

Police and Firemen's Retirement System of New Jersey

**Governmental Accounting Standards Board
Statements 67 and 68 Actuarial Valuation as of June
30, 2024**



This report has been prepared at the request of the Board of Trustees to assist the sponsors of the System in preparing their financial report for their liabilities associated with the Police and Firemen's Retirement System of New Jersey. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Trustees and may only be provided to other parties in its entirety. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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February 27, 2025

Police and Firemen's Retirement System of New Jersey
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Dear Board Members:

We are pleased to submit this Governmental Accounting Standards Board Statements 67 and 68 (GASB 67 and 68) Actuarial Valuation based on a June 30, 2024 measurement date for employer reporting as of June 30, 2024. It contains various information that will need to be disclosed in order for the Police and Firemen's Retirement System of New Jersey employers to comply with GASB 67 and 68. Please refer to the Police and Firemen's Retirement System of New Jersey Actuarial Valuation and Review as of July 1, 2023, dated December 22, 2023, for the data, assumptions, and plan of benefits underlying these calculations.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist the sponsors in preparing their financial reports for their liabilities associated with the Police and Firemen's Retirement System of New Jersey. The census and financial information on which our calculations were based were provided by the Division of Pensions and Benefits. That assistance is gratefully acknowledged.

The measurements shown in this actuarial valuation may not be applicable for other purposes. 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; and changes in plan provisions or applicable law.

The actuarial calculations were completed under the supervision of Jonathan Scarpa, FSA, EA, MAAA. I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of my knowledge, the information supplied in the actuarial valuation is complete and accurate. Further, in my opinion, the assumptions as approved by the Board are reasonably related to the experience of and expectations for the Police and Firemen's Retirement System of New Jersey. In addition, in my opinion, the combined effect of these assumptions is expected to have no significant bias.

Segal makes no representation or warranty as to the future status of the Plan and does not guarantee any particular result. This document does not constitute legal, tax, accounting or investment advice or create or imply a fiduciary relationship. The Board is encouraged to discuss any issues raised in this report with the Plan's legal, tax and other advisors before taking, or refraining from taking, any action.

We look forward to reviewing this report with you and to answering any questions.

Sincerely,

Segal



Frank Santasiero, FSA, FCA, EA, MAAA
Vice President and Actuary



Jonathan Scarpa, FSA, EA, MAAA
Vice President and Actuary

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Actuarial Valuation Summary

Purpose and basis

This report has been prepared by Segal to present certain disclosure information required by Governmental Accounting Standards Board Statements 67 and 68 (GASB 67/68) for employer reporting as of June 30, 2024. This valuation is based on:

- The benefit provisions, as of June 30, 2024, of the Police and Firemen's Retirement System of New Jersey (PFRS), as administered by the Board;
- The characteristics of covered active members, terminated vested members, and retired members and beneficiaries as of June 30, 2023, provided by the Division of Pensions and Benefits (DPB);
- The assets of the Plan as of June 30, 2024, provided by the Division of Pensions and Benefits;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board for the July 1, 2023 funding valuation, reflecting the approved assumption changes as recommended in Segal's Actuarial Experience Review report dated October 14, 2022; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc. adopted by the Board for the June 30, 2023 funding valuation, reflecting the approved assumption changes as recommended in Segal's Actuarial Experience Review report dated October 14, 2022.

Section 1: Actuarial Valuation Summary

Highlights of the valuation

1. It is important to note that GASB 67 and 68 only define pension liability and expense for financial reporting purposes, and do not apply to contribution amounts for pension funding purposes.
2. When measuring pension liability, GASB uses the Entry Age actuarial cost method as a level percent of salary and the same discount rate (expected return on assets) as used for funding as of July 1, 2023, 7.0%. The detailed calculations used in the derivation of the discount rate can be found in Appendix A of Section 3. Various other information that is required to be disclosed can be found throughout Section 2.
3. The Net Pension Liability (NPL) is equal to the difference between the Total Pension Liability (TPL) and the Plan Fiduciary Net Position (FNP). The Plan Fiduciary Net Position is equal to the market value of assets and therefore, the NPL measure is very similar to an Unfunded Actuarial Accrued Liability (UAAL) on a market value basis.
4. The NPL was measured as of June 30, 2024 and June 30, 2023 and determined based upon the results of the actuarial valuations as of July 1, 2023, and July 1, 2022, respectively.
5. The NPL decreased from \$17.5 billion as of June 30, 2023 to \$16.8 billion as of June 30, 2024 primarily as a result of investment experience during the year ended June 30, 2024. Changes in these values during the last two fiscal years ended June 30, 2023 and June 30, 2024 can be found in Section 2.
6. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2024. The Plan's actuarial status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the Plan Year. While it is impossible to determine how the market will perform over the next several months, and how that will affect the results of next year's valuation, Segal is available to prepare projections of potential outcomes upon request.

Section 1: Actuarial Valuation Summary

Summary of key valuation results

| Measurement Date | | State | |
|---|---|---------------|---------------|
| | | June 30, 2024 | June 30, 2023 |
| Disclosure elements for fiscal year ended June 30: | • Service cost | \$116,651,482 | \$120,233,875 |
| | • Total Pension Liability | 6,404,078,773 | 6,224,656,704 |
| | • Plan Fiduciary Net Position | 2,008,799,009 | 1,800,709,171 |
| | • Net Pension Liability | 4,395,279,764 | 4,423,947,533 |
| | • Pension expense | 335,053,585 | 314,770,816 |
| Demographic data for plan year ended June 30: | • Number of retired members and beneficiaries | 7,685 | 7,363 |
| | • Number of vested terminated members | 9 | 8 |
| | • Number of active members | 5,502 | 5,887 |
| | • Number of non-contributing active members | 508 | 584 |
| Key assumptions as of June 30: | • Investment rate of return | 7.00% | 7.00% |
| | • Inflation rate | 2.75% | 2.75% |

| Measurement Date | | Local Employers | |
|---|---|-----------------|----------------|
| | | June 30, 2024 | June 30, 2023 |
| Disclosure elements for fiscal year ended June 30: | • Service cost | \$838,552,120 | \$813,226,096 |
| | • Total Pension Liability | 45,210,001,314 | 43,851,174,717 |
| | • Plan Fiduciary Net Position | 32,847,534,869 | 30,766,525,115 |
| | • Net Pension Liability | 12,362,466,445 | 13,084,649,602 |
| | • Pension expense | 775,608,387 | 844,810,693 |
| Demographic data for plan year ended June 30: | • Number of retired members and beneficiaries | 42,424 | 41,390 |
| | • Number of vested terminated members | 57 | 52 |
| | • Number of active members | 34,054 | 34,004 |
| | • Number of non-contributing active members | 1,387 | 1,341 |
| Key assumptions as of June 30: | • Investment rate of return | 7.00% | 7.00% |
| | • Inflation rate | 2.75% | 2.75% |

Section 1: Actuarial Valuation Summary

| Measurement Date | | Total | |
|---|---|----------------|----------------|
| | | June 30, 2024 | June 30, 2023 |
| Disclosure elements for fiscal year ended June 30: | • Service cost | \$955,203,602 | \$933,459,971 |
| | • Total Pension Liability | 51,614,080,087 | 50,075,831,421 |
| | • Plan Fiduciary Net Position | 34,856,333,878 | 32,567,234,286 |
| | • Net Pension Liability | 16,757,746,209 | 17,508,597,135 |
| | • Pension expense | 1,110,661,972 | 1,159,581,509 |
| Demographic data for plan year ended June 30: | • Number of retired members and beneficiaries | 50,109 | 48,753 |
| | • Number of vested terminated members | 66 | 60 |
| | • Number of active members | 39,556 | 39,891 |
| | • Number of non-contributing active members | 1,895 | 1,925 |
| Key assumptions as of June 30: | • Investment rate of return | 7.00% | 7.00% |
| | • Inflation rate | 2.75% | 2.75% |

Section 1: Actuarial Valuation Summary

Important information about actuarial valuations

In order to prepare a valuation, Segal relies on a number of input items. These include:

| | |
|------------------------------|---|
| Plan of benefits | Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan description in this report (as well as the plan summary included in our funding valuation report) to confirm that Segal has correctly interpreted the plan of benefits. |
| Participant data | An actuarial valuation for a plan is based on data provided to the actuary by the DPB. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data. |
| Assets | The valuation is based on the market value of assets as of the valuation date, as provided by the DPB. |
| Actuarial assumptions | In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases. The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved on the plan's assets or, if there are no assets, a rate of return based on a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another rating scale). There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable. |
| Models | <p>Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.</p> <p>The blended discount rate used for calculating total pension liability is based on a model developed by our Actuarial Technology and Systems unit, comprised of both actuaries and programmers. The model allows the client team, under the supervision of the responsible actuary, control over the entry of future expected contribution income, benefit payments and administrative expenses. The projection of fiduciary net position and the discounting of benefits is part of the model.</p> |

Section 1: Actuarial Valuation Summary

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The actuarial valuation is prepared at the request of the Board to assist the sponsors of the System in preparing items related to the pension plan in their financial reports. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement of the Plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the Plan will be determined by the actual benefits and expenses paid and the actual investment experience of the Plan.
- Actuarial results in this report are not rounded, but that does not imply precision.
- If the Board is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice and is not acting as a fiduciary to the Plan. This valuation is based on Segal's understanding of applicable guidance in these areas and of the Plan's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.

As Segal has no discretionary authority with respect to the management or assets of PFRS, it is not a fiduciary in its capacity as actuaries and consultants with respect to PFRS.

GASB 67/68 Information

General information about the pension plan

Plan Description

Plan membership. At June 30, 2023, pension plan membership consisted of the following:

| | State | Local Employers | Total |
|--|--------|--------------------|--------|
| Retired members or beneficiaries currently receiving benefits | 7,685 | 42,424 | 50,109 |
| Vested terminated members entitled to but not yet receiving benefits | 9 | 57 | 66 |
| Active members | 5,502 | 34,054 | 39,556 |
| Non-contributing active members | 508 | 1,387 | 1,895 |
| Total | 13,704 | 77,922 | 91,626 |

Benefits provided. The GASB 67 results as of June 30, 2024 are based on the plan of benefits as disclosed in the actuarial valuation as of July 1, 2023. There were no changes in the plan during the period July 1, 2023 through June 30, 2024.

Section 2: GASB 67/68 Information

Net pension liability

| | State | |
|--|-----------------|-----------------|
| Measurement Date | June 30, 2024 | June 30, 2023 |
| Total Pension Liability | \$6,404,078,773 | \$6,224,656,704 |
| Plan Fiduciary Net Position | 2,008,799,009 | 1,800,709,171 |
| Net Pension Liability | 4,395,279,764 | 4,423,947,533 |
| Plan Fiduciary Net Position as a percentage of the Total Pension Liability | 31.37% | 28.93% |

| | Local Employers | |
|--|------------------|------------------|
| Measurement Date | June 30, 2024 | June 30, 2023 |
| Total Pension Liability | \$45,210,001,314 | \$43,851,174,717 |
| Plan Fiduciary Net Position | 32,847,534,869 | 30,766,525,115 |
| Net Pension Liability | 12,362,466,445 | 13,084,649,602 |
| Plan Fiduciary Net Position as a percentage of the Total Pension Liability | 72.66% | 70.16% |

| | Total | |
|--|------------------|------------------|
| Measurement Date | June 30, 2024 | June 30, 2023 |
| Total Pension Liability | \$51,614,080,087 | \$50,075,831,421 |
| Plan Fiduciary Net Position | 34,856,333,878 | 32,567,234,286 |
| Net Pension Liability | 16,757,746,209 | 17,508,597,135 |
| Plan Fiduciary Net Position as a percentage of the Total Pension Liability | 67.53% | 65.04% |

The Net Pension Liability (NPL) for the plan was measured as of June 30, 2024 and 2023. Plan Fiduciary Net Position (plan assets) was valued as of the measurement dates and the Total Pension Liability (TPL) was determined based on the actuarial funding valuations as of July 1, 2023 and July 1, 2022, respectively, projected to the measurement date.

