summary of Plan Provisions – Police and Fire Plan (Continued)

| | |
|---|---|
| **Termination** | |
| Refund of contributions | |
| Age/service requirement | Termination of public service. |
| Amount | Member's contributions with 6.00% interest through June 30, 2011. Beginning July 1, 2011, a member's contributions increase at 4.00% interest. Beginning July 1, 2018, a member's contributions increase at 3.00% interest. If a member is vested, a deferred annuity may be elected in lieu of a refund. |
| Deferred benefit | |
| Age/service requirement | Partially or fully vested. |
| Amount | Benefit computed under law in effect at termination and increased by the following percentage (augmentation) compounded annually for terminations prior to 2012:<br><br>(a.) 0.00% before July 1, 1971;<br>(b.) 5.00% from July 1, 1971 to January 1, 1981;<br>(c.) 3.00% (2.50% if hired after June 30, 2006) thereafter until the earlier of January 1 of the year following attainment of age 55 and January 1, 2012;<br>(d.) 5.00% (2.50% if hired after June 30, 2006) thereafter until the earlier of the date the annuity begins and January 1, 2012;<br>(e.) 1.00% from January 1, 2012 through December 31, 2018; and<br>(f.) 0.00% from January 1, 2019, thereafter.<br><br>Members who terminate after 2011 will receive no future augmentation.<br><br>If a member terminated employment prior to July 1, 1997 but was not eligible to commence their pension before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997 and an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%. |
| Form of payment | Same as for retirement. |
| **Actuarial equivalent factors** | Effective July 1, 2025, actuarially equivalent factors are based on the Pub-2010 Public Safety mortality rates for a member turning age 56 in 2027, reflecting projected mortality improvements using Scale MP-2021 from a base year of 2010, with male rates multiplied by a factor of 1.01, blended 90% males, and 6.50% interest. |

# Actuarial Basis

## Summary of Plan Provisions – Police and Fire Plan (Concluded)

| | |
|---|---|
| **Combined service annuity** | Members are eligible for combined service benefits if they:<br><br>(a.) Meet minimum retirement age for each plan participated in and total public service meets the vesting requirements of each plan; or<br>(b.) Have three or more years of service under PERA and the covered fund(s) (if hired prior to July 1, 2010).<br><br>Other requirements for combined service include:<br><br>(a.) Member must have at least six months of allowable service credit in each plan worked under; and<br>(b.) Member may not be in receipt of a benefit from another plan.<br><br>Members who meet the above requirements must have their benefits based on the following:<br><br>(a.) Allowable service in all covered plans is combined in order to determine eligibility for early retirement.<br>(b.) Average salary is based on the high five consecutive years during their entire service in all covered plans. |
| **Changes in plan provisions** | The period of time needed for benefit recipients to receive their first benefit increase was reduced by one year (i.e., from 36 months to 24 months for a full increase).<br><br>The January 1, 2026 benefit increase changed from 1.0% to 3.0%; subsequent January 1 increases are 1.0%.<br><br>The threshold to cease the $9 million annual State contribution was changed from the earlier of July 1, 2048 or 90% funded for both PERA P&F and MSRS State Patrol for three consecutive years to 100% funded for both PERA P&F and MSRS State Patrol for three consecutive years (on an actuarial value of assets basis).<br><br>The threshold to cease the additional $9 million annual State contribution was changed from the earlier of July 1, 2048 or 100% funded for a minimum of three consecutive years to 110% funded for a minimum of three consecutive years (on an actuarial value of assets basis).<br><br>An additional $17.7 million in direct state aid is paid annually each October 1 beginning October 1, 2025 through June 30, 2048.<br><br>Joint and Survivor actuarial equivalent factors were updated to reflect changes in assumptions. |

# Actuarial Basis

## Summary of Plan Provisions – Minneapolis Police Relief Association

**Normal retirement benefit**

Monthly benefits are equal to the number of units multiplied by the unit values described herein. Units are based on service, as follows:

| Service | Units |
|---|---|
| 20 | 35.0 units |
| 21 | 36.6 units |
| 22 | 38.2 units |
| 23 | 39.8 units |
| 24 | 41.4 units |
| 25 or more | 43.0 units |

Members must be at least age 50 with 5 years of service to receive this benefit.

**Unit values**

| Calendar Year | Unit Value |
|---|---|
| 2012 | $ 104.651 |
| 2013 | 109.011 |
| 2014 | 114.825 |
| 2015 | 124.031 |

Unit values after 2015 are assumed to increase the same percentage as the post-retirement benefit increase.

