

Public Employees' Retirement System of New Jersey

Actuarial Valuation Report as of July 1, 2023

Produced by Cheiron

February 2024

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Letter Of Transmittal

February 13, 2024

Board of Trustees
Public Employees' Retirement System of New Jersey
State of New Jersey
Department of the Treasury
Division of Pension and Benefits, CN 295
Trenton, New Jersey 08625-0295

Dear Board Members:

At your request, we have performed the July 1, 2023 Actuarial Valuation of the Public Employees' Retirement System of New Jersey (PERS or System).

In preparing our report, we relied without audit on information (some oral and some written) supplied by the Division of Pensions and Benefits (DPB). This information includes, but is not limited to, plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23, Data Quality.

The results of this report are only applicable to the System's contribution for Fiscal Year Ending 2025. Future results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the assumptions; changes in assumptions; and changes in plan provisions or applicable law.

The actuarial assumptions are the same as those used in the July 1, 2022 valuation. The demographic and economic (other than the investment rate of return) actuarial assumptions are based on the recommended assumptions from the July 1, 2018 – June 30, 2021 Experience Study, approved by the Board of Trustees on November 16, 2022. The investment rate of return assumption of 7.00% is based on the recommendation of the State Treasurer.

This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. Furthermore, as credentialed actuaries we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

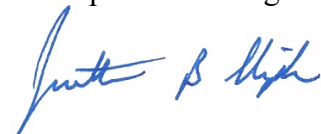
This actuarial valuation report was prepared exclusively for PERS, the DPB, and the System auditors for the purposes described herein and in preparing financial reports in accordance with applicable law and annual report requirements. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

Sincerely,

Cheiron



Janet Cranna, FSA, FCA, MAAA, EA
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**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

SECTION I – BOARD SUMMARY

The primary purpose of the actuarial valuation and this report is to disclose the following as of the valuation date:

- The financial condition of the Public Employees Retirement System of New Jersey,
- Past and expected future trends and risks to the System's financial condition, and
- The State's and Local employers' contributions for the Fiscal Year Ending (FYE) 2025.

In this Section we present a summary of the principal valuation results. This includes the basis on which the July 1, 2023 valuation was completed and an examination of the current financial condition of the System. In addition, we present a review of the key historical trends followed by the System's projected financial outlook. The stress testing in accordance with the requirements set out in Chapter 277, P.L. 2017 follows in Section II.

This report does not include calculations under GASB Statements Nos. 67 and 68 which were provided in separate reports.

Results shown in this report for years prior to July 1, 2018 are based on the prior actuary's valuation reports.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

SECTION I – BOARD SUMMARY

Valuation Basis

The July 1, 2023 valuation results are based on the same actuarial methods and assumptions as used in the July 1, 2022 valuation. The demographic and economic assumptions, aside from the valuation interest rate, are based on the July 1, 2018 – June 30, 2021 Experience Study, which was approved by the Board of Trustees on November 16, 2022. The valuation is based on a 7.00% interest rate as recommended by the State Treasurer.

This report is prepared using census data, plan provisions, and financial information as of July 1, 2023 provided by the Division of Pensions and Benefits, and does not reflect any changes in the membership, plan provisions, or assets that occur after the valuation date. Events following that date are not, and should not be, reflected in this report. Actual experience, both demographic and economic, will be reflected in subsequent valuations as experience emerges.

The Appropriations Act of Fiscal Year 2023 increased the State pension contribution from the Statutory amount of \$1,757,720,407 to \$1,874,640,270. The \$1,874,640,270 is based on an appropriation amount of 100% of the Statutory contribution and includes revenue of \$245,934,000 from the Lottery Enterprise Contribution Act. In addition, there was a Chapter 259, P.L. 2001 contribution of \$2,002,681, which was payable by fund transfer from the Second Injury Fund.

The potential impact of the Appropriations Act of 2024 increases the State pension contribution for Fiscal Year Ending 2024 from the Statutory amount of \$1,821,307,122 to \$1,925,738,603 (100.00% of the State Statutory contribution less the Lottery Enterprise Contribution offset plus expected revenue from the Lottery Enterprise Contribution Act {100.00% x \$1,821,307,122 - \$130,078,903 + \$234,510,384}). The \$1,925,738,603 also includes expected State-paid Local contributions of \$61,435,556. In addition, there is a Chapter 259, P.L. 2001 contribution of \$2,103,817, which is payable by fund transfer from the Second Injury Fund. This valuation reflects the potential impact of the Appropriations Act of 2024.

Chapter 83, P.L. 2016 requires the State to make the required pension contributions on a quarterly basis: at least 25% by September 30, at least 50% by December 31, at least 75% by March 31, and at least 100% by June 30. As such, State contributions are assumed to be made on a quarterly basis with the first contribution 15 months after the associated valuation date.

In accordance with Chapter 78, P.L. 2011, a pension committee is to be established for the State portion of the System and the Local portion of the System when the employer's "target funded ratio" is achieved. The "target funded ratio" is defined as the ratio of the actuarial value of assets divided by the actuarial liability expressed as a percentage that is 75% in fiscal year 2012 and increased annually by equal increments in each of the subsequent seven fiscal years, until the funded ratio equals 80% at which time it will remain at 80% for all subsequent fiscal years. The Local employers' portion of the System attained the required "target funded ratio" in Fiscal Year Ending 2012, establishing the committee for the Local employers' portion of the System. The State portion of the System has not attained the required "target funded ratio" and thus the pension committee has not been established for the State portion of the System.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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Under Chapter 98, P.L. 2017, the Lottery Enterprise Contribution Act, the Public Employees' Retirement System receives 21.02% of the proceeds of the Lottery Enterprise, based on its members' past or present employment in schools and institutions in the State for a term of 30 years. As of the July 1, 2023 valuation, 23 years remain. Revenues from Chapter 98, P.L. 2017, the Lottery Enterprise Contribution Act, are assumed to be contributed to the trust on a monthly basis. The Chapter 78, P.L. 2011 "target funded ratio" is based on the actuarial value of assets plus the allocable special asset value. The special asset value is the present value of remaining lottery contributions to the retirement systems. As per N. J. Statute, the special asset value is to be appraised once every five years. The values shown in this report reflect the New Jersey Lottery Valuation Report as of December 31, 2021 as provided to us by the Division of Pensions and Benefits. Effective with the fiscal year 2018, the State's pension contribution shall be reduced by the product of the allocable percentage for such retirement system, the adjustment percentage for such retirement system and the special asset adjustment.

The valuation excludes assets and liabilities under the Non-Contributory Group Insurance Premium Fund. The Non-Contributory Group Insurance premiums are separately funded on a pay-as-you-go basis. For Local employers, the Non-Contributory Group Insurance Contribution is calculated as the present value of expected benefit payments for the upcoming year based on valuation assumptions.

Key Results

Following are Table I-1 and Table I-2 which summarize the key results of the valuation with respect to the System's membership, assets and liabilities, and contributions for State and Local employers. The results are presented and compared for both the current and prior year.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

SECTION I – BOARD SUMMARY

**Table I-1
Summary of Key Valuation Results
State**

| Valuation Date Fiscal Year Ending (FYE) | July 1, 2023 2025 | July 1, 2022 2024 | % Change |
|---|----------------------|----------------------|-------------|
| <u>Member Data</u> | | | |
| Contributing Actives ¹ | 64,048 | 64,357 | -0.5% |
| Non-Contributing Members ¹ | 10,519 | 9,786 | 7.5% |
| Deferred Beneficiaries | 10 | 11 | -9.1% |
| Deferred Vesteds | 146 | 147 | -0.7% |
| Retirees and Beneficiaries ² | 63,777 | 62,842 | 1.5% |
| Total Members | 138,500 | 137,143 | 1.0% |
| Appropriation Payroll ³ | \$ 4,769,262,833 | \$ 4,664,968,264 | 2.2% |
| Annual Retirement Allowances in Pay | \$ 1,918,915,717 | \$ 1,857,631,695 | 3.3% |
| <u>Assets and Liabilities</u> | | | |
| Actuarial Liability | \$ 28,762,696,821 | \$ 28,185,048,883 | 2.0% |
| Actuarial Value of Assets (AVA) ⁴ | 9,900,003,769 | 9,354,810,560 | 5.8% |
| Unfunded Actuarial Liability/(Surplus) | \$ 18,862,693,052 | \$ 18,830,238,323 | 0.2% |
| Funded Ratio (AVA) | 34.4% | 33.2% | 1.2% |
| Actuarial Value of Assets ⁴ including Special Asset Value (AVA + SAV) | \$ 12,502,517,768 | \$ 11,979,875,759 | 4.4% |
| Unfunded Actuarial Liability/(Surplus) | \$ 16,260,179,053 | \$ 16,205,173,124 | 0.3% |
| Funded Ratio (AVA + SAV) | 43.5% | 42.5% | 1.0% |
| Market Value of Assets (MVA) ⁴ | \$ 9,222,531,715 | \$ 8,485,901,686 | 8.7% |
| Unfunded Actuarial Liability/(Surplus) | \$ 19,540,165,106 | \$ 19,699,147,197 | -0.8% |
| Funded Ratio (MVA) | 32.1% | 30.1% | 2.0% |
| <u>Contribution Amounts⁵</u> | | | |
| State Normal Cost at End of Year ⁶ | \$ 230,256,565 | \$ 233,760,135 | -1.5% |
| Amortization Payment of UAL ⁶ | 1,611,778,144 | 1,587,546,987 | 1.5% |
| Total Statutory Contribution for FYE | \$ 1,842,034,709 | \$ 1,821,307,122 | 1.1% |
| Expected Percent Appropriated | 100% | 100% | 0.0% |
| State Appropriation for Pension | \$ 1,842,034,709 | \$ 1,821,307,122 | 1.1% |
| Lottery Enterprise Contribution Offset | (130,078,903) | (130,078,903) | 0.0% |
| Net State Contribution | \$ 1,711,955,806 | \$ 1,691,228,219 | 1.2% |

¹ Reflects all records for multiple members, which are members employed by more than one PERS-participating employer at the same time

² QDRO recipients are excluded from member counts

³ Limited annual compensation for contributing actives

⁴ Includes discounted State receivable contributions and Lottery proceeds from the upcoming Fiscal Year as shown in Table III-2

⁵ In addition to the amounts shown, the Statutory Contributions are satisfied by funds transferred from the Second Injury Fund in amounts equal to \$2,120,000 and \$2,103,817 for FYE 2025 and 2024, respectively.

⁶ Includes \$59,812,730 and \$61,435,556 for FYE 2025 and 2024, respectively for Local obligations payable by the State in accordance with Chapter 133, P.L. 2001 and Chapter 366, P.L. 2001

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

SECTION I – BOARD SUMMARY

| Table I-2 Summary of Key Valuation Results Local Employers | | | |
|---|------------------------------|------------------------------|---------------------|
| Valuation Date Fiscal Year Ending (FYE) | July 1, 2023 2025 | July 1, 2022 2024 | % Change |
| <u>Member Data</u> | | | |
| Contributing Actives ¹ | 140,550 | 139,073 | 1.1% |
| Non-Contributing Members ¹ | 29,207 | 27,935 | 4.6% |
| Deferred Beneficiaries | 63 | 67 | -6.0% |
| Deferred Vesteds | 427 | 433 | -1.4% |
| Retirees and Beneficiaries ² | 130,138 | 128,199 | 1.5% |
| Total Members | 300,385 | 295,707 | 1.6% |
| Appropriation Payroll ³ | \$ 7,952,897,088 | \$ 7,591,465,466 | 4.8% |
| Annual Retirement Allowances in Pay | \$ 2,612,310,525 | \$ 2,517,340,724 | 3.8% |
| <u>Assets and Liabilities</u> | | | |
| Actuarial Liability | \$ 40,366,610,080 | \$ 39,317,139,093 | 2.7% |
| Actuarial Value of Assets (AVA) ⁴ | 27,638,369,472 | 26,694,121,356 | 3.5% |
| Unfunded Actuarial Liability/(Surplus) | \$ 12,728,240,608 | \$ 12,623,017,737 | 0.8% |
| Funded Ratio (AVA) | 68.5% | 67.9% | 0.6% |
| Market Value of Assets (MVA) ⁴ | \$ 27,347,606,002 | \$ 25,757,807,667 | 6.2% |
| Unfunded Actuarial Liability/(Surplus) | \$ 13,019,004,078 | \$ 13,559,331,426 | -4.0% |
| Funded Ratio (MVA) | 67.7% | 65.5% | 2.2% |
| <u>Contribution Amounts</u> | | | |
| Employer Normal Cost at End of Year ⁵ | \$ 235,787,117 | \$ 237,206,737 | -0.6% |
| Amortization Payment of UAL ⁵ | 1,066,641,172 | 1,042,896,986 | 2.3% |
| ERI Payments | 2,057,243 | 2,013,391 | 2.2% |
| Chapter 19, P.L. 2009 Payments | 8,737,980 | 8,779,022 | -0.5% |
| Total Statutory Contribution for FYE | \$ 1,313,223,512 | \$ 1,290,896,136 | 1.7% |
| Non-Contributory Group Insurance Contribution | \$ 58,306,504 | \$ 56,424,620 | 3.3% |

¹ Reflects all records for multiple members, which are members employed by more than one PERS-participating employer at the same time

² QDRO recipients are excluded from member counts

³ Limited annual compensation for contributing actives

⁴ Includes discounted State receivable contributions as shown in Table III-2

⁵ Excludes \$59,812,730 and \$61,435,556 for FYE 2025 and 2024, respectively for Local obligations payable by the State in accordance with Chapter 133, P.L. 2001 and Chapter 366, P.L. 2001

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

SECTION I – BOARD SUMMARY

The key results of the July 1, 2023 actuarial valuation **for the State** are as follows:

- The total Statutory contribution increased from \$1,821 million for FYE 2024 to \$1,842 million for FYE 2025 prior to any adjustments for the potential Appropriations Act of 2025 or the Lottery Enterprise offset.
- The funded ratio, the ratio of actuarial asset value over liabilities, increased from 33.2% to 34.4%. The funded ratio that is used to measure against the “target funded ratio” and is based on the actuarial value of assets plus special asset value, increased from 42.5% as of July 1, 2022 to 43.5% as of July 1, 2023. Using the market value of assets, the funded ratio also increased from 30.1% to 32.1%.
- The unfunded actuarial liability used in determining the Statutory contributions (excess of actuarial liability over the actuarial value of assets) increased from \$18.8 billion to \$18.9 billion. The unfunded actuarial liability based on the actuarial asset value plus special asset value increased from \$16.2 billion on July 1, 2022 to \$16.3 billion on July 1, 2023.
- During the year there was a total actuarial experience loss of \$355 million, consisting of an asset loss of \$176 million and a liability loss of \$179 million. The liability loss of \$179 million represents 0.6% of liabilities and is primarily driven by salary increases slightly higher than expected and the allocation to the State of benefit payments associated with Local employer members who worked for more than one employer. The rate of return on the actuarial value of assets was 4.74% compared to the expected return of 7.00%, resulting in the \$176 million asset loss.

The key results of the July 1, 2023 actuarial valuation **for Local employers** are as follows:

- The total Statutory contribution increased from \$1,291 million for FYE 2024 to \$1,313 million for FYE 2025.
- The funded ratio, the ratio of actuarial asset value over liabilities, increased from 67.9% as of July 1, 2022 to 68.5% as of July 1, 2023. Based on the market value of assets, the funded ratio also increased from 65.5% to 67.7%.
- The unfunded actuarial liability increased from \$12.6 billion on July 1, 2022 to \$12.7 billion on July 1, 2023 on an actuarial value of assets basis.
- During the year, there was a total actuarial experience loss of \$287 million, consisting of an asset loss of \$86 million and a liability loss of \$201 million. The liability loss of \$201 million represents 0.5% of liabilities and is primarily driven by higher than expected salary increases. The rate of return on the actuarial value of assets was 6.71% compared to the expected return of 7.00%, resulting in the \$86 million asset loss.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION

SECTION I – BOARD SUMMARY

Recent Trends

Although most of the attention given to the valuation reflects the current computed unfunded actuarial liability, funded ratio, and contribution amounts, each valuation is merely a snapshot of the long-term progress of a pension fund. It is important to take a step back from these latest results and view them in the context of the System's recent history. Below, we present a series of graphs which display historical trends for key factors in the valuations of the last 10 years. Additionally, in Appendix D we provide the numerical values of the historical unfunded actuarial liability, funded ratio, and contribution amounts. Note that the contribution amounts in this section include State-paid Local obligations with Local employers' contribution amounts to illustrate their impact on the Local employers' portion of the unfunded actuarial liability. The historical amounts in Appendix D show the State-paid Local obligations with State contributions.

In reviewing the historic trends over the 10-year period, the declining funded status coupled with significant negative net cash flow highlights the potential risk of running out of assets to pay benefits unless the State continues to consistently contribute the full amount of the Statutory required contributions.

Assets and Liabilities

The gray bars represent the Actuarial Liability (AL). The green line is the Market Value of Assets (MVA), the gold line is the Actuarial Value of Assets (AVA) and the blue line (which starts in 2016) is the AVA plus the Special Asset Value (SAV). The System's funded ratio (ratio of assets to actuarial liability) on a MVA basis, an AVA basis and an AVA+SAV basis, is shown next to the respective asset lines.

The liability has been increasing over time in part due to additional benefit accruals but also due to decreases in the discount rate and other changes in assumptions.

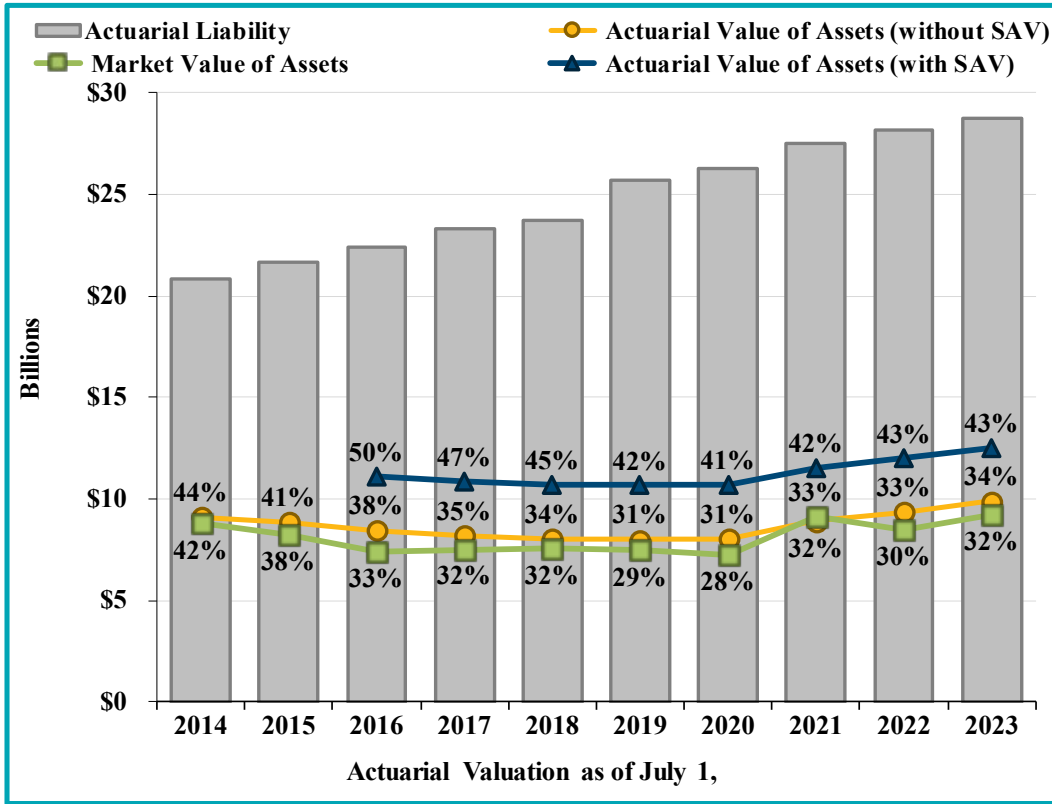
For the State, until 2021, the funded ratio had been decreasing over time in part due to decreases in the discount rate and because the State had not been making the full Statutory contribution. The funded ratio reversed that trend in 2021 and increased due to higher than expected asset returns and State contributions in excess of the Statutory contribution amount. The funded ratio on an actuarial basis also increased in 2022 and 2023, despite liability losses, as the State continued to contribute the full Statutory contribution amount.

For Local employers, until 2021, the AVA funded ratio had decreased over the period due to decreases in the discount rate and asset losses. (The MVA funded ratio behaved differently during the period because the market gains and losses are immediately recognized in the MVA.) In addition, while Local employers have been making the full Statutory contribution, the State had not been making the full State-paid Local Statutory contribution until FYE 2022. Prior to FYE 2022, the State-paid Local Statutory contributions had been small relative to the overall Statutory contribution. However, the State-paid Local obligations have increased over the past few years as the Benefit Enhancement Fund (BEF) was depleted. The State is now responsible for the full Local employer normal cost associated with Chapter 133, P.L. 2001. In 2021, the funded ratio increased due to the higher than expected asset returns. The AVA funded ratio also increased in 2022 and 2023, despite liability losses, as the State and Local employers continued to contribute the full Statutory contribution amount.

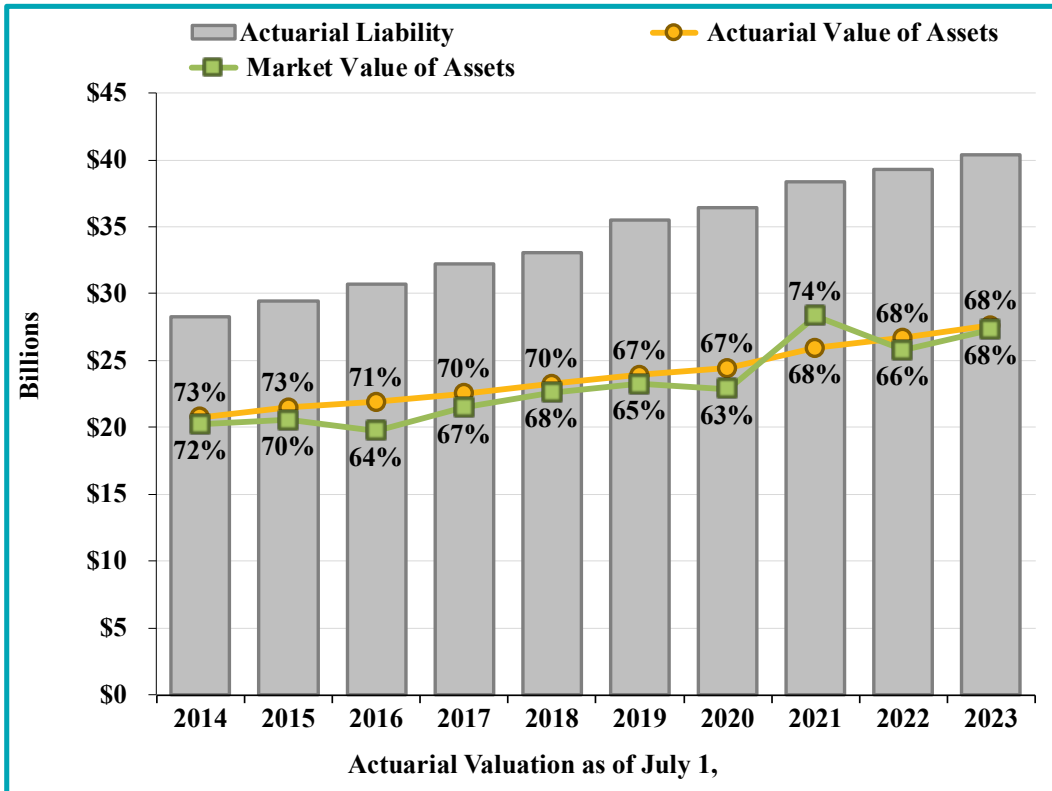
**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

SECTION I – BOARD SUMMARY

State



Local Employers



**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

SECTION I – BOARD SUMMARY

Membership Trends

The following graphs show the membership counts of the System for the last ten valuations. The numbers which appear above each bar represent the ratio of the number of inactive and non-contributing members to contributing active members at each valuation date and provide a measure of the maturity of the System. We refer to this as the *support ratio*. The support ratios for both State and Local employers have increased over the period. As more of the liability moves from actives to inactives, the System will experience more volatility in contribution rates when actuarial gains and losses are recognized.

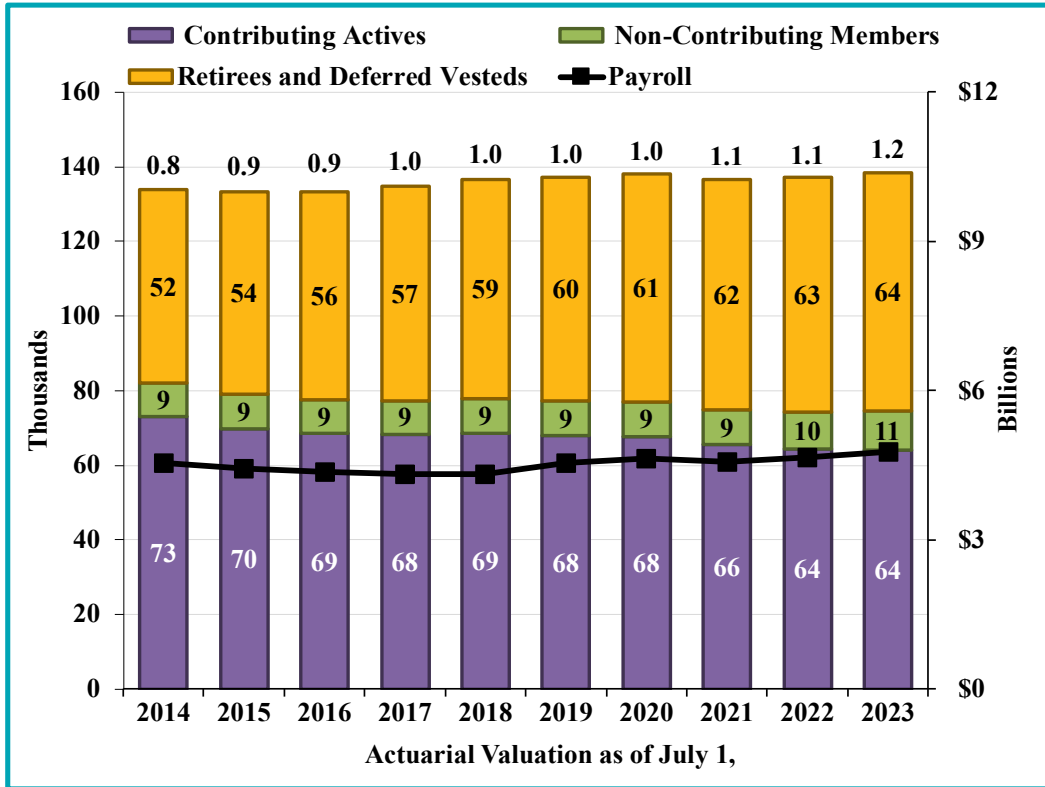
Valuations for 2017 and later reflect all records for multiple members, which are active members employed by more than one participating employer at the same time. Valuations for 2022 and later only reflect one record for retirees who earned benefits under both a State and Local employer.

The numbers that are shown in the middle of the bars represent the number of actives or inactive members in thousands. The black line represents the appropriation payroll for contributing actives over the period and corresponds with the right-hand scale.

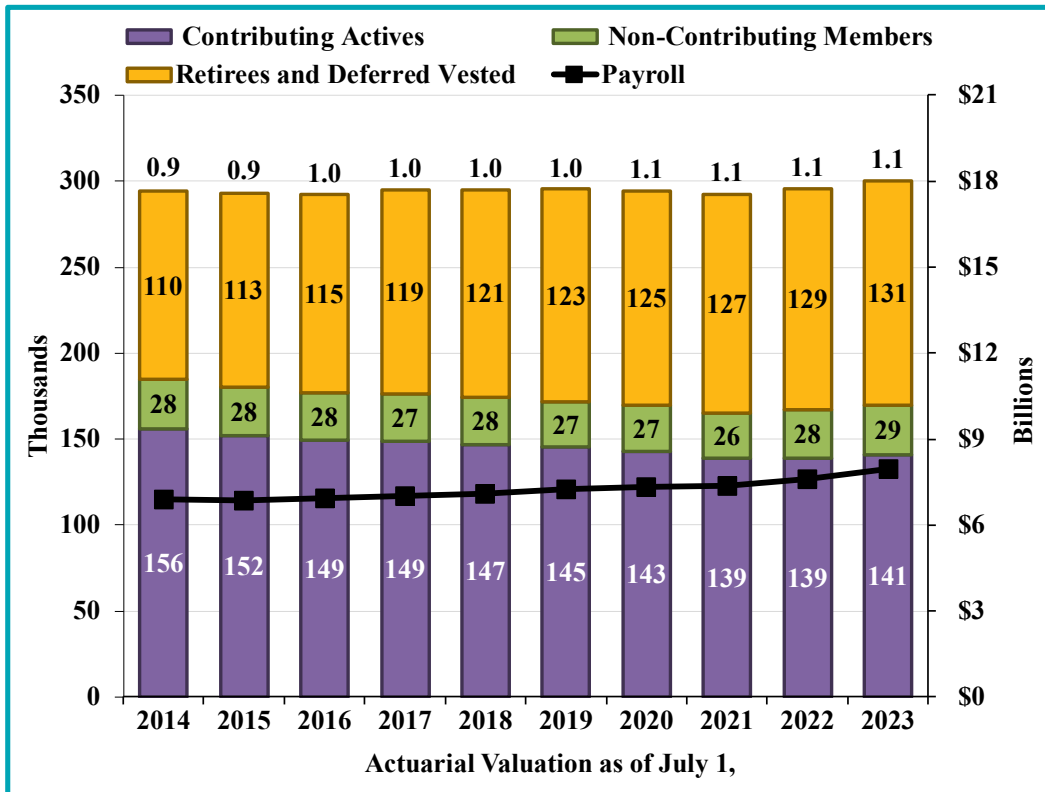
**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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SECTION I – BOARD SUMMARY

State



Local Employers



**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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SECTION I – BOARD SUMMARY

Cash Flows

The following graphs show the System net cash flow (contributions less benefit payments and expenses) at the end of each fiscal year. The net cash flow, which excludes investment returns, has been negative every year for both the State and Local employers, with the notable exception of the State in FYE 2022 and 2023. This illustrates that contributions have not been sufficient to cover benefits and expenses in any years over the past decade, except for the State in FYE 2022 and 2023. A major implication of a negative cash flow is that the difference each year must be met first from cash generated by investments and then be paid out of the principal assets, representing additional risk for the System if investments need to be sold in a down market to cover benefit payments. The black dotted line shows the net cash flow as a percent of the market assets and corresponds with the axis on the right.

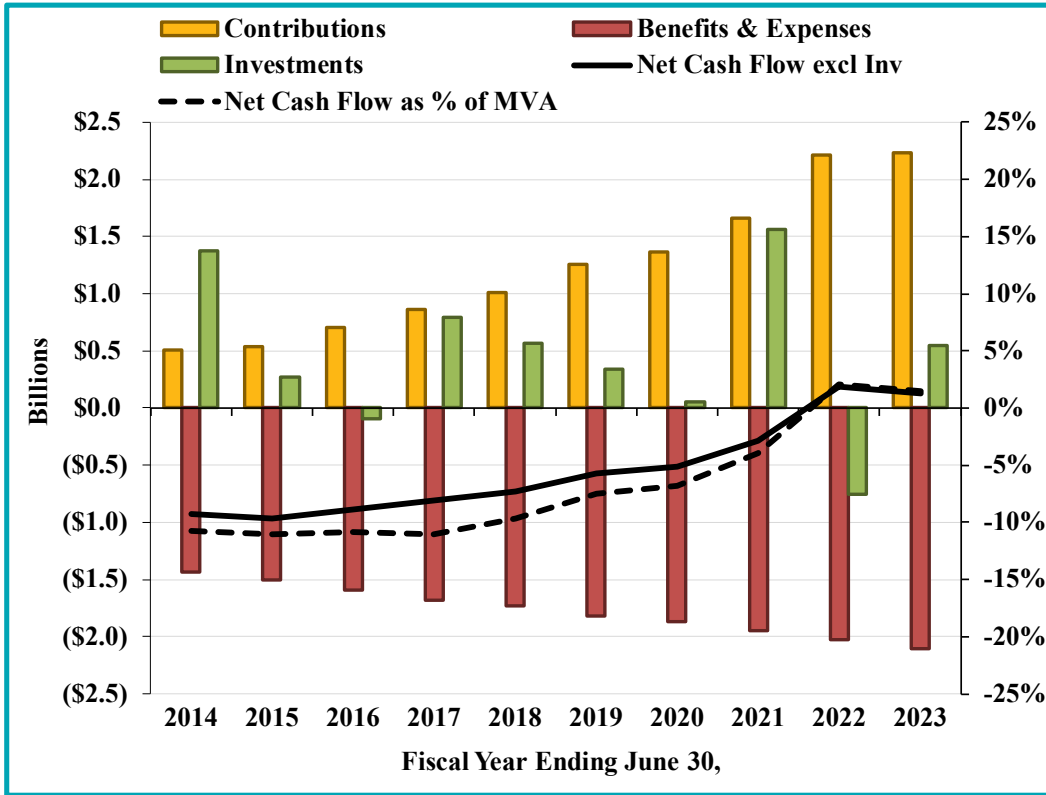
The net cash flow for State had been significantly more negative than the net cash flow for Local employers. At the beginning of the period, the net cash flow for the State as a percent of assets was close to -10%. This indicated that this portion of the System was expected to defund with an increased risk of insolvency if the contributions did not consistently cover a higher portion of the benefit payments and expenses. However, the net cash flow improved significantly over the last few years, and turned positive for the first time in 2022, as a result of the increase in the State appropriation percentage. For the 10-year period shown, the average net cash flow for State as a percent of assets is -6.8%. For 2023, the positive net cash flow of 1.5% indicates that this portion of the System did not need to rely on investment returns to cover benefit payments and expenses.

For Local employers, the negative cash flow as a percent of assets has remained level over the period shown due to both an increase in the assets and an increase in the number of retirees and their corresponding benefit payments. For comparison with the State, the Local employers had an average net cash flow as a percent of assets of -3.3% over the 10-year period and a 2023 net cash flow of -3.0%.