Section 2: GASB 67/68 Information

Actuarial assumptions

The TPL as of June 30, 2024 and 2023, measured by actuarial valuations as of July 1, 2023 and 2022, respectively, used the following actuarial assumptions, applied to all periods included in the measurement:

| | |
|----------------------------------|--|
| Inflation | 2.75% |
| Salary increases | Varies by service |
| Investment rate of return | 7.00%, net of pension plan investment expense, including inflation |
| Other assumptions | See Section 3 for a complete description of all actuarial assumptions. These assumptions reflect the changes approved by the Board as recommended in the analysis of actuarial experience study for the period July 1, 2018 through June 30, 2021. |

Detailed information regarding all actuarial assumptions can be found in Section 3, Exhibit I.

Section 2: GASB 67/68 Information

Determination of discount rate and investment rates of return

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage, adding expected inflation and subtracting expected investment expenses. The target allocation (approved by the Board) and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before investment expenses, used in the derivation of the long-term expected investment rate of return assumption are summarized in the following table:

| Asset Class | Target Allocation | Long-Term Expected Real Rate of Return |
|-------------------------|-------------------|--|
| Domestic equity | 28.00% | 6.25% |
| Foreign equity | 11.50% | 6.35% |
| Emerging market equity | 7.50% | 7.65% |
| Private equity | 10.00% | 9.55% |
| Core fixed income | 17.00% | 1.45% |
| High yield fixed income | 6.00% | 3.25% |
| Private debt | 8.00% | 5.85% |
| Real estate | 7.00% | 3.05% |
| Infrastructure | 3.00% | 5.65% |
| Cash | 2.00% | 0.65% |
| Total | 100.00% | |

Discount rate. The discount rates used to measure the Total Pension Liability (TPL) was 7.00% as of June 30, 2024 and June 30, 2023. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rate and that Local employer contributions and State contributions will be made at 100% of the statutory contribution amounts. The assumption that the State will contribute 100% of the statutory contribution is based on the State making the full contribution for the fiscal year ending June 30, 2025. For this purpose, only Local employer and State contributions that are intended to fund benefits for current plan members and their beneficiaries are included. Projected Local employer and State contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the Plan Fiduciary Net Position (FNP) was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected

Section 2: GASB 67/68 Information

rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the TPL as of both June 30, 2024 and June 30, 2023.

Discount rate sensitivity

Sensitivity of the Net Pension Liability to changes in the discount rate. The following presents the Net Pension Liability (NPL) of PFRS as of June 30, 2024, calculated using the discount rate of 7.00%, as well as what the NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (6.00%) or 1-percentage-point higher (8.00%) than the current rate.

| Net Pension Liability | 1% Decrease (6.00%) | Current Discount Rate (7.00%) | 1% Increase (8.00%) |
|-----------------------|------------------------|-------------------------------------|------------------------|
| State | \$5,149,731,999 | \$4,395,279,764 | \$3,766,388,682 |
| Local Employers | 17,663,214,080 | 12,362,466,445 | 7,948,105,229 |
| Total | 22,812,946,079 | 16,757,746,209 | 11,714,493,911 |

Section 2: GASB 67/68 Information

Schedule of changes in Net Pension Liability – Last two fiscal years

| Measurement Date | State | |
|--|------------------------|------------------------|
| | June 30, 2024 | June 30, 2023 |
| Total Pension Liability | | |
| Service cost | \$116,651,482 | \$120,233,875 |
| Interest | 429,441,170 | 411,096,299 |
| Change of benefit terms | 0 | 14,840,251 |
| Differences between expected and actual experience | 46,198,086 | 116,381,713 |
| Changes of assumptions | 0 | 0 |
| Benefit payments | -413,072,303 | -381,362,288 |
| Transfers from other systems – employer | -266,131 | 0 |
| Transfers from other systems – member | <u>469,765</u> | <u>430,620</u> |
| Net change in Total Pension Liability | \$179,422,069 | \$281,620,470 |
| Total Pension Liability – beginning | <u>6,224,656,704</u> | <u>5,943,036,234</u> |
| Total Pension Liability – ending | <u>\$6,404,078,773</u> | <u>\$6,224,656,704</u> |
| Plan Fiduciary Net Position | | |
| Contributions – employer (appropriations) | \$396,790,437 | \$384,640,195 |
| Contributions – employer (lottery) | 14,100,000 | 14,040,000 |
| Employer contribution – delayed enrollments | 23,034 | 6,732 |
| Employer contribution – delayed appropriations | 0 | 0 |
| Employer contribution – retroactive | 0 | 0 |
| Employer contribution - additional | 0 | 0 |
| Contributions – member | 53,038,073 | 53,703,766 |
| Net investment income | 157,056,954 | 114,414,928 |
| Benefit payments, including transfers from other systems | -412,868,669 | -380,931,668 |
| Administrative expense | <u>-49,991</u> | <u>-1,608,481</u> |
| Net change in Plan Fiduciary Net Position | \$208,089,838 | \$184,265,472 |
| Plan Fiduciary Net Position – beginning | <u>1,800,709,171</u> | <u>1,616,443,699</u> |
| Plan Fiduciary Net Position – ending | \$2,008,799,009 | \$1,800,709,171 |
| Net Pension Liability – ending | <u>\$4,395,279,764</u> | <u>\$4,423,947,533</u> |
| Plan Fiduciary Net Position as a percentage of the Total Pension Liability | 31.37% | 28.93% |
| Covered payroll | \$536,620,088 | \$556,078,849 |
| Plan Net Pension Liability as percentage of covered payroll | 819.07% | 795.56% |

Section 2: GASB 67/68 Information

| Measurement Date | Local Employers | |
|--|-------------------------|-------------------------|
| | June 30, 2024 | June 30, 2023 |
| Total Pension Liability | | |
| Service cost | \$838,552,120 | \$813,226,096 |
| Interest | 3,028,209,690 | 2,944,126,172 |
| Change of benefit terms | 0 | 97,828,975 |
| Differences between expected and actual experience | 351,241,593 | 80,236,750 |
| Changes of assumptions | 0 | 0 |
| Benefit payments | -2,861,044,192 | -2,662,246,818 |
| Transfers from other systems – employer | 4,757 | 157,408 |
| Transfers from other systems – member | <u>1,862,629</u> | <u>2,164,414</u> |
| Net change in Total Pension Liability | \$1,358,826,597 | \$1,275,492,997 |
| Total Pension Liability – beginning | <u>43,851,174,717</u> | <u>42,575,681,720</u> |
| Total Pension Liability – ending | <u>\$45,210,001,314</u> | <u>\$43,851,174,717</u> |
| Plan Fiduciary Net Position | | |
| Contributions – employer (appropriations) | \$1,383,423,124 | \$1,331,338,821 |
| Contributions – employer (paid by State on behalf of locals) | 234,210,000 | 232,824,730 |
| Employer contribution – delayed enrollments | 210,772 | 78,693 |
| Employer contribution – delayed appropriations | 1,540,315 | 579,698 |
| Employer contribution – retroactive | 20,893,369 | 9,954,750 |
| Employer contribution - additional | 140,451 | 0 |
| Contributions – member | 401,450,392 | 385,533,004 |
| Other – Chapter 19 Adjustment | 64,063,502 | 0 |
| Net investment income | 2,838,926,023 | 2,383,561,875 |
| Benefit payments, including transfers from other systems | -2,859,176,806 | -2,659,924,996 |
| Administrative expense | <u>-4,671,388</u> | <u>-9,631,171</u> |
| Net change in Plan Fiduciary Net Position | \$2,081,009,754 | \$1,674,315,404 |
| Plan Fiduciary Net Position – beginning | <u>30,766,525,115</u> | <u>29,092,209,711</u> |
| Plan Fiduciary Net Position – ending | \$32,847,534,869 | \$30,766,525,115 |
| Net Pension Liability – ending | <u>\$12,362,466,445</u> | <u>\$13,084,649,602</u> |
| Plan Fiduciary Net Position as a percentage of the Total Pension Liability | 72.66% | 70.16% |
| Covered payroll | \$3,853,882,562 | \$3,752,809,563 |
| Plan Net Pension Liability as percentage of covered payroll | 320.78% | 348.66% |

Section 2: GASB 67/68 Information

| Measurement Date | Total | |
|--|-------------------------|-------------------------|
| | June 30, 2024 | June 30, 2023 |
| Total Pension Liability | | |
| Service cost | \$955,203,602 | \$933,459,971 |
| Interest | 3,457,650,860 | 3,355,222,471 |
| Change of benefit terms | 0 | 112,669,226 |
| Differences between expected and actual experience | 397,439,679 | 196,618,463 |
| Changes of assumptions | 0 | 0 |
| Benefit payments | -3,274,116,495 | -3,043,609,106 |
| Transfers from other systems – employer | -261,374 | 157,408 |
| Transfers from other systems – member | <u>2,332,394</u> | <u>2,595,034</u> |
| Net change in Total Pension Liability | \$1,538,248,666 | \$1,557,113,467 |
| Total Pension Liability – beginning | <u>50,075,831,421</u> | <u>48,518,717,954</u> |
| Total Pension Liability – ending | <u>\$51,614,080,087</u> | <u>\$50,075,831,421</u> |
| Plan Fiduciary Net Position | | |
| Contributions – employer (appropriations) | \$1,780,213,561 | \$1,715,979,016 |
| Contributions – employer (lottery) | 14,100,000 | 14,040,000 |
| Contributions – employer (paid by State on behalf of locals) | 234,210,000 | 232,824,730 |
| Employer contribution – delayed enrollments | 233,806 | 85,425 |
| Employer contribution – delayed appropriations | 1,540,315 | 579,698 |
| Employer contribution – retroactive | 20,893,369 | 9,954,750 |
| Employer contribution - additional | 140,451 | 0 |
| Contributions – member | 454,488,465 | 439,236,770 |
| Other | 64,063,502 | 0 |
| Net investment income | 2,995,982,977 | 2,497,976,803 |
| Benefit payments, including transfers from other systems | -3,272,045,475 | -3,040,856,664 |
| Administrative expense | <u>-4,721,379</u> | <u>-11,239,652</u> |
| Net change in Plan Fiduciary Net Position | \$2,289,099,592 | \$1,858,580,876 |
| Plan Fiduciary Net Position – beginning | <u>32,567,234,286</u> | <u>30,708,653,410</u> |
| Plan Fiduciary Net Position – ending | \$34,856,333,878 | \$32,567,234,286 |
| Net Pension Liability – ending | <u>\$16,757,746,209</u> | <u>\$17,508,597,135</u> |
| Plan Fiduciary Net Position as a percentage of the Total Pension Liability | 67.53% | 65.04% |
| Covered payroll | \$4,390,502,650 | \$4,308,888,412 |
| Plan Net Pension Liability as percentage of covered payroll | 381.68% | 406.34% |