**Surviving spouse's benefit**

Annual benefit based on 23 units for the surviving spouse of an active or retired member. Upon retirement, members may choose an alternative form of payment that provides 50%, 75%, or 100% of their benefit to their spouse after their death. The units are adjusted if one of these alternate forms is selected.

**Surviving children's benefit**

Annual benefit based on 8 units for each surviving child of an active or retired member. Benefits continue to age 18 or if the child is a full-time student, to age 22. The total benefit for surviving children and spouse combined is limited to 41 units.

**Contributions**

Member and employer contributions equal to 8.00% of the monthly unit value multiplied by 80 are required for each member. After 25 years of service, member contributions are paid to a separate health insurance account.

Until July 15, 2018, the employer contributed annually an amount to amortize the unfunded liability by December 31, 2031. Beginning July 15, 2019, the employer will contribute $4,489,837 each July 15 through 2031.

**Benefit increases**

Benefit recipients receive a 3.00% increase on January 1, 2026; subsequent January 1 increases are 1.00%.

# Actuarial Basis

## Summary of Plan Provisions – Minneapolis Firefighters' Relief Association

**Normal retirement benefit**

Monthly benefits are equal to the number of units multiplied by the unit values described herein. Units are based on service, as follows:

| Service | Units |
|---|---|
| 15 | 25.0 units |
| 16 | 26.6 units |
| 17 | 28.2 units |
| 18 | 29.8 units |
| 19 | 31.4 units |
| 20 | 35.0 units |
| 21 | 36.6 units |
| 22 | 38.2 units |
| 23 | 39.8 units |
| 24 | 41.4 units |
| 25 or more | 43.0 units |

Members must be at least age 50 with 5 years of service to receive this benefit.

Members may choose among alternative survivor payment forms which modify the number of units payable to the member and their spouse. A member who is single at the time of retirement and who has at least 25 years of service may choose to receive 43.3 units on the condition of a reduced survivor payment to any future spouse.

**Unit values**

| Calendar Year | Unit Value |
|---|---|
| 2013 | $100.775 |
| 2014 | 104.264 |
| 2015 | 124.031 |

Unit values after 2015 are assumed to increase the same percentage as the post-retirement benefit increase.

**Disability benefit**

Annual benefit based on 41 units for the disabled member.

**Surviving spouse's benefit**

Annual benefit based on 23 units for the surviving spouse of an active or retired member and 22 units for the surviving spouse of a disabled member. Upon retirement, members may choose an alternative form of payment that provides 50%, 75% or 100% of their benefit to their spouse after their death. The units are adjusted if one of these alternate forms is selected.

**Surviving children's benefit**

Annual benefit based on 8 units for each surviving child of an active or retired member. Benefits continue to age 18 or if the child is a full-time student, to age 22. The total benefit for surviving children and spouse combined is limited to 43 units.

**Contributions**

Member and employer contributions equal to 8.00% of the monthly unit value multiplied by 80 are required for each member. After 25 years of service, member contributions are paid to a separate health insurance account.

Until July 15, 2018, the employer contributed annually an amount to amortize the unfunded liability by December 31, 2031. Beginning July 15, 2019, the employer will contribute $3,188,735 each July 15 through 2031.

**Benefit increases**

Benefit recipients receive a 3.00% increase on January 1, 2026; subsequent January 1 increases are 1.00%.