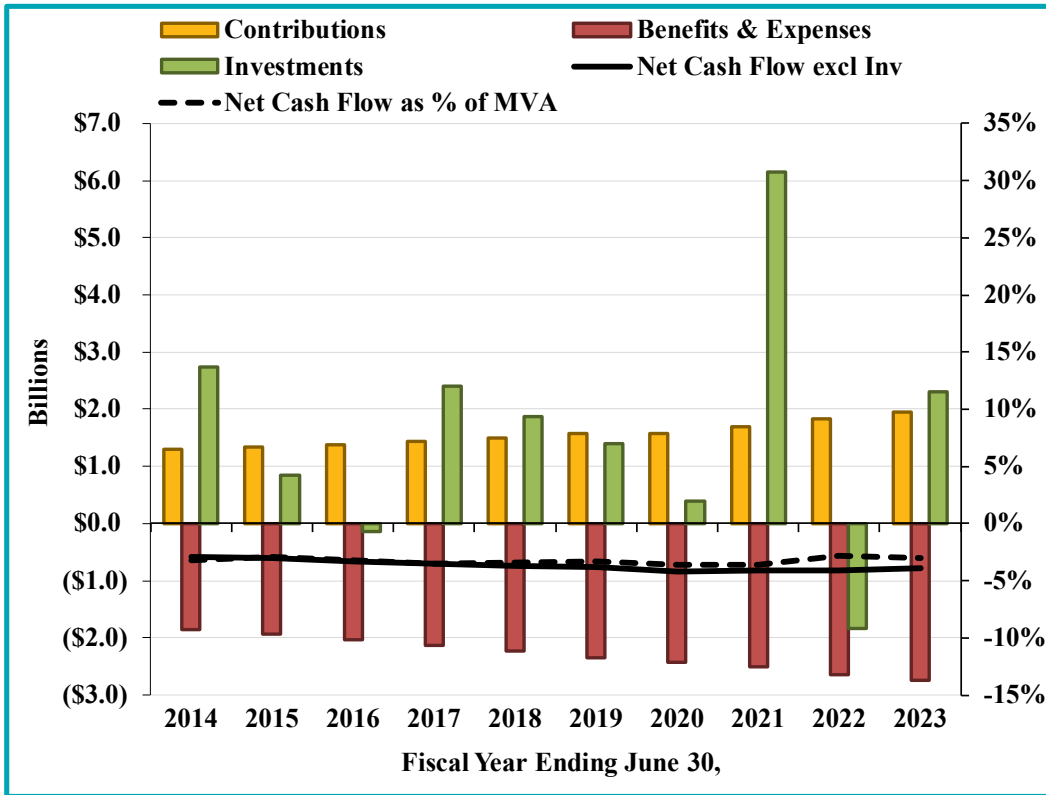
**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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SECTION I – BOARD SUMMARY

State



Local Employers



PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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SECTION I – BOARD SUMMARY

Contributions

These graphs show the historical trends for the State and Local employer contributions. The Local employer contributions include the State-paid Local obligations, but not Early Retirement Incentive (ERI) or Chapter 19, P.L. 2009 payments. The Statutory contributions are comprised of the normal cost (blue bars) and the amortization of the UAL (gold bars). The green line shows the actual contributions over the period. For FYE 2024 and 2025, the green line has a lighter shade to indicate that these are expected, rather than actual, contributions based on the State appropriating 100% of the Statutory contribution in both years. Beginning in FYE 2023, the State contribution was larger than the Statutory contribution because lottery revenue was greater than the Lottery Enterprise Contribution Offset. The expected State appropriations are shown in Table I-1 and Table I-2.

The red line is the **tread water line**, which is the normal cost plus the interest on the UAL. The tread water line shows the minimum contributions needed to avoid an increase in the UAL.

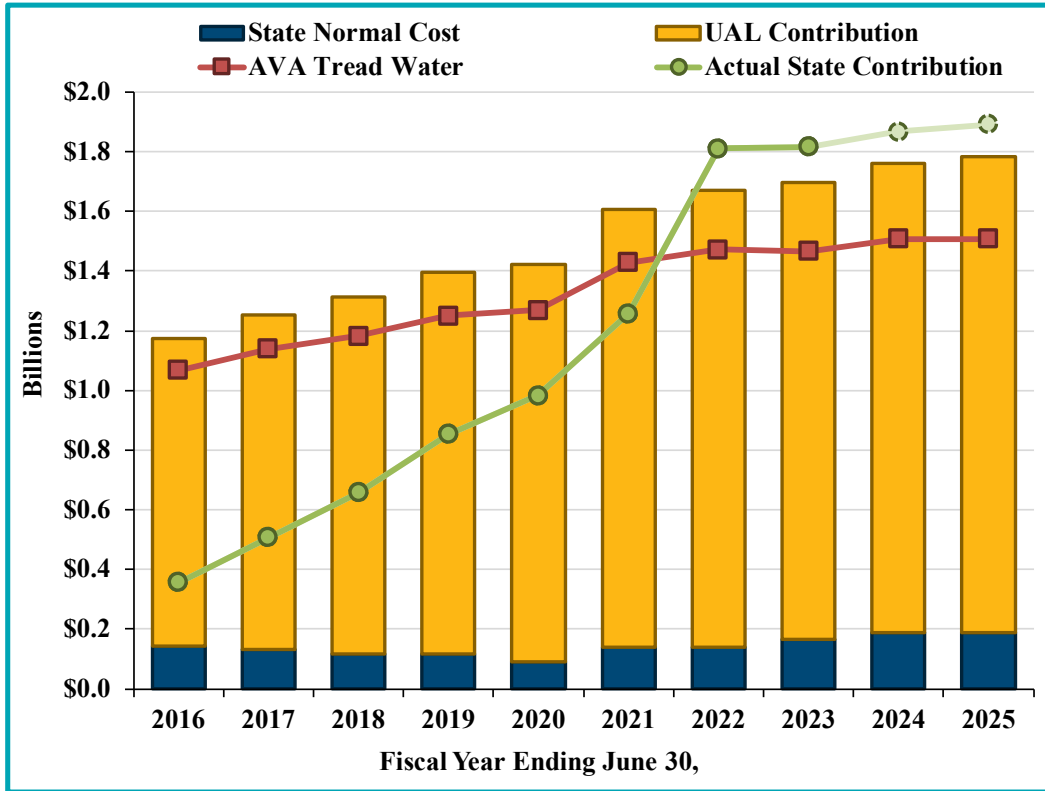
The graph for State shows that, prior to FYE 2022, not only had the State been making contributions less than required by Statute, but that the State contributions had historically been significantly below the tread water line. When contributions are lower than the normal cost plus interest on the UAL, the UAL is expected to grow from one year to the next. In FYE 2022, actual State contributions were greater than the tread water amount for the first time during the period. State contributions are expected to be greater than the tread water amount as the State continues to contribute 100% of the Statutory contribution.

The graph for Local employers shows that the Local employers have consistently made their Statutory contributions. While the State was not contributing the full State-paid Local obligations, the total contributions were still greater than the tread water line. For FYE 2021 and FYE 2022, actual contributions were lower than the Statutory contribution because the Board adopted a three-year phase-in of the impact of the assumption changes from the July 1, 2014 – June 30, 2018 Experience Study. Even with the phase-in, actual contributions exceeded the tread water line each year. Actual contributions returned to the Statutory contribution level in FYE 2023 as the impact of the assumption changes has been fully phased-in and are expected to remain at that level thereafter.

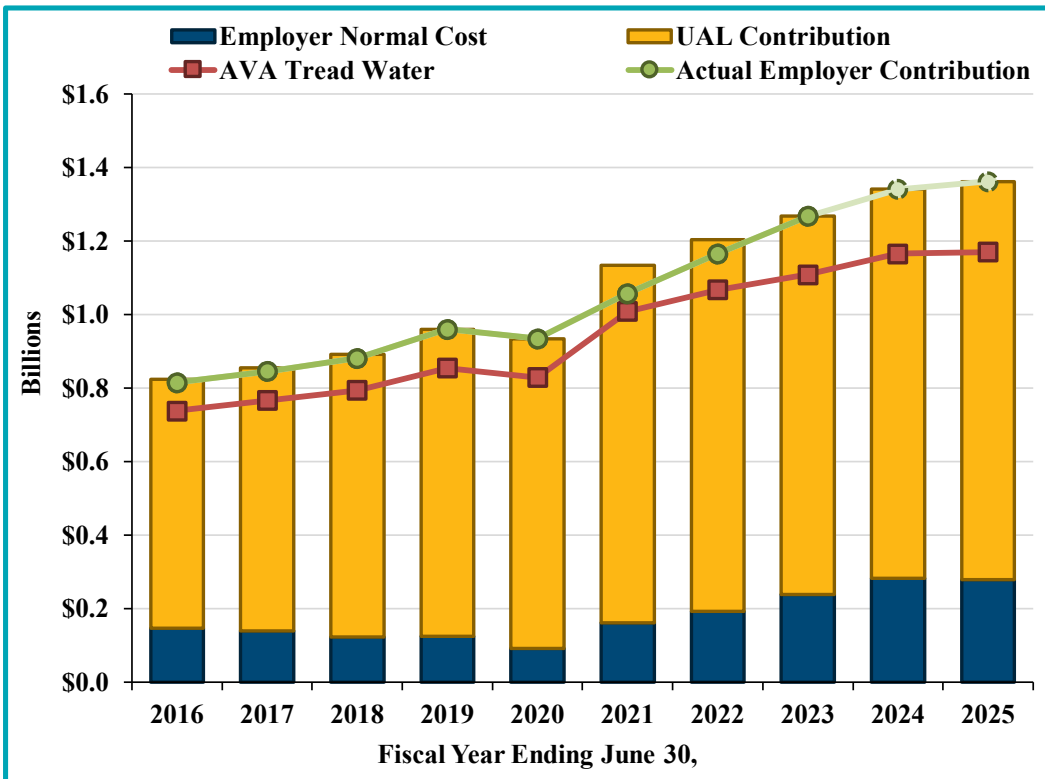
**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

SECTION I – BOARD SUMMARY

State



Local Employers



SECTION I – BOARD SUMMARY

Projected Future Outlook

The analysis of projected financial trends is perhaps the most important component of the valuation. This has been recognized by the State Legislation in its adoption of Chapter 277, P.L. 2017 requiring the System to have stress testing performed annually. The graphs presented in this section show the expected progress of the System's funded status over the next 30 years, measured in terms of the expected funded ratios and State and Local employer contributions assuming that the System is ongoing.

While experience will not conform exactly to the assumptions every year, the trends reflect reasonable expectations. As a result, in addition to the baseline projection in this section, we provided additional **stress testing** in Section II based on varying investment returns in the future. It is our opinion that the stress testing analyses shown in Section II meet the requirements of Chapter 277, P. L. 2017.

The projections assume a constant active population. As members retire, terminate and die based on the current valuation assumptions, it is assumed that new members will replace them based on characteristics (age/gender/salary) similar to recent new members.

Additional assumptions used for these projections, including the investment rate of return for each subsequent valuation as recommended by the State Treasurer, as well as the anticipated appropriation percentages, are shown in Appendix B.

Baseline Scenario

The baseline projection shows the outcome if all actuarial assumptions, including the long-term rate of return assumption of 7.00%, as recommended by the State Treasurer, are exactly met. For each scenario we show two graphs.

The top graph compares the Market Value of Assets (green line) and the Actuarial or smoothed Value of Assets (gold line) to the System's Actuarial Liabilities (gray bars). For the State, the graph also shows the Actuarial Value of Assets plus the Special Asset Value (blue line). In addition, at the top of the graph, we show the System's funded ratio on an Actuarial Value of Assets basis (ratio of Actuarial Value of Assets to Actuarial Liabilities). The years shown in the graph signify the valuation date as of July 1 of the labeled year.

The State's funded ratio on an Actuarial Value of Assets basis is projected to steadily increase to 100% by 2049.

The Local employers' funded ratio on an Actuarial Value of Assets basis is projected to increase slowly over the next few years as deferred investment losses are recognized in the Actuarial Value of Assets, and then increase more quickly to 99% by 2053. The Local employers' UAL is expected to be fully amortized after the 30-year projection period. The estimated period to fully amortize the UAL is longer than the Statutory amortization period due to the timing of contributions during the fiscal year, slow recognition of past investment losses in the actuarial value of assets, and the lack of a dedicated administrative expense contribution.

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SECTION I – BOARD SUMMARY

The funded ratio for State increases faster than the Local employers' portion and reaches 100% by 2049 compared to 99% for Local employers by the end of the projection period because of the expected lottery revenue that is contributed each year in excess of the Statutory contributions. This additional revenue helps pay down the UAL sooner for the State portion of the System.

The bottom graph shows the contributions by fiscal year. The member contributions are in purple, the State contributions are in gold, the State-paid Local contributions are in light blue and the Local employers' contributions are in green. We show the contribution values in dollars except for the State-paid Local contributions which are small compared to total contributions.

The projected lottery revenue is provided by the DPB and is outlined in dark blue. Lottery revenue amounts shaded in gold are offsets to Statutory contributions. Lottery revenue amounts shaded white are additional contributions in excess of the Statutory contributions that pay down the UAL. Beginning in FYE 2023, the lottery revenue includes additional payments toward the UAL. The lottery offsets during the projection period are calculated based on the methodology as defined in Chapter 98, P.L. 2017.

The projection assumes the State and Local employers contribute 100% of the Statutory amount each year. Both the appropriated State and Local employer contributions and the member contributions are labeled. The contributions exclude amounts payable for the Non-Contributory Group Insurance.

The dashed black line in the bottom graph shows the gross normal cost. The difference between the dashed black line and the purple bar is the State and Local employers' portion of the normal cost.

The solid black line is the tread water line based on the Actuarial Value of Assets. Because the tread water metric equals the normal cost plus interest on the UAL, the difference between the solid black line and the dashed black line is the interest on the UAL. When the contributions exceed the solid line, as is the case throughout the projection period for both State and Local employers, the UAL is expected to decrease and the funded ratio is expected to increase. If contributions fall below the solid black line, the UAL would be expected to increase and the funded ratio would be expected to decrease.

While total member contributions are expected to increase throughout the projection period based on payroll increases, the State's contributions are expected to remain relatively steady until the projected lottery revenue offsets run out in FYE 2047, at which point there is an increase. Following that, when the System reaches 100%, the contributions drop down to the normal cost level. Because the appropriated amounts equal the Statutory contributions, the contributions are at the level necessary to pay down the UAL and the tread water line decreases relative to the Statutory contribution. Additionally, expected lottery revenue that is contributed each year in excess of the Statutory contribution also helps pay down the UAL sooner.

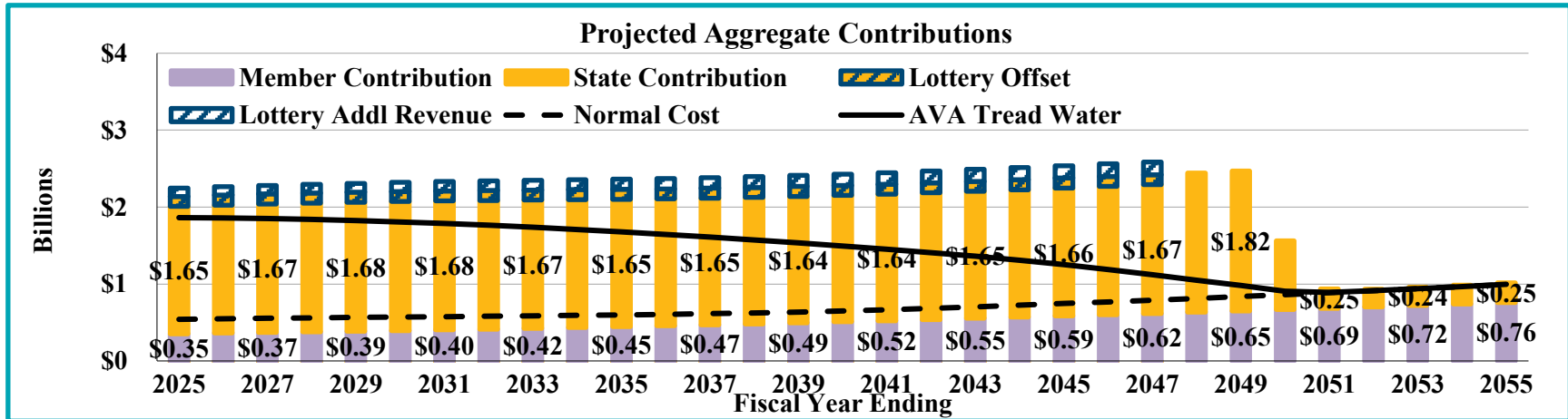
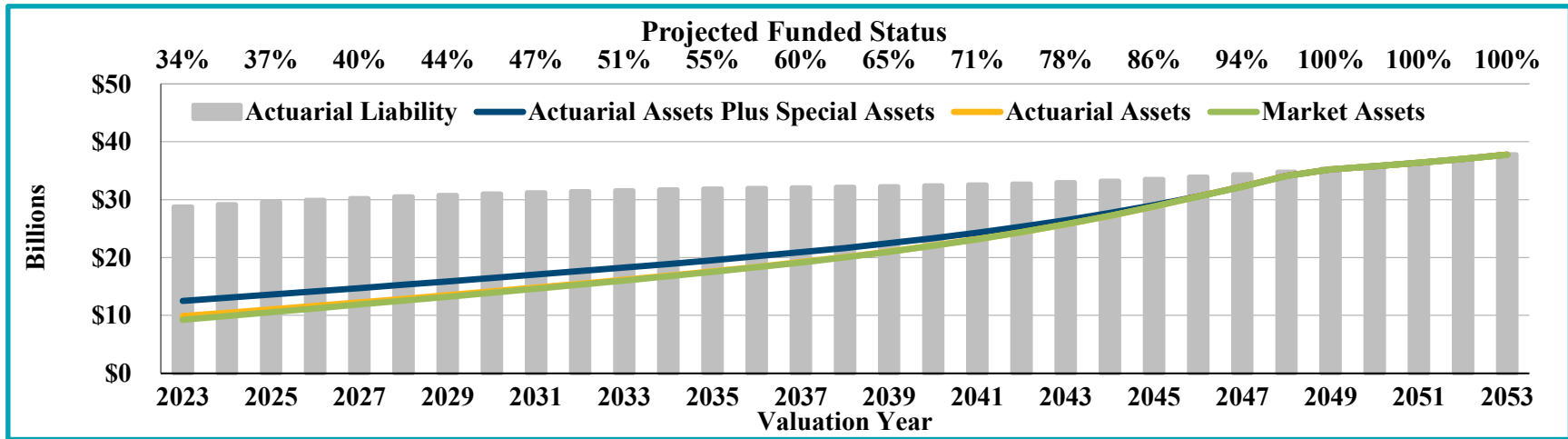
The Local employers' contributions gradually increase over the next five years as deferred investment losses are recognized in the Actuarial Value of Assets before leveling off for the next ten years and then once again gradually increasing. The State-paid Local contributions gradually decrease as the population eligible for the Chapter 133, P.L. 2001 benefit enhancements decreases.

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SECTION I – BOARD SUMMARY

Baseline: 7.0% return for all years

State

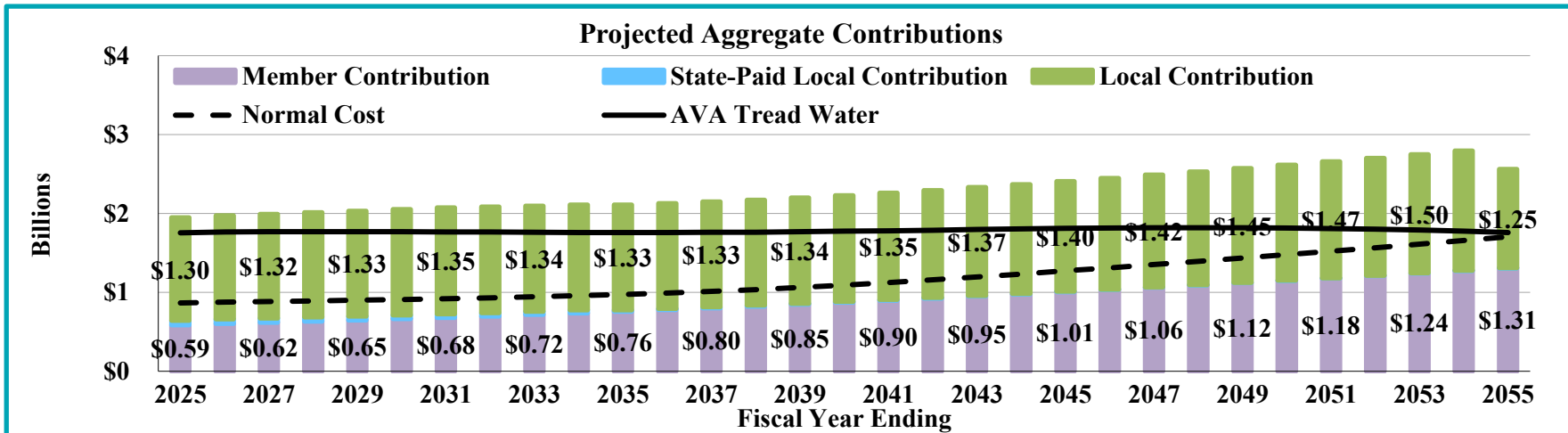
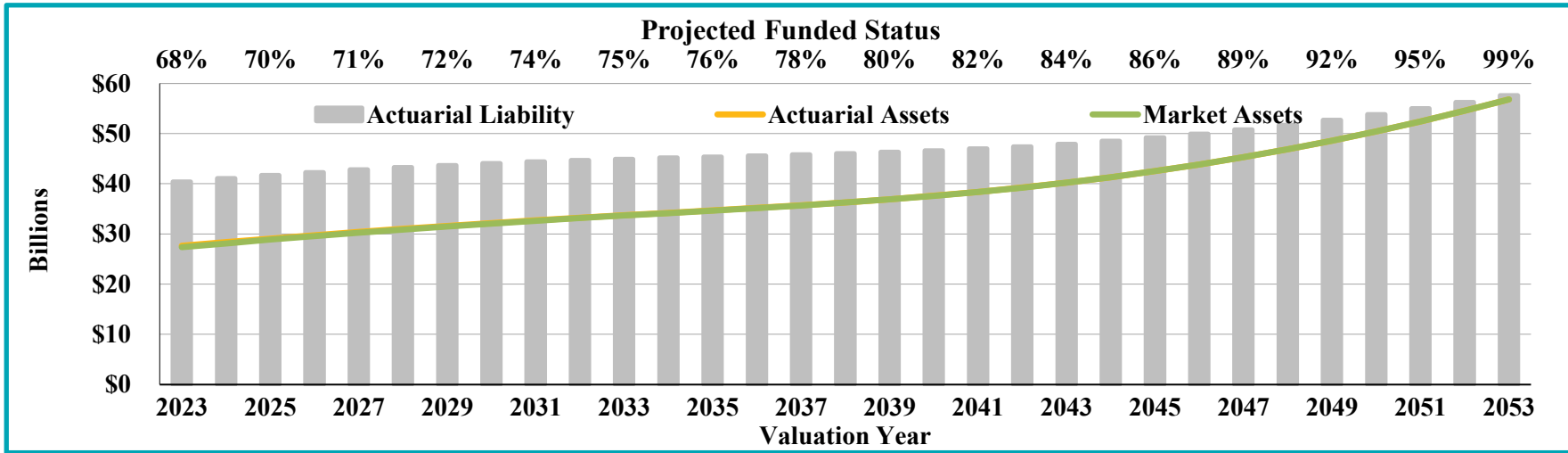


PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
 JULY 1, 2023 ACTUARIAL VALUATION

SECTION I – BOARD SUMMARY

Baseline: 7.0% return for all years

Local Employers



SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

Actuarial valuations are based on a set of assumptions about future economic and demographic experience. These assumptions represent a reasonable estimate of future experience, but actual future experience will undoubtedly be different and may be significantly different. This section of the report is intended to identify the primary risks to the plan, provide some background information about those risks, and provide an assessment of those risks.

Identification of Risks

The fundamental risk to the System is that the contributions needed to pay the benefits become unaffordable. While there are a number of factors that could lead to contribution amounts becoming unaffordable, we believe the primary risks are:

- Investment risk,
- Assumption change risk, and
- Contribution risk.

Other risks that we have not identified may also turn out to be important.

Investment risk is the potential for investment returns to be different than expected. Lower investment returns than anticipated will increase the unfunded actuarial liability necessitating higher contributions in the future unless there are other gains that offset these investment losses. The potential volatility of future investment returns is determined by the System's asset allocation and the affordability of the investment risk is determined by the amount of assets invested relative to the size of the plan sponsor or other contribution base.

Assumption change risk is the potential for the environment to change such that future valuation assumptions are different than the current assumptions. For example, declines in interest rates over the last three decades resulted in higher investment returns for fixed income investments, but lower expected future returns necessitating either a change in investment policy, a reduction in discount rate, or some combination of the two. Assumption change risk is an extension of the other risks identified, but rather than capturing the risk as it is experienced, it captures the cost of recognizing a change in environment when the current assumption is no longer reasonable.

Contribution risk is the potential for actual future contributions to deviate from expected future Statutory contributions. There are different sources of contribution risk ranging from the sponsor choosing to not make contributions in accordance with the funding policy to material changes in the contribution base (e.g., covered employees, covered payroll, sponsor revenue, lottery revenue) that affect the amount of contributions the System can collect.

The charts below show the components of changes in the Unfunded Actuarial Liability (UAL) for the State and Local employers over the last 10 years, including investment gains and losses on the Actuarial Value of Assets, liability gains and losses, assumption and plan/policy changes, and contributions compared to the tread water level of contributions (normal cost plus interest on the UAL.) The net UAL change is shown by the dark blue line. Tables II-1 and II-2 below the chart summarize the changes in the UAL over the last 10 years.

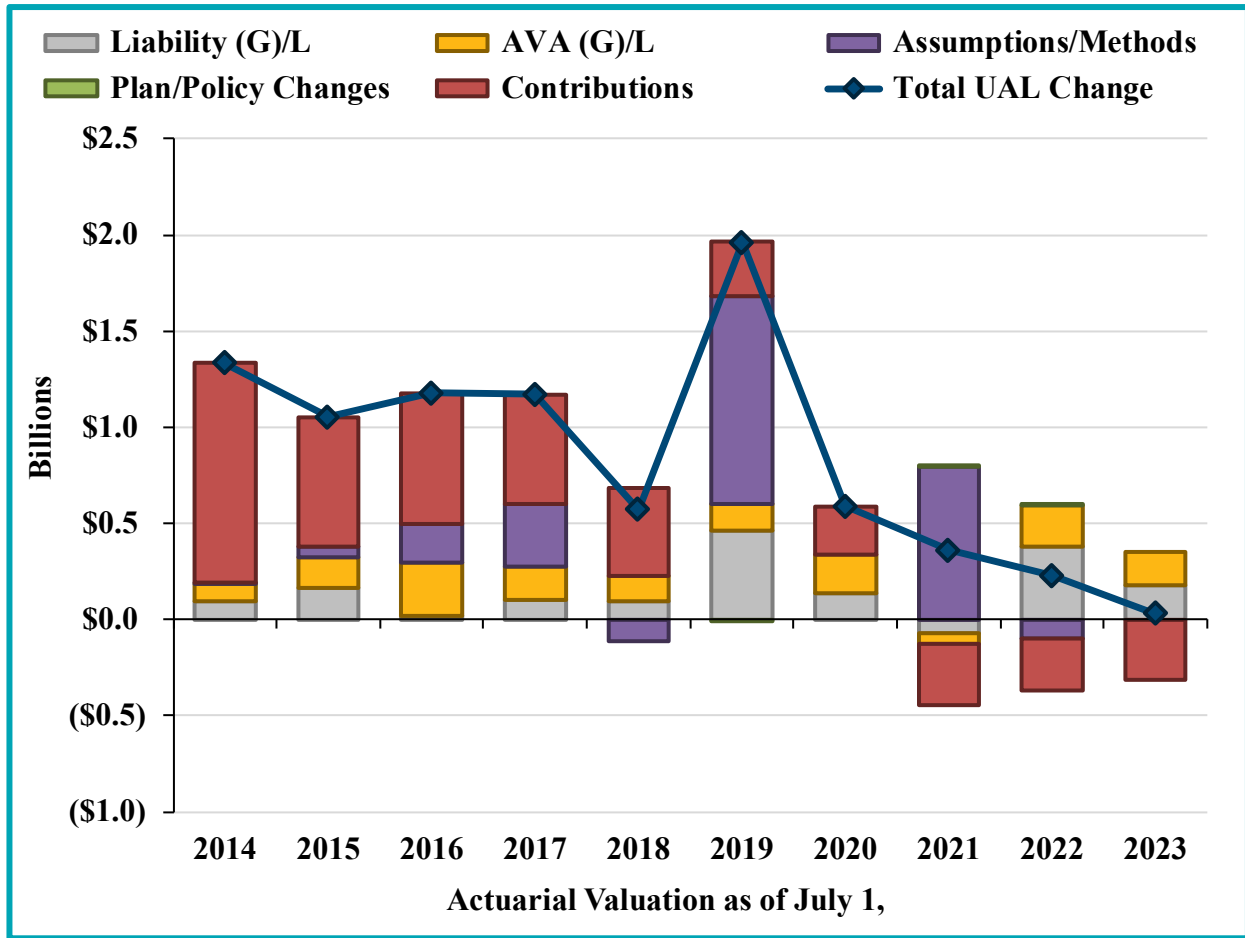
**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

These total changes in UAL support our identification of investment returns, assumption changes, and contributions as the primary risks to the System.

Historical Changes in UAL 2014-2023

State



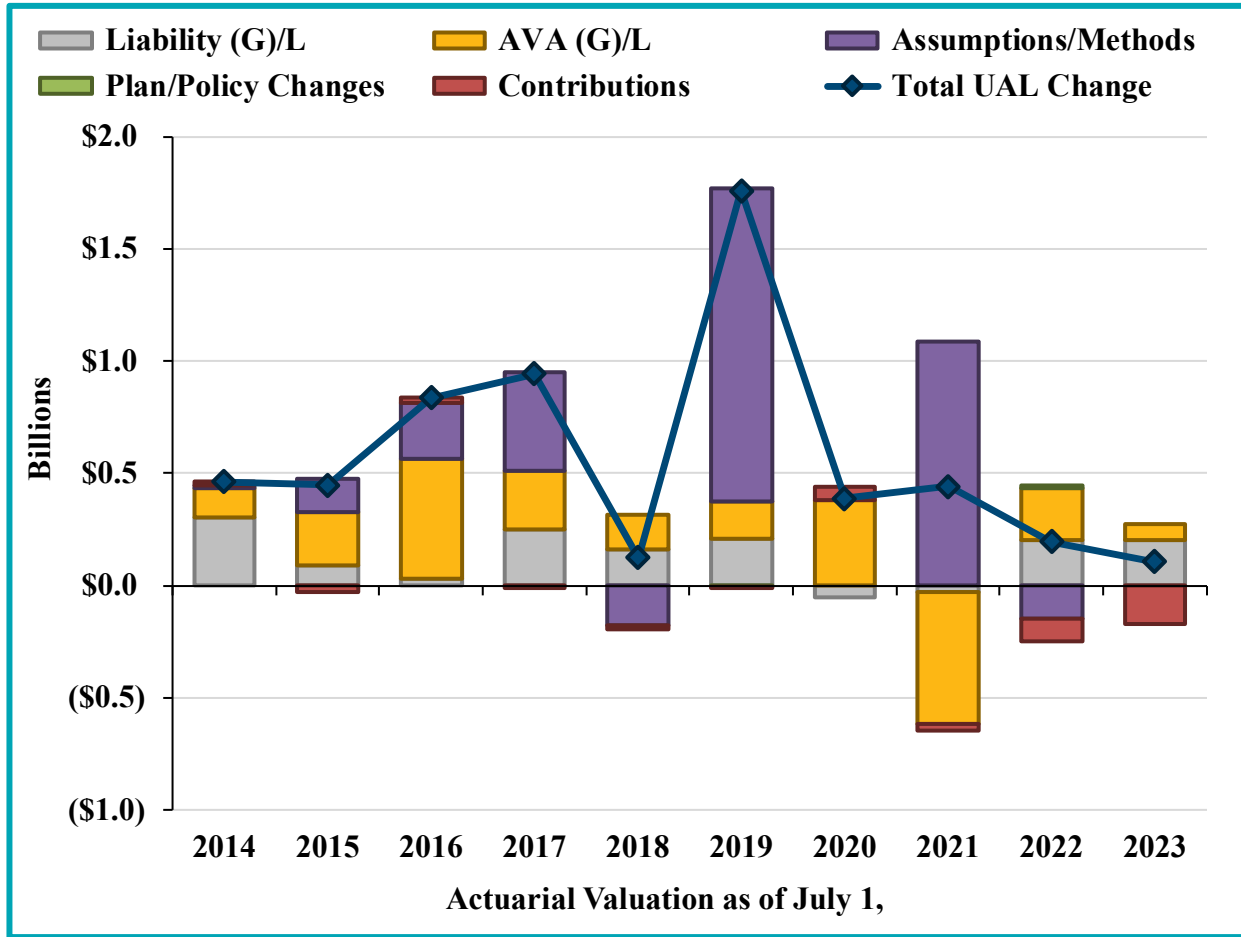
| | 2014 | 2015 | 2016 | 2017 | State 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Total |
|----------------------------|-------------------|-------------------|-------------------|-------------------|-----------------|-------------------|-----------------|-----------------|-----------------|----------------|-------------------|
| Discount Rate | 7.90% | 7.90% | 7.65% | 7.50% | 7.50% | 7.30% | 7.30% | 7.00% | 7.00% | 7.00% | |
| Source | | | | | | | | | | | |
| AVA (G)/L | \$ 87.5 | \$ 162.4 | \$ 274.0 | \$ 171.9 | \$ 131.0 | \$ 140.7 | \$ 199.0 | \$ (56.7) | \$ 217.2 | \$ 169.4 | \$ 1,496.4 |
| Liability (G)/L | 95.3 | 164.5 | 21.2 | 103.2 | 93.3 | 461.3 | 138.4 | (70.6) | 377.5 | 179.4 | 1,563.4 |
| Assumptions/Methods | 10.7 | 53.2 | 199.0 | 328.7 | (112.3) | 1,081.7 | 0.0 | 798.4 | (100.6) | 0.0 | 2,259.0 |
| Plan/Policy Changes | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | (6.6) | 0.0 | 4.8 | 2.9 | 0.0 | 1.1 |
| Contributions ¹ | 1,141.6 | 672.7 | 683.4 | 567.9 | 460.2 | 283.5 | 252.8 | (315.1) | (267.1) | (316.3) | 3,163.5 |
| Net UAL Change | \$ 1,335.2 | \$ 1,052.8 | \$ 1,177.6 | \$ 1,171.7 | \$ 572.1 | \$ 1,960.7 | \$ 590.1 | \$ 360.9 | \$ 230.0 | \$ 32.5 | \$ 8,483.4 |

¹ UAL change due to contributions (greater)/less than normal cost plus interest on the UAL

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

Local Employers



| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Total |
|----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-----------------|-----------------|-----------------|-----------------|-------------------|
| Discount Rate | 7.90% | 7.90% | 7.65% | 7.50% | 7.50% | 7.30% | 7.30% | 7.00% | 7.00% | 7.00% | |
| Source | | | | | | | | | | | |
| AVA (G)/L | \$ 129.1 | \$ 234.6 | \$ 536.0 | \$ 263.1 | \$ 154.9 | \$ 169.8 | \$ 383.2 | \$ (591.0) | \$ 234.1 | \$ 72.7 | \$ 1,586.5 |
| Liability (G)/L | 303.9 | 90.1 | 28.9 | 249.2 | 161.1 | 207.2 | (53.2) | (27.0) | 202.5 | 200.7 | 1,363.4 |
| Assumptions/Methods | 12.6 | 152.6 | 252.0 | 439.2 | (176.7) | 1,392.6 | 0.0 | 1,086.4 | (150.1) | 0.0 | 3,008.3 |
| Plan/Policy Changes | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | (6.4) | 0.0 | 0.0 | 8.2 | 0.0 | 1.8 |
| Contributions ¹ | 15.6 | (29.6) | 20.5 | (9.2) | (16.2) | (4.2) | 57.8 | (26.0) | (99.5) | (168.2) | (259.0) |
| Net UAL Change | \$ 461.2 | \$ 447.7 | \$ 837.4 | \$ 942.2 | \$ 123.0 | \$ 1,758.9 | \$ 387.8 | \$ 442.4 | \$ 195.2 | \$ 105.2 | \$ 5,701.1 |

¹ UAL change due to contributions (greater)/less than normal cost plus interest on the UAL

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SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

On a smoothed asset basis, the investment gains and losses (gold bars) from 2014 to 2023 largely reflect investment losses, with the exception of the investment gain during FYE 2021. In aggregate, over the 10-year period, investment losses have added approximately \$1,496.4 million to the State's UAL and approximately \$1,586.5 million to the Local employers' UAL.