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Deferred outflows and inflows of resources

| Measurement Date | State | |
|---|--------------------|--------------------|
| | June 30, 2024 | June 30, 2023 |
| Deferred Outflows of Resources | | |
| Changes of assumptions | \$2,272,165 | \$3,319,245 |
| Net difference between projected and actual earnings on pension plan investments | 46,942,711 | 107,761,886 |
| Difference between expected and actual experience in the Total Pension Liability | <u>137,074,384</u> | <u>123,525,124</u> |
| Total Deferred Outflows of Resources | \$186,289,260 | \$234,606,255 |
| Deferred Inflows of Resources | | |
| Changes of assumptions | \$41,544,953 | \$106,283,356 |
| Net difference between projected and actual earnings on pension plan investments | 0 | 0 |
| Difference between expected and actual experience in the Total Pension Liability | <u>41,511,987</u> | <u>72,282,696</u> |
| Total Deferred Inflows of Resources | \$83,056,940 | \$178,566,052 |
| Deferred outflows of resources and (deferred inflows) of resources related to pension will be recognized as follows: | | |
| Reporting Date under GASB 68 Year Ended June 30: | | |
| 2024 | N/A | -\$34,833,248 |
| 2025 | -\$3,652,061 | -4,674,623 |
| 2026 | 61,067,309 | 60,044,747 |
| 2027 | 14,942,733 | 13,920,171 |
| 2028 | 19,582,815 | 18,560,253 |
| 2029 | 10,608,796 | 3,022,903 |
| Thereafter | 682,728 | 0 |

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| Measurement Date | Local Employers | |
|---|--------------------|--------------------|
| | June 30, 2024 | June 30, 2023 |
| Deferred Outflows of Resources | | |
| Changes of assumptions | \$16,324,397 | \$23,847,162 |
| Net difference between projected and actual earnings on pension plan investments | 0 | 562,693,623 |
| Difference between expected and actual experience in the Total Pension Liability | <u>650,567,756</u> | <u>473,086,762</u> |
| Total Deferred Outflows of Resources | \$666,892,153 | \$1,059,627,547 |
| Deferred Inflows of Resources | | |
| Changes of assumptions | \$303,275,226 | \$746,057,589 |
| Net difference between projected and actual earnings on pension plan investments | 80,824,393 | 0 |
| Difference between expected and actual experience in the Total Pension Liability | <u>353,525,010</u> | <u>526,928,921</u> |
| Total Deferred Inflows of Resources | \$737,624,629 | \$1,272,986,510 |
| Deferred outflows of resources and (deferred inflows) of resources related to pension will be recognized as follows: | | |
| Reporting Date under GASB 68 Year Ended June 30: | | |
| 2024 | N/A | -\$429,980,024 |
| 2025 | -\$500,196,827 | -412,641,967 |
| 2026 | 576,344,040 | 663,898,900 |
| 2027 | -144,655,433 | -57,100,573 |
| 2028 | -67,174,233 | 20,380,627 |
| 2029 | 59,759,212 | 2,084,074 |
| Thereafter | 5,190,765 | 0 |

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| Measurement Date | Total | |
|---|--------------------|--------------------|
| | June 30, 2024 | June 30, 2023 |
| Deferred Outflows of Resources | | |
| Changes of assumptions | \$18,596,562 | \$27,166,407 |
| Net difference between projected and actual earnings on pension plan investments | 0 | 670,455,509 |
| Difference between expected and actual experience in the Total Pension Liability | <u>786,675,479</u> | <u>594,571,158</u> |
| Total Deferred Outflows of Resources | \$805,272,041 | \$1,292,193,074 |
| Deferred Inflows of Resources | | |
| Changes of assumptions | \$344,820,179 | \$852,340,945 |
| Net difference between projected and actual earnings on pension plan investments | 33,881,682 | 0 |
| Difference between expected and actual experience in the Total Pension Liability | <u>394,070,336</u> | <u>597,170,889</u> |
| Total Deferred Inflows of Resources | \$772,772,197 | \$1,449,511,834 |
| Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows: | | |
| Reporting Date under GASB 68 Year Ended June 30: | | |
| 2024 | N/A | -\$464,813,272 |
| 2025 | -\$503,848,888 | -417,316,590 |
| 2026 | 637,411,349 | 723,943,647 |
| 2027 | -129,712,700 | -43,180,402 |
| 2028 | -47,591,418 | 38,940,880 |
| 2029 | 70,368,008 | 5,106,977 |
| Thereafter | 5,873,493 | 0 |

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There are changes in the total Net Pension Liability (NPL) during the measurement period ended June 30, 2024. The net effect of the change on the NPL and deferred outflows of resources and deferred inflows of resources, other than those due to the difference in projected an actual earnings on pension plan investments, is recognized over the average of the expected remaining service lives of all members that are provided with pensions through PFRS which is 6.09 years determined as of June 30, 2023 (the beginning of the measurement period ended June 30, 2024). This is described in Paragraph 33a. of GASB 67.

The average of the expected service lives of all members is determined by:

- Calculating each active member's expected remaining service life as the present value of \$1 per year of future service at zero percent interest.
- Setting the remaining service life to zero for each nonactive or retired member.
- Dividing the sum of the above amounts by the total number of active, nonactive and retired members.

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Schedule of recognition of change in total Net Pension Liability

Increase (Decrease) in Pension Expense Arising from the Recognition of the
Effects of Differences between Expected and Actual Experience on Total Pension Liability

| State | | | | | | | | | |
|--|--|---|------------------|------------------|------------------|------------------|------------------|------------------|----------------|
| Reporting Date for Employer under GASB 68 Year Ended June 30 | Differences between Expected and Actual Experience | Initial Recognition Period (Years) | Recognition Year | | | | | | |
| | | | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | Thereafter |
| 2019 | -\$70,860,849 | 5.92 | -\$11,012,159 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| 2020 | -6,336,996 | 5.90 | -1,074,067 | -966,661 | 0 | 0 | 0 | 0 | 0 |
| 2021 | -115,283,258 | 6.17 | -18,684,483 | -18,684,483 | -18,684,483 | -3,176,360 | 0 | 0 | 0 |
| 2022 | 38,376,142 | 6.22 | 6,169,798 | 6,169,798 | 6,169,798 | 6,169,798 | 1,357,354 | 0 | 0 |
| 2023 | 116,381,713 | 6.16 | 18,893,135 | 18,893,135 | 18,893,135 | 18,893,135 | 18,893,135 | 3,022,903 | 0 |
| 2024 | 46,198,086 | 6.09 | <u>7,585,893</u> | <u>7,585,893</u> | <u>7,585,893</u> | <u>7,585,893</u> | <u>7,585,893</u> | <u>7,585,893</u> | <u>682,728</u> |
| Net increase (decrease) in pension expense | | | \$1,878,117 | \$12,997,682 | \$13,964,343 | \$29,472,466 | \$27,836,382 | \$10,608,796 | \$682,728 |

| Local Employers | | | | | | | | | |
|--|--|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|
| Reporting Date for Employer under GASB 68 Year Ended June 30 | Differences between Expected and Actual Experience | Initial Recognition Period (Years) | Recognition Year | | | | | | |
| | | | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | Thereafter |
| 2019 | -\$67,495,453 | 5.92 | -\$10,489,160 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| 2020 | 73,846,139 | 5.90 | 12,516,295 | 11,264,664 | 0 | 0 | 0 | 0 | 0 |
| 2021 | -1,005,184,014 | 6.17 | -162,914,751 | -162,914,751 | -162,914,751 | -27,695,508 | 0 | 0 | 0 |
| 2022 | 563,181,939 | 6.22 | 90,543,720 | 90,543,720 | 90,543,720 | 90,543,720 | 19,919,619 | 0 | 0 |
| 2023 | 80,236,750 | 6.16 | 13,025,446 | 13,025,446 | 13,025,446 | 13,025,446 | 13,025,446 | 2,084,074 | 0 |
| 2024 | 351,241,593 | 6.09 | <u>57,675,138</u> | <u>57,675,138</u> | <u>57,675,138</u> | <u>57,675,138</u> | <u>57,675,138</u> | <u>57,675,138</u> | <u>5,190,765</u> |
| Net increase (decrease) in pension expense | | | \$356,688 | \$9,594,217 | -\$1,670,447 | \$133,548,796 | \$90,620,203 | \$59,759,212 | \$5,190,765 |

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| Reporting Date for Employer under GASB 68 Year Ended June 30 | Differences between Expected and Actual Experience | Initial Recognition Period (Years) | Total | | | | | | |
|--|--|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|
| | | | Recognition Year | | | | | | |
| | | | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | Thereafter |
| 2019 | -\$138,356,302 | 5.92 | -\$21,501,319 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| 2020 | 67,509,143 | 5.90 | 11,442,228 | 10,298,003 | 0 | 0 | 0 | 0 | 0 |
| 2021 | -1,120,467,272 | 6.17 | -181,599,234 | -181,599,234 | -181,599,234 | -30,871,868 | 0 | 0 | 0 |
| 2022 | 601,558,081 | 6.22 | 96,713,518 | 96,713,518 | 96,713,518 | 96,713,518 | 21,276,973 | 0 | 0 |
| 2023 | 196,618,463 | 6.16 | 31,918,581 | 31,918,581 | 31,918,581 | 31,918,581 | 31,918,581 | 5,106,977 | 0 |
| 2024 | 397,439,679 | 6.09 | <u>65,261,031</u> | <u>65,261,031</u> | <u>65,261,031</u> | <u>65,261,031</u> | <u>65,261,031</u> | <u>65,261,031</u> | <u>5,873,493</u> |
| Net increase (decrease) in pension expense | | | \$2,234,805 | \$22,591,899 | \$12,293,896 | \$163,021,262 | \$118,456,585 | \$70,368,008 | \$5,873,493 |

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Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Assumption Changes

| State | | | | | | | | | |
|--|-----------------------|---|------------------|---------------|--------------|--------------|--------------|----------|------------|
| Reporting Date for Employer under GASB 68 Year Ended June 30 | Assumption Changes | Initial Recognition Period (Years) | Recognition Year | | | | | | |
| | | | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | Thereafter |
| 2019 | -\$246,980,571 | 5.92 | -\$38,382,113 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| 2020 | -110,173,087 | 5.90 | -18,673,405 | -16,806,062 | 0 | 0 | 0 | 0 | 0 |
| 2021 | 6,460,485 | 6.17 | 1,047,080 | 1,047,080 | 1,047,080 | 178,005 | 0 | 0 | 0 |
| 2022 | -47,787,546 | 6.22 | -7,682,885 | -7,682,885 | -7,682,885 | -7,682,885 | -1,690,236 | 0 | 0 |
| 2023 | 0 | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2024 | 0 | -- | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |
| Net increase (decrease) in pension expense | | | -\$63,691,323 | -\$23,441,867 | -\$6,635,805 | -\$7,504,880 | -\$1,690,236 | \$0 | \$0 |

| Local Employers | | | | | | | | | |
|--|-----------------------|---|------------------|----------------|---------------|---------------|---------------|----------|------------|
| Reporting Date for Employer under GASB 68 Year Ended June 30 | Assumption Changes | Initial Recognition Period (Years) | Recognition Year | | | | | | |
| | | | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | Thereafter |
| 2019 | -\$1,628,190,127 | 5.92 | -\$253,029,548 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| 2020 | -782,586,271 | 5.90 | -132,641,741 | -119,377,566 | 0 | 0 | 0 | 0 | 0 |
| 2021 | 46,415,457 | 6.17 | 7,522,765 | 7,522,765 | 7,522,765 | 1,278,867 | 0 | 0 | 0 |
| 2022 | -355,230,882 | 6.22 | -57,111,074 | -57,111,074 | -57,111,074 | -57,111,074 | -12,564,438 | 0 | 0 |
| 2023 | 0 | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2024 | 0 | -- | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |
| Net increase (decrease) in pension expense | | | -\$435,259,598 | -\$168,965,875 | -\$49,588,309 | -\$55,832,207 | -\$12,564,438 | \$0 | \$0 |