# Additional Schedules

## Schedule of Funding Progress[1] *(Dollars in Thousands)*

| Actuarial Valuation Date | Actuarial Value of Assets (a) | Actuarial Accrued Liability (AAL) (b) | Unfunded (Overfunded) AAL (UAAL) (b) - (a) | Funded Ratio (a)/(b) | Actual Covered Payroll (Previous FY) (c) | UAAL as a Percentage of Covered Payroll [(b)-(a)]/(c) |
|---|---|---|---|---|---|---|
| 7-1-2001 | $ 4,472,041 | $ 3,712,360 | $ (759,681) | 120.46 % | $ 500,839 | (151.68) % |
| 7-1-2002 | 4,672,679 | 3,886,311 | (786,368) | 120.23 | 522,153 | (150.60) |
| 7-1-2003 | 4,683,115 | 4,390,953 | (292,162) | 106.65 | 560,503 | (52.12) |
| 7-1-2004 | 4,746,834 | 4,692,190 | (54,644) | 101.16 | 551,266 | (9.91) |
| 7-1-2005 | 4,814,961 | 4,956,340 | 141,379 | 97.15 | 580,723 | 24.35 |
| 7-1-2006 | 5,017,951 | 5,260,564 | 242,613 | 95.39 | 618,435 | 39.23 |
| 7-1-2007 | 5,198,922 | 5,669,347 | 470,425 | 91.70 | 648,342 | 72.56 |
| 7-1-2008 | 5,233,015 | 5,918,061 | 685,046 | 88.42 | 703,701 | 97.35 |
| 7-1-2009 | 5,239,855 | 6,296,274 | 1,056,419 | 83.22 | 733,164 | 144.09 |
| 7-1-2010 | 5,188,339 | 5,963,672 | 775,333 | 87.00 | 740,101 | 104.76 |
| 7-1-2011 | 5,274,602 | 6,363,546 | 1,088,944 | 82.89 | 775,806 | 140.36 |
| 7-1-2012 | 5,797,868 | 7,403,295 | 1,605,427 | 78.31 | 794,417 [2] | 202.09 |
| 7-1-2013 | 5,932,945 | 7,304,032 | 1,371,087 | 81.23 | 796,188 [2] | 172.21 |
| 7-1-2014 | 6,525,019 | 8,151,328 | 1,626,309 | 80.05 | 820,333 [3] | 198.25 |
| 7-1-2015 | 7,076,271 | 8,460,477 | 1,384,206 | 83.64 | 845,076 [4] | 163.80 |
| 7-1-2016 | 7,385,777 | 8,417,621 | 1,031,844 | 87.74 | 881,222 [5] | 117.09 |
| 7-1-2017 | 7,840,549 | 9,199,208 | 1,358,659 | 85.23 | 944,296 [5] | 143.88 |
| 7-1-2018 | 8,320,094 | 9,552,804 | 1,232,710 | 87.10 | 976,657 [5] | 126.22 |
| 7-1-2019 | 8,661,613 | 9,909,153 | 1,247,540 | 87.41 | 1,011,421 [6] | 123.35 |
| 7-1-2020 | 9,036,069 | 10,291,567 | 1,255,498 | 87.80 | 1,069,481 [7] | 117.39 |
| 7-1-2021 | 9,931,003 | 10,793,845 | 862,842 | 92.01 | 1,096,195 [8] | 78.71 |
| 7-1-2022 | 10,563,877 | 11,351,467 | 787,590 | 93.06 | 1,127,314 [8] | 69.86 |
| 7-1-2023 | 11,105,741 | 12,765,798 | 1,660,057 | 87.00 | 1,224,322 [8] | 135.59 |
| 7-1-2024 | 11,744,115 | 13,380,841 | 1,636,726 | 87.77 | 1,296,500 [8] | 126.24 |
| 7-1-2025 | 12,618,950 | 14,249,944 | 1,630,994 | 88.55 | 1,430,822 [8] | 113.99 |

*[1] Information prior to 2012 provided by prior actuary. See prior reports for additional detail.*
*[2] Assumed equal to actual member contributions divided by 9.60%.*
*[3] Assumed equal to actual member contributions divided by 9.90%.*
*[4] Assumed equal to actual member contributions divided by 10.50%.*
*[5] Assumed equal to actual member contributions divided by 10.80%.*
*[6] Assumed equal to actual member contributions divided by 11.05%.*
*[7] Assumed equal to actual member contributions divided by 11.55%.*
*[8] Assumed equal to actual member contributions divided by 11.80%.*