On the liability side (gray bars), the System has experienced mostly losses, increasing the UAL by approximately \$1,563.4 million for the State and \$1,363.4 million for Local employers over the 10-year period. Triennial experience studies are performed in an effort to identify emerging trends and avoid consistent liability gains or losses.

Assumption and method changes (purple bars) over the last 10 years have increased the UAL by approximately \$2,259.0 million for the State and \$3,008.3 million for Local employers. The significant assumption changes have included reductions in the discount rate from 7.90% to 7.00% as well as decreases in mortality rates, increases in projected mortality improvement and adjustments to salary increase rates. It is important to note that the discount rate changes simply reflect a downward revision to the estimate of future investment earnings and ultimately costs will be determined by actual investment earnings.

Plan and policy changes (green bars) over the last 10 years have increased the UAL by approximately \$1.1 million for the State and \$1.8 million for Local employers.

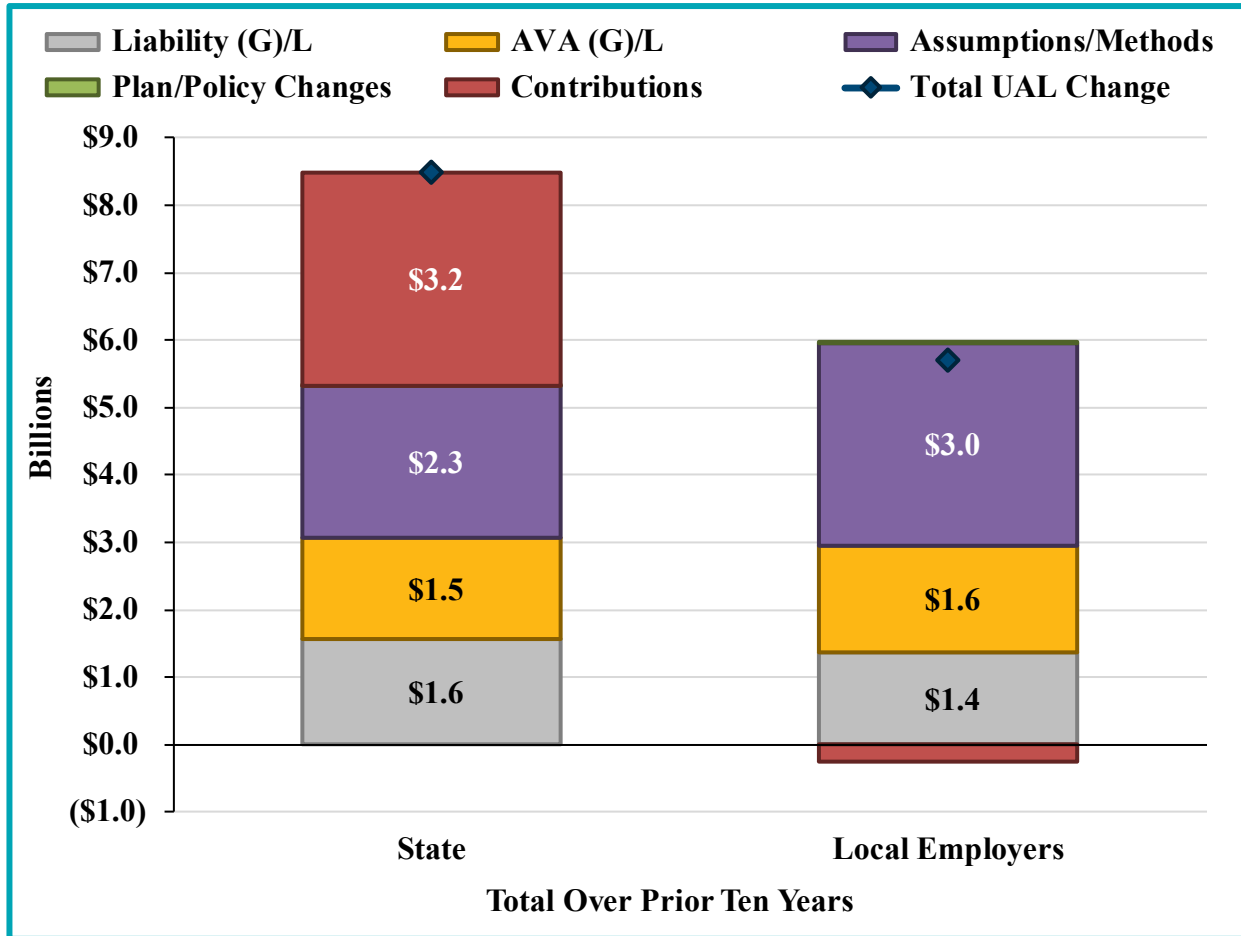
Each year, the UAL is expected to increase for benefit accruals attributable to the current year (the normal cost) and interest on the UAL. This expected increase is referred to as the tread water level. If contributions are greater than the tread water level, the UAL is expected to decrease. Conversely, if contributions are less than the tread water level, the UAL is expected to increase. Changes due to contributions greater or less than the tread water level (red bars) have increased the State's UAL by approximately \$3,163.5 million and decreased Local employers' UAL by approximately \$259.0 million over the last 10 years.

In general, the amortization methods used to determine the Statutory contributions are designed to collect more than the tread water level. However, contributions may be less than this threshold due to the State appropriating less than the Statutory contributions. Notably, the trend of contributions less than the tread water level reversed beginning in FYE 2021 which resulted in the contributions decreasing the UAL since then.

The following chart shows the total changes to the UAL for each portion of the System over the 10-year period by source.

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Plan Maturity Measures

The future financial condition of a mature pension plan is more sensitive to each of the risks identified above than a less mature plan. Before assessing each of these risks, it is important to understand the maturity of the plan compared to other plans and how the maturity has changed over time.

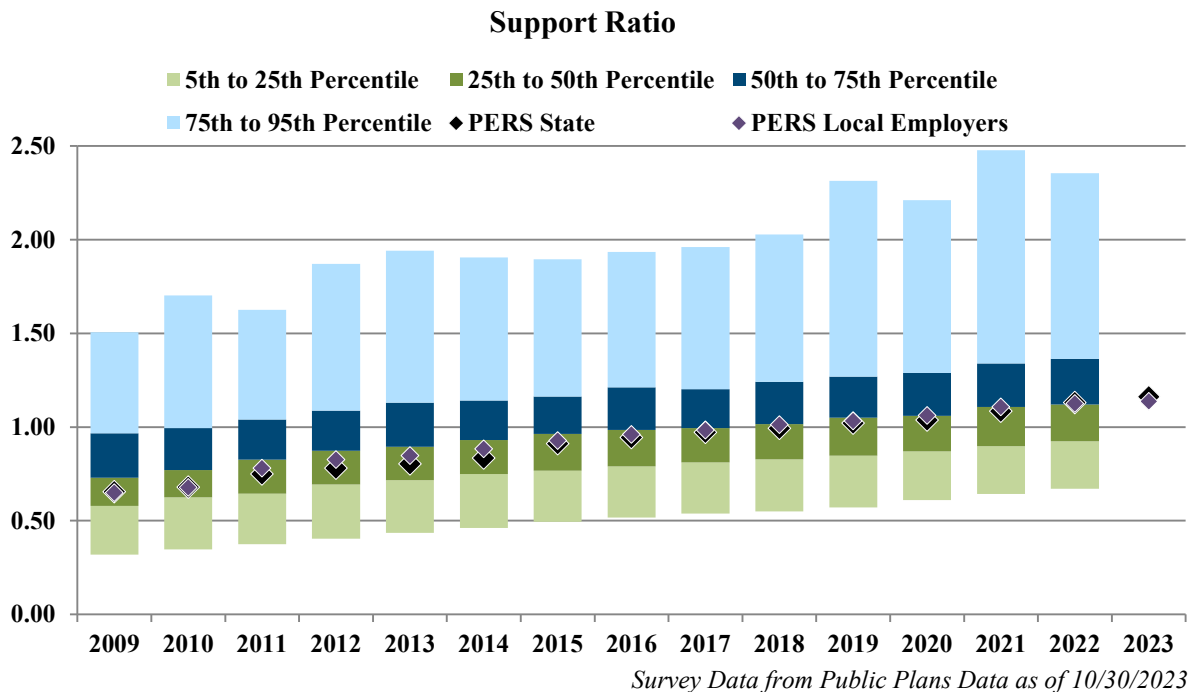
Plan maturity can be measured in a variety of ways, but they all get at one basic dynamic - the larger the plan is compared to the contribution or revenue base that supports it, the more sensitive the plan will be to risk. The measures below have been selected as the most important in understanding the primary risks identified for the System.

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Inactives per Active (Support Ratio)

One simple measure of plan maturity is the ratio of the number of inactive members (those receiving benefits or entitled to a deferred benefit) to the number of active members. We refer to this ratio as the *support ratio*. The revenue base supporting the plan is usually proportional to the number of active members, so a relatively high number of inactives compared to actives indicates a larger plan relative to its revenue base as well. We also discussed this risk metric in Section I.



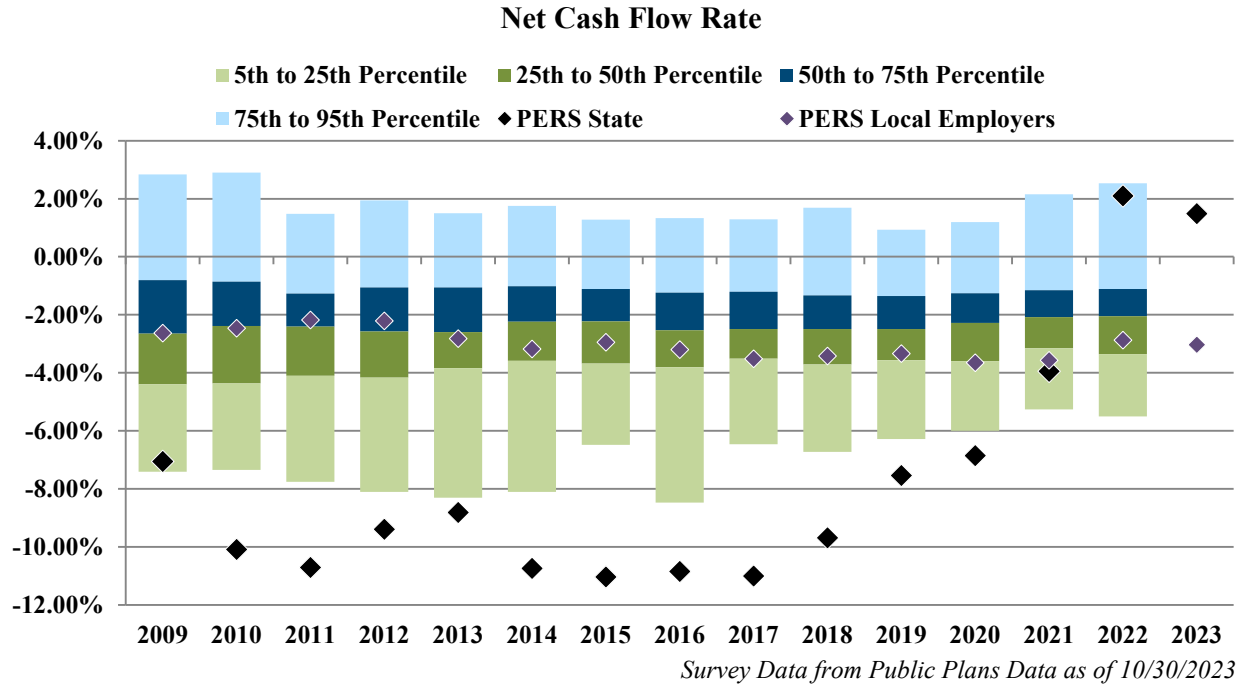
The chart above shows the distribution from the 5th to 95th percentile of support ratios for the plans in the Public Plans Database. The diamonds show how the State (black) and Local employers (purple) compare to other Systems dating back to 2009. Note that the PERS support ratios for State and Local employers are very similar to each other and overlap in some years. Both State and Local employers have been slightly less mature than the median plan. The support ratios increased following the Great Recession, but have since stabilized near the 50th percentile.

Net Cash Flow

The net cash flow of the plan as a percentage of the beginning of year assets indicates the sensitivity of the plan to short-term investment returns. Net cash flow is equal to contributions less benefit payments and administrative expenses. Mature plans can have large amounts of benefit payments compared to contributions, particularly if they are well funded. Investment losses in the short-term are compounded by the net withdrawal from the plan leaving a smaller asset base to try to recover from the investment losses. Large negative cash flows can also create liquidity issues. We also discussed this risk metric in Section I.

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The chart above shows the distribution from the 5th to 95th percentile of net cash flow for the plans in the Public Plans Database. The diamonds show how the State and Local employers' net cash flow compares to other public plans. The State had been at or below the 5th percentile compared to the database of other public plans in terms of negative cash flow as a percentage of assets, causing a serious defunding risk for the System. However, with the State's increased appropriation percentages, the State's net cash flow has improved considerably since 2017. For State, the net cash flow has been positive since 2022 and will likely remain above the 75th percentile for 2023. The Local employers were near the 50th percentile from 2009 to 2013 and have since fallen closer to the 25th percentile.

Assessing Costs and Risks

The fundamental risk to the System is that the contributions needed to fund the benefits become unaffordable. Assessing this risk, however, is complex because there is no bright line of what is unaffordable and the contribution amounts themselves are affected not just by the experience of the System, but also by the interaction of that experience and decisions by the State and the Board related to the amount of contributions appropriated, assumptions, asset smoothing methods, and amortization periods.

Investment Risk - Stress Testing

This section illustrates stress testing of the investment return assumption and is an extension of the baseline projections provided in the Summary section. Under the baseline results, we assumed a 7.00% investment return assumption each year.

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SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

For stress testing purposes, we developed six hypothetical scenarios to illustrate the impact actual investment returns may have on future funded status and contribution amounts. The scenarios are balanced between positive and negative scenarios and are based on a lognormal distribution of one and five year expected returns as shown in the following table using the capital market assumptions from the New Jersey Division of Investment (geometric return of 8.05%, standard deviation of 12.05%).

| Distribution of Expected Average Annual Returns | | |
|--|---------------|---------------|
| Percentile | 1 Year | 5 Year |
| 5% | -9.8% | -0.3% |
| 25% | 0.4% | 4.6% |
| 50% | 8.1% | 8.1% |
| 75% | 16.5% | 11.8% |
| 95% | 29.7% | 17.3% |

The scenarios include: a one-year shock using the 5th and 95th percentile returns for one year; a 5-year moderate scenario using the 25th and 75th percentile returns for five years; and a 5-year significant scenario using the 5th and 95th percentile returns for five years. The table below summarizes the theoretical scenarios.

| FYE | Theoretical Scenarios | | | | | |
|------------|------------------------------|------------|----------------------|------------|-------------------------|------------|
| | 1-Yr Shock | | 5-Yr Moderate | | 5-Yr Significant | |
| | Neg | Pos | Neg | Pos | Neg | Pos |
| 2024 | -9.8% | 29.7% | 4.6% | 11.8% | -0.3% | 17.3% |
| 2025 | 7.0% | 7.0% | 4.6% | 11.8% | -0.3% | 17.3% |
| 2026 | 7.0% | 7.0% | 4.6% | 11.8% | -0.3% | 17.3% |
| 2027 | 7.0% | 7.0% | 4.6% | 11.8% | -0.3% | 17.3% |
| 2028 | 7.0% | 7.0% | 4.6% | 11.8% | -0.3% | 17.3% |
| 2029+ | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% |

In reviewing each of these projections, it is the future trends, not necessarily the actual values, that are important to observe in consideration of the risks of the System and the potential volatility of future funded ratios and Statutory contribution levels.

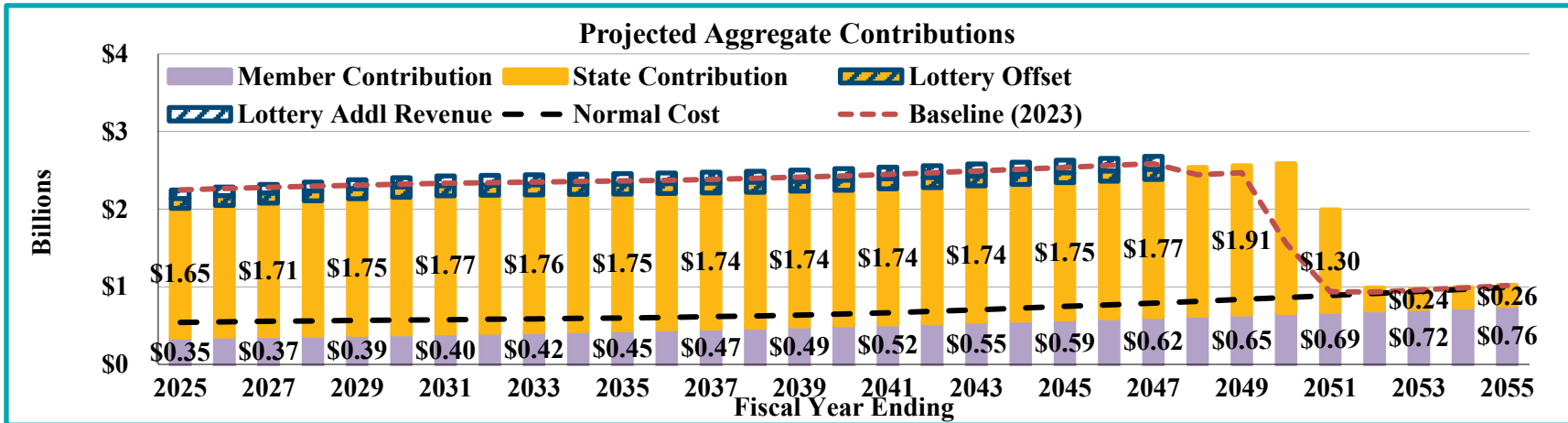
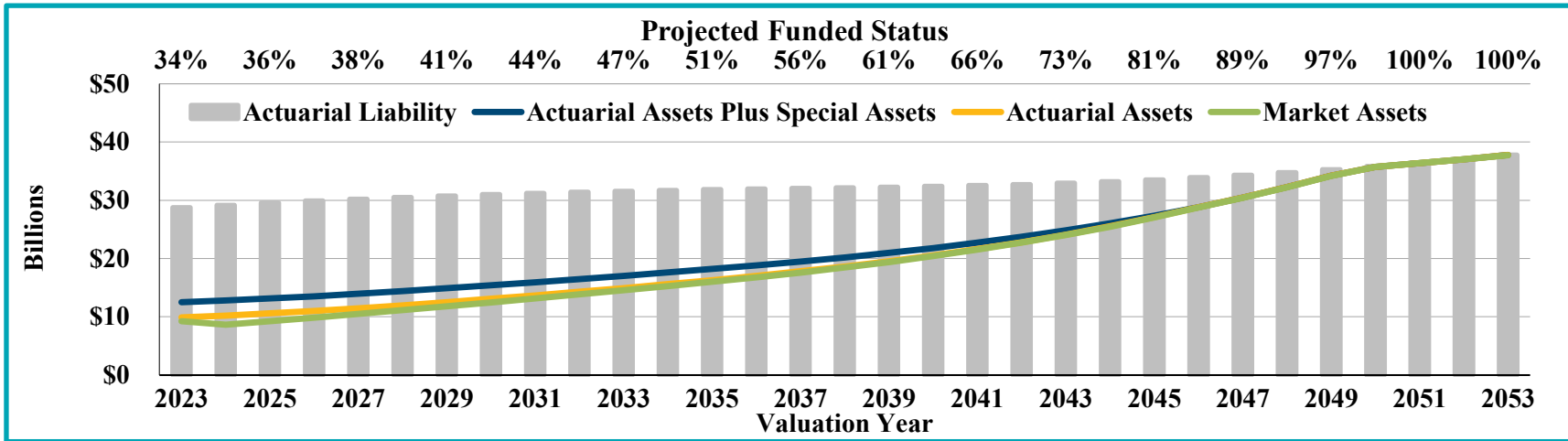
We note that when asset returns are high, excess assets may be used to offset employer costs. We have not shown the implications of a surplus and assume that the employer will always contribute at least the normal cost.

The graphs on the following pages show the projections under each of these theoretical scenarios. Instead of the tread water line shown for the baseline projection, the contribution graphs include a dashed red line representing the expected contributions under the baseline projections shown in the Summary section to facilitate the comparison between the particular scenario and the baseline projections assuming all assumptions are met.

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SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

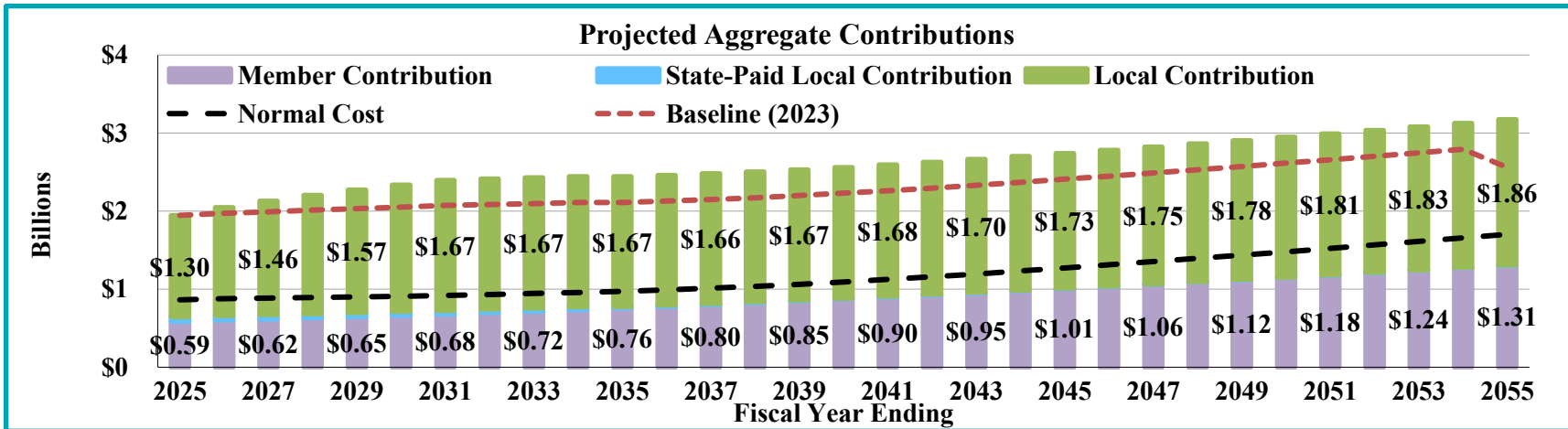
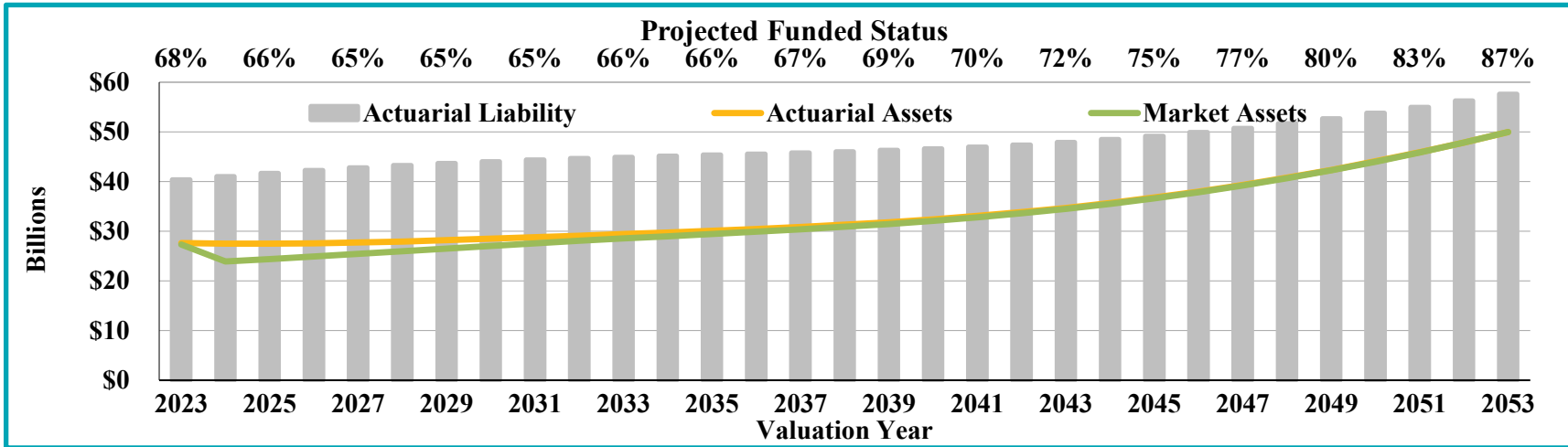
One-Year Negative Shock Scenario: -9.8% return FYE 2024, 7.0% after
State



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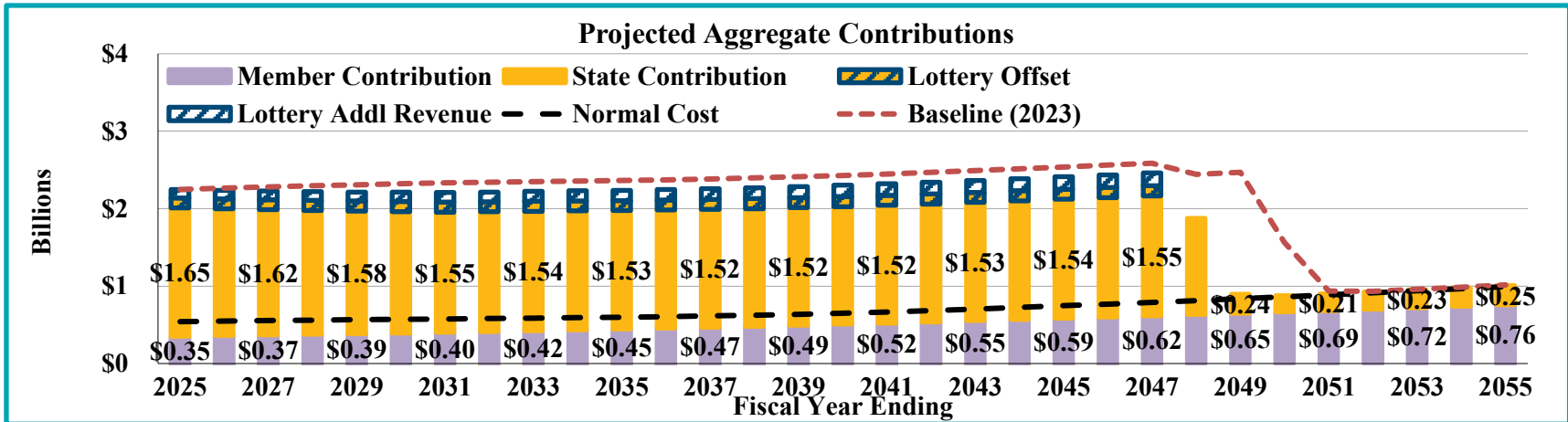
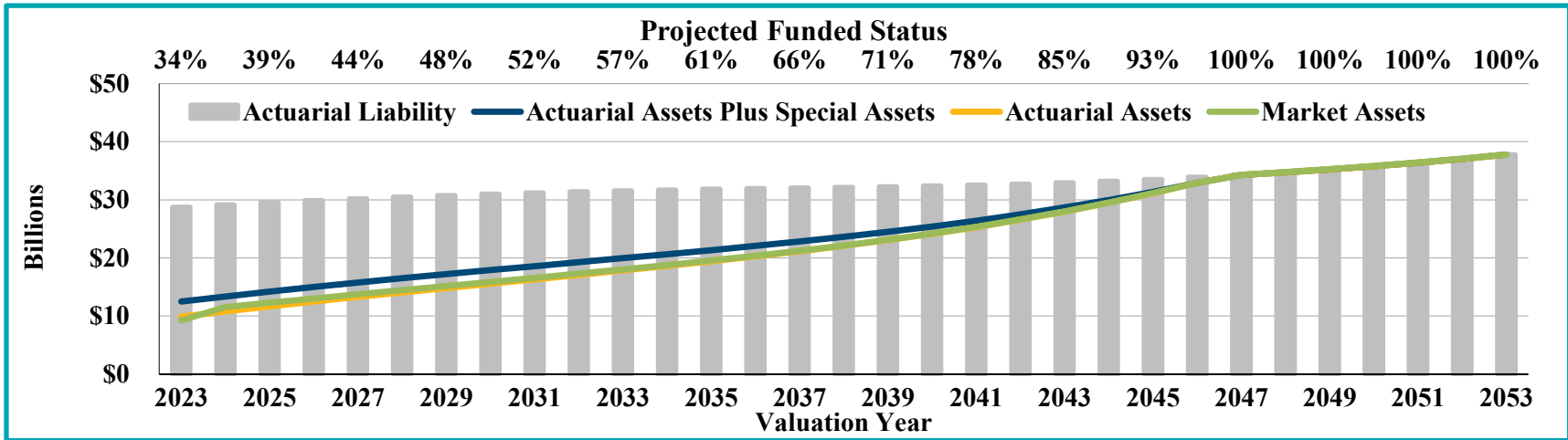
One-Year Negative Shock Scenario: -9.8% return FYE 2024, 7.0% after
Local Employers



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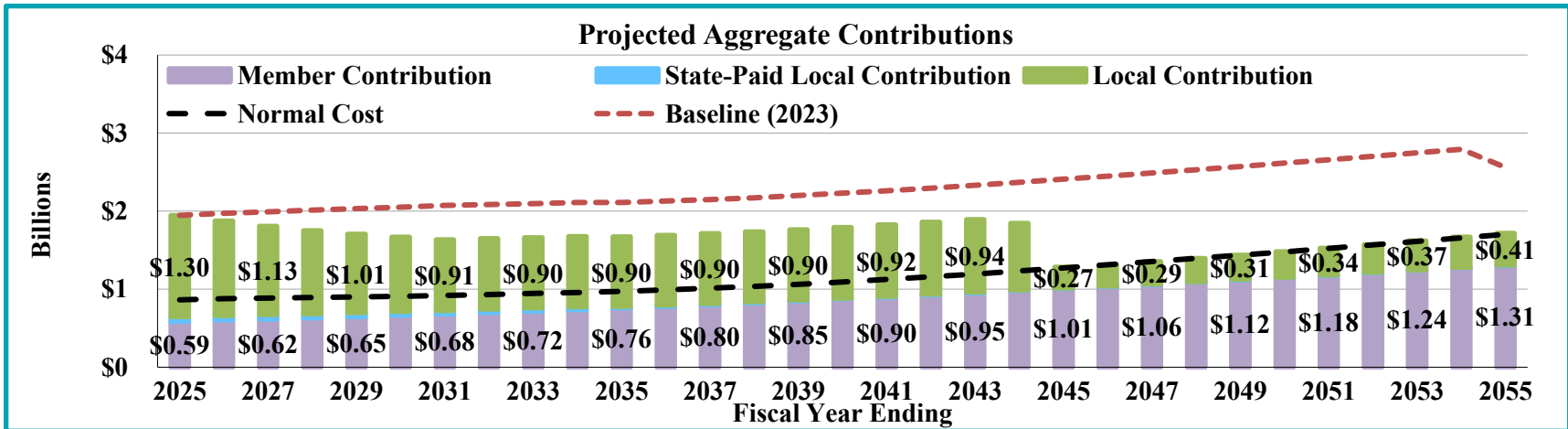
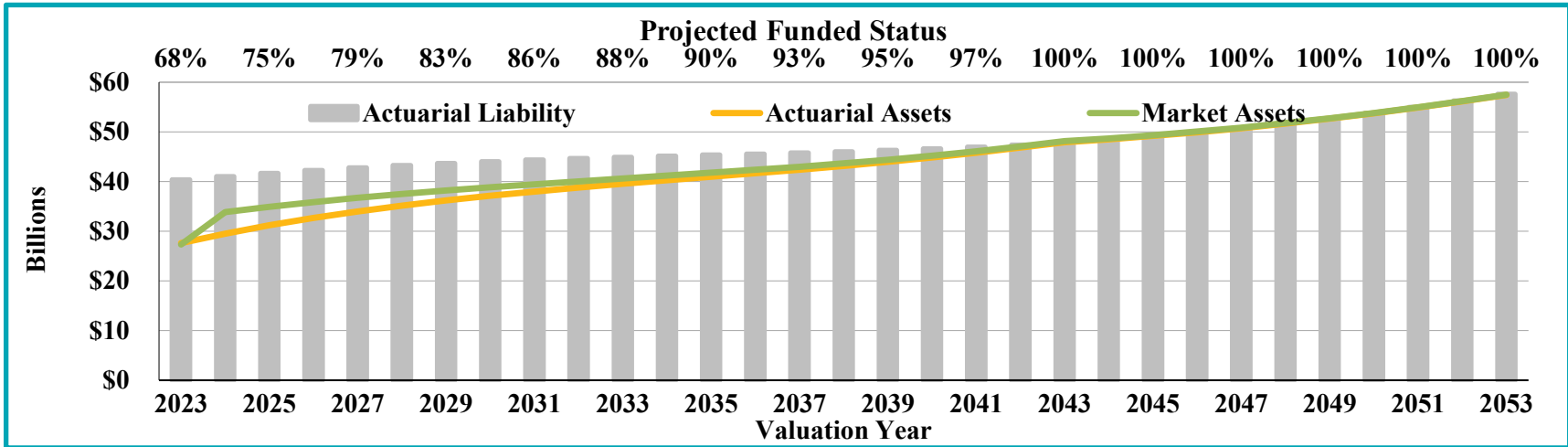
One-Year Positive Shock Scenario: 29.7% return FYE 2024, 7.0% after
State