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| Total | | | | | | | | | |
|--|-----------------------|---|------------------|----------------|---------------|---------------|---------------|----------|------------|
| Reporting Date for Employer under GASB 68 Year Ended June 30 | Assumption Changes | Initial Recognition Period (Years) | Recognition Year | | | | | | |
| | | | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | Thereafter |
| 2019 | -\$1,875,170,697 | 5.92 | -\$291,411,661 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| 2020 | -892,759,358 | 5.90 | -151,315,146 | -136,183,628 | 0 | 0 | 0 | 0 | 0 |
| 2021 | 52,875,942 | 6.17 | 8,569,845 | 8,569,845 | 8,569,845 | 1,456,872 | 0 | 0 | 0 |
| 2022 | -403,018,428 | 6.22 | -64,793,959 | -64,793,959 | -64,793,959 | -64,793,959 | -14,254,674 | 0 | 0 |
| 2023 | 0 | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2024 | 0 | -- | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |
| Net increase (decrease) in pension expense | | | -\$498,950,921 | -\$192,407,742 | -\$56,224,114 | -\$63,337,087 | -\$14,254,674 | \$0 | \$0 |

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Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences between Projected and Actual Earnings on Pension Plan Investments

| State | | | | | | | | | |
|--|--|---|-------------------|-------------------|-------------------|-------------------|-------------------|----------|------------|
| Reporting Date for Employer under GASB 68 Year Ended June 30 | Differences between Projected and Actual Earnings | Initial Recognition Period (Years) | Recognition Year | | | | | | |
| | | | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | Thereafter |
| 2019 | \$43,284,165 | 5.00 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| 2020 | 106,051,988 | 5.00 | 21,210,396 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2021 | -234,733,236 | 5.00 | -46,946,647 | -46,946,647 | 0 | 0 | 0 | 0 | 0 |
| 2022 | 303,818,121 | 5.00 | 60,763,624 | 60,763,624 | 60,763,624 | 0 | 0 | 0 | 0 |
| 2023 | -2,307,611 | 5.00 | -461,522 | -461,522 | -461,522 | -461,522 | 0 | 0 | 0 |
| 2024 | -32,816,654 | 5.00 | <u>-6,563,330</u> | <u>-6,563,331</u> | <u>-6,563,331</u> | <u>-6,563,331</u> | <u>-6,563,331</u> | <u>0</u> | <u>0</u> |
| Net increase (decrease) in pension expense | | | \$28,002,521 | \$6,792,124 | \$53,738,771 | -\$7,024,853 | -\$6,563,331 | \$0 | \$0 |

| Local Employers | | | | | | | | | |
|--|--|---|---------------------|---------------------|---------------------|---------------------|---------------------|----------|------------|
| Reporting Date for Employer under GASB 68 Year Ended June 30 | Differences between Projected and Actual Earnings | Initial Recognition Period (Years) | Recognition Year | | | | | | |
| | | | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | Thereafter |
| 2019 | \$185,740,615 | 5.00 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| 2020 | 1,290,965,979 | 5.00 | 258,193,195 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2021 | -4,842,139,825 | 5.00 | -968,427,965 | -968,427,965 | 0 | 0 | 0 | 0 | 0 |
| 2022 | 4,249,874,088 | 5.00 | 849,974,818 | 849,974,818 | 849,974,818 | 0 | 0 | 0 | 0 |
| 2023 | -385,710,118 | 5.00 | -77,142,024 | -77,142,024 | -77,142,024 | -77,142,024 | 0 | 0 | 0 |
| 2024 | -726,149,992 | 5.00 | <u>-145,230,000</u> | <u>-145,229,998</u> | <u>-145,229,998</u> | <u>-145,229,998</u> | <u>-145,229,998</u> | <u>0</u> | <u>0</u> |
| Net increase (decrease) in pension expense | | | -\$82,631,976 | -\$340,825,169 | \$627,602,796 | -\$222,372,022 | -\$145,229,998 | \$0 | \$0 |

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| Reporting Date for Employer under GASB 68 Year Ended June 30 | Differences between Projected and Actual Earnings | Initial Recognition Period (Years) | Total | | | | | | |
|--|--|---|---------------------|---------------------|---------------------|---------------------|---------------------|----------|------------|
| | | | Recognition Year | | | | | | |
| | | | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | Thereafter |
| 2019 | \$229,024,780 | 5.00 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| 2020 | 1,397,017,967 | 5.00 | 279,403,591 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2021 | -5,076,873,062 | 5.00 | -1,015,374,612 | -1,015,374,612 | 0 | 0 | 0 | 0 | 0 |
| 2022 | 4,553,692,209 | 5.00 | 910,738,442 | 910,738,442 | 910,738,442 | 0 | 0 | 0 | 0 |
| 2023 | -388,017,729 | 5.00 | -77,603,546 | -77,603,546 | -77,603,546 | -77,603,546 | 0 | 0 | 0 |
| 2024 | -758,966,646 | 5.00 | <u>-151,793,330</u> | <u>-151,793,329</u> | <u>-151,793,329</u> | <u>-151,793,329</u> | <u>-151,793,329</u> | <u>0</u> | <u>0</u> |
| Net increase (decrease) in pension expense | | | -\$54,629,455 | -\$334,033,045 | \$681,341,567 | -\$229,396,875 | -\$151,793,329 | \$0 | \$0 |

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Total Increase (Decrease) in Pension Expense

| State | | | | | | | | |
|--|---|------------------|------------------|------------------|------------------|------------------|------------------|----------------|
| Reporting Date for Employer under GASB 68 Year Ended June 30 | Total Increase (Decrease) in Pension Expense | Recognition Year | | | | | | |
| | | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | Thereafter |
| 2019 | -\$274,557,255 | -\$49,394,272 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| 2020 | -10,458,095 | 1,462,924 | -17,772,723 | 0 | 0 | 0 | 0 | 0 |
| 2021 | -343,556,009 | -64,584,050 | -64,584,050 | -17,637,403 | -2,998,355 | 0 | 0 | 0 |
| 2022 | 294,406,717 | 59,250,537 | 59,250,537 | 59,250,537 | -1,513,087 | -332,882 | 0 | 0 |
| 2023 | 114,074,102 | 18,431,613 | 18,431,613 | 18,431,613 | 18,431,613 | 18,893,135 | 3,022,903 | 0 |
| 2024 | 13,381,432 | <u>1,022,563</u> | <u>1,022,562</u> | <u>1,022,562</u> | <u>1,022,562</u> | <u>1,022,562</u> | <u>7,585,893</u> | <u>682,728</u> |
| Net increase (decrease) in pension expense | | -\$33,810,685 | -\$3,652,061 | \$61,067,309 | \$14,942,733 | \$19,582,815 | \$10,608,796 | \$682,728 |

| Local Employers | | | | | | | | |
|--|---|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|------------------|
| Reporting Date for Employer under GASB 68 Year Ended June 30 | Total Increase (Decrease) in Pension Expense | Recognition Year | | | | | | |
| | | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | Thereafter |
| 2019 | -\$1,509,944,965 | -\$263,518,708 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| 2020 | 582,225,847 | 138,067,749 | -108,112,902 | 0 | 0 | 0 | 0 | 0 |
| 2021 | -5,800,908,382 | -1,123,819,951 | -1,123,819,951 | -155,391,986 | -26,416,641 | 0 | 0 | 0 |
| 2022 | 4,457,825,145 | 883,407,464 | 883,407,464 | 883,407,464 | 33,432,646 | 7,355,181 | 0 | 0 |
| 2023 | -305,473,368 | -64,116,578 | -64,116,578 | -64,116,578 | -64,116,578 | 13,025,446 | 2,084,074 | 0 |
| 2024 | -374,908,399 | <u>-87,554,862</u> | <u>-87,554,860</u> | <u>-87,554,860</u> | <u>-87,554,860</u> | <u>-87,554,860</u> | <u>57,675,138</u> | <u>5,190,765</u> |
| Net increase (decrease) in pension expense | | -\$517,534,886 | -\$500,196,827 | \$576,344,040 | -\$144,655,433 | -\$67,174,233 | \$59,759,212 | \$5,190,765 |

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| Reporting Date for Employer under GASB 68 Year Ended June 30 | Total Increase (Decrease) in Pension Expense | Total | | | | | | |
|--|---|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|------------------|
| | | Recognition Year | | | | | | |
| | | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | Thereafter |
| 2019 | -\$1,784,502,220 | -\$312,912,980 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| 2020 | 571,767,752 | 139,530,673 | -125,885,625 | 0 | 0 | 0 | 0 | 0 |
| 2021 | -6,144,464,392 | -1,188,404,001 | -1,188,404,001 | -173,029,389 | -29,414,996 | 0 | 0 | 0 |
| 2022 | 4,752,231,862 | 942,658,001 | 942,658,001 | 942,658,001 | 31,919,559 | 7,022,299 | 0 | 0 |
| 2023 | -191,399,266 | -45,684,965 | -45,684,965 | -45,684,965 | -45,684,965 | 31,918,581 | 5,106,977 | 0 |
| 2024 | -361,526,967 | <u>-86,532,299</u> | <u>-86,532,298</u> | <u>-86,532,298</u> | <u>-86,532,298</u> | <u>-86,532,298</u> | <u>65,261,031</u> | <u>5,873,493</u> |
| Net increase (decrease) in pension expense | | -\$551,345,571 | -\$503,848,888 | \$637,411,349 | -\$129,712,700 | -\$47,591,418 | \$70,368,008 | \$5,873,493 |

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Pension expense

| Measurement Date | State | |
|---|----------------------|----------------------|
| | June 30, 2024 | June 30, 2023 |
| Components of Pension Expense | | |
| Service cost | \$116,651,482 | \$120,233,875 |
| Interest on the Total Pension Liability | 429,441,170 | 411,096,299 |
| Current-period benefit changes | 0 | 14,840,251 |
| Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability | 7,585,893 | 18,893,135 |
| Expensed portion of current-period changes of assumptions or other inputs | 0 | 0 |
| Member contributions | -53,038,073 | -53,703,766 |
| Projected earnings on plan investments | -124,240,300 | -112,107,317 |
| Expensed portion of current-period differences between actual and projected earnings on plan investments | -6,563,330 | -461,523 |
| Administrative expense | 49,991 | 1,608,481 |
| Other | 0 | 0 |
| Recognition of beginning of year deferred outflows of resources as pension expense | 108,084,033 | 97,847,733 |
| Recognition of beginning of year deferred inflows of resources as pension expense | <u>-142,917,281</u> | <u>-183,476,352</u> |
| Pension Expense | \$335,053,585 | \$314,770,816 |