# Additional Schedules

## Schedule of Contributions from the Employer and Other Contributing Entities[1]

*(Dollars in Thousands)*

| Plan Year Ended June 30 | Actuarially Required Contribution Rate (a) | Actual Covered Payroll (b) | Actual Member Contributions (c) | Annual Required Contributions [(a)x(b)] - (c) = (d) | Actual Employer Contributions[5] (e) | Percentage Contributed (e)/(d) |
|---|---|---|---|---|---|---|
| 2001 | 12.21% | $ 500,839 | $ 31,341 | $ 29,811 | $ 52,960 | 177.65% |
| 2002 | 12.61 | 522,153 | 33,801 | 32,042 | 90,664 | 282.95 |
| 2003 | 15.52 | 560,503 | 34,751 | 35,424 | 50,917 | 143.74 |
| 2004 | 19.47 | 551,266 | 36,313 | 71,019 | 52,770 | 74.30 |
| 2005 | 21.99 | 580,723 | 37,873 | 89,828 | 55,802 | 62.12 |
| 2006 | 24.36 | 618,435 | 42,970 | 107,681 | 63,603 | 59.07 |
| 2007 | 25.76 | 648,342 | 50,688 | 116,325 | 74,707 | 64.22 |
| 2008 | 28.82 | 703,701 | 58,259 | 144,548 | 87,023 | 60.20 |
| 2009 | 28.41 | 733,164 | 67,701 | 140,591 | 101,548 | 72.23 |
| 2010 | 29.99 | 740,101 | 71,736 | 150,220 | 107,066 | 71.27 |
| 2011 | 25.52 | 775,806 | 73,702 | 124,284 | 109,604 | 88.19 |
| 2012 | 28.78 | 794,417 [2] | 76,264 | 152,369 | 121,891 | 80.00 |
| 2013 | 33.37 | 796,188 [2] | 76,434 | 189,254 | 125,995 | 66.57 |
| 2014 | 29.89 | 820,333 [3] | 81,213 | 163,985 | 141,632 | 86.37 |
| 2015 | 33.85 | 845,076 [4] | 88,733 | 197,325 | 153,317 | 77.70 |
| 2016 | 32.29 | 881,222 [6] | 95,172 | 189,375 | 165,065 | 87.16 |
| 2017 | 28.30 | 944,296 [6] | 101,984 | 165,252 | 175,329 | 106.10 |
| 2018 | 30.58 | 976,657 [6] | 105,479 | 193,183 | 179,781 | 93.06 |
| 2019 | 28.20 | 1,011,421 [7] | 111,762 | 173,459 | 188,317 | 108.57 |
| 2020 | 28.18 | 1,069,481 [8] | 123,525 | 177,855 | 207,319 | 116.57 |
| 2021 | 27.71 | 1,096,195 [9] | 129,351 | 174,405 | 219,129 | 125.64 |
| 2022 | 25.44 | 1,127,314 [9] | 133,023 | 153,766 | 224,416 | 145.95 |
| 2023 | 25.01 | 1,224,322 [9] | 144,470 | 161,733 | 241,305 | 149.20 |
| 2024 | 31.87 | 1,296,500 [9] | 152,987 | 260,208 | 273,613 | 105.15 |
| 2025 | 31.50 | 1,430,822 [9] | 168,837 | 281,872 | 277,631 | 98.50 |
| 2026 | 33.99 | | | | | |

[1] *Information prior to 2012 provided by prior actuary. See prior reports for additional detail.*

[2] *Assumed equal to actual member contributions divided by 9.60%.*

[3] *Assumed equal to actual member contributions divided by 9.90%.*

[4] *Assumed equal to actual member contributions divided by 10.50%.*

[5] *Includes contributions from other sources (if applicable).*

[6] *Assumed equal to actual member contributions divided by 10.80%.*

[7] *Assumed equal to actual member contributions divided by 11.05%.*

[8] *Assumed equal to actual member contributions divided by 11.55%.*

[9] *Assumed equal to actual member contributions divided by 11.80%.*

# Glossary of Terms

| | |
|---|---|
| **Actual Covered Payroll (GASB)** | The payroll of covered employees, which is typically only the pensionable pay (meets the statutory salary definition) and does not include pay above any pay cap. |
| **Actuarial Accrued Liability (AAL)** | The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs. |
| **Accrued Benefit Funding Ratio** | The ratio of assets to Current Benefit Obligations. |
| **Accrued Liability Funding Ratio** | The ratio of assets to Actuarial Accrued Liability. |
| **Actuarial Assumptions** | Assumptions about future plan experience that affect costs or liabilities, such as: mortality, withdrawal, disablement, and retirement; future increases in salary; future rates of investment earnings; future investment and administrative expenses; characteristics of members not specified in the data, such as marital status; characteristics of future members; future elections made by members; and other items. |
| **Actuarial Cost Method** | A procedure for allocating the Actuarial Present Value of Future Benefits between the Actuarial Present Value of future Normal Costs and the Actuarial Accrued Liability. |
| **Actuarial Equivalent** | Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions. |
| **Actuarial Present Value (APV)** | The amount of funds required to provide a payment or series of payments in the future. It is determined by discounting the future payments with an assumed interest rate and with the assumed probability each payment will be made. |
| **Actuarial Present Value of Projected Benefits** | The Actuarial Present Value of amounts which are expected to be paid at various future times to active members, retired members, beneficiaries receiving benefits, and inactive, non-retired members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due. |
| **Actuarial Valuation** | The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for developing and monitoring a retirement system's funding policy, such as the Funded Ratio and the Annual Required Contribution (ARC). |
| **Actuarial Value of Assets** | The value of the assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets or a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the Funded Ratio and the Annual Required Contribution (ARC). |