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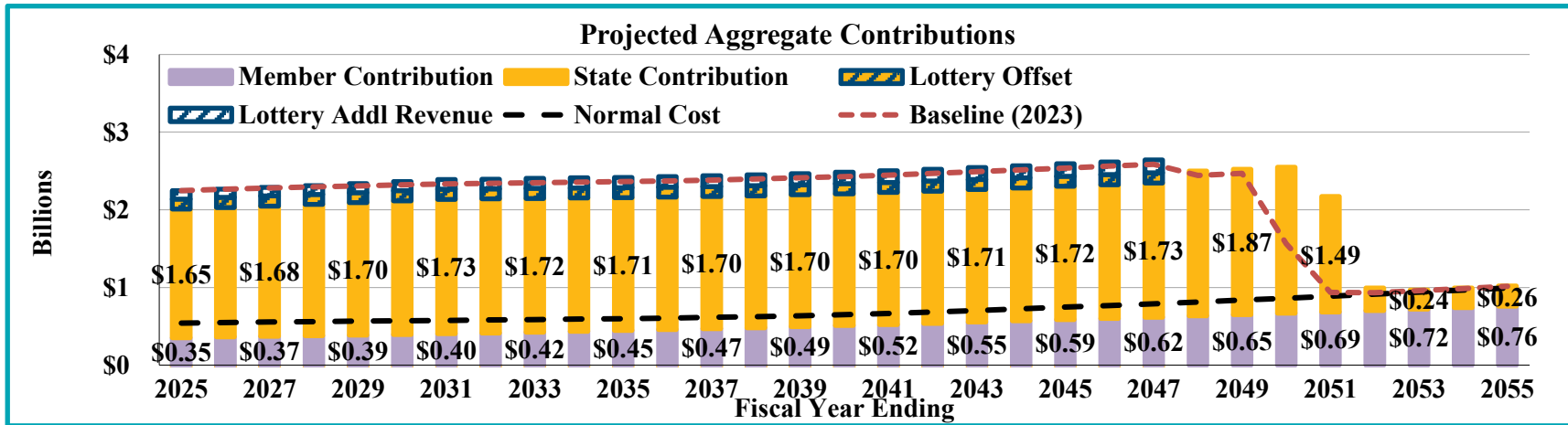
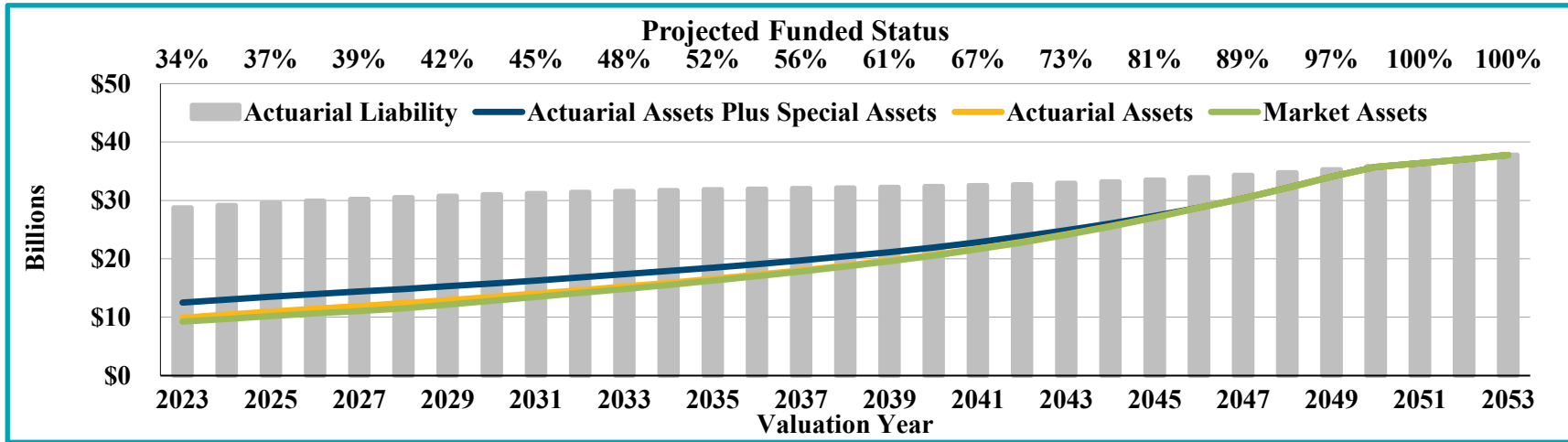
One-Year Positive Shock Scenario: 29.7% return FYE 2024, 7.0% after
Local Employers



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SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

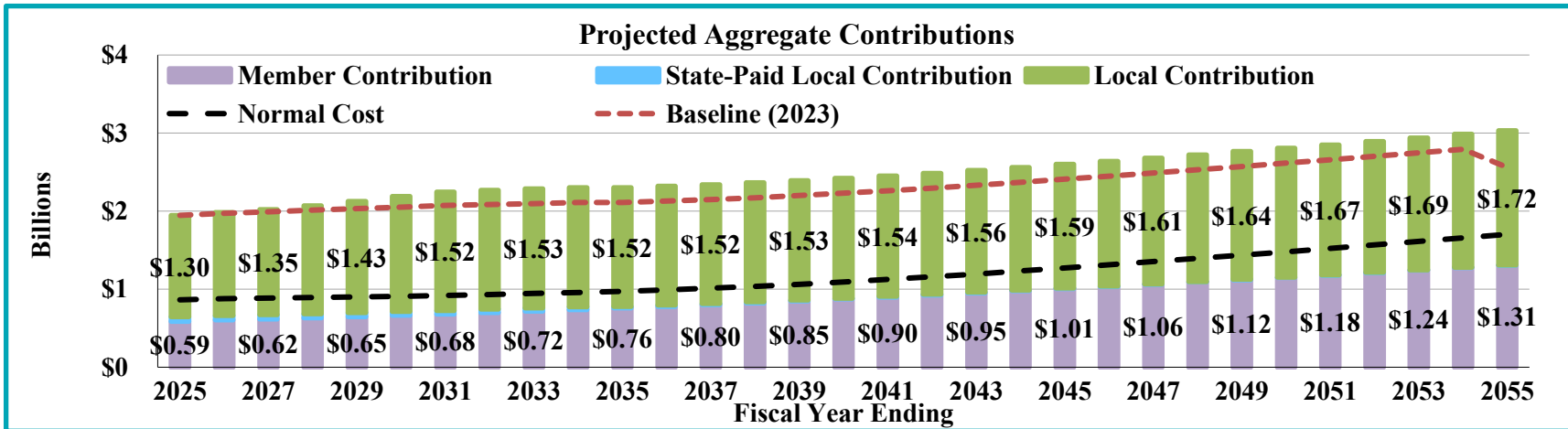
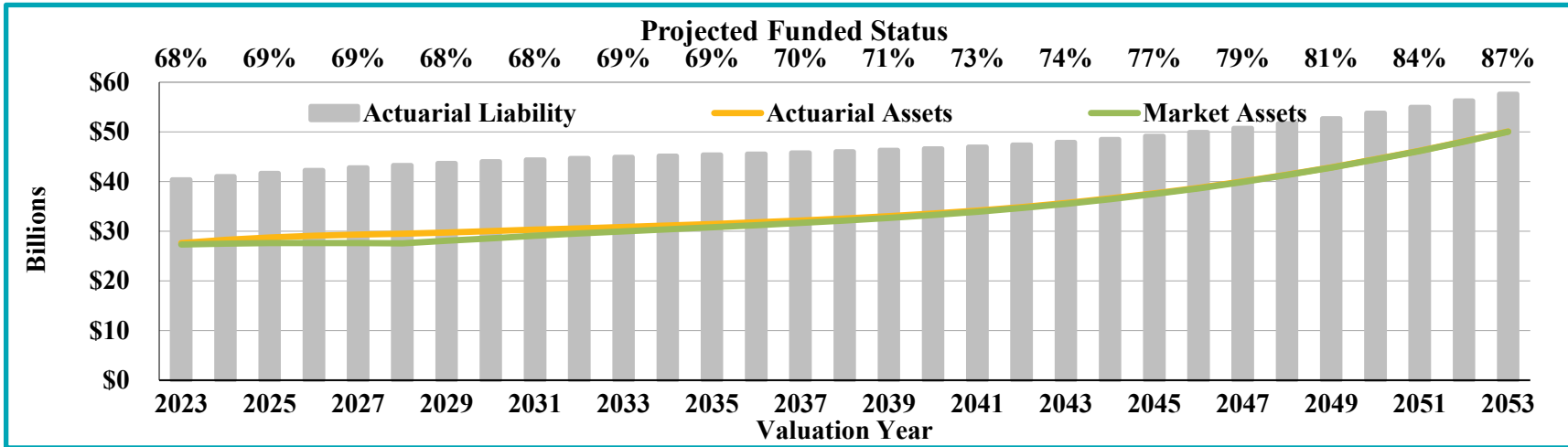
Five-Year Moderate Negative Scenario: 4.6% return FYE 2024-2028, 7.0% after
State



PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
 JULY 1, 2023 ACTUARIAL VALUATION

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

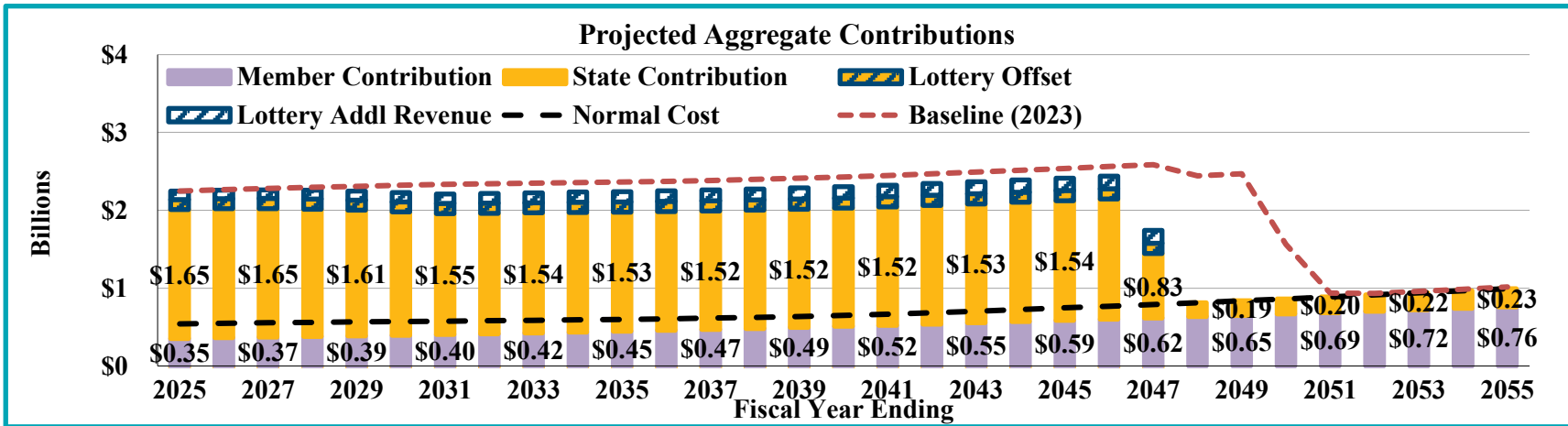
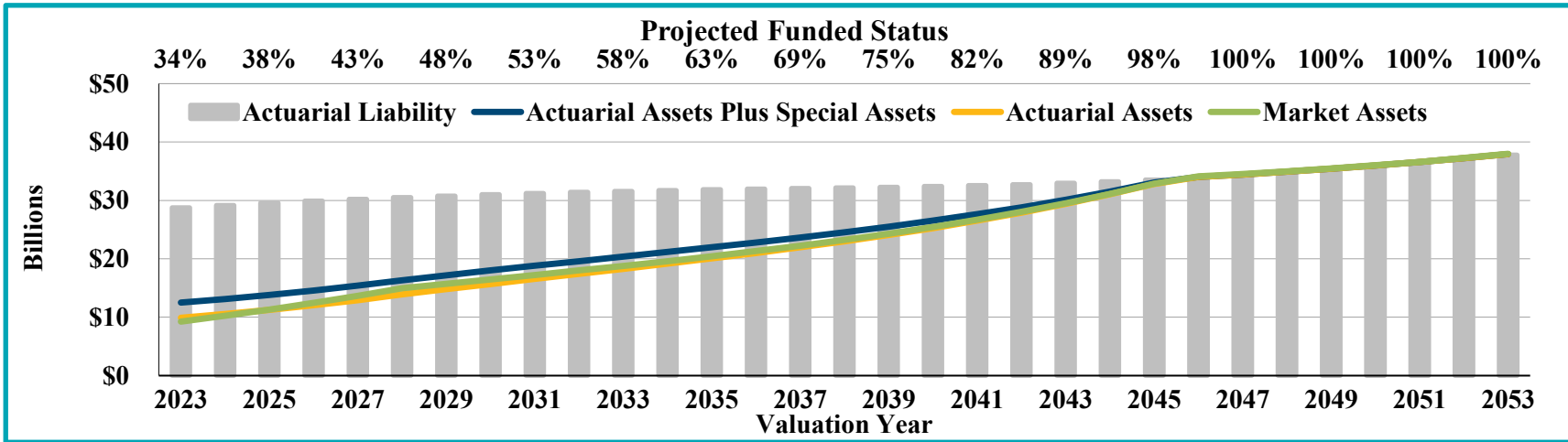
Five-Year Moderate Negative Scenario: 4.6% return FYE 2024-2028, 7.0% after
Local Employers



PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
 JULY 1, 2023 ACTUARIAL VALUATION

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

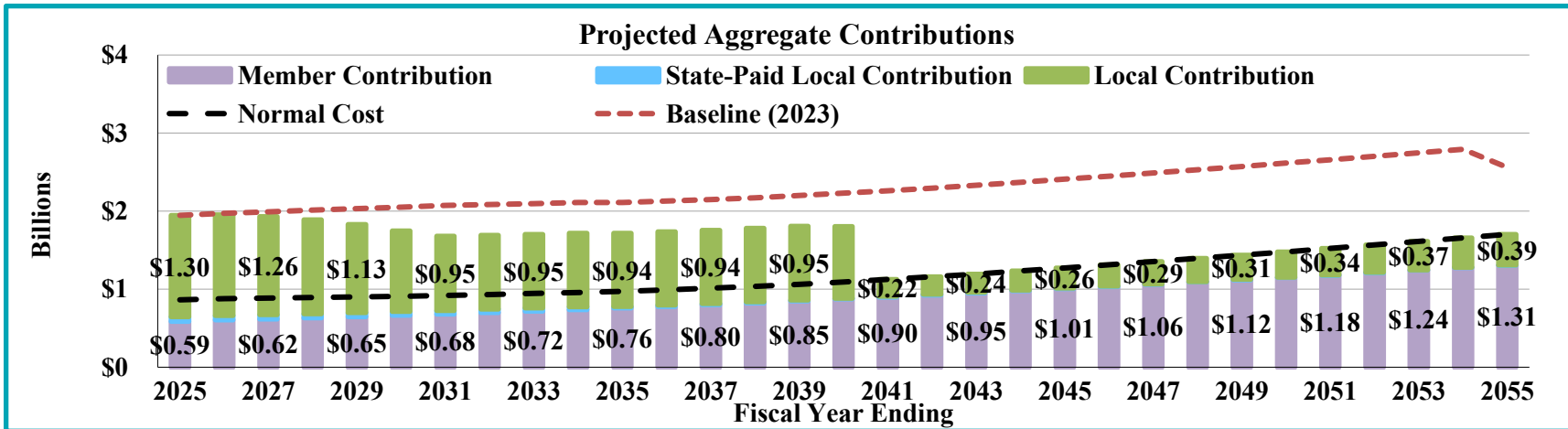
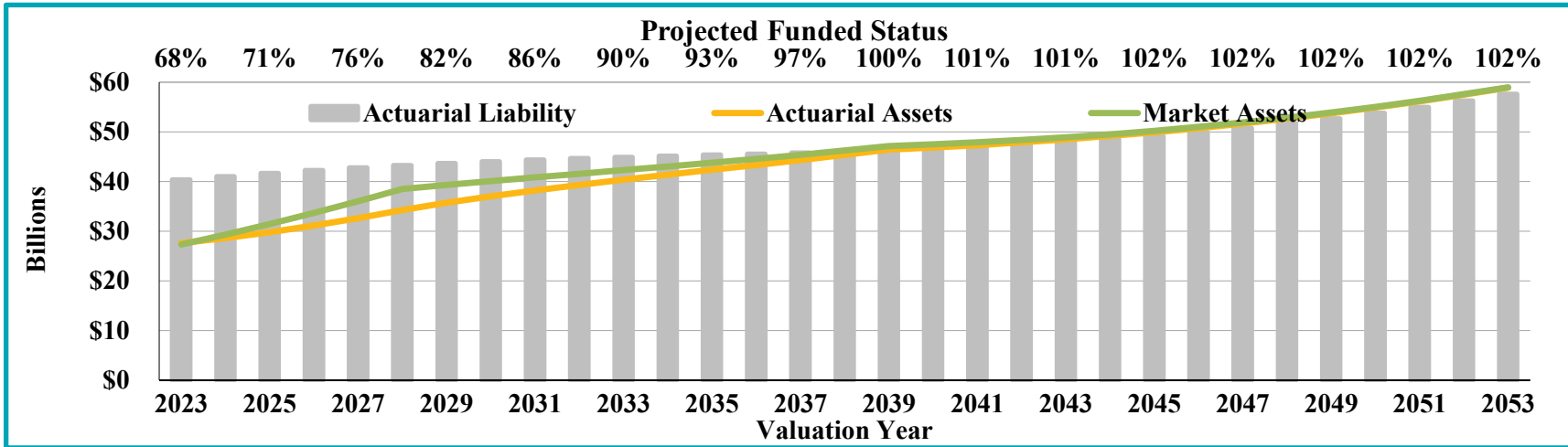
Five-Year Moderate Positive Scenario: 11.8% return FYE 2024-2028, 7.0% after
State



PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
 JULY 1, 2023 ACTUARIAL VALUATION

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

Five-Year Moderate Positive Scenario: 11.8% return FYE 2024-2028, 7.0% after
Local Employers

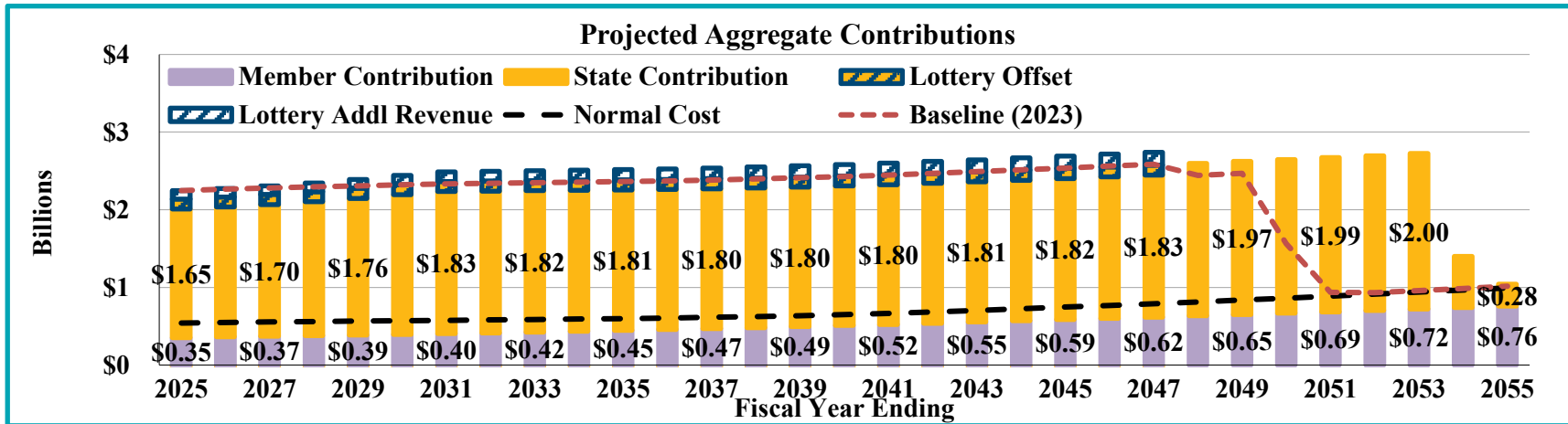
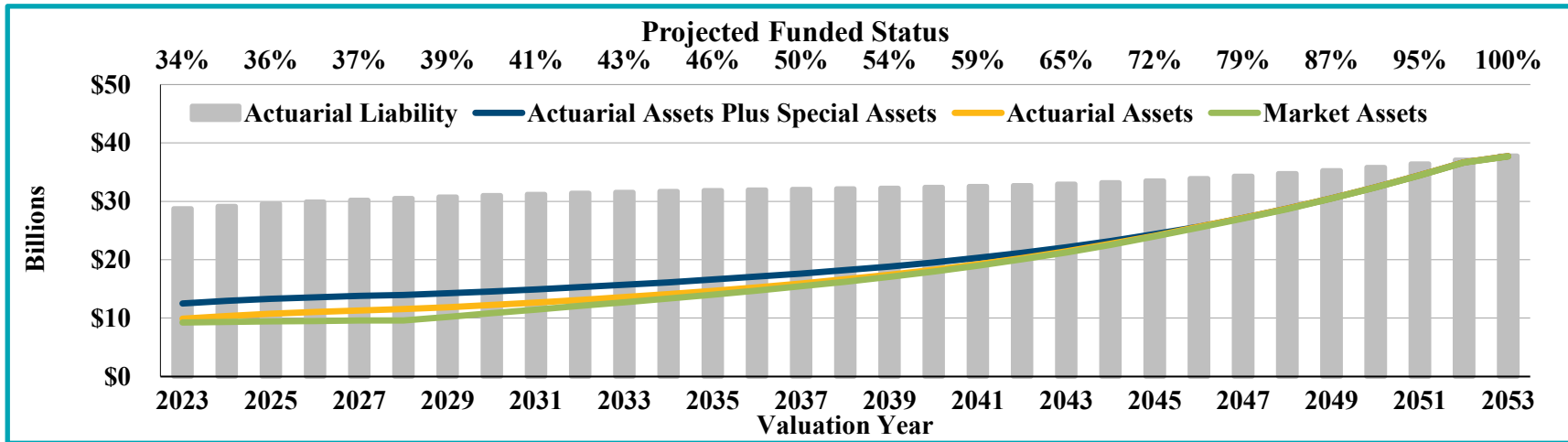


PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
 JULY 1, 2023 ACTUARIAL VALUATION

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

Five-Year Significant Negative Scenario: -0.3% return FYE 2024-2028, 7.0% after

State

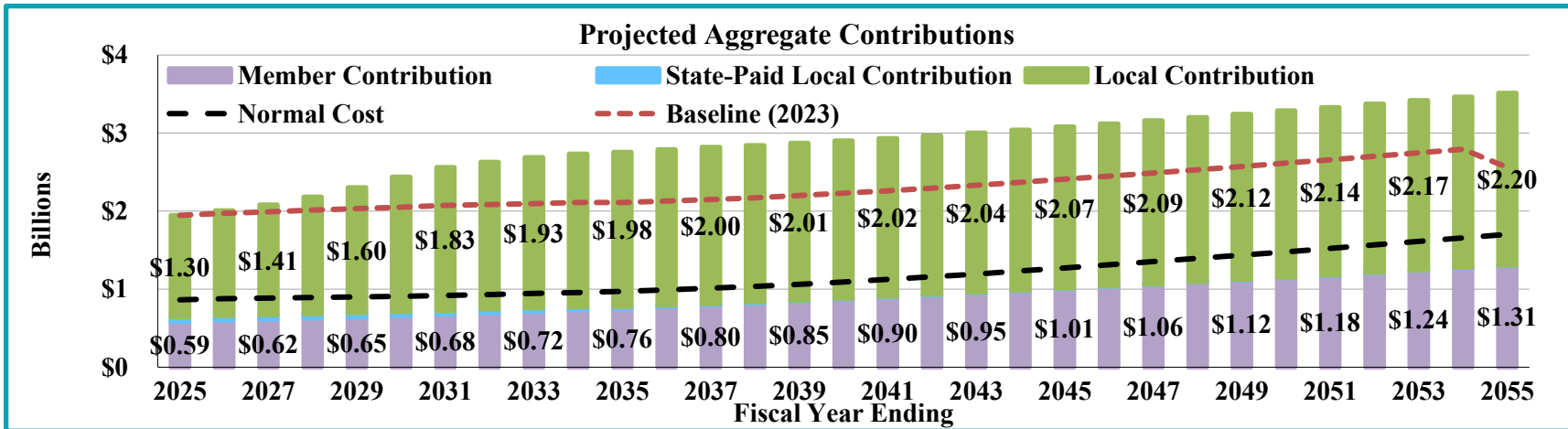
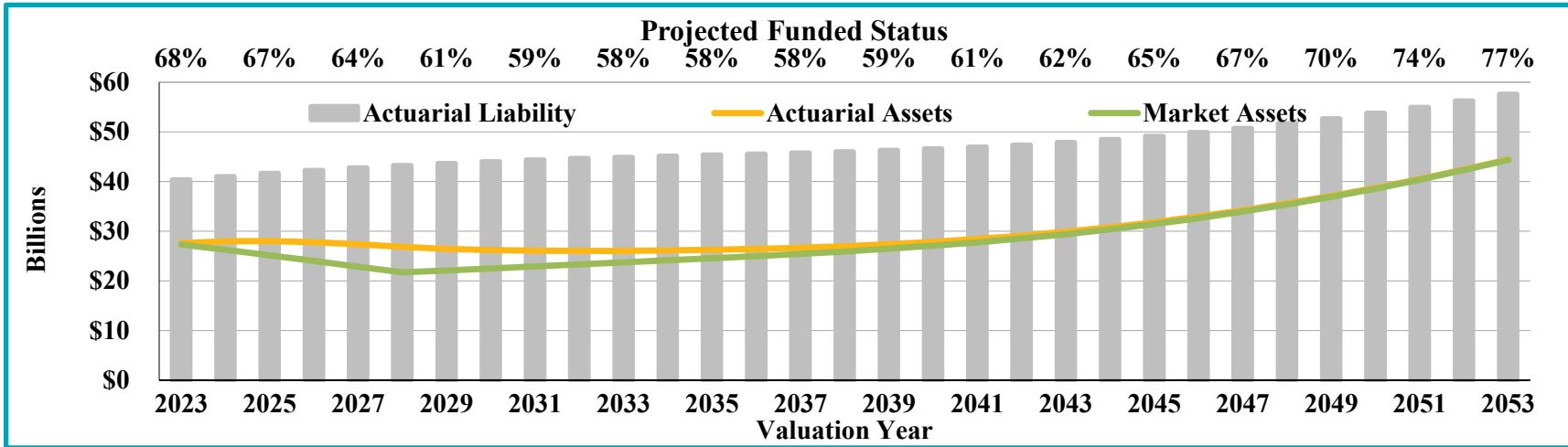


PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
 JULY 1, 2023 ACTUARIAL VALUATION

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

Five-Year Significant Negative Scenario: -0.3% return FYE 2024-2028, 7.0% after

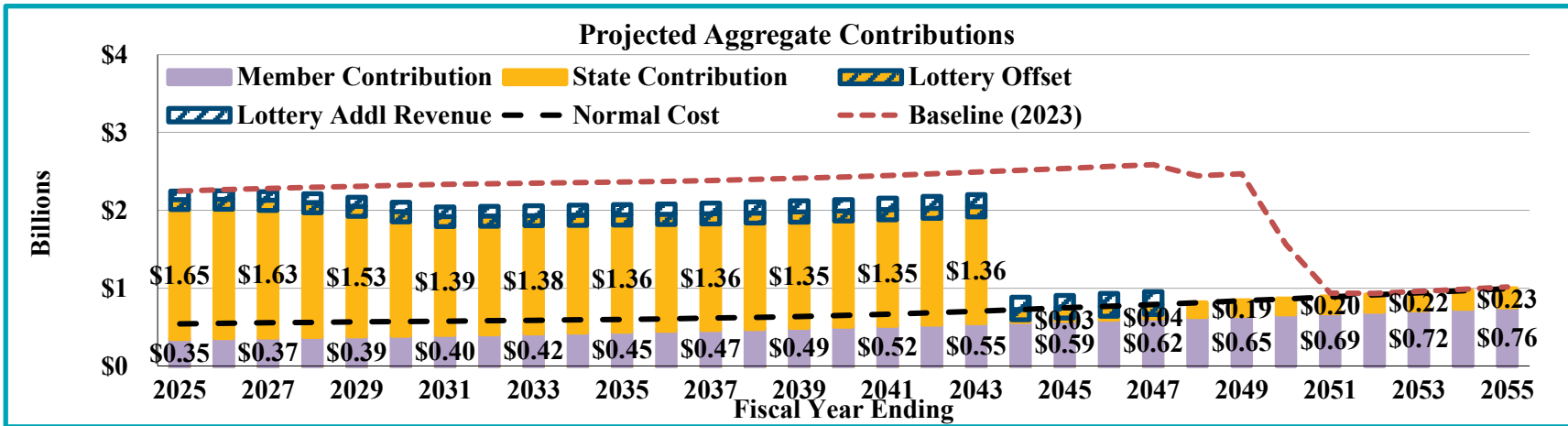
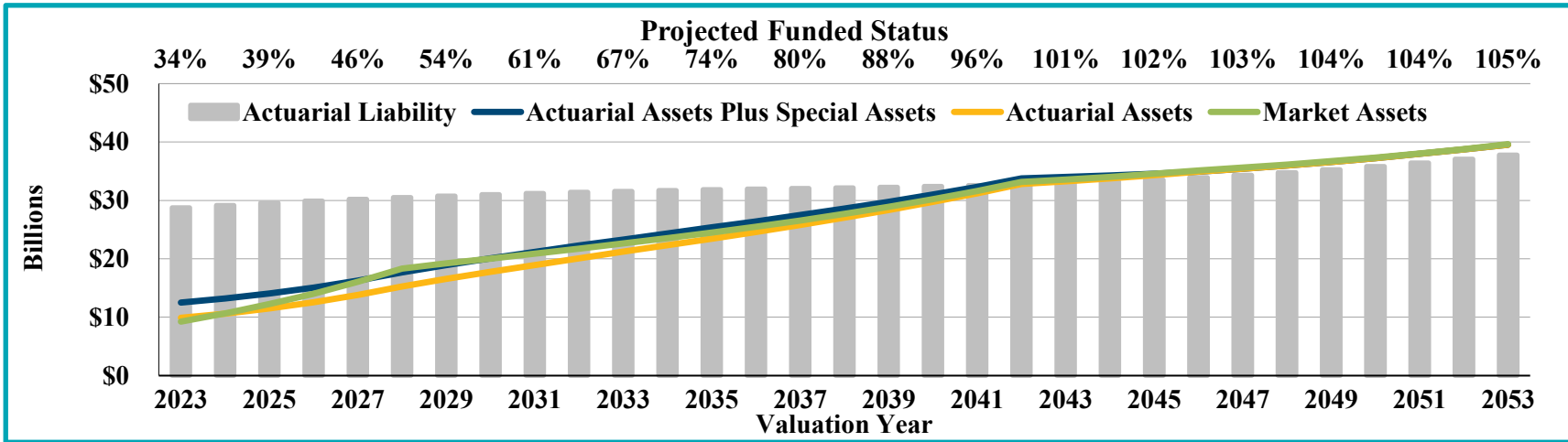
Local Employers



PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
 JULY 1, 2023 ACTUARIAL VALUATION

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

Five-Year Significant Positive Scenario: 17.3% return FYE 2024-2028, 7.0% after
State

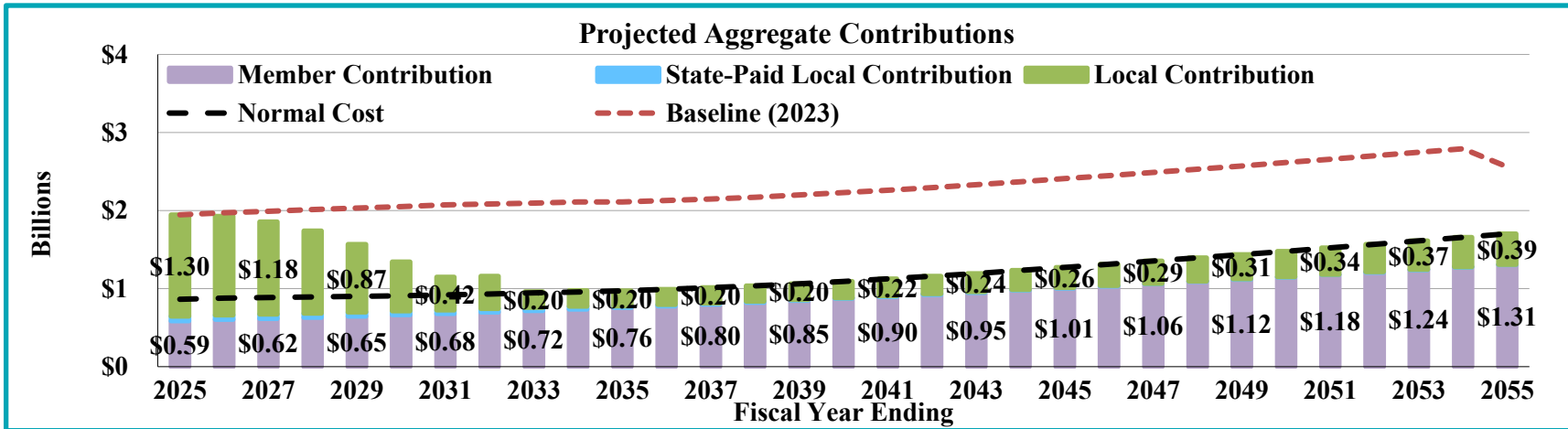
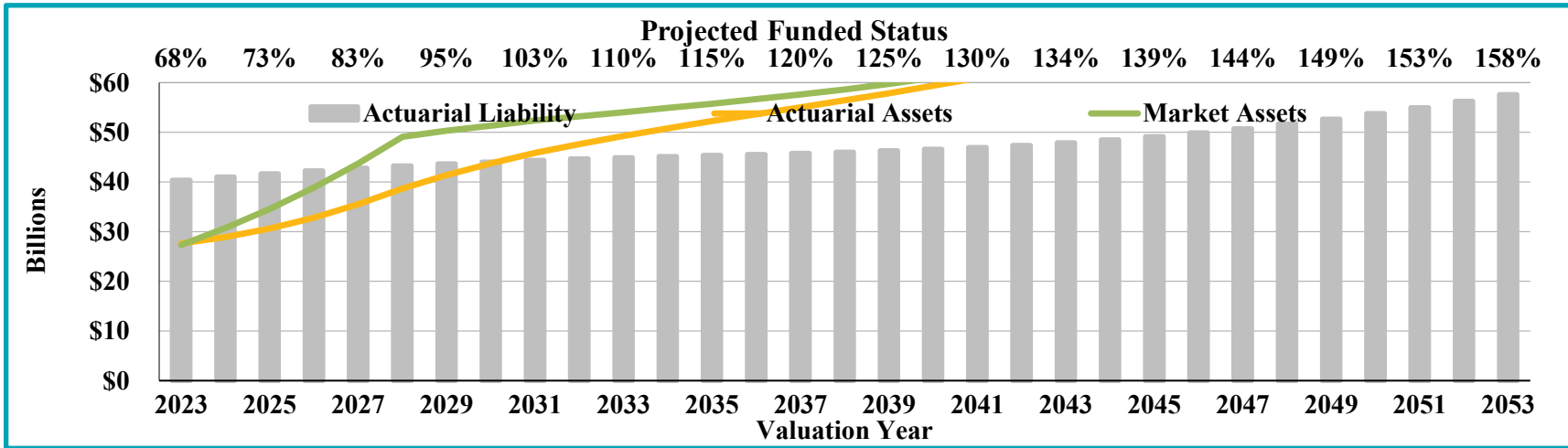


PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
 JULY 1, 2023 ACTUARIAL VALUATION

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

Five-Year Significant Positive Scenario: 17.3% return FYE 2024-2028, 7.0% after

Local Employers



**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

These scenarios show that actual future investment returns have a significant impact on future State and Local employer contribution amounts. The following table summarizes the impact on the State and Local employer contributions in FYE 2037 for the various investment return scenarios compared to the baseline projections in Section I.

| Table II-3 Impact on Contributions for FYE 2037 (dollar amounts in millions) | | | | | | |
|---|-------------------|------------|----------------------|------------|-------------------------|------------|
| | 1-Yr Shock | | 5-Yr Moderate | | 5-Yr Significant | |
| | Neg | Pos | Neg | Pos | Neg | Pos |
| <u>State</u> | | | | | | |
| Amount | \$93 | (\$126) | \$55 | (\$123) | \$154 | (\$290) |
| Percent | 6% | -8% | 3% | -7% | 9% | -18% |
| <u>Local Employers</u> | | | | | | |
| Amount | \$332 | (\$436) | \$192 | (\$393) | \$668 | (\$1,136) |
| Percent | 25% | -33% | 14% | -29% | 50% | -85% |

The positive scenarios sometimes show the System achieving a 100% funded status during the 30-year projection period, which results in the contribution decreasing to equal the employer normal cost.