Section 2: GASB 67/68 Information

| Measurement Date | Local Employers | |
|---|-----------------------|-----------------------|
| | June 30, 2024 | June 30, 2023 |
| Components of Pension Expense | | |
| Service cost | \$838,552,120 | \$813,226,096 |
| Interest on the Total Pension Liability | 3,028,209,690 | 2,944,126,172 |
| Current-period benefit changes | 0 | 97,828,975 |
| Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability | 57,675,138 | 13,025,446 |
| Expensed portion of current-period changes of assumptions or other inputs | 0 | 0 |
| Member contributions | -401,450,392 | -385,533,004 |
| Projected earnings on plan investments | -2,112,776,031 | -1,997,851,757 |
| Expensed portion of current-period differences between actual and projected earnings on plan investments | -145,230,000 | -77,142,022 |
| Administrative expense | 4,671,388 | 9,631,171 |
| Other – Chapter 19 adjustment | -64,063,502 | 0 |
| Recognition of beginning of year deferred outflows of resources as pension expense | 1,231,776,239 | 1,265,056,115 |
| Recognition of beginning of year deferred inflows of resources as pension expense | <u>-1,661,756,263</u> | <u>-1,837,556,499</u> |
| Pension Expense | \$775,608,387 | \$844,810,693 |

Section 2: GASB 67/68 Information

| Measurement Date | Total | |
|---|------------------------|------------------------|
| | June 30, 2024 | June 30, 2023 |
| Components of Pension Expense | | |
| Service cost | \$955,203,602 | \$933,459,971 |
| Interest on the Total Pension Liability | 3,457,650,860 | 3,355,222,471 |
| Current-period benefit changes | 0 | 112,669,226 |
| Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability | 65,261,031 | 31,918,581 |
| Expensed portion of current-period changes of assumptions or other inputs | 0 | 0 |
| Member contributions | -454,488,465 | -439,236,770 |
| Projected earnings on plan investments | -2,237,016,331 | -2,109,959,074 |
| Expensed portion of current-period differences between actual and projected earnings on plan investments | -151,793,330 | -77,603,545 |
| Administrative expense | 4,721,379 | 11,239,652 |
| Other – Chapter 19 adjustment | -64,063,502 | 0 |
| Recognition of beginning of year deferred outflows of resources as pension expense | 1,338,786,205 | 1,358,746,501 |
| Recognition of beginning of year deferred inflows of resources as pension expense | <u>-1,803,599,477</u> | <u>-2,016,875,504</u> |
| Pension Expense | \$1,110,661,972 | \$1,159,581,509 |

Section 2: GASB 67/68 Information

Schedule of reconciliation of Net Pension Liability

| Measurement Date | State | |
|--|-------------------|-------------------|
| | June 30, 2024 | June 30, 2023 |
| Beginning Net Pension Liability | \$4,423,947,533 | \$4,326,592,535 |
| Pension expense | 335,053,585 | 314,770,816 |
| State plan employer contributions | -410,913,471 | -398,686,927 |
| New net deferred inflows/outflows | 12,358,869 | 95,642,490 |
| Recognition of prior deferred inflows/outflows | <u>34,833,248</u> | <u>85,628,619</u> |
| Ending Net Pension Liability | \$4,395,279,764 | \$4,423,947,533 |

| Measurement Date | Local Employers | |
|--|--------------------|--------------------|
| | June 30, 2024 | June 30, 2023 |
| Beginning Net Pension Liability | \$13,084,649,602 | \$13,483,472,009 |
| Pension expense | 775,608,387 | 844,810,693 |
| Local plan employer contributions | -1,640,418,031 | -1,574,776,692 |
| New net deferred inflows/outflows | -287,353,537 | -241,356,792 |
| Recognition of prior deferred inflows/outflows | <u>429,980,024</u> | <u>572,500,384</u> |
| Ending Net Pension Liability | \$12,362,466,445 | \$13,084,649,602 |

| Measurement Date | Total | |
|--|--------------------|--------------------|
| | June 30, 2024 | June 30, 2023 |
| Beginning Net Pension Liability | \$17,508,597,135 | \$17,810,064,544 |
| Pension expense | 1,110,661,972 | 1,159,581,509 |
| Total plan employer contributions | -2,051,331,502 | -1,973,463,619 |
| New net deferred inflows/outflows | -274,994,668 | -145,714,302 |
| Recognition of prior deferred inflows/outflows | <u>464,813,272</u> | <u>658,129,003</u> |
| Ending Net Pension Liability | \$16,757,746,209 | \$17,508,597,135 |

Section 2: GASB 67/68 Information

Schedule of contributions – Last ten fiscal years

| Total | | | | | |
|-----------------------|--|---|--|-----------------|--|
| Year Ended June 30 | Actuarially Determined Contributions | Contributions in Relation to the Actuarially Determined Contributions | Contribution Deficiency / (Excess) | Covered Payroll | Contributions as a Percentage of Covered Payroll |
| 2015 | \$1,217,110,411 | \$941,950,336 | \$275,160,075 | \$3,682,677,356 | 25.58% |
| 2016 | 1,311,849,713 | 986,654,840 | 325,194,873 | 3,695,509,355 | 26.70% |
| 2017 | 1,335,659,737 | 1,046,327,392 | 289,332,345 | 3,726,807,562 | 28.08% |
| 2018 | 1,424,767,509 | 1,236,395,284 | 188,372,225 | 3,803,348,329 | 32.51% |
| 2019 | 1,545,236,051 | 1,332,222,254 | 213,013,797 | 3,870,718,707 | 34.42% |
| 2020 | 1,592,156,607 | 1,427,886,341 | 164,270,266 | 3,937,977,209 | 36.26% |
| 2021 | 1,725,652,140 | 1,600,351,881 | 125,300,259 | 4,016,767,909 | 39.84% |
| 2022 | 1,798,890,158 | 1,846,054,575 | (47,164,417) | 4,070,199,174 | 45.36% |
| 2023 | 1,942,204,908 | 1,957,493,982 | (15,289,074) | 4,159,231,628 | 47.06% |
| 2024 | 1,988,152,852 | 2,002,252,741 | (14,099,889) | 4,238,340,848 | 47.24% |

See accompanying notes to this schedule on next page.

Section 2: GASB 67/68 Information

Notes to Schedule:

Methods and assumptions used to establish the “actuarially determined contribution”:

| | |
|--|--|
| Valuation date | Actuarially determined contribution rates are calculated as of June 30, two years prior to the end of the fiscal year in which contributions are made |
| Actuarial cost method | Projected Unit Credit Actuarial Cost Method |
| Amortization method | Level dollar |
| Remaining amortization period | The NJ statute governing the System (Chapter 78, P.L. 2011) prescribes the funding policy used to calculate the actuarially determined contribution. Specifically, the unfunded actuarial liability is amortized over a closed 30-year period as a level dollar amount beginning with the July 1, 2018 actuarial valuation. On July 1, 2028 when the amortization period reaches 20 years, annual increases or decreases in the unfunded actuarial accrued liability will increase or decrease the amortization period unless that period is in excess of 20 years. If so, the unfunded actuarial accrued liability is amortized over 20 years. As of July 1, 2024 there are 24 years remaining on the closed amortization schedule. |
| Asset valuation method | Sum of actuarial value at beginning of year and increase in cost value during year excluding realized appreciation or losses plus 20 percent of market value at end of year in excess of that preliminary value. |
| Actuarial assumptions: | |
| Investment rate of return | 7.00%, net of pension plan investment expense, including inflation. |
| Inflation rate | 2.75% |
| Real across-the-board salary increase | 3.25% |
| Other assumptions | Same as those used in the July 1, 2023 funding actuarial valuation. |

Actuarial Assumptions and Methods and Appendices

Exhibit I: Actuarial Assumptions, Actuarial Cost Method and Models

Mortality Rates:

Employee: Pub-2010 Safety Employee amount-weighted mortality table (sex-specific), projected generationally from 2010 with Scale MP-2021 mortality projection. 5% of deaths are assumed to be accidental.

Healthy Annuitant: Pub-2010 Safety Retiree Below Median amount-weighted mortality table (sex-specific), projected generationally from 2010 with Scale MP-2021 mortality projection

Disabled: 144% of Pub-2010 Safety Disabled Retiree amount-weighted mortality table for males and 100% of Pub-2010 Safety Disabled Retiree amount-weighted mortality table for females, projected generationally from 2010 with Scale MP-2021 mortality projection

Contingent Annuitant: Pub-1010 General Retiree Below-Median amount-weighted mortality tables projected generationally from 2010 with Scale MP-2021 mortality projection.

Section 3: Actuarial Assumptions and Methods and Appendices

Termination Rates before Retirement:

| Age | Ordinary Disability Rate | Accidental Disability Rate |
|-----|--------------------------|----------------------------|
| 20 | 0.01 | 0.01 |
| 30 | 0.05 | 0.04 |
| 40 | 0.32 | 0.26 |
| 50 | 0.15 | 0.26 |
| 60 | 0.05 | 0.05 |

No ordinary disability is assumed prior to ordinary disability eligibility at four years of service.

No members are assumed to receive the involuntary disability retirement benefit.

| Service | Withdrawal Rate |
|---------|-----------------|
| 0-4 | 2.00 |
| 5-6 | 1.60 |
| 7-9 | 1.00 |
| 10-11 | 0.60 |
| 12-13 | 0.25 |
| 14-24 | 0.20 |
| 25+ | 0.00 |

Withdrawal rates do not apply at or beyond early retirement age.

Section 3: Actuarial Assumptions and Methods and Appendices

Retirement Rates for Active participants:

For those with less than 25 years of service:

| Age | Retirement Probability |
|--------------|------------------------|
| 40-43 | 1.00% |
| 44-46 | 2.50 |
| 47 | 3.75 |
| 48 | 4.00 |
| 49 | 5.00 |
| 50 | 6.00 |
| 51-56 | 7.00 |
| 57-61 | 8.00 |
| 62-64 | 13.00 |
| 65 and older | 100.00 |

For those with 25 years of service:

| Age | Retirement Probability |
|----------------|------------------------|
| 54 and younger | 45.00% |
| 55-57 | 50.00 |
| 58-61 | 55.00 |
| 62-63 | 70.00 |
| 64 | 90.00 |
| 65 and older | 100.00 |

Section 3: Actuarial Assumptions and Methods and Appendices

| | | | | |
|---|--|------------------------|---------|----------|
| | For those with 26 or more years of service: | | | |
| | Age | Retirement Probability | | |
| | 53 and younger | 22.00% | | |
| | 54-60 | 24.00 | | |
| | 61 | 28.00 | | |
| | 62 | 30.00 | | |
| | 63 | 20.00 | | |
| | 64 | 60.00 | | |
| | 65 and older | 100.00 | | |
| Retirement Age for Inactive Vested Participants: | Age 55 | | | |
| Unknown Data for Members: | Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male. | | | |
| Percent Married: | 90% | | | |
| Age of Spouse: | Females three years younger than males | | | |
| Net Investment Return: | 7.00%, net of investment expenses The net investment return assumption is chosen based on direction from the Treasurer and as adopted by the Board of Trustees. | | | |
| Cost-of-Living Adjustments (COLAs) for Retirees: | No future COLAs are assumed. Previously granted COLAs are included in the data. | | | |
| Salary Increases: | Service | Rate (%) | Service | Rate (%) |
| | 0 | 16.25 | 8 | 8.00 |
| | 1 | 14.00 | 9 | 7.00 |
| | 2-4 | 12.00 | 10 | 6.00 |
| | 5 | 11.00 | 11-12 | 5.00 |
| | 6 | 10.00 | 13-16 | 4.00 |
| | 7 | 9.00 | 17+ | 3.25 |