# Glossary of Terms (Continued)

| | |
|---|---|
| **Amortization Method** | A method for determining the Amortization Payment. Under the Level Percentage of Pay method, the Amortization payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. The stream of payments increases at the rate at which total covered payroll of all active members is assumed to increase. |
| **Amortization Payment** | That portion of the plan contribution or ARC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability. |
| **Amortization Period** | The period used in calculating the Amortization Payment. |
| **Annual Required Contribution (ARC)** | The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation. The ARC consists of the Employer Normal Cost and Amortization Payment. |
| **Annual Valuation Earnings** | Reported salary at valuation date, annualized for members with less than one year of service earned during the year. |
| **Augmentation** | Annual increases to deferred benefits. |
| **Closed Amortization Period** | A specific number of years that is reduced by one each year, and declines to zero with the passage of time. For example, if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. |
| **Current Benefit Obligations** | The present value of benefits earned to the valuation date, based on current service and including future salary increases to retirement (comparable to a Projected Unit Credit measurement). |
| **Employer Normal Cost** | The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions. |
| **Expected Assets** | The present value of anticipated future contributions intended to fund benefits for current members. |
| **Experience Gain/Loss** | A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two actuarial valuations. To the extent that actual experience differs from that assumed, Unfunded Actuarial Accrued Liabilities emerge which may be larger or smaller than projected. Gains are due to favorable experience; e.g., the assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, losses are the result of unfavorable experience; i.e., actual results that produce Unfunded Actuarial Accrued Liabilities which are larger than projected. |
| **GASB** | Governmental Accounting Standards Board. |

# Glossary of Terms (Concluded)

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| **GASB Statements No. 25 and No. 27** | These are the governmental accounting standards that previously set the accounting and financial reporting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 27 sets the accounting and financial reporting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 25 sets the rules for the systems themselves. These statements remain in effect only for pension plans that are not administered as trusts or equivalent arrangements. Please refer to the definition of GASB Statements No. 67 and No. 68 on the following page. |
| **GASB Statement No. 50** | The accounting standard governing a state or local governmental employer's accounting for pensions. This statement remains in effect only for pension plans that are not administered as trusts. Please refer to the definition of GASB Statements No. 67 and No. 68. |
| **GASB Statements No. 67 and No. 68** | Statements No. 67 and No. 68, issued in June 2012, replace the requirements of Statements No. 25, No. 27 and No. 50, respectively, for pension plans administered as trusts. Statement No. 68, effective for the fiscal year beginning July 1, 2014, sets the accounting and financial reporting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67, effective for the fiscal year beginning July 1, 2013, sets the rules for the systems themselves. Accounting and financial reporting information prepared according to Statements No. 67 and No. 68 is provided in a separate report beginning with the June 30, 2014 actuarial valuation. |
| **GASB Statement No. 82** | Statement No. 82, issued in March 2016, is an amendment to Statements No. 67, No. 68, and No. 73, and is intended to improve consistency in the application of the accounting statements. |
| **Normal Cost** | The annual cost assigned, under the Actuarial Cost Method, to the current plan year. |
| **Projected Annual Earnings** | Projected annual payroll for fiscal year beginning on the valuation date, determined by increasing reported pay for each member by one full year's assumed pay increase according to the actuarial salary scale, as prescribed by the LCPR Standards for Actuarial Work. |
| **Projected Benefit Funding Ratio** | The ratio of the sum of Actuarial Value of Assets and Expected Assets to the Actuarial Present Value of Projected Benefits. A ratio less than 100% indicates that contributions are insufficient. |
| **Unfunded Actuarial Accrued Liability** | The difference between the Actuarial Accrued Liability and Actuarial Value of Assets. |
| **Valuation Date** | The date as of which the Actuarial Present Value of Future Benefits are determined. The benefits expected to be paid in the future are discounted to this date. |