Local employer contributions are clearly more sensitive than State contributions to investment returns deviating from the assumption. This is caused by the funded status at the beginning of the projection period. The State is less well funded and, as a result, has less to gain or lose from positive or negative investment experience.

The investment returns used in the projections above were selected solely to illustrate the impact of investment volatility on the pattern of future funded status and contribution amounts. They are not intended to be predictive of actual future contributions or funded status or even to represent a realistic pattern of investment returns.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

Assumption Change Risk – Sensitivity Testing

As shown in Tables II-1 and II-2, assumption changes over the last decade have increased the State's UAL by approximately \$2,259.0 million and increased the Local employers' UAL by approximately \$3,008.3 million. The most significant changes were reductions in the discount rate, decreases in mortality rates, increases in projected mortality improvement and adjustments to the salary increase rates. While interest rates have increased over the past few years, the reductions in discount rates over the last ten years have been largely driven by declines in interest rates that affect expectations of future investment returns. If there are declines in interest rates or if there is a desire or need to reduce investment risk that reduces expected returns, the discount rate and expected returns may need to be reduced further. The charts on the following pages show the impact on projected future funded status and contribution amounts if the discount rate and expected returns were reduced by 100 basis points to 6.00% beginning with the July 1, 2024 valuation.

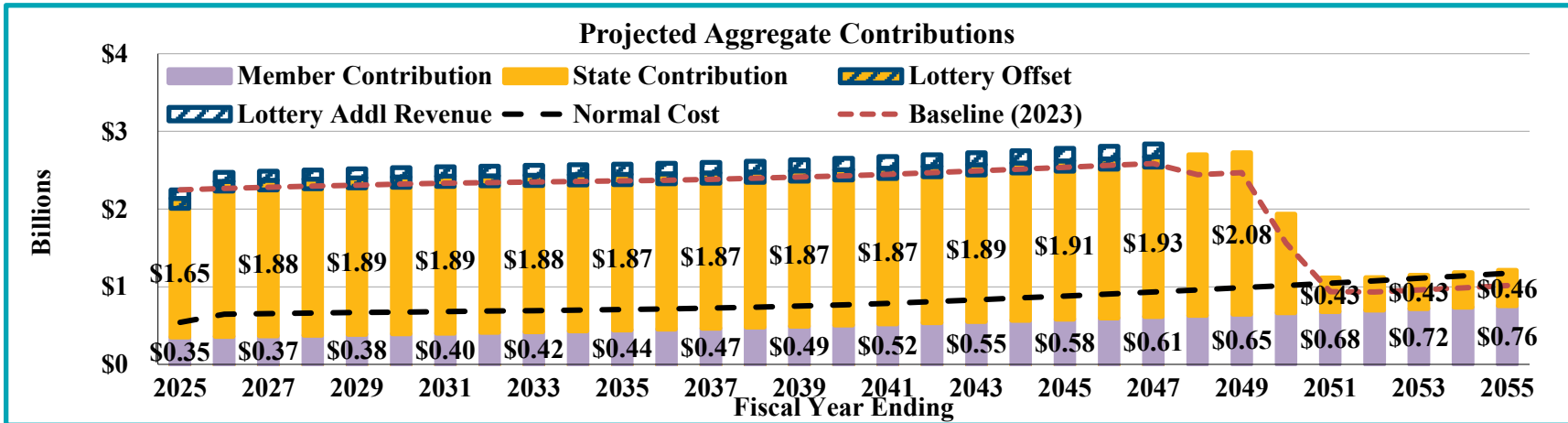
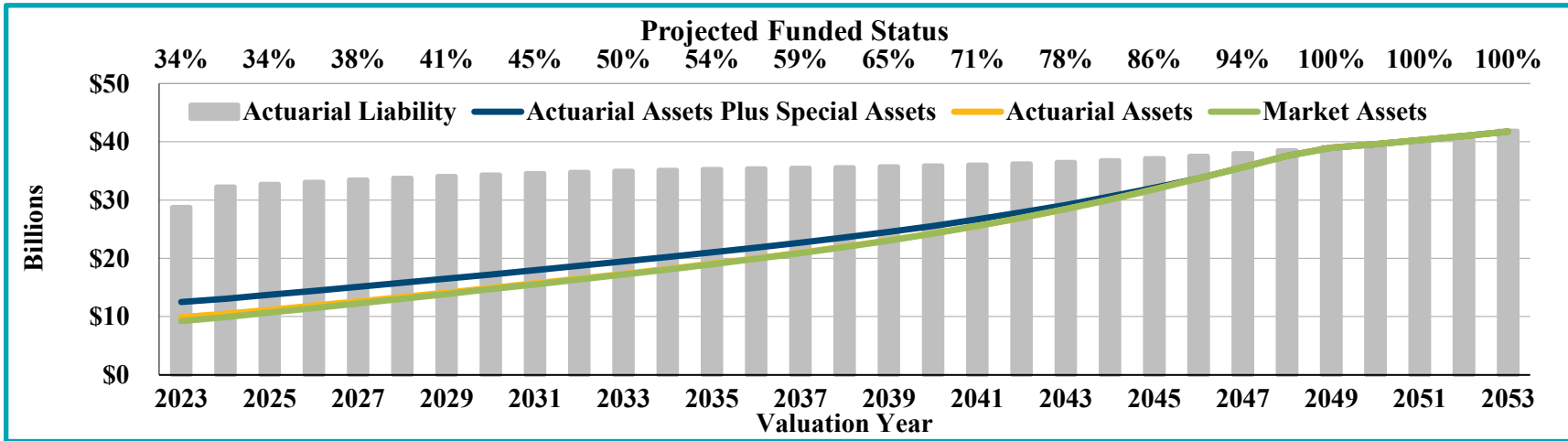
This scenario results in Statutory contributions that are about 13% higher for State and 32% higher for Local employers in FYE 2037 when compared to the baseline projection. Again, the contributions for Local employers are more sensitive to assumption changes because of the funded status at the time of the change.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
 JULY 1, 2023 ACTUARIAL VALUATION

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

6.00% Discount Rate and Investment Return Assumption Effective July 1, 2024

State

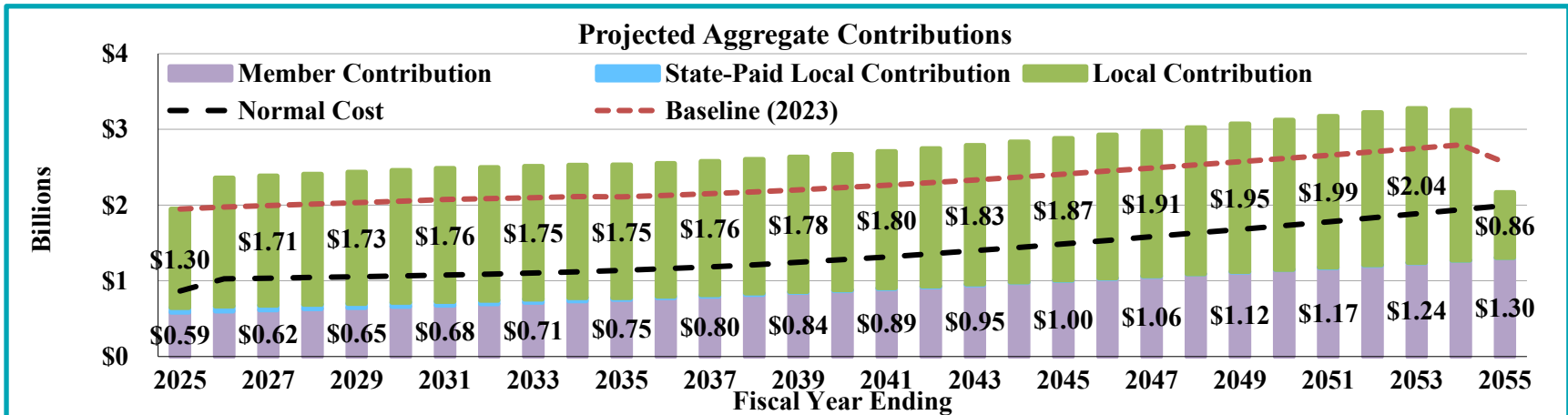
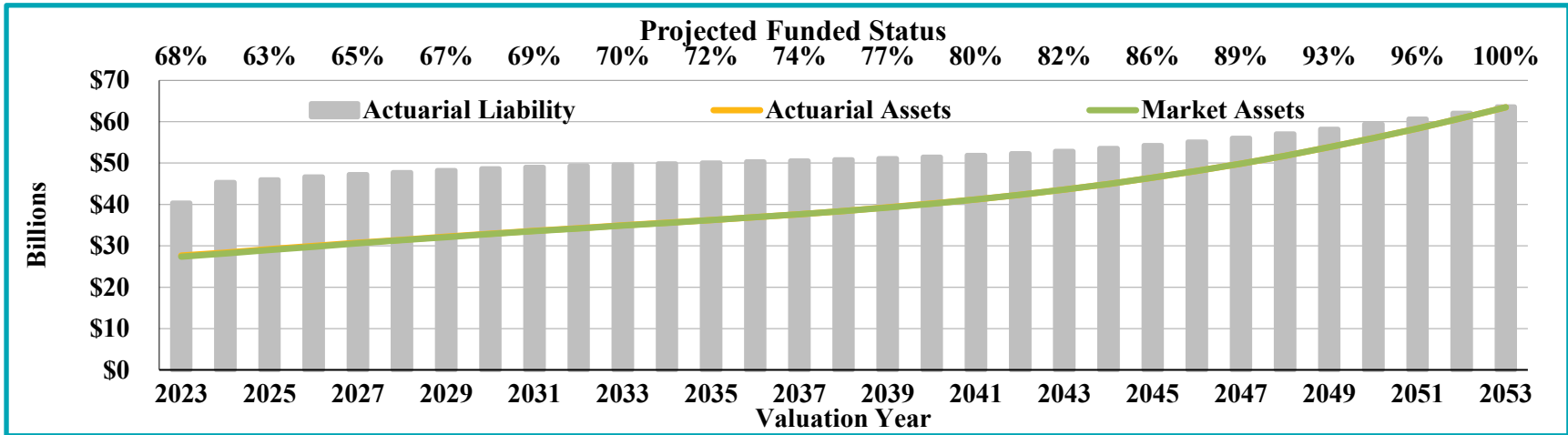


PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
 JULY 1, 2023 ACTUARIAL VALUATION

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

6.00% Discount Rate and Investment Return Assumption Effective July 1, 2024

Local Employers



SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

Low-Default-Risk Obligation Measure (LDROM)

The System invests in a diversified portfolio to achieve the best possible return at an acceptable level of risk. The lowest investment risk portfolio for a pension plan would be composed entirely of low-default-risk fixed income securities whose cash flows approximately match the cash flow needs of the System. However, such a portfolio would have a lower expected rate of return (4.92% as of June 30, 2023) than the diversified portfolio (7.00%). Low-Default-Risk Obligation Measure (LDROM) represents what the Actuarial Liability would be if the System's assets were invested in such a portfolio. As of June 30, 2023 the LDROM is \$86.6 billion¹ compared to the Actuarial Liability of \$69.1 billion for the System in total (State and Local employers). The \$17.5 billion difference can be viewed as the expected savings from taking on the investment risk of the diversified portfolio. Alternatively, it can be viewed as the potential cost of eliminating the investment risk of the non-fixed income allocations of the diversified portfolio.

If the System were to invest in the LDROM portfolio, the funded ratios would decrease, and contribution requirements would increase for the State and Local employers. The security of the System's pension benefits relies on the current assets, future investment earnings, and the ability and willingness of State and Local employers to make future contributions. If the System were to invest in the LDROM portfolio, it would not change the current assets, but it would reduce future investment earnings and increase future State and Local employer contributions. However, the range of future investment earnings and future contributions would narrow significantly.

¹ Based on a discount rate equal to the June 30, 2023 FTSE Pension Liability Index of 4.92%, and all other assumptions and methods as used to calculate the Actuarial Liability

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

Contribution Risk – Sensitivity Testing

The amortization method used to determine the Statutory contributions is designed to collect more than the tread water level and, therefore, gradually pay down the UAL. However, prior to FYE 2022, State appropriated contributions had consistently been less than the Statutory contributions and the tread water level, increasing the State's UAL by \$3,163.5 million over the last ten years. Since FYE 2022, the State appropriated contributions have been greater than or equal to the Statutory contribution. Over the same period, the Local employers' UAL decreased by \$259.0 million due to contributions mostly greater than the tread water level. Local employers generally made their portion of the Statutory contributions, and while the State appropriated less than the required amount, the State-paid Local contributions were only a small portion of the Local employers' Statutory contributions. The baseline projections assume the State and Local employers contribute 100% of the Statutory amount each year. State and Local employer contributions are projected to be greater than the tread water level for the entire period.

Contribution risk is the potential for actual future contributions to deviate from expected future contributions. The charts on the following pages illustrate the impact on projected future funded status and contribution amounts if the State appropriation declines to 80% of the Statutory contribution for each year in the future, rather than remaining at 100% of the Statutory contribution. We assume that Local employers will continue to contribute 100% of the Statutory contribution as they have done historically, with the exception of FYE 2021 and FYE 2022 when the impact of assumption changes from an experience study was phased-in.

The gold and green outlines in the bottom graphs show the full Statutory contributions for the State and Local employers, respectively, with the shaded portion showing the anticipated appropriated amount.

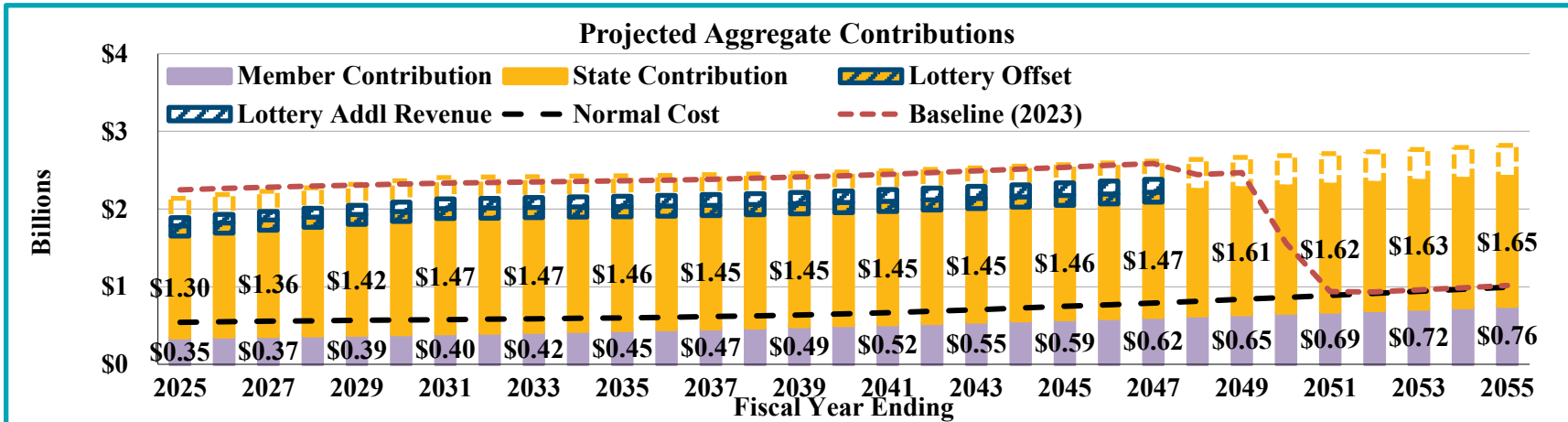
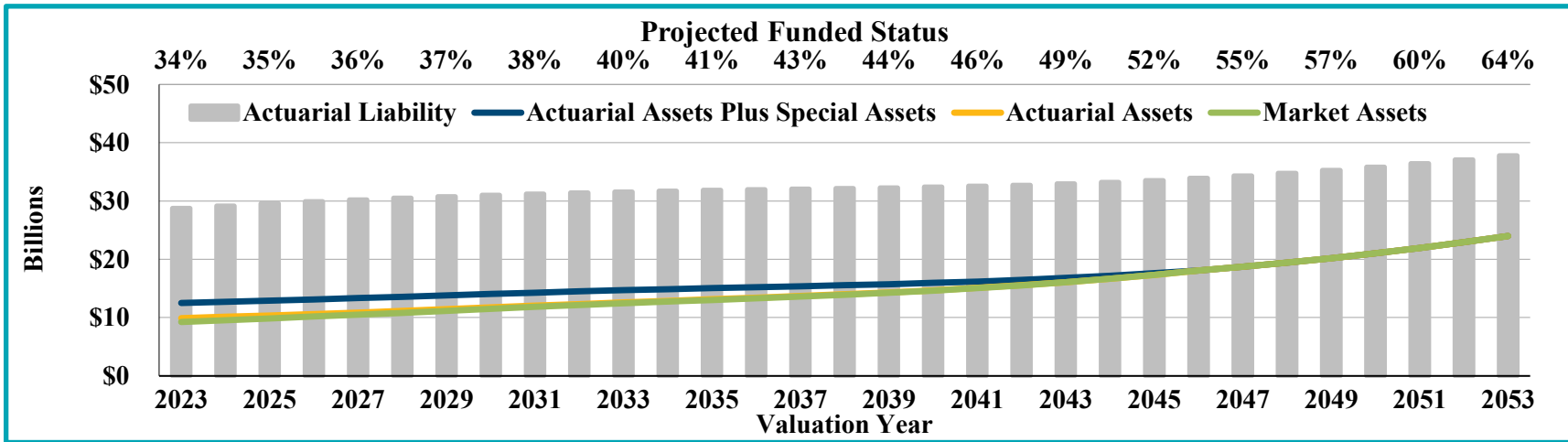
This scenario shows both the Statutory and appropriated State contributions gradually increasing over time. The State Statutory contributions quickly exceed the baseline. The appropriated State contributions are below the baseline initially and eventually grow to reach a similar level, but with a lower funded ratio. The funded ratio at the end of the projection period is 64% compared to 100% under the baseline projections for the State portion. The projection of the Local employers' portion of the System changes relatively little from the baseline because the State-paid Local obligation represents a relatively small portion of the total contributions for Local employers.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
 JULY 1, 2023 ACTUARIAL VALUATION

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

State Appropriates 80% of Statutory Contribution for Fiscal Year Ending June 30, 2025 and Thereafter

State

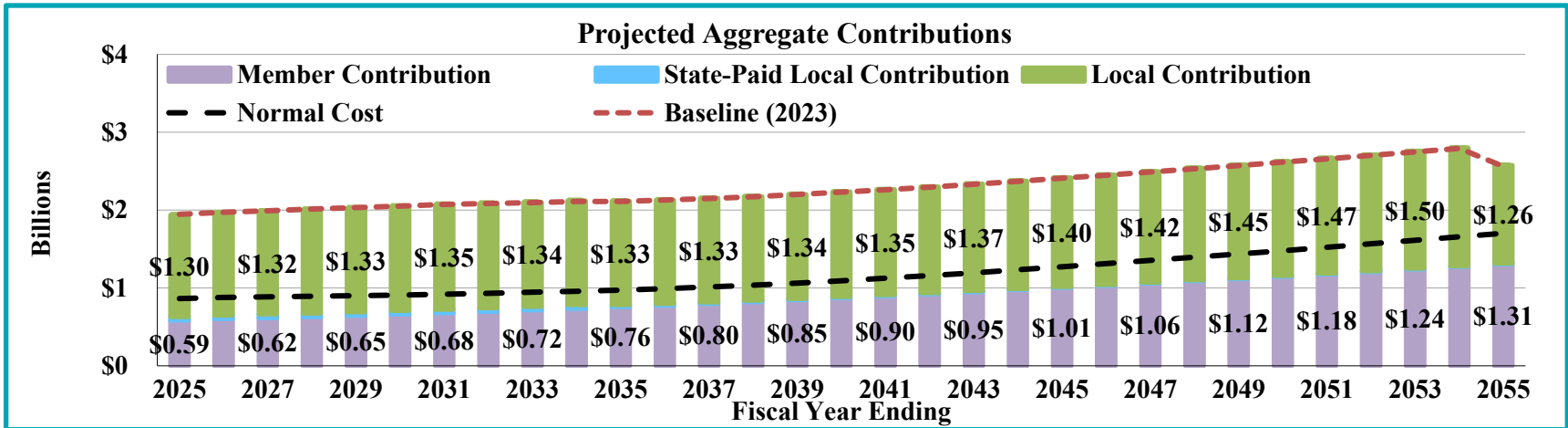
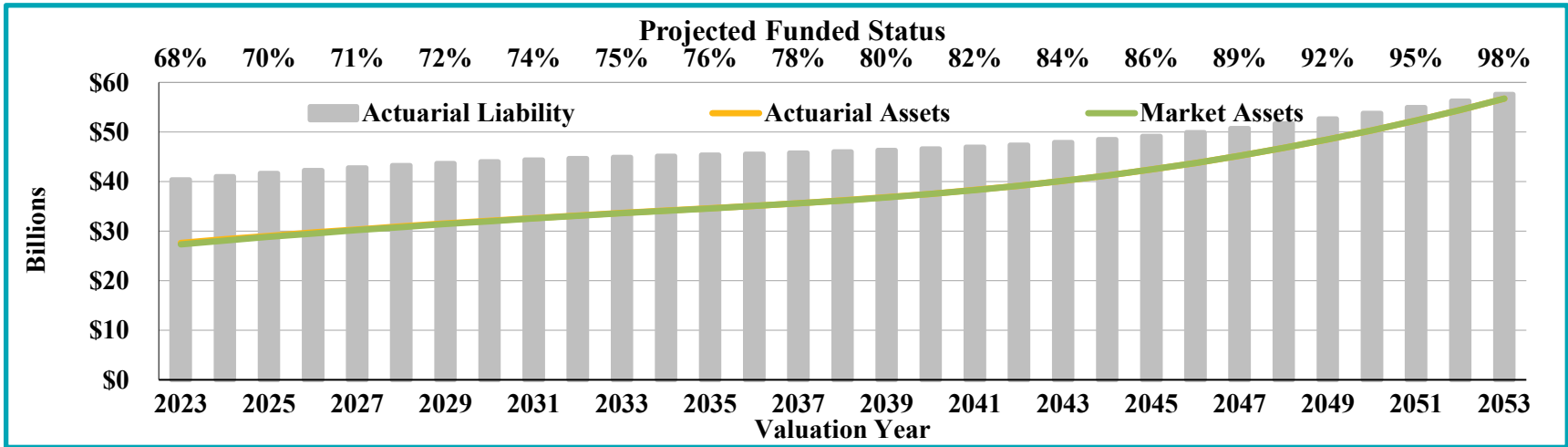


PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
 JULY 1, 2023 ACTUARIAL VALUATION

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

State Appropriates 80% of Statutory Contribution for Fiscal Year Ending June 30, 2025 and Thereafter

Local Employers



**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

More Detailed Assessment

While a more detailed assessment is always valuable to enhance the understanding of the risks identified above, we believe the scenarios illustrated above cover the primary risks facing the System at this time. We would be happy to provide the Board with a more in-depth analysis at their request.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION

SECTION III – ASSETS

The System uses and discloses two different asset measurements for funding, which are presented in this section of the report: market value and actuarial value of assets. The market value represents the value of the assets if they were liquidated on the valuation date. The actuarial value of assets is a value that smooths annual investment returns to reduce annual investment volatility and is used in determining contribution levels. In compliance with New Jersey Statute, the method used to calculate the actuarial value of assets recognizes 20% of the difference between the market value of assets and the expected actuarial value of assets each year.

Actuarial Standards of Practice (ASOP) No. 44 states that the asset valuation method should produce an actuarial value of assets that falls within a reasonable range of market value, recognizes the difference between the market value and actuarial value of assets within a reasonably short period of time, and is likely to produce actuarial values that are sometimes greater than and sometimes less than the corresponding market values. The asset method required under N. J. Statute does not meet the requirements of ASOP No. 44 because this method has produced actuarial asset values which have consistently been greater than the market asset values and recognizes investment losses slowly over time. Additionally, the method may produce an actuarial value of assets that falls outside of what is generally considered to be a reasonable range of the market value.

On the following pages, we present detailed information on the System's assets:

- Disclosure of assets at July 1, 2022 and July 1, 2023,
- Statement of cash flows during the year,
- Development of the actuarial value of assets,
- Disclosure of investment performance for the year,
- Development of the Special Asset Value (SAV), and
- Development of the Actuarial Balance Sheet.

Disclosure

The market value of assets represents a “snap-shot” value as of the last day of the fiscal year that provides the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the value of the investments. Because these fluctuations would cause volatility in employer contributions, an actuarial value of assets is developed. Table III-1 on the following page presents the market value as of June 30, 2022 and June 30, 2023. Table III-2 presents the System's net cash flows from June 30, 2022 to June 30, 2023. Table III-3 presents the development of the Actuarial Value of Assets as of July 1, 2023. Tables III-4 and III-5 show the market and actuarial value of assets historical investment returns compared to the assumed return for each year, as well as the cumulative returns over various periods and durations of time.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

SECTION III – ASSETS

| Table III-1 Statement of Assets at Market Value | | |
|--|---------------------------|---------------------------|
| | June 30, 2023 | June 30, 2022 |
| Assets | | |
| Cash | \$ 383,839,905 | \$ 8,336,933 |
| Investment Holdings | 33,054,506,783 | 31,201,550,223 |
| Employers' Contributions Receivable - Chapter 19 | 2,910,384 | 10,055,321 |
| Employers' Contributions Receivable - State | 0 | 750,617 |
| Employers' Contributions Receivable - NCGI State | 5,142,878 | 5,315,770 |
| Employers' Contributions Receivable - NCGI Local Employers | 56,424,620 | 54,603,937 |
| Employers' Contributions Receivable - Lottery | 27,115,800 | 26,485,200 |
| Employers' Contributions Receivable - Local Employers | 1,291,151,013 | 1,214,657,728 |
| Employers' Contributions Receivable - Local Employers ERI | 15,455,009 | 17,579,674 |
| Employers' Contributions Receivable - Retroactive Contributions | 7,451,989 | 6,082,664 |
| Employers' Contributions Receivable - Delayed Enrollments | 1,353,826 | 1,525,938 |
| Employers' Contributions Receivable - Delayed Appropriations | 2,517,271 | 2,521,601 |
| Members' Contributions Receivable | 62,905,922 | 63,633,001 |
| Accrued Interest on Investments | 332,946 | 22,357 |
| Accounts Receivable - Other | 5,710,289 | 21,464,942 |
| Loans Receivable | 545,441,085 | 540,443,540 |
| Securities Lending Collateral | 626,200,511 | 553,283,361 |
| Total Assets | \$ 36,088,460,231 | \$ 33,728,312,807 |
| Liabilities | | |
| Pension Payroll Payable | \$ (359,471,749) | \$ (341,951,061) |
| Pension Adjustment Payroll Payable | (14,699,606) | (15,456,997) |
| Withholdings Payable | (36,273,766) | (36,390,695) |
| Death Benefits Payable | (12,380,936) | (13,538,218) |
| Securities Lending Collateral & Rebates Payable | (625,971,066) | (552,883,466) |
| Administrative Expenses Payable | (26,692,669) | (24,043,034) |
| Accounts Payable - Other | (181,317,503) | (175,927,027) |
| Total Liabilities | \$ (1,256,807,295) | \$ (1,160,190,498) |
| Preliminary Market Value of Assets | \$ 34,831,652,936 | \$ 32,568,122,309 |
| Discounted Receivables | | |
| State Appropriations | \$ 1,623,509,819 | \$ 1,562,553,978 |
| Expected Lottery Revenue | 226,709,745 | 224,145,136 |
| Adjustments to June 30, 2023 Financial Report | | |
| Discounting of Local Employers Appropriations Receivable | (63,336,990) | (59,692,457) |
| Discounting of Local Employers ERI Contributions Receivable | (1,002,735) | (1,144,339) |
| True-up of Present Value of Chapter 19, P.L. 2009 Contributions Receivable | 20,376,788 | 20,181,327 |
| Exclusion of Reserve for Non-Contributory Group Insurance | (67,771,846) | (70,456,601) |
| Market Value of Assets | \$ 36,570,137,717 | \$ 34,243,709,353 |

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

SECTION III – ASSETS

System Cash Flows as of June 30, 2023

| Table III-2 Changes in Market Values for FYE June 30, 2023 | | | |
|--|-------------------------|--------------------------|--------------------------|
| | State | Local Employers | Total |
| Additions | | | |
| Contributions | | | |
| Member Contributions | \$ 357,335,214 | \$ 604,584,027 | \$ 961,919,241 |
| Member Transfer Contributions | 12,192,438 | 1,035,936 | 13,228,374 |
| State and Local Employers Appropriations | 1,569,342,915 | 1,280,103,723 | 2,849,446,638 |
| State Contributions on Behalf of Locals | 0 | 61,366,036 | 61,366,036 |
| State Lottery | 245,934,000 | 0 | 245,934,000 |
| NCGI Premium | 45,638,724 | 56,423,536 | 102,062,260 |
| Transfers from Other Systems | 232,743 | 1,045,380 | 1,278,123 |
| Delayed Enrollments | 240,648 | 746,888 | 987,536 |
| Delayed Appropriations | 0 | 3,050,065 | 3,050,065 |
| Retroactive Employer Contributions | 0 | 7,305,219 | 7,305,219 |
| Additional Employer Contributions | 0 | 38,784 | 38,784 |
| NCGI Adjustment | 0 | 0 | 0 |
| Total Contributions | <u>\$ 2,230,916,682</u> | <u>\$ 2,015,699,594</u> | <u>\$ 4,246,616,276</u> |
| Net Investment Income | 546,916,081 | 2,308,223,907 | 2,855,139,988 |
| Total Additions | <u>\$ 2,777,832,763</u> | <u>\$ 4,323,923,501</u> | <u>\$ 7,101,756,264</u> |
| Deductions | | | |
| Withdrawal of Member Contributions | \$ 70,377,784 | \$ 101,754,220 | \$ 172,132,004 |
| Transfers to Other Systems - Member Contributions | 8,556,695 | 13,711,092 | 22,267,787 |
| Transfers to Other Systems - Employer Contributions | 528,121 | 3,001,664 | 3,529,785 |
| Adjustments to Member Account Loans | 264,648 | 0 | 264,648 |
| Retirement Allowances | 1,907,148,237 | 2,461,970,693 | 4,369,118,930 |
| Pension Adjustment Benefits | 66,231,212 | 75,861,706 | 142,092,918 |
| NGCI Premium | 45,638,724 | 64,040,253 | 109,678,977 |
| Administrative Expenses | 5,911,110 | 13,229,478 | 19,140,588 |
| Total Deductions | <u>\$ 2,104,656,531</u> | <u>\$ 2,733,569,106</u> | <u>\$ 4,838,225,637</u> |
| Net Increase/(Decrease) | \$ 673,176,232 | \$ 1,590,354,395 | \$ 2,263,530,627 |
| Preliminary Market Value of Assets Beginning of Year | \$ 6,758,038,264 | \$ 25,810,084,045 | \$ 32,568,122,309 |
| Preliminary Market Value of Assets End of Year | \$ 7,431,214,496 | \$ 27,400,438,440 | \$ 34,831,652,936 |
| Discounted Receivables | | | |
| State Appropriations | \$ 1,564,607,474 | 58,902,345 | \$ 1,623,509,819 |
| Expected Lottery Revenue | 226,709,745 | 0 | 226,709,745 |
| Adjustments to June 30, 2023 Financial Report | | | |
| Discounting of Local Employers Appropriations Receivable | 0 | (63,336,990) | (63,336,990) |
| Discounting of Local Employers ERI Contributions Receivable | 0 | (1,002,735) | (1,002,735) |
| True-up of Present Value of Chapter 19, P.L. 2009 Contributions Receivable | 0 | 20,376,788 | 20,376,788 |
| Exclusion of Reserve for Non-Contributory Group Insurance | 0 | (67,771,846) | (67,771,846) |
| Market Value of Assets End of Year | \$ 9,222,531,715 | \$ 27,347,606,002 | \$ 36,570,137,717 |
| Approximate Return | 8.25% | 9.68% | 9.37% |

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

SECTION III – ASSETS

Actuarial Value of Assets (AVA)

To determine on-going funding requirements, most pension systems utilize an actuarial value of assets that differs from the market value of assets. The actuarial value of assets represents an asset value based on averaging or smoothing year-to-year market value returns for purposes of reducing contribution volatility. Each year, 20% of the difference between the market value of assets and the expected actuarial value of assets is added to the expected actuarial value of assets. This method is prescribed by N. J. Statute.

| Table III-3 Development of Actuarial Value of Assets as of June 30, 2023 | | | |
|---|--------------------|------------------------|----------------------|
| | State | Local Employers | Total |
| 1. Preliminary Actuarial Value of Assets as of July 1, 2022 ¹ | \$ 7,626,947,138 | \$ 26,743,964,730 | \$ 34,370,911,868 |
| 2. Net Cash Flow excluding Investment Income ² | 126,260,151 | (708,937,737) | (582,677,586) |
| 3. Expected Investment Income ³ | <u>524,847,275</u> | <u>1,733,653,591</u> | <u>2,258,500,866</u> |
| 4. Expected Actuarial Value of Assets as of July 1, 2023: [1 + 2 + 3] | \$ 8,278,054,564 | \$ 27,768,680,584 | \$ 36,046,735,148 |
| 5. Preliminary Market Value of Assets as of June 30, 2023 ⁴ | \$ 7,431,214,496 | \$ 27,405,226,246 | \$ 34,836,440,742 |
| 6. 20% of Difference from MVA [20% * (5 - 4)] | \$ (169,368,014) | \$ (72,690,868) | \$ (242,058,882) |
| 7. Preliminary Actuarial Value of Assets as of July 1, 2023: [4 + 6] | \$ 8,108,686,550 | \$ 27,695,989,716 | \$ 35,804,676,266 |
| 8. Discounted Receivable Contributions | | | |
| State Appropriations | \$ 1,564,607,474 | \$ 58,902,345 | \$ 1,623,509,819 |
| Expected Lottery Revenue | 226,709,745 | 0 | 226,709,745 |
| Chapter 19, P.L. 2009 Contributions for FYE 2025 and Later | <u>0</u> | <u>15,016,751</u> | <u>15,016,751</u> |
| Total | \$ 1,791,317,219 | \$ 73,919,096 | \$ 1,865,236,315 |
| 9. Adjustments | | | |
| Discounting of Local Employers Appropriations Receivable | \$ 0 | \$ (63,336,990) | \$ (63,336,990) |
| Discounting of Chapter 19, P.L. 2009 Contributions Receivable for FYE 2024 | 0 | (430,504) | (430,504) |
| Exclusion of Reserve for Non-Contributory Group Insurance | <u>0</u> | <u>(67,771,846)</u> | <u>(67,771,846)</u> |
| Total | \$ 0 | \$ (131,539,340) | \$ (131,539,340) |
| 10. Actuarial Value of Assets as of July 1, 2023: [7 + 8 + 9] | \$ 9,900,003,769 | \$ 27,638,369,472 | \$ 37,538,373,241 |
| 11. Rate of Return on Actuarial Value of Assets | 4.74% | 6.71% | 6.25% |
| 12. Ratio of Actuarial Value of Assets to Market Value of Assets | 107.3% | 101.1% | 102.6% |

¹ Includes Local appropriations receivable from June 30, 2022 Financial Report but excludes discounted State receivable contributions, present value of Chapter 19, P.L. 2009 contributions receivable and other adjustments.