Section 3: Actuarial Assumptions and Methods and Appendices

| | |
|--|---|
| Actuarial Cost Method: | Entry Age Actuarial Cost Method. Entry Age is the age at date of initiation or, if date is unknown, current age minus years of service. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated by salary, with Normal Cost determined using the plan of benefits applicable to each participant. |
| Expected Remaining Service Lives: | <p>The average of the expected service lives of all members is determined by:</p> <ul style="list-style-type: none">• Calculating each active member's expected remaining service life as the present value of \$1 per year of future service at zero percent interest.• Setting the remaining service life to zero for each nonactive or retired member.• Dividing the sum of the above amounts by the total number of active, nonactive, and retired members. |
| Models | <p>Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.</p> <p>The blended discount rate used for calculating total pension liability is based on a model developed by our Actuarial Technology and Systems unit, comprised of both actuaries and programmers. The model allows the client team, under the supervision of the responsible actuary, control over the entry of future expected contribution income, benefit payments and administrative expenses. The projection of fiduciary net position and the discounting of benefits is part of the model.</p> |

Section 3: Actuarial Assumptions and Methods and Appendices

Appendix A: Projection of Plan Fiduciary Net Position (\$in thousands) for use in the Calculation of Discount Rate as of June 30, 2024

| Year Beginning June 30 | Projected Beginning Plan Fiduciary Net Position (a) | Projected Employee Contributions (b) | Projected State Contributions (c) | Projected Local Employer Contributions (d) | Projected Lottery Contributions (e) | Projected Benefit Payments (f) | Projected Administrative Expenses (g) | Projected Investment Earnings (h) | Projected Ending Plan Fiduciary Net Position (f) = (a) + (b) + (c) + (d) + (e) – (f) – (g) + (h) |
|------------------------------|---|---|--|--|--|---|--|--|---|
| 2024 | \$34,856,334 | \$411,668 | \$637,273 | \$1,383,397 | \$13,511 | \$3,281,976 | \$11,370 | \$2,285,952 | \$36,294,790 |
| 2025 | 36,294,790 | 405,675 | 647,279 | 1,399,268 | 13,622 | 3,414,690 | 11,682 | 2,379,750 | 37,714,011 |
| 2026 | 37,714,011 | 404,599 | 658,924 | 1,388,800 | 13,759 | 3,536,901 | 12,004 | 2,474,247 | 39,105,434 |
| 2027 | 39,105,434 | 403,172 | 658,922 | 1,389,132 | 13,879 | 3,637,157 | 12,334 | 2,568,630 | 40,489,677 |
| 2028 | 40,489,677 | 400,790 | 660,461 | 1,390,801 | 14,015 | 3,733,904 | 12,673 | 2,662,073 | 41,871,240 |
| 2029 | 41,871,240 | 398,077 | 661,773 | 1,368,690 | 14,281 | 3,827,406 | 13,022 | 2,755,359 | 43,228,992 |
| 2030 | 43,228,992 | 392,154 | 650,039 | 1,347,392 | 14,424 | 3,923,480 | 13,380 | 2,847,677 | 44,543,818 |
| 2031 | 44,543,818 | 384,559 | 638,133 | 1,322,979 | 14,569 | 4,026,736 | 13,748 | 2,936,633 | 45,800,207 |
| 2032 | 45,800,207 | 375,937 | 625,595 | 1,298,092 | 14,715 | 4,129,273 | 14,126 | 3,021,634 | 46,992,781 |
| 2033 | 46,992,781 | 366,494 | 612,254 | 1,274,850 | 14,862 | 4,227,967 | 14,514 | 3,102,277 | 48,121,036 |
| 2034 | 48,121,036 | 358,318 | 598,668 | 1,254,095 | 15,011 | 4,316,574 | 14,913 | 3,178,722 | 49,194,364 |
| 2035 | 49,194,364 | 351,837 | 584,839 | 1,237,961 | 15,161 | 4,386,992 | 15,323 | 3,251,881 | 50,233,728 |
| 2036 | 50,233,728 | 343,608 | 572,927 | 1,226,534 | 15,313 | 4,448,673 | 15,745 | 3,322,715 | 51,250,407 |
| 2037 | 51,250,407 | 332,134 | 561,738 | 1,214,942 | 15,466 | 4,516,027 | 16,178 | 3,391,420 | 52,233,902 |
| 2038 | 52,233,902 | 317,073 | 549,266 | 1,199,371 | 15,621 | 4,595,106 | 16,623 | 3,457,241 | 53,160,746 |
| 2039 | 53,160,746 | 299,664 | 535,938 | 1,178,380 | 15,777 | 4,684,357 | 17,080 | 3,518,844 | 54,007,912 |
| 2040 | 54,007,912 | 279,332 | 522,142 | 1,154,034 | 15,935 | 4,781,461 | 17,549 | 3,574,764 | 54,755,109 |
| 2041 | 54,755,109 | 256,588 | 507,293 | 1,124,940 | 16,095 | 4,886,580 | 18,032 | 3,623,470 | 55,378,882 |
| 2042 | 55,378,882 | 231,417 | 491,677 | 1,092,192 | 16,256 | 4,998,218 | 18,528 | 3,663,451 | 55,857,130 |
| 2043 | 55,857,130 | 205,924 | 474,451 | 1,055,568 | 16,419 | 5,110,738 | 19,037 | 3,693,353 | 56,173,069 |

Section 3: Actuarial Assumptions and Methods and Appendices

| | | | | | | | | | |
|------|------------|---------|---------|-----------|--------|-----------|--------|-----------|------------|
| 2044 | 56,173,069 | 179,865 | 456,225 | 1,017,036 | 16,583 | 5,218,361 | 19,561 | 3,712,222 | 56,317,078 |
| 2045 | 56,317,078 | 156,626 | 438,162 | 977,546 | 16,749 | 5,312,069 | 20,099 | 3,719,745 | 56,293,738 |
| 2046 | 56,293,738 | 131,305 | 420,510 | 939,755 | 16,916 | 5,396,488 | 20,652 | 3,715,867 | 56,100,951 |
| 2047 | 56,100,951 | 104,654 | 403,643 | 896,301 | - | 5,483,700 | 21,220 | 3,699,316 | 55,699,946 |
| 2048 | 55,699,946 | 75,450 | 388,361 | 847,669 | - | 5,574,183 | 21,803 | 3,668,916 | 55,084,358 |
| 2049 | 55,084,358 | 56,928 | 372,587 | 798,262 | - | 5,633,843 | 22,403 | 3,625,207 | 54,281,097 |
| 2050 | 54,281,097 | 43,938 | 356,569 | 764,865 | - | 5,639,526 | 23,019 | 3,570,477 | 53,354,400 |
| 2051 | 53,354,400 | 33,657 | 343,768 | 738,904 | - | 5,614,857 | 23,652 | 3,507,507 | 52,339,727 |
| 2052 | 52,339,727 | 25,535 | 333,234 | 716,654 | - | 5,570,651 | 24,302 | 3,438,806 | 51,259,002 |
| 2053 | 51,259,002 | 19,143 | 323,716 | 697,301 | - | 5,509,845 | 24,970 | 3,365,955 | 50,130,301 |
| 2054 | 50,130,301 | 14,148 | 315,054 | 680,246 | - | 5,435,176 | 25,657 | 3,290,149 | 48,969,065 |
| 2055 | 48,969,065 | 10,328 | 307,080 | 681,975 | - | 5,348,488 | 26,363 | 3,212,424 | 47,806,021 |
| 2056 | 47,806,021 | 7,425 | 305,045 | 666,253 | - | 5,251,715 | 27,088 | 3,134,127 | 46,640,068 |
| 2057 | 46,640,068 | 5,232 | 297,589 | 652,485 | - | 5,146,779 | 27,833 | 3,056,710 | 45,477,472 |
| 2058 | 45,477,472 | 3,600 | 290,486 | 639,650 | - | 5,034,807 | 28,598 | 2,979,700 | 44,327,503 |
| 2059 | 44,327,503 | 2,401 | 283,794 | 626,975 | - | 4,917,152 | 29,384 | 2,903,748 | 43,197,884 |
| 2060 | 43,197,884 | 1562 | 277,187 | 614,922 | - | 4,794,730 | 30,193 | 2,829,394 | 42,096,027 |
| 2061 | 42,096,027 | 982 | 271,087 | 603,445 | - | 4,668,268 | 31,023 | 2,757,114 | 41,029,363 |
| 2062 | 41,029,363 | 579 | 265,351 | 592,480 | - | 4,538,866 | 31,876 | 2,687,384 | 40,004,415 |
| 2063 | 40,004,415 | 316 | 259,735 | 581,628 | - | 4,407,019 | 32,753 | 2,620,641 | 39,026,964 |
| 2064 | 39,026,964 | 156 | 254,282 | 571,276 | - | 4,273,222 | 33,653 | 2,557,292 | 38,103,094 |
| 2065 | 38,103,094 | 67 | 248,763 | 562,122 | - | 4,137,971 | 34,579 | 2,497,718 | 37,239,214 |
| 2066 | 37,239,214 | 26 | 243,728 | 553,100 | - | 4,001,653 | 35,530 | 2,442,331 | 36,441,216 |
| 2067 | 36,441,216 | 8 | 238,876 | 544,992 | - | 3,864,600 | 36,507 | 2,391,579 | 35,715,565 |
| 2068 | 35,715,565 | 2 | 234,321 | 536,983 | - | 3,727,038 | 37,511 | 2,345,869 | 35,068,192 |
| 2069 | 35,068,192 | - | 229,983 | 529,333 | - | 3,589,059 | 38,542 | 2,305,653 | 34,505,561 |
| 2070 | 34,505,561 | - | 64,222 | - | - | 3,450,710 | 39,602 | 2,267,124 | 33,346,594 |
| 2071 | 33,346,594 | - | - | - | - | 3,311,999 | 40,691 | 2,216,917 | 32,210,821 |