² Amount for Local Employers includes expected Chapter 19, P.L. 2009 payments for FYE 2024 of \$8,700,925 plus lump sum payoffs of the present value in FYE 2023 of \$230,850.

³ Refer to Appendix B, Actuarial Methods, for details on the assumed timing of contributions.

⁴ Amount for Local Employers includes adjustments to June 30, 2023 Financial Report for discounting of Local Employers ERI contributions receivable of \$(1,002,735) and true-up of Chapter 19, P.L. 2009 contributions receivable for FYE 2024 of \$5,790,541.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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SECTION III – ASSETS

Investment Performance

In reviewing the investment performance for the System's assets in aggregate, the market value of assets rate of return was 9.37% for the year ending June 30, 2023. This is compared to an assumed return of 7.00% for the same period. On an actuarial value of assets basis, the return for FYE 2023 was 6.25%.

The calculated returns for State and Local employers' portions separately differ due to the size of cash flows relative to the beginning of year asset value, the timing of contributions, and the income allocation methodology. For the year ending June 30, 2023 the market value of assets rate of return was 8.25% and 9.68% for the State and Local employers' portions, respectively. On an actuarial value of assets basis, the return for FYE 2023 was 4.74% and 6.71% for the State and Local employers portions, respectively.

In Table III-4 we show the historical asset returns compared to the investment return assumption, beginning with the year ending on June 30, 2000. As of July 1, 1999, the actuarial value of assets was reset to equal the market value of assets.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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SECTION III – ASSETS

| Table III-4 | | | |
|-------------------------------|---|---------------------------------|------------------------------------|
| Annual Rates of Return | | | |
| Total System | | | |
| Year Ended June 30 | Investment Return Assumption | Market Value¹ | Actuarial Value² |
| 2000 | 8.75% | 11.86% | 9.29% |
| 2001 | 8.75% | -9.80% | 5.50% |
| 2002 | 8.75% | -8.61% | 3.07% |
| 2003 | 8.75% | 3.31% | 2.93% |
| 2004 | 8.75% | 14.16% | 4.44% |
| 2005 | 8.25% | 8.77% | 4.74% |
| 2006 | 8.25% | 9.79% | 5.78% |
| 2007 | 8.25% | 17.14% | 7.96% |
| 2008 | 8.25% | -2.61% | 6.83% |
| 2009 | 8.25% | -15.49% | 3.24% |
| 2010 | 8.25% | 13.34% | 3.16% |
| 2011 | 8.25% | 17.97% | 5.26% |
| 2012 | 7.95% | 2.47% | 4.58% |
| 2013 | 7.90% | 11.72% | 5.52% |
| 2014 | 7.90% | 16.79% | 7.60% |
| 2015 | 7.90% | 4.08% | 5.94% |
| 2016 | 7.90% | -1.15% | 4.95% |
| 2017 | 7.65% | 12.71% | 5.99% |
| 2018 | 7.50% | 9.17% | 6.49% |
| 2019 | 7.50% | 6.33% | 6.41% |
| 2020 | 7.30% | 1.64% | 5.30% |
| 2021 | 7.30% | 28.50% | 9.51% |
| 2022 | 7.00% | -7.47% | 5.60% |
| 2023 | 7.00% | 9.37% | 6.25% |

¹Beginning in 2017, the returns are from the System's Actuarial Valuation Report. Since the prior actuary did not calculate a market value return prior to 2017, earlier returns are from other sources. Returns for 2014 through 2016 are money-weighted returns for the Pension Funds from the DPB's Comprehensive Annual Financial Reports. Returns for 2000 through 2013 are returns for the Pension Funds from the New Jersey State Investment Council Annual Reports.

²The prior actuary did not report an actuarial value return in the year 2000. The return shown was calculated based on available information.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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SECTION III – ASSETS

Additionally, we show the compound annualized rates of return for various periods since the July 1, 1999 AVA reset in the following table. On a cumulative basis, there are periods where the market value return significantly exceeds the actuarial value return. This is due to the recognition of market value losses from earlier years in the actuarial value. We present compound annualized rates of return over consecutive five-year periods to help illustrate this.

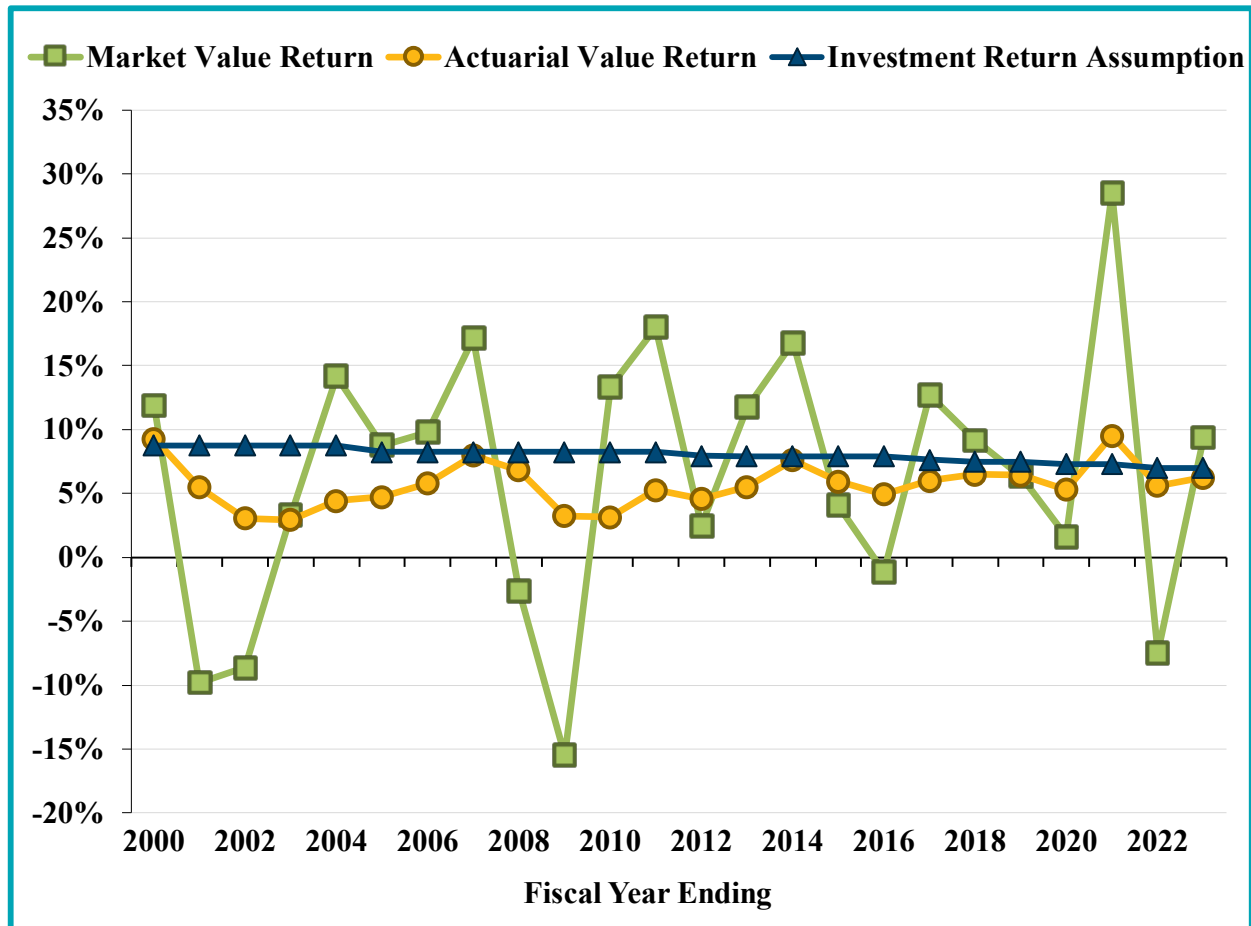
| Table III-5 Compound Annualized Rates of Returns | | | |
|---|--------------------------|---------------------|------------------------|
| Period | Investment Return | | |
| | Assumption | Market Value | Actuarial Value |
| Since July 1, 1999 | 8.01% | 5.93% | 5.67% |
| 20-Year | 7.86% | 7.41% | 5.77% |
| 15-Year | 7.70% | 6.81% | 5.71% |
| 10-Year | 7.49% | 7.59% | 6.40% |
| 5-Year | 7.22% | 7.04% | 6.60% |
| Consecutive Five-Year Periods | | | |
| 2000 to 2004 | 8.75% | 1.69% | 5.02% |
| 2005 to 2009 | 8.25% | 2.86% | 5.70% |
| 2010 to 2014 | 8.05% | 12.32% | 5.21% |
| 2015 to 2019 | 7.69% | 6.12% | 5.96% |
| 2020 to 2023 (Four-Year) | 7.15% | 7.22% | 6.65% |

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SECTION III – ASSETS

The annual rates of return from Table III-4 are presented in the following graph. The market value returns (green) show significant volatility with years above and below the investment return assumption (blue). The largest deviations from expectations are losses in 2001 and 2002 and again in 2008 and 2009, as well as the mostly offsetting gain and loss in 2021 and 2022, respectively. The actuarial value returns (yellow) follow the direction of market value returns, but much more gradually as gains and losses are recognized over time.

For nearly the entire period, the actuarial value returns fall short of the investment return assumption and result in AVA losses and UAL increases. When the actuarial return approaches the assumption, the MVA is closing in on the AVA with the possibility of AVA gains in the near future. However, two such instances (2007 and 2014) are followed by market value losses (large, sharp losses in 2008-2009 and small cumulative losses in 2015-2020). In contrast, the 2021 market return of 28.50% was sufficiently large so that the market value of assets exceeded the actuarial value of assets and the actuarial value return was slightly greater than the investment return assumption, resulting in an actuarial asset gain for the July 1, 2021 valuation. However, the significant negative market return in 2022 again resulted in actuarial losses in 2022 and 2023 as the investment loss is gradually recognized in the actuarial returns.



**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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SECTION III – ASSETS

Development of Special Asset Value (SAV)

Under Chapter 98, P.L. 2017, the Lottery Enterprise Contribution Act, PERS receives 21.02% of the proceeds of the Lottery Enterprise for a term of 30 years. The value of the Lottery Enterprise is classified as a special asset and is included in the State’s actuarial value of assets used for the purpose of calculating the target funding ratio under Chapter 78, P.L. 2010. The special asset value is the present value of remaining lottery contributions to the retirement systems.

Table III-6 shows the development of the special asset value as of July 1, 2023. The depreciated value is a roll forward of the Lottery Enterprise Value from the appraisal date.

| Table III-6 Development of Special Asset Value as of July 1, 2023 | | |
|--|----|----------------|
| 1. Lottery Enterprise Value as of Appraisal Date of June 30, 2017 ¹ | \$ | 13,535,103,380 |
| 2. Depreciated Value as of end of Valuation Year at June 30, 2024 ¹ | \$ | 13,247,811,507 |
| 3. Discounted Value as of July 1, 2023 at 7.0% | \$ | 12,381,132,250 |
| 4. Allocation to PERS | | 21.02% |
| 5. Special Asset Value as of July 1, 2023 | \$ | 2,602,513,999 |

¹ Provided by the Division of Pensions and Benefits

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

SECTION III – ASSETS

Actuarial Balance Sheet

| Table III-7 Actuarial Balance Sheet as of July 1, 2023 | | | |
|--|----------------------------|---------------------------------------|----------------------------|
| | State | Local Employers | Total |
| Assets | | | |
| <u>Retirement Fund Reserve (RFR)</u> | | | |
| Credited to Fund with Distribution of Income | \$ 16,967,506,146 | \$ 23,753,669,359 | \$ 40,721,175,505 |
| Add/(Deduct) reserve transferable from/(to) ECR ¹ | 1,472,997,883 | 783,706,362 | 2,256,704,245 |
| Adjusted RFR ² | <u>\$ 18,440,504,029</u> | <u>\$ 24,537,375,721</u> ³ | <u>\$ 42,977,879,750</u> |
| Members' Contributions Reserve (MCR) ² | \$ 3,418,583,436 | \$ 5,516,660,540 | \$ 8,935,243,976 |
| Accumulative Interest Reserve (AIR) with Distribution of Income ² | \$ 3,318,675,977 | \$ 4,897,345,300 | \$ 8,216,021,277 |
| <u>Employers' Contributions Reserve (ECR)</u> | | | |
| Credited to Fund with Distribution of Income | \$ (13,804,761,790) | \$ (6,529,305,727) | \$ (20,334,067,517) |
| Add/(Deduct) reserve transferable from/(to) RFR | (1,472,997,883) | (783,706,362) | (2,256,704,245) |
| Add/(Deduct) reserve transferable from/(to) BEF | 0 | 0 | 0 |
| Adjusted ECR ² | <u>\$ (15,277,759,673)</u> | <u>\$ (7,313,012,089)</u> | <u>\$ (22,590,771,762)</u> |
| <u>Benefit Enhancement Fund (BEF)</u> | | | |
| Credited to Fund with Distribution of Income | \$ 0 | \$ 0 | \$ 0 |
| Add/(Deduct) reserve transferable from/(to) ECR | 0 | 0 | 0 |
| Adjusted BEF ² | <u>\$ 0</u> | <u>\$ 0</u> | <u>\$ 0</u> |
| Special Asset Value as of July 1, 2023 | \$ 2,602,513,999 | \$ 0 | \$ 2,602,513,999 |
| Present Value of Prospective Contributions by State and Local Employers to ECR | \$ 16,260,179,053 | \$ 12,728,240,608 | \$ 28,988,419,661 |
| Assets Allocated to the BEF | <u>\$ 0</u> | <u>\$ 0</u> | <u>\$ 0</u> |
| Total Assets | \$ 28,762,696,821 | \$ 40,366,610,080 | \$ 69,129,306,901 |
| Liabilities | | | |
| <u>Payable from RFR</u> | | | |
| Retirees, Disableds, and Beneficiaries currently receiving benefits | \$ 18,440,504,029 | \$ 24,537,375,721 ³ | \$ 42,977,879,750 |
| <u>Payable from MCR, AIR and ECR</u> | | | |
| Actives and Deferred Vesteds due a future benefit | \$ 10,322,192,792 | \$ 15,829,234,359 | \$ 26,151,427,151 |
| Total Liabilities | \$ 28,762,696,821 | \$ 40,366,610,080 | \$ 69,129,306,901 |

¹ It is recommended that the RFR be put into balance each year by transferring assets from the ECR to the RFR so that the RFR will contain sufficient assets to cover the retiree and beneficiary liability.

² Actuarial Value of Assets equals RFR + MCR + AIR + ECR + BEF.

³ Includes the present value of ERI payments of \$13,541,237.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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SECTION IV – LIABILITIES

In this section, we present detailed information on the liabilities of the System, including:

- Disclosure of liabilities at July 1, 2022 and July 1, 2023,
- Active liabilities broken down by Tier, and
- The development of the actuarial gain and loss.

Disclosure

The Actuarial Liability is used for determining employer contributions. For PERS, the funding method employed is the Projected Unit Credit (PUC) Actuarial Cost Method. Under this funding method, the actuarial liability is calculated as the actuarial present value of the projected benefits allocated to periods prior to the valuation year.

This liability is determined for funding purposes and is not appropriate for measuring the cost of settling plan liabilities by purchasing annuities or paying lump sums.

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SECTION IV – LIABILITIES

Table IV-1 shows the actuarial liability, unfunded actuarial liability and funded ratio as of July 1, 2023 for the System. The unfunded actuarial liability (UAL) and funded ratio based on the actuarial value of assets plus the special asset value (AVA + SAV) are used to compare against the “target funded ratio” and is different from the UAL used in determining Statutory contributions which is based on just the actuarial value of assets (AVA).

| Table IV-1 Disclosure of Liabilities | | | |
|---|--------------------------|--------------------------|--------------------------|
| | State | Local Employers | Total |
| Actuarial Liability | | | |
| Contributing Actives | \$ 9,736,931,971 | \$ 14,781,307,811 | \$ 24,518,239,782 |
| Non-Contributing Members | 562,974,359 | 1,000,664,301 | 1,563,638,660 |
| Deferred Beneficiaries | 1,027,916 | 2,816,400 | 3,844,316 |
| Deferred Vesteds | 21,258,546 | 44,445,847 | 65,704,393 |
| Retirees | 16,705,943,499 | 21,833,369,974 | 38,539,313,473 |
| Disabled | 947,108,016 | 1,362,939,281 | 2,310,047,297 |
| Beneficiaries | 787,452,514 | 1,341,066,466 | 2,128,518,980 |
| Total Actuarial Liability | \$ 28,762,696,821 | \$ 40,366,610,080 | \$ 69,129,306,901 |
| Actuarial Value of Assets | \$ 9,900,003,769 | \$ 27,638,369,472 | \$ 37,538,373,241 |
| Unfunded Actuarial Liability/(Surplus) | \$ 18,862,693,052 | \$ 12,728,240,608 | \$ 31,590,933,660 |
| Funded Ratio (AVA) | 34.42% | 68.47% | 54.30% |
| Actuarial Value of Assets + Special Asset Value | \$ 12,502,517,768 | \$ 27,638,369,472 | \$ 40,140,887,240 |
| Unfunded Actuarial Liability/(Surplus) (AVA + SAV) | \$ 16,260,179,053 | \$ 12,728,240,608 | \$ 28,988,419,661 |
| | 43.47% | 68.47% | 58.07% |

¹ Includes the present value of ERI payments of \$13,541,237.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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SECTION IV – LIABILITIES

Table IV-2 and Table IV-3 show the number of members, total appropriation salary, actuarial liability, and gross normal cost of contributing active members by Tier for State and Local employers as of July 1, 2023.

| Table IV-2 Contributing Active Liabilities by Tier State | | | | |
|---|------------------------------|--|--------------------------------|------------------------------|
| | Number of Members | Appropriation Payroll¹ | Actuarial Liability | Gross Normal Cost |
| Tier 1 | 27,761 | \$ 2,363,392,164 | \$ 8,219,638,240 | \$ 317,531,640 |
| Tier 2 | 2,437 | 183,205,851 | 337,168,620 | 21,231,200 |
| Tier 3 | 1,671 | 124,583,213 | 200,566,611 | 13,940,275 |
| Tier 4 | 1,193 | 94,758,741 | 116,172,422 | 8,838,672 |
| Tier 5 | 30,986 | 2,003,322,864 | 863,386,078 | 145,067,878 |
| Total | 64,048 | \$ 4,769,262,833 | \$ 9,736,931,971 | \$ 506,609,665 |

| Table IV-3 Contributing Active Liabilities by Tier Local Employers | | | | |
|---|------------------------------|--|--------------------------------|------------------------------|
| | Number of Members | Appropriation Payroll¹ | Actuarial Liability | Gross Normal Cost |
| Tier 1 | 52,920 | \$ 3,437,443,824 | \$ 12,043,949,414 | \$ 450,230,466 |
| Tier 2 | 6,181 | 335,532,812 | 637,583,583 | 39,416,630 |
| Tier 3 | 3,889 | 224,506,434 | 369,861,822 | 25,291,617 |
| Tier 4 | 1,806 | 118,915,864 | 148,600,489 | 11,173,635 |
| Tier 5 | 75,754 | 3,836,498,154 | 1,581,312,503 | 282,422,160 |
| Total | 140,550 | \$ 7,952,897,088 | \$ 14,781,307,811 | \$ 808,534,508 |

¹ Tier 1 members limited to the 401(a)(17) pay limit. Other tiers limited to the Social Security Wage Base.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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SECTION IV – LIABILITIES

Table IV-4 and Table IV-5 show the number of members, actuarial liability, and gross normal cost of non-contributing members by Tier for State and Local employers as of July 1, 2023. The gross normal cost is zero for non-contributing members because these members are no longer accruing additional annual benefits.

| Table IV-4 | | | | |
|--|------------------|-----------|--------------------|--------------------|
| Non-Contributing Member Liabilities by Tier | | | | |
| State | | | | |
| | Number of | | Actuarial | Gross |
| | Members | | Liability | Normal Cost |
| Tier 1 | 4,855 | \$ | 462,142,166 | \$ 0 |
| Tier 2 | 375 | | 21,609,889 | 0 |
| Tier 3 | 244 | | 13,775,836 | 0 |
| Tier 4 | 129 | | 6,871,125 | 0 |
| Tier 5 | 4,916 | | 58,575,343 | 0 |
| Total | <u>10,519</u> | <u>\$</u> | <u>562,974,359</u> | <u>\$ 0</u> |

| Table IV-5 | | | | |
|--|------------------|-----------|----------------------|--------------------|
| Non-Contributing Member Liabilities by Tier | | | | |
| Local Employers | | | | |
| | Number of | | Actuarial | Gross |
| | Members | | Liability | Normal Cost |
| Tier 1 | 13,223 | \$ | 805,068,758 | \$ 0 |
| Tier 2 | 1,279 | | 41,290,967 | 0 |
| Tier 3 | 732 | | 26,207,942 | 0 |
| Tier 4 | 230 | | 9,941,603 | 0 |
| Tier 5 | 13,743 | | 118,155,031 | 0 |
| Total | <u>29,207</u> | <u>\$</u> | <u>1,000,664,301</u> | <u>\$ 0</u> |

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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SECTION IV – LIABILITIES

Tables IV-6 and IV-7 present the change in the actuarial liabilities, actuarial assets, and unfunded actuarial liability during the plan year for State and Local employers. In general, the unfunded actuarial liability (UAL) of any retirement system is expected to change at each subsequent valuation for a variety of reasons. In each valuation, we report on those elements of change in the UAL which are of particular significance, potentially affecting the long-term financial outlook of the System.

For this purpose, we focus on the UAL without considering the SAV because this UAL is used to determine the Statutory contribution. The UAL is also prior to any adjustments for State-paid Local obligations.

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SECTION IV – LIABILITIES

| Table IV-6 Development of 2023 Experience (Gain)/Loss State | | | |
|--|--------------------------------|--------------------------------------|---|
| | Actuarial Liability | Actuarial Value of Assets | Unfunded Actuarial Liability/(Surplus) |
| 1. Value as of July 1, 2022 | \$ 28,185,048,883 | \$ (9,354,810,560) | \$ 18,830,238,323 |
| 2. Additions | | | |
| Normal Cost | \$ 501,117,218 | \$ 0 | \$ 501,117,218 |
| Statutory State Contributions | 0 | (1,761,975,383) | (1,761,975,383) |
| Expected Member Contributions | 0 | (334,910,677) | (334,910,677) |
| Total Additions | \$ 501,117,218 | \$ (2,096,886,060) | \$ (1,595,768,842) |
| 3. Deductions | | | |
| Benefit Payments | \$ (2,044,021,881) | \$ 2,044,021,881 | \$ 0 |
| Expected Administrative Expenses | 0 | 0 | 0 |
| Total Deductions | \$ (2,044,021,881) | \$ 2,044,021,881 | \$ 0 |
| 4. Net Transfers from Other Systems | | | |
| State Contributions | \$ (295,378) | \$ 295,378 | \$ 0 |
| Member Contributions | 3,635,743 | (3,635,743) | 0 |
| Total Net Transfers | \$ 3,340,365 | \$ (3,340,365) | \$ 0 |
| 5. Expected Interest | \$ 1,937,815,769 | \$ (596,144,502) | \$ 1,341,671,267 |
| 6. Expected Value as of July 1, 2023: [1 + 2 + 3 + 4 + 5] | \$ 28,583,300,354 | \$(10,007,159,606) | \$ 18,576,140,748 |
| 7. Other Changes | | | |
| Appropriation Adjustment | \$ 0 | \$ (978,980) | \$ (978,980) |
| Contribution Timing | 0 | 75,089,645 | 75,089,645 |
| Actual Lottery Revenue | 0 | (118,992,293) | (118,992,293) |
| Other Employer Contributions | 0 | (248,928) | (248,928) |
| Actual Member Contributions | 0 | (23,196,121) | (23,196,121) |
| Change in Methods/Assumptions | 0 | 0 | 0 |
| Change in Benefits/Policy | 0 | 0 | 0 |
| Total Other Changes | \$ 0 | \$ (68,326,677) | \$ (68,326,677) |
| 8. Expected value after changes: [6 + 7] | \$ 28,583,300,354 | \$(10,075,486,283) | \$ 18,507,814,071 |
| 9. Actual Value as of July 1, 2023 | \$ 28,762,696,821 | \$ (9,900,003,769) | \$ 18,862,693,052 |
| 10. Actuarial (Gain)/Loss: [9 - 8] | \$ 179,396,467 | \$ 175,482,514 | \$ 354,878,981 |

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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SECTION IV – LIABILITIES

| Table IV-7 Development of 2023 Experience (Gain)/Loss Local Employers | | | |
|--|--------------------------------|--------------------------------------|---|
| | Actuarial Liability | Actuarial Value of Assets | Unfunded Actuarial Liability/(Surplus) |
| 1. Value as of July 1, 2022 | \$ 39,317,139,093 | \$ (26,694,121,356) | \$ 12,623,017,737 |
| 2. Additions | | | |
| Normal Cost | \$ 787,008,136 | \$ 0 | \$ 787,008,136 |
| Statutory Contributions | 0 | (1,341,539,279) | (1,341,539,279) |
| Expected Member Contributions | 0 | (541,122,333) | (541,122,333) |
| Total Additions | <u>\$ 787,008,136</u> | <u>\$ (1,882,661,612)</u> | <u>\$ (1,095,653,476)</u> |
| 3. Deductions | | | |
| Benefit Payments | \$ (2,639,586,619) | \$ 2,639,586,619 | \$ 0 |
| Expected Administrative Expenses | 0 | 0 | 0 |
| Total Deductions | <u>\$ (2,639,586,619)</u> | <u>\$ 2,639,586,619</u> | <u>\$ 0</u> |
| 4. Net Transfers from Other Systems | | | |
| State Contributions | \$ (1,956,284) | \$ 1,956,284 | \$ 0 |
| Member Contributions | (12,675,156) | 12,675,156 | 0 |
| Total Net Transfers | <u>\$ (14,631,440)</u> | <u>\$ 14,631,440</u> | <u>\$ 0</u> |
| 5. Expected Interest | \$ 2,715,963,856 | \$ (1,795,881,006) | \$ 920,082,850 |
| 6. Expected Value as of July 1, 2023: [1 + 2 + 3 + 4 + 5] | \$ 40,165,893,026 | \$ (27,718,445,915) | \$ 12,447,447,111 |
| 7. Other Changes | | | |
| Appropriation Adjustment | \$ 0 | \$ 0 | \$ 0 |
| Contribution Timing | 0 | 65,870,201 | 65,870,201 |
| Other Employer Contributions | 0 | (11,524,294) | (11,524,294) |
| Actual Member Contributions | 0 | (65,645,287) | (65,645,287) |
| ERI and Ch. 19 Receivables | 0 | (94,036) | (94,036) |
| Interest on NCGI Cash Flows | 0 | 5,094,313 | 5,094,313 |
| Change in Methods/Assumptions | 0 | 0 | 0 |
| Change in Benefits/Policy | 0 | 0 | 0 |
| Total Other Changes | <u>\$ 0</u> | <u>\$ (6,299,103)</u> | <u>\$ (6,299,103)</u> |
| 8. Expected value after changes: [6 + 7] | \$ 40,165,893,026 | \$ (27,724,745,018) | \$ 12,441,148,008 |
| 9. Actual Value as of July 1, 2023 | \$ 40,366,610,080 | \$ (27,638,369,472) | \$ 12,728,240,608 |
| 10. Actuarial (Gain)/Loss: [9 - 8] | \$ 200,717,054 | \$ 86,375,546 | \$ 287,092,600 |

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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SECTION IV – LIABILITIES

Table IV-8 shows the components of the Actuarial (gain)/loss for the State.

| Table IV-8 Actuarial (Gain)/Loss Analysis State | | |
|--|-----------------------|-----------------------|
| Components | July 1, 2023 | July 1, 2022 |
| Actuarial Value of Assets | | |
| Investment Return | \$ 169,368,014 | \$ 217,227,219 |
| Administrative Expenses | 6,114,500 | 5,793,184 |
| Total | <u>\$ 175,482,514</u> | <u>\$ 223,020,403</u> |
| Actuarial Liability | | |
| Salary Increases | \$ 50,344,329 | \$ 215,714,064 |
| New Entrants | 21,103,709 | 18,564,591 |
| Benefit Payments ¹ | 79,296,695 | 79,472,158 |
| Demographic Experience and Census Data Updates | | |
| Contributing Actives and Non-Contributing Members | 42,320,308 | 87,827,540 |
| Inactives | <u>(10,213,274)</u> | <u>(24,150,594)</u> |
| Sub-Total | \$ 182,851,767 | \$ 377,427,759 |
| Impact of Net Transfers from Other Systems | <u>(3,455,300)</u> | <u>100,242</u> |
| Total | <u>\$ 179,396,467</u> | <u>\$ 377,528,001</u> |
| Actuarial (Gain)/Loss | \$ 354,878,981 | \$ 600,548,404 |

¹ This loss is due to the allocation to the State reserve of benefit payments associated with Local employer members who worked for more than one employer. This administrative practice was identified during the 2021 Experience Study process, and we first quantified the impact beginning with the July 1, 2022 valuation. We anticipate a benefit payment loss to occur each year in the future for the State portion unless the administrative practice is revised, or we are directed to allocate the liabilities associated with these members to the State and assets associated with these members are transferred from the Local employers' reserve to the State reserve.

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SECTION IV – LIABILITIES

Table IV-9 shows the components of the Actuarial (gain)/loss for Local employers.

| Table IV-9 Actuarial (Gain)/Loss Analysis Local Employers | | |
|--|-----------------------|-----------------------|
| Components | July 1, 2023 | July 1, 2022 |
| Actuarial Value of Assets | | |
| Investment Return | \$ 72,690,868 | \$ 234,078,422 |
| Administrative Expenses | 13,684,678 | 12,857,414 |
| Total | <u>\$ 86,375,546</u> | <u>\$ 246,935,836</u> |
| Actuarial Liability | | |
| Salary Increases | \$ 196,833,629 | \$ 217,223,713 |
| New Entrants | 46,754,164 | 34,743,660 |
| Benefit Payments ¹ | (79,296,695) | (79,472,158) |
| Demographic Experience and Census Data Updates | | |
| Contributing Actives and Non-Contributing Members | 72,005,111 | 80,522,081 |
| Inactives | <u>(50,714,034)</u> | <u>(66,487,887)</u> |
| Sub-Total | \$ 185,582,175 | \$ 186,529,409 |
| Impact of Net Transfers from Other Systems | <u>15,134,879</u> | <u>16,010,845</u> |
| Total | \$ 200,717,054 | \$ 202,540,254 |
| Actuarial (Gain)/Loss | \$ 287,092,600 | \$ 449,476,090 |

¹ This gain is due to the allocation to the State reserve of benefit payments associated with Local employer members who worked for more than one employer. This administrative practice was identified during the 2021 Experience Study process, and we first quantified the impact beginning with the July 1, 2022 valuation. We anticipate a benefit payment gain to occur each year in the future for the Local employers' portion unless the administrative practice is revised, or we are directed to assign the liabilities associated with these members to the State and assets associated with these members are transferred from the Local employers' reserve to the State reserve.

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SECTION V – CONTRIBUTIONS

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level (if any) of contributions is needed to properly maintain the funding status of the Plan. Typically, the actuarial process will use a funding technique that will result in a pattern of contributions that are both stable and predictable.

Under the current funding policy, the State and Local employer funding requirements contain two components: the employer normal cost and an amortization of the unfunded actuarial liability (UAL). The UAL for this purpose does not include the special asset value. The funding methodology prescribed by NJ State Statute does not include a cost component for administrative expenses, and therefore administrative expenses are implicitly covered by the investment rate of return assumption.

For PERS, the funding method employed is the Projected Unit Credit (PUC) Actuarial Cost Method. Under this funding method, the actuarial liability is calculated as the actuarial present value of the projected benefits linearly allocated to periods prior to the valuation year. Refunds are valued as the Accumulated Deductions with interest as of the valuation date as provided by the Division of Pensions and Benefits. The unfunded actuarial liability is the actuarial liability on the valuation date less the actuarial value of assets.

In accordance with Chapter 78, P. L. 2011, beginning with the July 1, 2019 valuation, the unfunded actuarial liability is amortized over a closed 30-year period as a level dollar amount. As of the July 1, 2023 valuation, the remaining amortization period is 26 years.

Under Chapter 98, P.L. 2017, the Lottery Enterprise Contribution Act, PERS receives 21.02% of the proceeds of the Lottery Enterprise for a term of 30 years. As of July 1, 2023 there are 23 years remaining. The State's pension contribution shall be reduced by the product of the allocable percentage for such retirement system, the adjustment percentage for such retirement system and the special asset adjustment.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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SECTION V – CONTRIBUTIONS

| Table V-1 Development of Lottery Enterprise Contribution Offset for Fiscal Year Ending 2025 | |
|--|------------------|
| 1. Special Asset Value Allocated to PERS as of July 1, 2023 | \$ 2,602,513,999 |
| 2. 23-Year Level Dollar Amortization payable June 30, 2024 | \$ 230,879,235 |
| 3. Initial Special Asset Value allocable to PERS as of July 1, 2016 | \$ 2,642,897,102 |
| 4. Maximum Special Asset Adjustment: 30-Year Level-Dollar Amortization at 7.65% | \$ 227,053,417 |
| 5. Special Asset Adjustment as of June 30, 2024: [lesser of 2. and 4.] | \$ 227,053,417 |
| 6. Adjustment Percentage | 57.29% |
| 7. Funded Ratio based on Actuarial Value + Special Asset Value for Total System | 58.07% |
| 8. Applicable Adjustment Percentage: [If 7. < 50%, 6. - 3 x (50% - 7.), otherwise 6.] | 57.29% |
| 9. Lottery Enterprise Contribution Offset as of June 30, 2024: [5. x 8.] | \$ 130,078,903 |

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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SECTION V – CONTRIBUTIONS

Table V-2 through Table V-5 show the development of the Statutory pension contributions for the State and Local employers.

| Table V-2 Development of Unfunded Actuarial Liability | | | | | | |
|--|--------------------------|------------------------------|--------------------------|--------------------------|------------------------------|--------------------------|
| | July 1, 2023 Valuation | | | July 1, 2022 Valuation | | |
| | State | Local Employers ¹ | Total | State | Local Employers ¹ | Total |
| 1. Actuarial Liability | \$ 28,762,696,821 | \$ 40,366,610,080 | \$ 69,129,306,901 | \$ 28,185,048,883 | \$ 39,317,139,093 | \$ 67,502,187,976 |
| 2. Actuarial Value of Assets² | \$ 9,900,003,769 | \$ 27,638,369,472 | \$ 37,538,373,241 | \$ 9,354,810,560 | \$ 26,694,121,356 | \$ 36,048,931,916 |
| 3. Unfunded Actuarial Liability | | | | | | |
| a. Basic ³ | \$ 18,835,149,325 | \$ 12,613,862,419 | \$ 31,449,011,744 | \$ 18,801,014,440 | \$ 12,500,902,718 | \$ 31,301,917,158 |
| b. Chapter 133, P.L. 2001 ⁴ | 0 | 0 | 0 | 0 | 0 | 0 |
| c. Chapter 366, P.L. 2001 ⁵ | 19,481,139 | 114,378,189 | 133,859,328 | 20,798,893 | 122,115,019 | 142,913,912 |
| d. Chapter 259, P.L. 2001 | 3,505,822 | 0 | 3,505,822 | 3,742,965 | 0 | 3,742,965 |
| e. Chapter 140, P.L. 2021 | 4,556,766 | 0 | 4,556,766 | 4,682,025 | 0 | 4,682,025 |
| f. Total | \$ 18,862,693,052 | \$ 12,728,240,608 | \$ 31,590,933,660 | \$ 18,830,238,323 | \$ 12,623,017,737 | \$ 31,453,256,060 |
| 4. Adjustment to UAL for Phase-In of State-Paid Local Obligations | | | | | | |
| a. Chapter 133, P.L. 2001 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| b. Chapter 366, P.L. 2001 | 114,378,189 | (114,378,189) | 0 | 122,115,019 | (122,115,019) | 0 |
| d. Total | \$ 114,378,189 | \$ (114,378,189) | \$ 0 | \$ 122,115,019 | \$ (122,115,019) | \$ 0 |
| 5. Net UAL [3 + 4] | \$ 18,977,071,241 | \$ 12,613,862,419 | \$ 31,590,933,660 | \$ 18,952,353,342 | \$ 12,500,902,718 | \$ 31,453,256,060 |

¹ Excludes UAL amounts due to Local employer ERI programs and Chapter 19, P.L. 2009 Local employer deferrals because receivables for these amounts are included in the AVA.

² AVA without Special Asset Value used to calculate the Statutory Contribution.

³ Includes UAL amounts due to State ERI programs.

⁴ For State, the UAL related to the phase-in of Chapter 133, P.L. 2001 normal costs is not tracked and is included with the Basic UAL.

⁵ Reflects the reopening of the Prosecutors Part of PERS based on Chapter 226, P.L. 2021.

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SECTION V – CONTRIBUTIONS

| Table V-3 Development of Unfunded Actuarial Liability Contribution | | | | | | |
|---|---|------------------------------|------------------|---|------------------------------|------------------|
| | July 1, 2023 Valuation Fiscal Year Ending 2025 Payment | | | July 1, 2022 Valuation Fiscal Year Ending 2024 Payment | | |
| | State | Local Employers ¹ | Total | State | Local Employers ¹ | Total |
| 1. Amortization of UAL | | | | | | |
| a. Basic ² | \$ 1,488,522,979 | \$ 996,860,908 | \$ 2,485,383,887 | \$ 1,465,877,037 | \$ 974,670,080 | \$ 2,440,547,117 |
| b. Chapter 133, P.L. 2001 ³ | 0 | 0 | 0 | 0 | 0 | 0 |
| c. Chapter 366, P.L. 2001 ⁴ | 2,592,220 | 15,219,515 | 17,811,735 | 2,592,221 | 15,219,515 | 17,811,736 |
| d. Chapter 259, P.L. 2001 ^{4,5} | 466,495 | 0 | 466,495 | 466,496 | 0 | 466,496 |
| e. Chapter 140, P.L. 2021 ^{5,6} | 423,364 | 0 | 423,364 | 423,365 | 0 | 423,365 |
| f. Total | \$ 1,492,005,058 | \$ 1,012,080,423 | \$ 2,504,085,481 | \$ 1,469,359,119 | \$ 989,889,595 | \$ 2,459,248,714 |
| 2. Adjustment to UAL Contribution for State-Paid Local Obligations | | | | | | |
| a. Chapter 133, P.L. 2001 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| b. Chapter 366, P.L. 2001 | 15,219,515 | (15,219,515) | 0 | 15,219,515 | (15,219,515) | 0 |
| c. Total | \$ 15,219,515 | \$ (15,219,515) | \$ 0 | \$ 15,219,515 | \$ (15,219,515) | \$ 0 |
| 3. UAL Contribution as of Valuation Date [1 + 2] | \$ 1,507,224,573 | \$ 996,860,908 | \$ 2,504,085,481 | \$ 1,484,578,634 | \$ 974,670,080 | \$ 2,459,248,714 |
| 4. Interest to the Beginning of the Fiscal Year | \$ 105,505,720 | \$ 69,780,264 | \$ 175,285,984 | \$ 103,920,505 | \$ 68,226,906 | \$ 172,147,411 |
| 5. UAL Contribution as of Beginning of Fiscal Year [3 + 4] | \$ 1,612,730,293 | \$ 1,066,641,172 | \$ 2,679,371,465 | \$ 1,588,499,139 | \$ 1,042,896,986 | \$ 2,631,396,125 |

¹ Excludes UAL amounts due to Local employer ERI programs and Chapter 19, P.L. 2009 Local employer deferrals because receivables for these amounts are included in the AVA.

² Includes UAL Amounts due to State ERI programs.

³ For State, the UAL related to the phase-in of Chapter 133, P.L. 2001 normal costs is not tracked and is included with the Basic UAL.

⁴ Amortized over closed 10 and 11 year periods in 2023 and 2022, respectively, as level dollar amounts.

⁵ Payable by the Second Injury Fund (SIF).

⁶ Amortized over closed 18 and 19 year periods in 2023 and 2022, respectively, as level dollar amounts.

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SECTION V – CONTRIBUTIONS

| Table V-4 Development of Normal Cost | | | | | | |
|--|---|-------------------------|-------------------------|---|-------------------------|-------------------------|
| | July 1, 2023 Valuation Fiscal Year Ending 2025 Payment | | | July 1, 2022 Valuation Fiscal Year Ending 2024 Payment | | |
| | State | Local Employers | Total | State | Local Employers | Total |
| 1. Gross Normal Cost, excluding NCGI Premium | | | | | | |
| a. Basic | \$ 477,848,692 | \$ 765,847,686 | \$ 1,243,696,378 | \$ 471,581,004 | \$ 743,033,991 | \$ 1,214,614,995 |
| b. Chapter 133, P.L. 2001 | 27,085,900 | 39,276,326 | 66,362,226 | 27,973,496 | 40,753,731 | 68,727,227 |
| c. Chapter 366, P.L. 2001 ¹ | 583,624 | 3,410,496 | 3,994,120 | 486,395 | 3,220,414 | 3,706,809 |
| d. Chapter 259, P.L. 2001 and Chapter 140, P.L. 2021 ² | <u>1,091,449</u> | <u>0</u> | <u>1,091,449</u> | <u>1,076,323</u> | <u>0</u> | <u>1,076,323</u> |
| e. Total | <u>\$ 506,609,665</u> | <u>\$ 808,534,508</u> | <u>\$ 1,315,144,173</u> | <u>\$ 501,117,218</u> | <u>\$ 787,008,136</u> | <u>\$ 1,288,125,354</u> |
| 2. Expected Member Contributions | | | | | | |
| a. Basic | \$ (330,575,073) | \$ (545,485,895) | \$ (876,060,968) | \$ (323,374,683) | \$ (521,345,452) | \$ (844,720,135) |
| b. Chapter 366, P.L. 2001 ³ | <u>(430,325)</u> | <u>(2,006,589)</u> | <u>(2,436,914)</u> | <u>(395,689)</u> | <u>(1,777,252)</u> | <u>(2,172,941)</u> |
| c. Total | <u>\$ (331,005,398)</u> | <u>\$ (547,492,484)</u> | <u>\$ (878,497,882)</u> | <u>\$ (323,770,372)</u> | <u>\$ (523,122,704)</u> | <u>\$ (846,893,076)</u> |
| 3. Employer Normal Cost [1 + 2] | <u>\$ 175,604,267</u> | <u>\$ 261,042,024</u> | <u>\$ 436,646,291</u> | <u>\$ 177,346,846</u> | <u>\$ 263,885,432</u> | <u>\$ 441,232,278</u> |
| 4. Portion of Local Normal Cost Payable by State | | | | | | |
| a. Chapter 133, P.L. 2001 | \$ 39,276,326 | \$ (39,276,326) | \$ 0 | \$ 40,753,731 | \$ (40,753,731) | \$ 0 |
| b. Chapter 366, P.L. 2001 | <u>1,403,907</u> | <u>(1,403,907)</u> | <u>0</u> | <u>1,443,162</u> | <u>(1,443,162)</u> | <u>0</u> |
| c. Total | <u>\$ 40,680,233</u> | <u>\$ (40,680,233)</u> | <u>\$ 0</u> | <u>\$ 42,196,893</u> | <u>\$ (42,196,893)</u> | <u>\$ 0</u> |
| 5. Normal Cost Contribution as of Valuation Date [3 + 4] | <u>\$ 216,284,500</u> | <u>\$ 220,361,791</u> | <u>\$ 436,646,291</u> | <u>\$ 219,543,739</u> | <u>\$ 221,688,539</u> | <u>\$ 441,232,278</u> |
| 6. Interest to the Beginning of the Fiscal Year | <u>\$ 15,139,916</u> | <u>\$ 15,425,326</u> | <u>\$ 30,565,242</u> | <u>\$ 15,368,061</u> | <u>\$ 15,518,198</u> | <u>\$ 30,886,259</u> |
| 7. Normal Cost Contribution as of Beginning of Fiscal Year [5 + 6] | <u>\$ 231,424,416</u> | <u>\$ 235,787,117</u> | <u>\$ 467,211,533</u> | <u>\$ 234,911,800</u> | <u>\$ 237,206,737</u> | <u>\$ 472,118,537</u> |
| 8. Non-Contributory Group Insurance Premium as of Beginning of Fiscal Year (one-year term cost) | N/A | <u>\$ 58,306,504</u> | <u>\$ 58,306,504</u> | N/A | <u>\$ 56,424,620</u> | <u>\$ 56,424,620</u> |

¹ Reflects the reopening of the Prosecutors Part of PERS based on Chapter 226, P.L. 2021.

² Payable by the Second Injury Fund (SIF).

³ The member contribution rate for Prosecutors Part members is 10%, 2.5% greater than the regular member contribution rate of 7.5%.

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SECTION V – CONTRIBUTIONS

| Table V-5 Development of Statutory Pension Contributions | | | | | | |
|---|---|-------------------------|-------------------------|---|-------------------------|-------------------------|
| As of Beginning of Fiscal Year | July 1, 2023 Valuation Fiscal Year Ending 2025 Payment | | | July 1, 2022 Valuation Fiscal Year Ending 2024 Payment | | |
| | State | Local Employers | Total | State | Local Employers | Total |
| 1. Normal Cost Contribution¹ | | | | | | |
| a. Basic | \$ 157,582,772 | \$ 235,787,117 | \$ 393,369,889 | \$ 158,580,764 | \$ 237,206,737 | \$ 395,787,501 |
| b. Chapter 133, P.L. 2001 | 71,007,583 | 0 | 71,007,583 | 73,538,132 | 0 | 73,538,132 |
| c. Chapter 366, P.L. 2001 | 1,666,210 | 0 | 1,666,210 | 1,641,239 | 0 | 1,641,239 |
| d. Chapter 259, P.L. 2001 and Chapter 140, P.L. 2021 ³ | 1,167,851 | 0 | 1,167,851 | 1,151,665 | 0 | 1,151,665 |
| e. Total | <u>\$ 231,424,416</u> | <u>\$ 235,787,117</u> | <u>\$ 467,211,533</u> | <u>\$ 234,911,800</u> | <u>\$ 237,206,737</u> | <u>\$ 472,118,537</u> |
| 2. UAL Contribution^{1,2} | | | | | | |
| a. Basic ⁴ | \$ 1,592,719,588 | \$ 1,066,641,172 | \$ 2,659,360,760 | \$ 1,568,488,430 | \$ 1,042,896,986 | \$ 2,611,385,416 |
| b. Chapter 133, P.L. 2001 | 0 | 0 | 0 | 0 | 0 | 0 |
| c. Chapter 366, P.L. 2001 | 19,058,556 | 0 | 19,058,556 | 19,058,557 | 0 | 19,058,557 |
| d. Chapter 259, P.L. 2001 ³ | 499,150 | 0 | 499,150 | 499,151 | 0 | 499,151 |
| e. Chapter 140, P.L. 2021 ³ | 452,999 | 0 | 452,999 | 453,001 | 0 | 453,001 |
| f. Total | <u>\$ 1,612,730,293</u> | <u>\$ 1,066,641,172</u> | <u>\$ 2,679,371,465</u> | <u>\$ 1,588,499,139</u> | <u>\$ 1,042,896,986</u> | <u>\$ 2,631,396,125</u> |
| 3. Total Statutory Pension Contribution: [1 + 2] | \$ 1,844,154,709 | \$ 1,302,428,289 | \$ 3,146,582,998 | \$ 1,823,410,939 | \$ 1,280,103,723 | \$ 3,103,514,662 |
| 4. SIF Offset of Chapter 259, P.L. 2001 and Chapter 140, P.L. 2021 | \$ (2,120,000) | \$ 0 | \$ (2,120,000) | \$ (2,103,817) | \$ 0 | \$ (2,103,817) |
| 5. Lottery Enterprise Contribution Offset | \$ (130,078,903) | \$ 0 | \$ (130,078,903) | \$ (130,078,903) | \$ 0 | \$ (130,078,903) |
| 6. Net Pension Contribution: [3 + 4 + 5] | \$ 1,711,955,806 | \$ 1,302,428,289 | \$ 3,014,384,095 | \$ 1,691,228,219 | \$ 1,280,103,723 | \$ 2,971,331,942 |
| 7. Non-Contributory Group Insurance Premium | N/A | \$ 58,306,504 | \$ 58,306,504 | N/A | \$ 56,424,620 | \$ 56,424,620 |

¹ State amounts for Chapter 133, P.L. 2001 and Chapter 366, P.L. 2001 include contributions toward State-paid Local obligations, both amounts attributable to the current fiscal year and amounts that were not contributed in prior years due to the phase-in of contributions. The total State-paid Local obligations are \$59,812,730 and \$61,435,556 for the July 1, 2023 and July 1, 2022 valuations, respectively.

² Excludes UAL amounts due to Local employer ERI programs and Chapter 19, P.L. 2009 Local employer deferrals because receivables for these amounts are included in the AVA. Refer to Appendices E and F for additional information on these payments.

³ Payable by the Second Injury Fund (SIF).

⁴ Includes UAL Amounts due to State ERI programs.

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SECTION V – CONTRIBUTIONS

Tables V-6 shows the State and Local employers' contributions as a percentage of appropriation payroll for FYE 2025 compared to FYE 2024. These rates are appropriate for determining employer contributions when they are applied to appropriation payroll as well as evaluating the impact of State-paid Local adjustments and contribution rate changes from the prior year. For a breakdown of contribution rates by chapter law for administration purposes, refer to Table V-7.

| Table V-6 Contributions as a Percentage of Appropriation Payroll¹ | | | | | | |
|--|--|------------------------|--------------|--|------------------------|--------------|
| | July 1, 2023 Valuation Fiscal Year 2025 Payment | | | July 1, 2022 Valuation Fiscal Year 2024 Payment | | |
| | State | Local Employers | Total | State | Local Employers | Total |
| <u>Prior to Statutory State-Paid Local Adjustments and Prior to SIF and Lottery Enterprise Contribution Offsets</u> | | | | | | |
| Normal Cost Contribution Rate | 3.940% | 3.512% | 3.672% | 4.068% | 3.719% | 3.852% |
| UAL Contribution Rate | 33.474% | 13.617% | 21.061% | 33.703% | 13.952% | 21.470% |
| Gross Pension Contribution Rate | 37.414% | 17.129% | 24.733% | 37.771% | 17.671% | 25.322% |
| Non-Contributory Group Insurance Premium Rate | N/A | 0.733% | N/A | N/A | 0.743% | N/A |
| <u>After Statutory State-Paid Local Adjustments and Prior to SIF and Lottery Enterprise Contribution Offsets</u> | | | | | | |
| Normal Cost Contribution Rate | 4.852% | 2.965% | 3.672% | 5.036% | 3.125% | 3.852% |
| UAL Contribution Rate | 33.815% | 13.412% | 21.061% | 34.052% | 13.738% | 21.470% |
| Gross Pension Contribution Rate | 38.667% | 16.377% | 24.733% | 39.088% | 16.863% | 25.322% |
| Non-Contributory Group Insurance Premium Rate | N/A | 0.733% | N/A | N/A | 0.743% | N/A |

¹ Excludes UAL amounts due to Local Employer ERI programs and Chapter 19, P.L. 2009 Local Employer deferrals because receivables for these amounts are included in the AVA.

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Table V-7 shows the State and Local employer contributions as a percentage of appropriation payroll for FYE 2025 compared to FYE 2024. These contribution rates by chapter law are intended for administration purposes and may not be appropriate for other uses.

| Table V-7 Contributions as a Percentage of Appropriation Payroll¹ | | | | |
|---|--|------------------------|--|------------------------|
| | July 1, 2023 Valuation Fiscal Year 2025 Payment | | July 1, 2022 Valuation Fiscal Year 2024 Payment | |
| | State | Local Employers | State | Local Employers |
| 1. Normal Cost Rate | | | | |
| a. Basic | 3.304% | 2.965% | 3.399% | 3.125% |
| b. Chapter 133, P.L. 2001 | 1.489% | 0.000% ² | 1.576% | 0.000% ² |
| c. Total Normal Cost Rate | 4.793% | 2.965% | 4.975% | 3.125% |
| 2. Unfunded Actuarial Liability (UAL) Contribution | | | | |
| a. Basic | 33.396% | 13.412% | 33.623% | 13.738% |
| b. Chapter 133, P.L. 2001 | 0.000% | 0.000% | 0.000% | 0.000% |
| c. Total UAL Contribution | 33.396% | 13.412% | 33.623% | 13.738% |
| 3. Gross Contribution for Fiscal Year 2025: [1 + 2] | 38.189% | 16.377% | 38.598% | 16.863% |
| 4. State Non-Contributory Group Insurance Premium Fund | N/A | 0.733% | N/A | 0.743% |

¹Rates exclude contributions required under Chapter 366, P.L. 2001, Chapter 259, P.L. 2001, and Chapter 140, P.L. 2021 as well as ERI and Chapter 19, P.L. 2009 payments.

²Required contributions for Local employers are payable by assets from the Benefit Enhancement Fund. If BEF assets are insufficient, the State will cover any shortfall. The Local employers Chapter 133, P.L. 2001 rates would have been 0.528% and 0.574% for the July 1, 2023 and the July 1, 2022 valuations, respectively.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

SECTION V – CONTRIBUTIONS

Table V-8 shows the Statutory contribution payable by the State broken down by various divisions.

| Table V-8 | | | | | | |
|--|-------------------------|-------------------------------------|---|-----------------------|---|--------------------------|
| Fiscal Year 2025 Statutory Contributions Payable by the State | | | | | | |
| | State | Disability Insurance Services | All Other Units of Division of Employment Security | State Colleges | Total Excluding Second Injury Fund | Second Injury Fund |
| Member Count | 50,048 | 226 | 1,560 | 12,214 | 64,048 | |
| Appropriation Payroll | \$ 3,882,173,569 | \$ 14,533,893 | \$ 118,761,618 | \$ 753,793,753 | \$ 4,769,262,833 | |
| Normal Cost Contribution | | | | | | |
| Basic | \$ 128,272,167 | \$ 480,219 | \$ 3,924,041 | \$ 24,906,345 | \$ 157,582,772 | |
| Chapter 133, P.L. 2001 | 71,007,583 | 0 | 0 | 0 | 71,007,583 | |
| Chapter 366, P.L. 2001 | 1,666,210 | 0 | 0 | 0 | 1,666,210 | |
| Sub-Total | <u>\$ 200,945,960</u> | <u>\$ 480,219</u> | <u>\$ 3,924,041</u> | <u>\$ 24,906,345</u> | <u>\$ 230,256,565</u> | |
| Chapter 259, P.L. 2001 | | | | | | \$ 1,167,851 |
| UAL Contribution | | | | | | |
| Basic excluding ERI amounts | \$ 1,177,225,836 | \$ 4,900,674 | \$ 40,045,151 | \$ 229,646,311 | \$ 1,451,817,972 | |
| Chapter 23, P.L. 2002 | 106,047,767 | 0 | 0 | 9,099,916 | 115,147,683 | |
| Chapter 21, P.L. 2008 | 25,753,933 | 0 | 0 | 0 | 25,753,933 | |
| Chapter 133, P.L. 2001 | 0 | 0 | 0 | 0 | 0 | |
| Chapter 366, P.L. 2001 | 19,058,556 | 0 | 0 | 0 | 19,058,556 | |
| Sub-Total | <u>\$ 1,328,086,092</u> | <u>\$ 4,900,674</u> | <u>\$ 40,045,151</u> | <u>\$ 238,746,227</u> | <u>\$ 1,611,778,144</u> | |
| Chapter 259, P.L. 2001 | | | | | | \$ 499,150 |
| Chapter 140, P.L. 2021 | | | | | | \$ 452,999 |
| Statutory Pension Contribution | \$ 1,529,032,052 | \$ 5,380,893 | \$ 43,969,192 | \$ 263,652,572 | \$ 1,842,034,709 | \$ 2,120,000 |
| Lottery Contribution Offset | | | | | | |
| Chapter 98, P.L. 2017 | \$ (60,633,680) | \$ 0 | \$ 0 | \$ (69,445,223) | \$ (130,078,903) | \$ 0 |
| Net Pension Contribution | \$ 1,468,398,372 | \$ 5,380,893 | \$ 43,969,192 | \$ 194,207,349 | \$ 1,711,955,806 | \$ 2,120,000 |

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

SECTION V – CONTRIBUTIONS

Table V-9 shows the Statutory contribution attributable to various state colleges.

| Table V-9 Fiscal Year 2025 Statutory Contributions for State Colleges | | | | | | | | | |
|--|---------------------------------------|---------------|-----------------------|--------------------------------|-----------------------|-----------------------|--------------------------------|--|--------------------------|
| Location Number | Location Name | Member Count | Appropriation Payroll | Basic Normal Cost Contribution | UAL Contribution | | Statutory Pension Contribution | Lottery Contribution Offset ¹ | Net Pension Contribution |
| | | | | | Basic | Chapter 23, P.L. 2002 | | | |
| 401 | State Library Affiliated ² | 73 | \$ 5,579,991 | \$ 184,370 | \$ 1,881,513 | \$ 0 | \$ 2,065,883 | \$ (87,151) | \$ 1,978,732 |
| 410 | Rowan University | 992 | 58,570,993 | 1,935,263 | 17,829,678 | 785,800 | 20,550,741 | (5,429,426) | 15,121,315 |
| 411 | New Jersey City University | 325 | 20,354,611 | 672,543 | 6,196,176 | 544,199 | 7,412,918 | (1,886,836) | 5,526,082 |
| 412 | Kean University | 323 | 22,358,294 | 738,748 | 6,806,120 | 479,714 | 8,024,582 | (2,072,574) | 5,952,008 |
| 413 | William Patterson University of NJ | 343 | 20,770,739 | 686,293 | 6,322,850 | 335,181 | 7,344,324 | (1,925,410) | 5,418,914 |
| 414 | Monclair State University | 560 | 32,659,582 | 1,079,116 | 9,941,949 | 213,100 | 11,234,165 | (3,027,485) | 8,206,680 |
| 415 | The College of New Jersey | 401 | 25,427,666 | 840,164 | 7,740,471 | 599,150 | 9,179,785 | (2,357,099) | 6,822,686 |
| 420 | Ramapo College of New Jersey | 241 | 16,917,636 | 558,981 | 5,149,921 | 175,459 | 5,884,361 | (1,568,234) | 4,316,127 |
| 421 | Stockton University | 593 | 38,286,002 | 1,265,020 | 11,654,695 | 461,069 | 13,380,784 | (3,549,044) | 9,831,740 |
| 430 | Thomas Edison State University | 71 | 5,562,427 | 183,790 | 1,693,266 | 139,164 | 2,016,220 | (515,627) | 1,500,593 |
| 497 & 498 | Rutgers University | 5,228 | 298,804,077 | 9,872,884 | 90,959,367 | 5,102,607 | 105,934,858 | (27,698,601) | 78,236,257 |
| 901 | University Hospital | 2,727 | 187,342,856 | 6,190,056 | 57,029,301 | 0 | 63,219,357 | (17,366,346) | 45,853,011 |
| 32700 & 55530 | New Jersey Institute of Technology | 337 | 21,158,879 | 699,117 | 6,441,004 | 264,473 | 7,404,594 | (1,961,390) | 5,443,204 |
| Total | | 12,214 | \$ 753,793,753 | \$ 24,906,345 | \$ 229,646,311 | \$ 9,099,916 | \$ 263,652,572 | \$ (69,445,223) | \$ 194,207,349 |

¹ 53.32% of the total Lottery Enterprise Contribution offset for FYE 2025 is allocated to each State College location based on the location's 2023 appropriation payroll. The percentage allocation to State Colleges was determined using 2023 contributing active and retiree headcounts for locations deemed to be eligible for funding under the Lottery Enterprise.

² The allocation of the Lottery Enterprise Contribution offset to State Library Affiliated is based on the 46.68% allocated to non-State College locations.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX A – MEMBERSHIP INFORMATION

The data for this valuation was provided by the New Jersey Division of Pensions and Benefits as of July 1, 2023. Cheiron did not audit any of the data. However, we did perform an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23, Data Quality. The following is a list of data charts contained in this section:

- A-1 to A-3: Contributing Active Member Data by Tier
- A-4: Non-Contributing Member Data by Tier
- A-5: Inactive Member Data by Status
- A-6: Reconciliation of Plan Membership
- A-7 through A-10: Contributing Active Member Data by Age and Service
- A-11 through A-14: Inactive Member Data by Age and Status

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX A – MEMBERSHIP INFORMATION

| Table A-1 Contributing Active Member Data by Tier State | | | | | | | |
|--|------------------|------------------|--------|-----------------------------|------------------|------------------|--------|
| | July 1, 2023 | July 1, 2022 | % | | July 1, 2023 | July 1, 2022 | % |
| | | | Change | | | | Change |
| <u>Tier 1</u> | | | | <u>Tier 2</u> | | | |
| Count | 27,761 | 30,379 | -8.6% | Count | 2,437 | 2,588 | -5.8% |
| Average Age | 54.6 | 54.3 | 0.7% | Average Age | 50.8 | 50.2 | 1.1% |
| Average Service | 23.3 | 22.7 | 2.6% | Average Service | 15.2 | 14.2 | 7.1% |
| Average Appropriation Pay | \$ 85,134 | \$ 82,119 | 3.7% | Average Appropriation Pay | \$ 75,177 | \$ 71,934 | 4.5% |
| Total Appropriation Payroll | \$ 2,363,392,164 | \$ 2,494,692,557 | -5.3% | Total Appropriation Payroll | \$ 183,205,851 | \$ 186,166,282 | -1.6% |
| <u>Tier 3</u> | | | | <u>Tier 4</u> | | | |
| Count | 1,671 | 1,775 | -5.9% | Count | 1,193 | 1,265 | -5.7% |
| Average Age | 50.0 | 49.3 | 1.2% | Average Age | 48.6 | 47.8 | 1.5% |
| Average Service | 13.7 | 12.8 | 7.7% | Average Service | 12.5 | 11.5 | 8.4% |
| Average Appropriation Pay | \$ 74,556 | \$ 71,007 | 5.0% | Average Appropriation Pay | \$ 79,429 | \$ 75,521 | 5.2% |
| Total Appropriation Payroll | \$ 124,583,213 | \$ 126,037,227 | -1.2% | Total Appropriation Payroll | \$ 94,758,741 | \$ 95,534,610 | -0.8% |
| <u>Tier 5</u> | | | | <u>Total</u> | | | |
| Count | 30,986 | 28,350 | 9.3% | Count | 64,048 | 64,357 | -0.5% |
| Average Age | 42.0 | 41.7 | 0.7% | Average Age | 48.1 | 48.3 | -0.4% |
| Average Service | 5.0 | 4.8 | 5.5% | Average Service | 13.7 | 14.0 | -1.9% |
| Average Appropriation Pay | \$ 64,653 | \$ 62,171 | 4.0% | Average Appropriation Pay | \$ 74,464 | \$ 72,486 | 2.7% |
| Total Appropriation Payroll | \$ 2,003,322,864 | \$ 1,762,537,588 | 13.7% | Total Appropriation Payroll | \$ 4,769,262,833 | \$ 4,664,968,264 | 2.2% |

Reflects all records for multiple members, which are members employed by more than one PERS-participating employer at the same time.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX A – MEMBERSHIP INFORMATION

| Table A-2 Contributing Active Member Data by Tier Local Employers | | | | | | | | |
|--|------------------|------------------|--------|-----------------------------|------------------|------------------|--------|--|
| | July 1, 2023 | July 1, 2022 | % | | July 1, 2023 | July 1, 2022 | % | |
| | | | Change | | | | Change | |
| <u>Tier 1</u> | | | | <u>Tier 2</u> | | | | |
| Count | 52,920 | 58,625 | -9.7% | Count | 6,181 | 6,656 | -7.1% | |
| Average Age | 57.9 | 57.6 | 0.6% | Average Age | 54.6 | 54.0 | 1.1% | |
| Average Service | 23.4 | 22.7 | 3.0% | Average Service | 15.3 | 14.3 | 6.9% | |
| Average Appropriation Pay | \$ 64,955 | \$ 61,861 | 5.0% | Average Appropriation Pay | \$ 54,285 | \$ 50,905 | 6.6% | |
| Total Appropriation Payroll | \$ 3,437,443,824 | \$ 3,626,585,945 | -5.2% | Total Appropriation Payroll | \$ 335,532,812 | \$ 338,822,522 | -1.0% | |
| <u>Tier 3</u> | | | | <u>Tier 4</u> | | | | |
| Count | 3,889 | 4,162 | -6.6% | Count | 1,806 | 1,925 | -6.2% | |
| Average Age | 53.6 | 52.9 | 1.4% | Average Age | 51.4 | 50.7 | 1.3% | |
| Average Service | 13.8 | 12.8 | 7.7% | Average Service | 12.6 | 11.7 | 8.3% | |
| Average Appropriation Pay | \$ 57,729 | \$ 54,405 | 6.1% | Average Appropriation Pay | \$ 65,845 | \$ 62,082 | 6.1% | |
| Total Appropriation Payroll | \$ 224,506,434 | \$ 226,433,989 | -0.9% | Total Appropriation Payroll | \$ 118,915,864 | \$ 119,507,684 | -0.5% | |
| <u>Tier 5</u> | | | | <u>Total</u> | | | | |
| Count | 75,754 | 67,705 | 11.9% | Count | 140,550 | 139,073 | 1.1% | |
| Average Age | 44.1 | 43.8 | 0.7% | Average Age | 50.1 | 50.5 | -0.7% | |
| Average Service | 4.6 | 4.5 | 3.7% | Average Service | 12.5 | 13.0 | -3.5% | |
| Average Appropriation Pay | \$ 50,644 | \$ 48,447 | 4.5% | Average Appropriation Pay | \$ 56,584 | \$ 54,586 | 3.7% | |
| Total Appropriation Payroll | \$ 3,836,498,154 | \$ 3,280,115,326 | 17.0% | Total Appropriation Payroll | \$ 7,952,897,088 | \$ 7,591,465,466 | 4.8% | |