Section 3: Actuarial Assumptions and Methods and Appendices

| | | | | | | | | | |
|------|------------|---|---|---|---|-----------|--------|-----------|------------|
| 2072 | 32,210,821 | - | - | - | - | 3,172,897 | 41,810 | 2,142,243 | 31,138,357 |
| 2073 | 31,138,357 | - | - | - | - | 3,033,375 | 42,960 | 2,072,013 | 30,134,036 |
| 2074 | 30,134,036 | - | - | - | - | 2,893,409 | 44,141 | 2,006,568 | 29,203,053 |
| 2075 | 29,203,053 | - | - | - | - | 2,752,995 | 45,355 | 1,946,271 | 28,350,974 |
| 2076 | 28,350,974 | - | - | - | - | 2,612,161 | 46,602 | 1,891,511 | 27,583,722 |
| 2077 | 27,583,722 | - | - | - | - | 2,470,981 | 47,884 | 1,842,700 | 26,907,557 |
| 2078 | 26,907,557 | - | - | - | - | 2,329,586 | 49,201 | 1,800,271 | 26,329,042 |
| 2079 | 26,329,042 | - | - | - | - | 2,188,176 | 50,554 | 1,764,677 | 25,854,990 |
| 2080 | 25,854,990 | - | - | - | - | 2,047,027 | 51,944 | 1,736,385 | 25,492,404 |
| 2081 | 25,492,404 | - | - | - | - | 1,906,500 | 53,373 | 1,715,873 | 25,248,405 |
| 2082 | 25,248,405 | - | - | - | - | 1,767,046 | 54,840 | 1,703,622 | 25,130,141 |
| 2083 | 25,130,141 | - | - | - | - | 1,629,195 | 56,348 | 1,700,116 | 25,144,713 |
| 2084 | 25,144,713 | - | - | - | - | 1,493,556 | 57,898 | 1,705,829 | 25,299,089 |
| 2085 | 25,299,089 | - | - | - | - | 1,360,802 | 59,490 | 1,721,226 | 25,600,022 |
| 2086 | 25,600,022 | - | - | - | - | 1,231,655 | 61,126 | 1,746,754 | 26,053,995 |
| 2087 | 26,053,995 | - | - | - | - | 1,106,861 | 62,807 | 1,782,841 | 26,667,168 |
| 2088 | 26,667,168 | - | - | - | - | 987,162 | 64,534 | 1,829,892 | 27,445,364 |
| 2089 | 27,445,364 | - | - | - | - | 873,281 | 66,309 | 1,888,290 | 28,394,064 |
| 2090 | 28,394,064 | - | - | - | - | 765,877 | 68,133 | 1,958,394 | 29,518,449 |
| 2091 | 29,518,449 | - | - | - | - | 665,530 | 70,006 | 2,040,548 | 30,823,460 |
| 2092 | 30,823,460 | - | - | - | - | 572,719 | 71,931 | 2,135,079 | 32,313,889 |
| 2093 | 32,313,889 | - | - | - | - | 487,790 | 73,909 | 2,242,313 | 33,994,503 |
| 2094 | 33,994,503 | - | - | - | - | 410,951 | 73,168 | 2,362,671 | 35,873,054 |
| 2095 | 35,873,054 | - | - | - | - | 342,263 | 61,643 | 2,496,977 | 37,966,126 |
| 2096 | 37,966,126 | - | - | - | - | 281,626 | 51,339 | 2,645,975 | 40,279,136 |
| 2097 | 40,279,136 | - | - | - | - | 228,802 | 42,244 | 2,810,053 | 42,818,143 |
| 2098 | 42,818,143 | - | - | - | - | 183,416 | 34,320 | 2,989,649 | 45,590,056 |
| 2099 | 45,590,056 | - | - | - | - | 144,982 | 27,512 | 3,185,267 | 48,602,828 |

Section 3: Actuarial Assumptions and Methods and Appendices

| | | | | | | | | | |
|------|-------------|---|---|---|---|---------|--------|------------|-------------|
| 2100 | 48,602,828 | - | - | - | - | 112,921 | 21,747 | 3,397,485 | 51,865,644 |
| 2101 | 51,865,644 | - | - | - | - | 86,597 | 16,938 | 3,626,971 | 55,389,080 |
| 2102 | 55,389,080 | - | - | - | - | 65,336 | 12,990 | 3,874,494 | 59,185,248 |
| 2103 | 59,185,248 | - | - | - | - | 48,461 | 9,800 | 4,140,928 | 63,267,915 |
| 2104 | 63,267,915 | - | - | - | - | 35,308 | 7,269 | 4,427,264 | 67,652,602 |
| 2105 | 67,652,602 | - | - | - | - | 25,251 | 5,296 | 4,734,613 | 72,356,668 |
| 2106 | 72,356,668 | - | - | - | - | 17,714 | 3,788 | 5,064,214 | 77,399,380 |
| 2107 | 77,399,380 | - | - | - | - | 12,183 | 2,657 | 5,417,437 | 82,801,977 |
| 2108 | 82,801,977 | - | - | - | - | 8,211 | 1827 | 5,795,787 | 88,587,726 |
| 2109 | 88,587,726 | - | - | - | - | 5,424 | 1232 | 6,200,908 | 94,781,978 |
| 2110 | 94,781,978 | - | - | - | - | 3,512 | 814 | 6,634,587 | 101,412,240 |
| 2111 | 101,412,240 | - | - | - | - | 2,231 | 527 | 7,098,760 | 108,508,243 |
| 2112 | 108,508,243 | - | - | - | - | 1393 | 335 | 7,595,517 | 116,102,032 |
| 2113 | 116,102,032 | - | - | - | - | 857 | 209 | 8,127,105 | 124,228,071 |
| 2114 | 124,228,071 | - | - | - | - | 522 | 129 | 8,695,942 | 132,923,363 |
| 2115 | 132,923,363 | - | - | - | - | 316 | 78 | 9,304,622 | 142,227,590 |
| 2116 | 142,227,590 | - | - | - | - | 192 | 47 | 9,955,923 | 152,183,274 |
| 2117 | 152,183,274 | - | - | - | - | 118 | 29 | 10,652,824 | 162,835,951 |
| 2118 | 162,835,951 | - | - | - | - | 74 | 18 | 11,398,513 | 174,234,372 |
| 2119 | 174,234,372 | - | - | - | - | 47 | 11 | 12,196,404 | 186,430,718 |
| 2120 | 186,430,718 | - | - | - | - | 30 | 7 | 13,050,149 | 199,480,830 |
| 2121 | 199,480,830 | - | - | - | - | 20 | 5 | 13,963,657 | 213,444,463 |
| 2122 | 213,444,463 | - | - | - | - | 13 | 3 | 14,941,112 | 228,385,559 |
| 2123 | 228,385,559 | - | - | - | - | 8 | 2 | 15,986,989 | 244,372,537 |
| 2124 | 244,372,537 | - | - | - | - | 5 | 1 | 17,106,077 | 261,478,608 |
| 2125 | 261,478,608 | - | - | - | - | 3 | 1 | 18,303,502 | 279,782,106 |
| 2126 | 279,782,106 | - | - | - | - | 2 | 1 | 19,584,747 | 299,366,850 |
| 2127 | 299,366,850 | - | - | - | - | 1 | - | 20,955,679 | 320,322,528 |

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| | | | | | | | | | |
|------|-------------|---|---|---|---|---|---|------------|-------------|
| 2128 | 320,322,528 | - | - | - | - | 1 | - | 22,422,577 | 342,745,104 |
| 2129 | 342,745,104 | - | - | - | - | - | - | 23,992,157 | 366,737,261 |
| 2130 | 366,737,261 | - | - | - | - | - | - | 25,671,608 | 392,408,869 |

Notes

1. Amounts may not total exactly due to rounding.
2. Column (a): None of the projected beginning Plan Fiduciary Net Position amounts shown have been adjusted for the time value of money.
3. Columns (b-e): Projected State and Local contributions include normal cost rates applied to closed group projected payroll (based on covered active members as of June 30, 2023), plus contributions to the unfunded actuarial accrued liability. It is assumed that 1.2% of the proceeds from the Lottery Enterprise are contributed for a period of 30 years from the first contribution. 100% of the actuarially determined State contribution is assumed to be made on a quarterly basis for each fiscal year based on the actual payment made during the June 30, 2025 fiscal year. 100% of the actuarially determined contribution is assumed to be paid by Local Employees on April 1, for the fiscal year 21 months after the actuarial valuation for which that contribution is determined.
4. Column (f): Projected benefit payments have been determined in accordance with paragraph 39 of GASB Statement No. 67 and based on the Actuarial Valuation and Review as of July 1, 2024. The demographic assumptions used are consistent with those approved by the Board of Trustees on November 14, 2022 and are based on the experience study for the period July 1, 2018 – June 30, 2021.
5. Column (g): Projected administrative expenses are calculated assuming annual 2.75% increases from the actual amount for the year ended June 30, 2024, limited to 15% of the prior year's projected benefit payments. Administrative expenses are assumed to occur halfway through the year, on average.
6. Column (h): Projected investment earnings are based on the assumed investment rate of return of 7.00% per annum and reflect the assumed timing of benefit payments, which is halfway through the year, on average.
7. As illustrated in this Exhibit, the Plan Fiduciary Net Position was projected to be available to make all projected future benefit payments for current Plan members. In other words, there is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 7.00% per annum was applied to all periods of projected benefit payments to determine the Total Pension Liability as of June 30, 2024 shown earlier in this report, pursuant to paragraph 44 of GASB Statement No. 67.

Appendix B: Development of Blended Discount Rate as of June 30, 2024

| Year Beginning June 30: | Projected Beginning Plan Fiduciary Net Position | Funded Benefit Payments | Unfunded Benefit Payments | Discounted Funded Benefit Payments | Discounted Unfunded Benefit Payments | Discounted at Blended Rate |
|-------------------------------|---|----------------------------|------------------------------|---------------------------------------|--|----------------------------------|
| 2024 | \$34,856,334 | \$3,281,976 | - | \$3,172,806 | - | \$3,172,806 |
| 2025 | 36,294,790 | 3,414,690 | - | 3,085,146 | - | 3,085,146 |
| 2026 | 37,714,011 | 3,536,901 | - | 2,986,507 | - | 2,986,507 |
| 2027 | 39,105,434 | 3,637,157 | - | 2,870,244 | - | 2,870,244 |
| 2028 | 40,489,677 | 3,733,904 | - | 2,753,824 | - | 2,753,824 |
| 2029 | 41,871,240 | 3,827,406 | - | 2,638,115 | - | 2,638,115 |
| 2030 | 43,228,992 | 3,923,480 | - | 2,527,417 | - | 2,527,417 |
| 2031 | 44,543,818 | 4,026,736 | - | 2,424,236 | - | 2,424,236 |
| 2032 | 45,800,207 | 4,129,273 | - | 2,323,333 | - | 2,323,333 |
| 2033 | 46,992,781 | 4,227,967 | - | 2,223,237 | - | 2,223,237 |
| 2034 | 48,121,036 | 4,316,574 | - | 2,121,336 | - | 2,121,336 |
| 2035 | 49,194,364 | 4,386,992 | - | 2,014,900 | - | 2,014,900 |
| 2036 | 50,233,728 | 4,448,673 | - | 1,909,560 | - | 1,909,560 |
| 2037 | 51,250,407 | 4,516,027 | - | 1,811,655 | - | 1,811,655 |
| 2038 | 52,233,902 | 4,595,106 | - | 1,722,784 | - | 1,722,784 |
| 2039 | 53,160,746 | 4,684,357 | - | 1,641,351 | - | 1,641,351 |
| 2040 | 54,007,912 | 4,781,461 | - | 1,565,771 | - | 1,565,771 |
| 2041 | 54,755,109 | 4,886,580 | - | 1,495,508 | - | 1,495,508 |
| 2042 | 55,378,882 | 4,998,218 | - | 1,429,602 | - | 1,429,602 |
| 2043 | 55,857,130 | 5,110,738 | - | 1,366,155 | - | 1,366,155 |
| 2044 | 56,173,069 | 5,218,361 | - | 1,303,667 | - | 1,303,667 |
| 2045 | 56,317,078 | 5,312,069 | - | 1,240,259 | - | 1,240,259 |
| 2046 | 56,293,738 | 5,396,488 | - | 1,177,542 | - | 1,177,542 |
| 2047 | 56,100,951 | 5,483,700 | - | 1,118,291 | - | 1,118,291 |
| 2048 | 55,699,946 | 5,574,183 | - | 1,062,377 | - | 1,062,377 |

Section 3: Actuarial Assumptions and Methods and Appendices

| | | | | | | |
|------|------------|-----------|---|-----------|---|-----------|
| 2049 | 55,084,358 | 5,633,843 | - | 1,003,502 | - | 1,003,502 |
| 2050 | 54,281,097 | 5,639,526 | - | 938,799 | - | 938,799 |
| 2051 | 53,354,400 | 5,614,857 | - | 873,544 | - | 873,544 |
| 2052 | 52,339,727 | 5,570,651 | - | 809,969 | - | 809,969 |
| 2053 | 51,259,002 | 5,509,845 | - | 748,717 | - | 748,717 |
| 2054 | 50,130,301 | 5,435,176 | - | 690,253 | - | 690,253 |
| 2055 | 48,969,065 | 5,348,488 | - | 634,807 | - | 634,807 |
| 2056 | 47,806,021 | 5,251,715 | - | 582,543 | - | 582,543 |
| 2057 | 46,640,068 | 5,146,779 | - | 533,555 | - | 533,555 |
| 2058 | 45,477,472 | 5,034,807 | - | 487,801 | - | 487,801 |
| 2059 | 44,327,503 | 4,917,152 | - | 445,235 | - | 445,235 |
| 2060 | 43,197,884 | 4,794,730 | - | 405,748 | - | 405,748 |
| 2061 | 42,096,027 | 4,668,268 | - | 369,202 | - | 369,202 |
| 2062 | 41,029,363 | 4,538,866 | - | 335,484 | - | 335,484 |
| 2063 | 40,004,415 | 4,407,019 | - | 304,429 | - | 304,429 |
| 2064 | 39,026,964 | 4,273,222 | - | 275,875 | - | 275,875 |
| 2065 | 38,103,094 | 4,137,971 | - | 249,667 | - | 249,667 |
| 2066 | 37,239,214 | 4,001,653 | - | 225,647 | - | 225,647 |
| 2067 | 36,441,216 | 3,864,600 | - | 203,662 | - | 203,662 |
| 2068 | 35,715,565 | 3,727,038 | - | 183,563 | - | 183,563 |
| 2069 | 35,068,192 | 3,589,059 | - | 165,203 | - | 165,203 |
| 2070 | 34,505,561 | 3,450,710 | - | 148,444 | - | 148,444 |
| 2071 | 33,346,594 | 3,311,999 | - | 133,156 | - | 133,156 |
| 2072 | 32,210,821 | 3,172,897 | - | 119,218 | - | 119,218 |
| 2073 | 31,138,357 | 3,033,375 | - | 106,519 | - | 106,519 |
| 2074 | 30,134,036 | 2,893,409 | - | 94,957 | - | 94,957 |
| 2075 | 29,203,053 | 2,752,995 | - | 84,439 | - | 84,439 |
| 2076 | 28,350,974 | 2,612,161 | - | 74,878 | - | 74,878 |

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| | | | | | | |
|------|------------|-----------|---|--------|---|--------|
| 2077 | 27,583,722 | 2,470,981 | - | 66,197 | - | 66,197 |
| 2078 | 26,907,557 | 2,329,586 | - | 58,326 | - | 58,326 |
| 2079 | 26,329,042 | 2,188,176 | - | 51,201 | - | 51,201 |
| 2080 | 25,854,990 | 2,047,027 | - | 44,765 | - | 44,765 |
| 2081 | 25,492,404 | 1,906,500 | - | 38,965 | - | 38,965 |
| 2082 | 25,248,405 | 1,767,046 | - | 33,752 | - | 33,752 |
| 2083 | 25,130,141 | 1,629,195 | - | 29,083 | - | 29,083 |
| 2084 | 25,144,713 | 1,493,556 | - | 24,917 | - | 24,917 |
| 2085 | 25,299,089 | 1,360,802 | - | 21,217 | - | 21,217 |
| 2086 | 25,600,022 | 1,231,655 | - | 17,947 | - | 17,947 |
| 2087 | 26,053,995 | 1,106,861 | - | 15,074 | - | 15,074 |
| 2088 | 26,667,168 | 987,162 | - | 12,564 | - | 12,564 |
| 2089 | 27,445,364 | 873,281 | - | 10,388 | - | 10,388 |
| 2090 | 28,394,064 | 765,877 | - | 8,514 | - | 8,514 |
| 2091 | 29,518,449 | 665,530 | - | 6,915 | - | 6,915 |
| 2092 | 30,823,460 | 572,719 | - | 5,561 | - | 5,561 |
| 2093 | 32,313,889 | 487,790 | - | 4,426 | - | 4,426 |
| 2094 | 33,994,503 | 410,951 | - | 3,485 | - | 3,485 |
| 2095 | 35,873,054 | 342,263 | - | 2,713 | - | 2,713 |
| 2096 | 37,966,126 | 281,626 | - | 2,086 | - | 2,086 |
| 2097 | 40,279,136 | 228,802 | - | 1,584 | - | 1,584 |
| 2098 | 42,818,143 | 183,416 | - | 1,187 | - | 1,187 |
| 2099 | 45,590,056 | 144,982 | - | 877 | - | 877 |
| 2100 | 48,602,828 | 112,921 | - | 638 | - | 638 |
| 2101 | 51,865,644 | 86,597 | - | 457 | - | 457 |
| 2102 | 55,389,080 | 65,336 | - | 322 | - | 322 |
| 2103 | 59,185,248 | 48,461 | - | 224 | - | 224 |
| 2104 | 63,267,915 | 35,308 | - | 152 | - | 152 |

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| | | | | | | |
|-------|-------------|--------|---|--------------|---|--------------|
| 2105 | 67,652,602 | 25,251 | - | 102 | - | 102 |
| 2106 | 72,356,668 | 17,714 | - | 67 | - | 67 |
| 2107 | 77,399,380 | 12,183 | - | 43 | - | 43 |
| 2108 | 82,801,977 | 8,211 | - | 27 | - | 27 |
| 2109 | 88,587,726 | 5,424 | - | 17 | - | 17 |
| 2110 | 94,781,978 | 3,512 | - | 10 | - | 10 |
| 2111 | 101,412,240 | 2,231 | - | 6 | - | 6 |
| 2112 | 108,508,243 | 1393 | - | 3 | - | 3 |
| 2113 | 116,102,032 | 857 | - | 2 | - | 2 |
| 2114 | 124,228,071 | 522 | - | 1 | - | 1 |
| 2115 | 132,923,363 | 316 | - | 1 | - | 1 |
| 2116 | 142,227,590 | 192 | - | - | - | - |
| 2117 | 152,183,274 | 118 | - | - | - | - |
| 2118 | 162,835,951 | 74 | - | - | - | - |
| 2119 | 174,234,372 | 47 | - | - | - | - |
| 2120 | 186,430,718 | 30 | - | - | - | - |
| 2121 | 199,480,830 | 20 | - | - | - | - |
| 2122 | 213,444,463 | 13 | - | - | - | - |
| 2123 | 228,385,559 | 8 | - | - | - | - |
| 2124 | 244,372,537 | 5 | - | - | - | - |
| 2125 | 261,478,608 | 3 | - | - | - | - |
| 2126 | 279,782,106 | 2 | - | - | - | - |
| 2127 | 299,366,850 | 1 | - | - | - | - |
| 2128 | 320,322,528 | 1 | - | - | - | - |
| 2129 | 342,745,104 | - | - | - | - | - |
| 2030 | 366,737,261 | - | - | - | - | - |
| Total | | | | \$61,678,255 | | \$61,678,255 |

Section 3: Actuarial Assumptions and Methods and Appendices

Appendix C: Definition of Terms

Definitions of certain terms as they are used in Statement 68. The terms may have different meanings in other contexts.

| | |
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| Active Members: | Individuals employed at the end of the reporting or measurement period, as applicable. |
| Actual Contributions: | Cash contributions recognized as additions to a pension Plan Fiduciary Net Position. |
| Actuarial Present Value of Projected Benefit Payments: | Projected benefit payments discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment. |
| Actuarial Valuation: | The determination, as of a point in time (the actuarial valuation date), of the service cost, Total Pension Liability, and related actuarial present value of projected benefit payments for pensions performed in conformity with Actuarial Standards of Practice unless otherwise specified by the GASB. |
| Actuarial Valuation Date: | The date as of which an actuarial valuation is performed. |
| Closed Period: | A specific number of years that is counted from one date and declines to zero with the passage of time. For example, if the recognition period initially is five years on a closed basis, four years remain after the first year, three years after the second year, and so forth. |
| Collective Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions: | Deferred outflows of resources and deferred inflows of resources related to pensions arising from certain changes in the collective Net Pension Liability. |
| Collective Pension Expense: | Pension expense arising from certain changes in the collective Net Pension Liability. |
| Contributions: | Additions to a pension Plan Fiduciary Net Position for amounts from employers, non-employer contributing entities (for example, state government contributions to a local government pension plan), or employees. Contributions can result from cash receipts by the pension plan or from recognition by the pension plan of a receivable from one of these sources. |
| Cost-of-Living Adjustments: | Postemployment benefit changes intended to adjust benefit payments for the effects of inflation. |
| Covered Payroll: | The payroll of employees that are provided with pensions through the pension plan. |
| Defined Benefit Pension Plans: | Pension plans that are used to provide defined benefit pensions. |
| Defined Benefit Pensions: | Pensions for which the income or other benefits that the employee will receive at or after separation from employment are defined by the benefit terms. The pensions may be stated as a specified dollar amount or as an amount that is calculated based on one or more factors such as age, years of service, and compensation. (A pension that does not meet the criteria of a defined contribution pension is classified as a defined benefit pension for purposes of |

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| | Statement 68.) |
| Discount Rate: | <p>The single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the total of the following:</p> <ol style="list-style-type: none"> 1. The actuarial present value of benefit payments projected to be made in future periods in which (a) the amount of the pension Plan Fiduciary Net Position is projected (under the requirements of Statement 68) to be greater than the benefit payments that are projected to be made in that period and (b) pension plan assets up to that point are expected to be invested using a strategy to achieve the long-term expected rate of return, calculated using the long-term expected rate of return on pension plan investments. 2. The actuarial present value of projected benefit payments not included in (1), calculated using the municipal bond rate. |
| Entry Age Actuarial Cost Method: | A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age(s). The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is called the actuarial accrued liability. |
| Inactive Members: | Terminated individuals that have accumulated benefits but are not yet receiving them, and retirees or their beneficiaries currently receiving benefits. |
| Measurement Period: | The period between the prior and the current measurement dates. |
| Net Pension Liability (NPL): | The liability of employers and non-employer contributing entities to employees for benefits provided through a defined benefit pension plan. |
| Other Postemployment Benefits: | All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits, regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits. |
| Pension Plans: | Arrangements through which pensions are determined, assets dedicated for pensions are accumulated and managed and benefits are paid as they come due. |
| Pensions: | Retirement income and, if provided through a pension plan, postemployment benefits other than retirement income (such as death benefits, life insurance, and disability benefits). Pensions do not include postemployment healthcare benefits and termination benefits. |
| Plan Fiduciary Net Position: | Market value of assets. |
| Plan Members: | Individuals that are covered under the terms of a pension plan. Plan members generally include (1) employees in active service (active plan members) and (2) terminated employees who have accumulated benefits but are not yet receiving them and retirees or their |

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| | beneficiaries currently receiving benefits (inactive plan members). |
| Projected Benefit Payments: | All benefits estimated to be payable through the pension plan to current active and inactive employees as a result of their past service and their expected future service. |
| Real Rate of Return: | The rate of return on an investment after adjustment to eliminate inflation. |
| Service Costs: | The portions of the actuarial present value of projected benefit payments that are attributed to valuation years. |
| Total Pension Liability (TPL): | The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of Statement 68. |