Reflects all records for multiple members, which are members employed by more than one PERS-participating employer at the same time.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX A – MEMBERSHIP INFORMATION

| Table A-3 Contributing Active Member Data by Tier Total | | | | | | | |
|--|------------------|------------------|--------|-----------------------------|-------------------|-------------------|--------|
| | July 1, 2023 | July 1, 2022 | % | | July 1, 2023 | July 1, 2022 | % |
| | | | Change | | | | Change |
| <u>Tier 1</u> | | | | <u>Tier 2</u> | | | |
| Count | 80,681 | 89,004 | -9.4% | Count | 8,618 | 9,244 | -6.8% |
| Average Age | 56.8 | 56.5 | 0.6% | Average Age | 53.5 | 52.9 | 1.1% |
| Average Service | 23.4 | 22.7 | 2.9% | Average Service | 15.3 | 14.3 | 7.0% |
| Average Appropriation Pay | \$ 71,898 | \$ 68,775 | 4.5% | Average Appropriation Pay | \$ 60,192 | \$ 56,792 | 6.0% |
| Total Appropriation Payroll | \$ 5,800,835,988 | \$ 6,121,278,502 | -5.2% | Total Appropriation Payroll | \$ 518,738,663 | \$ 524,988,804 | -1.2% |
| <u>Tier 3</u> | | | | <u>Tier 4</u> | | | |
| Count | 5,560 | 5,937 | -6.4% | Count | 2,999 | 3,190 | -6.0% |
| Average Age | 52.5 | 51.8 | 1.3% | Average Age | 50.3 | 49.6 | 1.4% |
| Average Service | 13.8 | 12.8 | 7.7% | Average Service | 12.6 | 11.6 | 8.3% |
| Average Appropriation Pay | \$ 62,786 | \$ 59,369 | 5.8% | Average Appropriation Pay | \$ 71,249 | \$ 67,411 | 5.7% |
| Total Appropriation Payroll | \$ 349,089,647 | \$ 352,471,216 | -1.0% | Total Appropriation Payroll | \$ 213,674,605 | \$ 215,042,294 | -0.6% |
| <u>Tier 5</u> | | | | <u>Total</u> | | | |
| Count | 106,740 | 96,055 | 11.1% | Count | 204,598 | 203,430 | 0.6% |
| Average Age | 43.5 | 43.2 | 0.7% | Average Age | 49.5 | 49.8 | -0.6% |
| Average Service | 4.8 | 4.6 | 4.3% | Average Service | 12.9 | 13.3 | -3.0% |
| Average Appropriation Pay | \$ 54,711 | \$ 52,498 | 4.2% | Average Appropriation Pay | \$ 62,181 | \$ 60,249 | 3.2% |
| Total Appropriation Payroll | \$ 5,839,821,018 | \$ 5,042,652,914 | 15.8% | Total Appropriation Payroll | \$ 12,722,159,921 | \$ 12,256,433,730 | 3.8% |

Reflects all records for multiple members, which are members employed by more than one PERS-participating employer at the same time.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX A – MEMBERSHIP INFORMATION

| Table A-4 Non-Contributing Member Data by Tier ¹ | | | | | | |
|--|----------------|----------------|-----------------|----------------|------------------|------------------|
| | State | | Local Employers | | Total | |
| | July 1, 2023 | July 1, 2022 | July 1, 2023 | July 1, 2022 | July 1, 2023 | July 1, 2022 |
| <u>Tier 1</u> | | | | | | |
| Count | 4,865 | 4,884 | 13,283 | 13,873 | 18,148 | 18,757 |
| Average Age | 60.5 | 59.9 | 64.0 | 63.3 | 63.0 | 62.4 |
| Accumulated Deductions with Interest | \$ 379,739,269 | \$ 365,915,074 | \$ 636,460,125 | \$ 640,659,335 | \$ 1,016,199,394 | \$ 1,006,574,409 |
| Average Reported Pay ² | \$ 58,690 | \$ 58,310 | \$ 51,589 | \$ 49,660 | \$ 54,442 | \$ 52,904 |
| <u>Tier 2</u> | | | | | | |
| Count | 375 | 359 | 1,281 | 1,278 | 1,656 | 1,637 |
| Average Age | 54.1 | 54.0 | 57.3 | 57.3 | 56.6 | 56.6 |
| Accumulated Deductions with Interest | \$ 20,255,742 | \$ 17,215,775 | \$ 38,461,654 | \$ 34,534,922 | \$ 58,717,396 | \$ 51,750,697 |
| Average Reported Pay ² | \$ 61,056 | \$ 56,192 | \$ 48,398 | \$ 40,831 | \$ 52,235 | \$ 45,798 |
| <u>Tier 3</u> | | | | | | |
| Count | 244 | 220 | 733 | 739 | 977 | 959 |
| Average Age | 52.2 | 51.8 | 56.2 | 56.2 | 55.2 | 55.2 |
| Accumulated Deductions with Interest | \$ 13,481,979 | \$ 10,575,548 | \$ 24,786,563 | \$ 21,581,730 | \$ 38,268,542 | \$ 32,157,278 |
| Average Reported Pay ² | \$ 61,160 | \$ 66,366 | \$ 55,975 | \$ 46,464 | \$ 57,896 | \$ 52,007 |
| <u>Tier 4</u> | | | | | | |
| Count | 129 | 112 | 230 | 227 | 359 | 339 |
| Average Age | 49.4 | 49.4 | 52.2 | 51.5 | 51.2 | 50.8 |
| Accumulated Deductions with Interest | \$ 7,505,235 | \$ 5,272,454 | \$ 10,421,741 | \$ 8,763,910 | \$ 17,926,976 | \$ 14,036,364 |
| Average Reported Pay ² | \$ 75,937 | \$ 72,352 | \$ 61,903 | \$ 58,613 | \$ 67,682 | \$ 63,609 |
| <u>Tier 5</u> | | | | | | |
| Count | 4,916 | 4,222 | 13,743 | 11,885 | 18,659 | 16,107 |
| Average Age | 39.0 | 38.0 | 40.0 | 39.7 | 39.7 | 39.2 |
| Accumulated Deductions with Interest | \$ 66,945,694 | \$ 49,738,053 | \$ 131,526,847 | \$ 105,459,000 | \$ 198,472,541 | \$ 155,197,053 |
| Average Reported Pay ² | \$ 57,559 | \$ 55,018 | \$ 46,022 | \$ 43,262 | \$ 49,407 | \$ 46,869 |
| <u>Total</u> | | | | | | |
| Count | 10,529 | 9,797 | 29,270 | 28,002 | 39,799 | 37,799 |
| Average Age | 49.9 | 49.9 | 52.1 | 52.6 | 51.5 | 51.9 |
| Accumulated Deductions with Interest | \$ 487,927,919 | \$ 448,716,904 | \$ 841,656,930 | \$ 810,998,897 | \$ 1,329,584,849 | \$ 1,259,715,801 |
| Average Reported Pay ² | \$ 58,265 | \$ 56,311 | \$ 47,286 | \$ 44,569 | \$ 50,749 | \$ 48,330 |

¹ Includes 10 and 63 deferred beneficiaries for State and Local employers, respectively, for 2023 and 11 and 67 deferred beneficiaries for State and Local employers, respectively, for 2022.

² Average reported pay only includes non-contributing members reported with pay.

Accumulated Deductions with Interest as reported by the DPB

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX A – MEMBERSHIP INFORMATION

Table A-5

Inactive Member Data by Status¹

| | July 1, 2023 | | | July 1, 2022 | | |
|--------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| | State | Local Employers | Total | State | Local Employers | Total |
| Retirees | | | | | | |
| Count | 53,716 | 109,721 | 163,437 | 52,861 | 107,918 | 160,779 |
| Annual Retirement Allowances | \$ 1,714,324,376 | \$ 2,285,840,310 | \$ 4,000,164,686 | \$ 1,656,669,081 | \$ 2,196,925,453 | \$ 3,853,594,534 |
| Average Retirement Allowance | \$ 31,915 | \$ 20,833 | \$ 24,475 | \$ 31,340 | \$ 20,357 | \$ 23,968 |
| Beneficiaries | | | | | | |
| Count | 5,228 | 12,157 | 17,385 | 5,074 | 11,877 | 16,951 |
| Annual Retirement Allowances | \$ 97,370,498 | \$ 169,313,806 | \$ 266,684,304 | \$ 93,024,961 | \$ 162,833,504 | \$ 255,858,465 |
| Average Retirement Allowance | \$ 18,625 | \$ 13,927 | \$ 15,340 | \$ 18,334 | \$ 13,710 | \$ 15,094 |
| Ordinary Disability | | | | | | |
| Count | 4,330 | 7,420 | 11,750 | 4,403 | 7,563 | 11,966 |
| Annual Retirement Allowances | \$ 91,213,477 | \$ 132,045,751 | \$ 223,259,228 | \$ 91,979,706 | \$ 132,681,901 | \$ 224,661,607 |
| Average Retirement Allowance | \$ 21,065 | \$ 17,796 | \$ 19,001 | \$ 20,890 | \$ 17,544 | \$ 18,775 |
| Accidental Disability | | | | | | |
| Count | 503 | 840 | 1,343 | 504 | 841 | 1,345 |
| Annual Retirement Allowances | \$ 16,007,366 | \$ 25,110,658 | \$ 41,118,024 | \$ 15,957,947 | \$ 24,899,866 | \$ 40,857,813 |
| Average Retirement Allowance | \$ 31,824 | \$ 29,894 | \$ 30,617 | \$ 31,663 | \$ 29,607 | \$ 30,378 |
| In-Pay Total | | | | | | |
| Count | 63,777 | 130,138 | 193,915 | 62,842 | 128,199 | 191,041 |
| Annual Retirement Allowances | \$ 1,918,915,717 | \$ 2,612,310,525 | \$ 4,531,226,242 | \$ 1,857,631,695 | \$ 2,517,340,724 | \$ 4,374,972,419 |
| Average Retirement Allowance | \$ 30,088 | \$ 20,073 | \$ 23,367 | \$ 29,560 | \$ 19,636 | \$ 22,901 |
| Deferred Vested Members | | | | | | |
| Count | 146 | 427 | 573 | 147 | 433 | 580 |
| Annual Retirement Allowances | \$ 2,440,920 | \$ 4,857,204 | \$ 7,298,124 | \$ 2,483,676 | \$ 4,890,048 | \$ 7,373,724 |
| Average Retirement Allowance | \$ 16,719 | \$ 11,375 | \$ 12,737 | \$ 16,896 | \$ 11,293 | \$ 12,713 |

¹ Excludes deferred beneficiaries

QDRO benefits included with member records for valuation purposes.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX A – MEMBERSHIP INFORMATION

| Table A-6 Reconciliation of Plan Membership from July 1, 2022 to July 1, 2023 | | | | | | | | |
|--|-------------------------|-------------------------|---------------------------|--------------------|----------------|--------------|----------------|-----------------|
| | Contributing Actives | Non-Contrib. Members | Deferred Beneficiaries | Deferred Vested | Retired | Disabled | Beneficiaries | Total |
| 1. July 1, 2022 | 203,430 | 37,721 | 78 | 580 | 160,779 | 13,311 | 16,951 | 432,850 |
| 2. Additions | | | | | | | | |
| a. New entrants | 20,512 | 2,024 | | | | | | 22,536 |
| b. Data updates | 307 | 101 | | | 23 | 4 | 288 | 723 |
| c. Total | <u>20,819</u> | <u>2,125</u> | <u>0</u> | <u>0</u> | <u>23</u> | <u>4</u> | <u>288</u> | <u>23,259</u> |
| 3. Reductions | | | | | | | | |
| a. Withdrawal/Certain Period End | (3,518) | (6,093) | | (1) | | | (14) | (9,626) |
| b. Died without beneficiary | (347) | (252) | | | (5,065) | (480) | (1,037) | (7,181) |
| c. Data updates | (231) | (123) | (5) | (1) | | | | (360) |
| d. Total | <u>(4,096)</u> | <u>(6,468)</u> | <u>(5)</u> | <u>(2)</u> | <u>(5,065)</u> | <u>(480)</u> | <u>(1,051)</u> | <u>(17,167)</u> |
| 4. Changes in Status | | | | | | | | |
| a. Contributing Actives | (9,573) | 9,573 | | | | | | 0 |
| b. Non-Contributing Actives | 1,816 | (1,816) | | | | | | 0 |
| c. Deferred Vested | (20) | (97) | | 117 | | | | 0 |
| d. Retired | (7,622) | (1,054) | | (121) | 8,740 | | | (57) |
| e. Disabled | (127) | (240) | | (1) | (2) | 370 | | 0 |
| f. Died with beneficiary | (29) | (18) | | | (1,038) | (112) | 1,197 | 0 |
| g. Total | <u>(15,555)</u> | <u>6,348</u> | <u>0</u> | <u>(5)</u> | <u>7,700</u> | <u>258</u> | <u>1,197</u> | <u>(57)</u> |
| 5. July 1, 2023 | 204,598 | 39,726 | 73 | 573 | 163,437 | 13,093 | 17,385 | 438,885 |

QDRO benefits included with member records for valuation purposes.

Reflects all records for multiple members, which are members employed by more than one PERS-participating employer at the same time. The decreases due to Changes in Status occur when active records for multiple members are combined into a single retiree record.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX A – MEMBERSHIP INFORMATION

| Table A-7 | | | | | | | | | |
|--|-------------------------|---------------|---------------|-----------------|-----------------|-----------------|-----------------|--------------------|---------------|
| Counts by Age and Service Distribution of Contributing Active Members | | | | | | | | | |
| State | | | | | | | | | |
| Attained Age | Years of Service | | | | | | | | Total |
| | Under 1 | 1 to 4 | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30 & up | No. |
| | No. | No. | No. | No. | No. | No. | No. | No. | No. |
| Under 30 | 1,794 | 2,875 | 575 | 1 | 0 | 0 | 0 | 0 | 5,245 |
| 30 to 34 | 706 | 2,203 | 2,336 | 338 | 18 | 0 | 0 | 0 | 5,601 |
| 35 to 39 | 498 | 1,609 | 2,154 | 1,469 | 738 | 28 | 0 | 0 | 6,496 |
| 40 to 44 | 382 | 1,308 | 1,610 | 1,295 | 3,000 | 1,075 | 15 | 0 | 8,685 |
| 45 to 49 | 312 | 1,118 | 1,161 | 1,000 | 2,104 | 2,279 | 368 | 13 | 8,355 |
| 50 to 54 | 259 | 1,075 | 1,122 | 932 | 1,764 | 2,137 | 1,115 | 803 | 9,207 |
| 55 & up | 432 | 1,758 | 2,357 | 2,107 | 3,932 | 4,389 | 1,730 | 3,754 | 20,459 |
| Total | 4,383 | 11,946 | 11,315 | 7,142 | 11,556 | 9,908 | 3,228 | 4,570 | 64,048 |

| Table A-8 | | | | | | | | | |
|---|-------------------------|------------------|------------------|------------------|------------------|------------------|------------------|--------------------|------------------|
| Average Appropriation Pay by Age and Service Distribution of Contributing Active Members | | | | | | | | | |
| State | | | | | | | | | |
| Attained Age | Years of Service | | | | | | | | Total |
| | Under 1 | 1 to 4 | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30 & up | Comp. |
| | Comp. | Comp. | Comp. | Comp. | Comp. | Comp. | Comp. | Comp. | Comp. |
| Under 30 | \$ 49,832 | \$ 54,963 | \$ 62,692 | \$ 62,302 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 54,057 |
| 30 to 34 | 54,906 | 59,626 | 70,103 | 70,614 | 63,433 | 0 | 0 | 0 | 64,076 |
| 35 to 39 | 57,623 | 62,029 | 72,799 | 80,812 | 73,909 | 80,624 | 0 | 0 | 70,940 |
| 40 to 44 | 55,698 | 60,445 | 71,625 | 82,743 | 86,407 | 85,021 | 79,352 | 0 | 77,676 |
| 45 to 49 | 57,091 | 61,861 | 71,626 | 77,580 | 83,208 | 91,859 | 84,757 | 85,130 | 79,524 |
| 50 to 54 | 57,431 | 59,334 | 69,698 | 75,586 | 79,394 | 88,435 | 94,326 | 86,121 | 79,360 |
| 55 & up | 56,730 | 60,946 | 67,889 | 70,288 | 74,353 | 80,928 | 87,055 | 95,470 | 78,025 |
| Total | \$ 53,691 | \$ 59,294 | \$ 70,111 | \$ 76,438 | \$ 79,818 | \$ 85,505 | \$ 89,269 | \$ 93,798 | \$ 74,464 |

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX A – MEMBERSHIP INFORMATION

| Table A-9 | | | | | | | | | |
|--|-------------------------|---------------|---------------|---------------|---------------|---------------|--------------|--------------|----------------|
| Counts by Age and Service Distribution of Contributing Active Members | | | | | | | | | |
| Local Employers | | | | | | | | | |
| Attained Age | Years of Service | | | | | | | | Total |
| | Under 1 | 1 to 4 | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30 & up | |
| | No. | No. | No. | No. | No. | No. | No. | No. | No. |
| Under 30 | 3,430 | 7,733 | 1,497 | 19 | 0 | 0 | 0 | 0 | 12,679 |
| 30 to 34 | 1,361 | 4,627 | 3,760 | 740 | 57 | 0 | 0 | 0 | 10,545 |
| 35 to 39 | 1,123 | 3,756 | 3,304 | 1,932 | 1,330 | 100 | 0 | 0 | 11,545 |
| 40 to 44 | 1,107 | 3,566 | 2,881 | 1,604 | 2,643 | 1,397 | 60 | 0 | 13,258 |
| 45 to 49 | 969 | 3,624 | 2,888 | 1,462 | 2,338 | 2,362 | 800 | 50 | 14,493 |
| 50 to 54 | 958 | 3,909 | 3,415 | 2,075 | 3,221 | 2,931 | 1,719 | 1,252 | 19,480 |
| 55 & up | 1,330 | 6,469 | 7,728 | 6,189 | 12,222 | 12,289 | 5,706 | 6,617 | 58,550 |
| Total | 10,278 | 33,684 | 25,473 | 14,021 | 21,811 | 19,079 | 8,285 | 7,919 | 140,550 |

| Table A-10 | | | | | | | | | |
|---|-------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Average Appropriation Pay by Age and Service Distribution of Contributing Active Members | | | | | | | | | |
| Local Employers | | | | | | | | | |
| Attained Age | Years of Service | | | | | | | | Total |
| | Under 1 | 1 to 4 | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30 & up | |
| | Comp. | Comp. | Comp. | Comp. | Comp. | Comp. | Comp. | Comp. | Comp. |
| Under 30 | \$ 41,248 | \$ 45,474 | \$ 55,935 | \$ 62,263 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 45,591 |
| 30 to 34 | 44,707 | 48,793 | 59,104 | 65,109 | 60,490 | 0 | 0 | 0 | 53,150 |
| 35 to 39 | 44,253 | 48,534 | 60,941 | 67,626 | 67,231 | 66,476 | 0 | 0 | 57,172 |
| 40 to 44 | 42,336 | 46,800 | 58,739 | 67,683 | 69,990 | 72,530 | 87,909 | 0 | 59,068 |
| 45 to 49 | 42,346 | 45,675 | 56,862 | 63,744 | 66,441 | 75,311 | 78,479 | 85,684 | 59,633 |
| 50 to 54 | 44,191 | 45,376 | 53,514 | 60,057 | 61,163 | 70,278 | 79,770 | 84,259 | 60,200 |
| 55 & up | 43,599 | 45,936 | 52,987 | 53,871 | 51,294 | 57,151 | 65,164 | 80,871 | 56,947 |
| Total | \$ 42,834 | \$ 46,511 | \$ 56,255 | \$ 59,896 | \$ 57,637 | \$ 62,591 | \$ 69,645 | \$ 81,437 | \$ 56,584 |

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX A – MEMBERSHIP INFORMATION

| Table A-11 | | | | | |
|---|-----------------|----------------------|----------------------------|------------------------------|---------------|
| Counts by Age and Status of Inactive Members | | | | | |
| State | | | | | |
| Attained Age | Status | | | | Total |
| | Retirees | Beneficiaries | Ordinary Disability | Accidental Disability | |
| Under 45 | 0 | 143 | 53 | 11 | 207 |
| 45 to 49 | 28 | 62 | 126 | 14 | 230 |
| 50 to 54 | 355 | 139 | 251 | 41 | 786 |
| 55 to 59 | 2,644 | 221 | 519 | 65 | 3,449 |
| 60 to 64 | 6,739 | 386 | 734 | 95 | 7,954 |
| 65 to 69 | 10,997 | 589 | 853 | 93 | 12,532 |
| 70 to 74 | 12,052 | 873 | 718 | 75 | 13,718 |
| 75 to 79 | 9,991 | 938 | 590 | 60 | 11,579 |
| 80 to 84 | 5,776 | 787 | 321 | 28 | 6,912 |
| 85 & up | 5,134 | 1,090 | 165 | 21 | 6,410 |
| Total | 53,716 | 5,228 | 4,330 | 503 | 63,777 |

| Table A-12 | | | | | |
|--|------------------|----------------------|----------------------------|------------------------------|------------------|
| Average Retirement Allowances by Age and Status of Inactive Members | | | | | |
| State | | | | | |
| Attained Age | Status | | | | Total |
| | Retirees | Beneficiaries | Ordinary Disability | Accidental Disability | |
| Under 45 | \$ 0 | \$ 9,926 | \$ 21,061 | \$ 34,897 | \$ 14,104 |
| 45 to 49 | 24,870 | 12,000 | 24,374 | 34,702 | 21,728 |
| 50 to 54 | 33,655 | 11,808 | 22,794 | 33,448 | 26,312 |
| 55 to 59 | 42,687 | 15,984 | 22,401 | 31,527 | 37,713 |
| 60 to 64 | 39,062 | 18,573 | 21,776 | 33,447 | 36,406 |
| 65 to 69 | 35,411 | 19,829 | 21,492 | 32,478 | 33,709 |
| 70 to 74 | 32,912 | 21,019 | 20,613 | 30,591 | 31,499 |
| 75 to 79 | 29,438 | 21,691 | 19,872 | 32,055 | 28,337 |
| 80 to 84 | 25,058 | 18,860 | 18,355 | 31,605 | 24,068 |
| 85 & up | 19,605 | 16,189 | 17,853 | 19,833 | 18,980 |
| Total | \$ 31,915 | \$ 18,625 | \$ 21,065 | \$ 31,824 | \$ 30,088 |

QDRO benefits included with member records for valuation purposes.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX A – MEMBERSHIP INFORMATION

| Table A-13 Counts by Age and Status of Inactive Members Local | | | | | |
|--|-----------------|----------------------|----------------------------|------------------------------|----------------|
| Attained Age | Status | | | | Total |
| | Retirees | Beneficiaries | Ordinary Disability | Accidental Disability | |
| Under 45 | 1 | 207 | 51 | 14 | 273 |
| 45 to 49 | 42 | 139 | 113 | 24 | 318 |
| 50 to 54 | 536 | 239 | 364 | 57 | 1,196 |
| 55 to 59 | 3,178 | 475 | 733 | 123 | 4,509 |
| 60 to 64 | 11,129 | 820 | 1,347 | 137 | 13,433 |
| 65 to 69 | 21,752 | 1,328 | 1,476 | 184 | 24,740 |
| 70 to 74 | 24,035 | 1,751 | 1,279 | 114 | 27,179 |
| 75 to 79 | 20,912 | 2,131 | 1,022 | 89 | 24,154 |
| 80 to 84 | 14,199 | 2,106 | 685 | 71 | 17,061 |
| 85 & up | 13,937 | 2,961 | 350 | 27 | 17,275 |
| Total | 109,721 | 12,157 | 7,420 | 840 | 130,138 |

| Table A-14 Average Retirement Allowances by Age and Status of Inactive Members Local | | | | | |
|---|------------------|----------------------|----------------------------|------------------------------|------------------|
| Attained Age | Status | | | | Total |
| | Retirees | Beneficiaries | Ordinary Disability | Accidental Disability | |
| Under 45 | \$ 18,717 | \$ 8,092 | \$ 22,683 | \$ 28,252 | \$ 11,890 |
| 45 to 49 | 24,492 | 8,957 | 20,966 | 27,682 | 16,689 |
| 50 to 54 | 34,259 | 10,799 | 20,952 | 33,700 | 25,495 |
| 55 to 59 | 38,465 | 12,482 | 19,920 | 34,042 | 32,592 |
| 60 to 64 | 28,267 | 14,989 | 18,711 | 32,634 | 26,543 |
| 65 to 69 | 23,896 | 16,453 | 18,013 | 30,641 | 23,196 |
| 70 to 74 | 21,445 | 15,843 | 17,098 | 26,750 | 20,902 |
| 75 to 79 | 18,504 | 14,203 | 16,516 | 27,274 | 18,072 |
| 80 to 84 | 15,970 | 14,034 | 15,886 | 25,517 | 15,768 |
| 85 & up | 12,964 | 12,219 | 13,917 | 20,196 | 12,867 |
| Total | \$ 20,833 | \$ 13,927 | \$ 17,796 | \$ 29,894 | \$ 20,073 |

QDRO benefits included with member records for valuation purposes.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

1. **Investment Rate of Return** 7.00% per annum, compounded annually.

2. **Administrative Expenses** No explicit assumption is made for administrative expenses for funding purposes per the funding methodology prescribed by NJ State Statute.

3. **Interest Crediting Rate on Accumulated Deductions** 7.00% per annum, compounded annually. Interest credits are assumed to end upon termination.

4. **Cost-of-Living Adjustments (COLAs)** No future COLAs are assumed. Previously granted COLAs are included in the data.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

5. Salary Increases Salaries are assumed to increase annually as follows:

| Years of Service | Rates |
|------------------|-------|
| 0 | 6.55% |
| 1 | 6.55 |
| 2 | 6.35 |
| 3 | 6.15 |
| 4 | 5.95 |
| 5 | 5.75 |
| 6 | 5.55 |
| 7 | 5.35 |
| 8 | 5.15 |
| 9 | 4.95 |
| 10 | 4.75 |
| 11 | 4.55 |
| 12 | 4.35 |
| 13 | 4.15 |
| 14 | 3.95 |
| 15 | 3.75 |
| 16 | 3.55 |
| 17 | 3.45 |
| 18 | 3.35 |
| 19 | 3.25 |
| 20 | 3.15 |
| 21 | 3.05 |
| 22 | 2.95 |
| 23-27 | 2.85 |
| 28+ | 2.75 |

Salary increases are assumed to occur on July 1.

Non-contributing members reported with a salary are assumed to have no future salary increases.

The average assumed salary increase for active contributing members as of July 1, 2023 is 4.83%.

- 6. 401(a)(17) Pay Limit** \$330,000 in 2023 increasing 2.75% per annum, compounded annually.
- 7. Social Security Wage Base** \$160,200 in 2023 increasing 3.25% per annum, compounded annually.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

8. Termination

Termination rates are shown separately for members electing a refund of contributions and members electing a deferred annuity.

Termination rates for members electing a refund of contributions are as follows:

| Termination Rates for Members Electing a Refund | | | | |
|---|---------------------------|----------------------|---------------------------|----------------------|
| Service | State | | Local Employers' | |
| | Less than 31 Years Old | 31 Years or Older | Less than 31 Years Old | 31 Years or Older |
| 0 | 21.00% | 11.00% | 19.00% | 11.50% |
| 1 | 21.00 | 11.00 | 19.00 | 11.50 |
| 2 | 11.50 | 7.50 | 15.50 | 8.50 |
| 3 | 9.50 | 6.50 | 14.00 | 7.50 |
| 4 | 9.00 | 5.50 | 11.50 | 6.50 |
| 5 | 8.00 | 5.50 | 10.50 | 6.00 |
| 6 | 7.00 | 5.00 | 8.50 | 5.50 |
| 7 | 7.00 | 4.50 | 8.00 | 5.00 |
| 8 | 7.00 | 4.00 | 7.50 | 4.50 |
| 9 | 7.00 | 3.50 | 6.50 | 4.00 |
| 10 | 1.70 | 1.70 | 1.70 | 1.70 |
| 11 | 1.50 | 1.50 | 1.50 | 1.50 |
| 12 | 1.10 | 1.10 | 1.40 | 1.40 |
| 13 | 1.10 | 1.10 | 1.20 | 1.20 |
| 14 | 0.70 | 0.70 | 1.10 | 1.10 |
| 15 | 0.60 | 0.60 | 0.90 | 0.90 |
| 16 | 0.60 | 0.60 | 0.80 | 0.80 |
| 17 | 0.60 | 0.60 | 0.70 | 0.70 |
| 18 | 0.50 | 0.50 | 0.60 | 0.60 |
| 19 | 0.50 | 0.50 | 0.60 | 0.60 |
| 20 | 0.50 | 0.50 | 0.50 | 0.50 |
| 21 | 0.50 | 0.50 | 0.50 | 0.50 |
| 22 | 0.40 | 0.40 | 0.50 | 0.50 |
| 23 | 0.40 | 0.40 | 0.40 | 0.40 |
| 24-29 | 0.30 | 0.30 | 0.30 | 0.30 |

No termination is assumed after attainment of retirement eligibility.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Termination rates for members electing a deferred annuity are as follows:

| Termination Rates for Members Electing a Deferred Annuity | | |
|--|--------------|------------------------|
| Service | State | Local Employers |
| < 10 | N/A | N/A |
| 10 | 1.60% | 1.80% |
| 11 | 1.60 | 1.80 |
| 12 | 1.20 | 1.70 |
| 13 | 1.20 | 1.60 |
| 14 | 1.00 | 1.50 |
| 15 | 0.90 | 1.40 |
| 16 | 0.90 | 1.30 |
| 17 | 0.80 | 1.20 |
| 18 | 0.80 | 1.10 |
| 19 | 0.80 | 1.00 |
| 20 | 0.80 | 1.00 |
| 21 | 0.70 | 0.90 |
| 22 | 0.50 | 0.80 |
| 23 | 0.50 | 0.80 |
| 24 | 0.40 | 0.70 |

No termination is assumed after attainment of retirement eligibility.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

9. Disability

Ordinary disability rates are as follows:

| Ordinary Disability Rates | | | | | |
|---------------------------|--------|-----------------|-----|--------|-----------------|
| Age | State | Local Employers | Age | State | Local Employers |
| 25 | 0.100% | 0.200% | 50 | 0.335% | 0.335% |
| 26 | 0.110 | 0.200 | 51 | 0.350 | 0.350 |
| 27 | 0.120 | 0.200 | 52 | 0.365 | 0.365 |
| 28 | 0.130 | 0.200 | 53 | 0.380 | 0.380 |
| 29 | 0.140 | 0.200 | 54 | 0.395 | 0.395 |
| 30 | 0.150 | 0.205 | 55 | 0.410 | 0.405 |
| 31 | 0.160 | 0.210 | 56 | 0.425 | 0.415 |
| 32 | 0.170 | 0.215 | 57 | 0.440 | 0.425 |
| 33 | 0.180 | 0.220 | 58 | 0.455 | 0.435 |
| 34 | 0.190 | 0.225 | 59 | 0.470 | 0.445 |
| 35 | 0.205 | 0.225 | 60 | 0.485 | 0.455 |
| 36 | 0.220 | 0.225 | 61 | 0.500 | 0.465 |
| 37 | 0.220 | 0.225 | 62 | 0.515 | 0.475 |
| 38 | 0.220 | 0.225 | 63 | 0.530 | 0.485 |
| 39 | 0.220 | 0.225 | 64 | 0.545 | 0.495 |
| 40 | 0.230 | 0.235 | 65 | 0.560 | 0.505 |
| 41 | 0.240 | 0.245 | 66 | 0.575 | 0.515 |
| 42 | 0.250 | 0.255 | 67 | 0.590 | 0.525 |
| 43 | 0.260 | 0.265 | 68 | 0.605 | 0.535 |
| 44 | 0.270 | 0.275 | 69 | 0.620 | 0.545 |
| 45 | 0.280 | 0.275 | 70 | 0.630 | 0.560 |
| 46 | 0.290 | 0.275 | 71 | 0.640 | 0.575 |
| 47 | 0.300 | 0.290 | 72 | 0.650 | 0.590 |
| 48 | 0.310 | 0.305 | 73 | 0.660 | 0.605 |
| 49 | 0.320 | 0.320 | 74 | 0.670 | 0.620 |

Accidental disability rates are assumed to be 0.02% for all State members and 0.03% for all Local employers' members.

Ordinary disability rates apply upon attainment of 10 years of service and continue through the ultimate retirement age.

Members are assumed to receive the greater of the applicable disability benefit or the early or service retirement benefit, depending on eligibility.

Tier 4 and Tier 5 members are not eligible for the Ordinary or Accidental Disability benefits but the disability rates still apply. Such members terminating under the disability decrement are assumed to separate from service and elect a Deferred Retirement benefit.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

10. Mortality

Pre-Retirement Mortality (Non-Annuitants): The Pub-2010 General Below-Median Income Employee mortality table [*PubG-2010(B) Employee*] as published by the Society of Actuaries with an 82.2% adjustment for males and 101.4% adjustment for females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2021.

All pre-retirement deaths are assumed to be ordinary deaths.

Healthy Retirees and Beneficiaries (Healthy Annuitants): The Pub-2010 General Below-Median Income Healthy Retiree mortality table [*PubG-2010(B) Healthy Retiree*] as published by the Society of Actuaries with a 91.4% adjustment for males and 99.7% adjustment for females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2021.

Disabled Retirees (Disabled Annuitants): The Pub-2010 Non-Safety Disabled Retiree mortality table [*PubNS-2010 Disabled Retiree*] as published by the Society of Actuaries with a 127.7% adjustment for males and 117.2% adjustment for females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2021.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

11. Retirement

Retirement rates for State Tier 1-4 members are as follows:

| State Tiers 1-4 Retirement Rates | | | |
|----------------------------------|----------------------------------|------------------------|--------------------------------|
| Age | Less Than 25 Years of Service | 25 Years of Service | 26 or More Years of Service |
| < 49 | N/A | 3.50% | 2.00% |
| 49 | N/A | 3.50 | 2.00 |
| 50 | N/A | 3.50 | 3.50 |
| 51 | N/A | 3.50 | 3.50 |
| 52 | N/A | 6.00 | 4.25 |
| 53 | N/A | 6.00 | 5.50 |
| 54 | N/A | 7.00 | 6.75 |
| 55 | N/A | 17.50 | 18.00 |
| 56 | N/A | 17.50 | 15.00 |
| 57 | N/A | 17.50 | 14.00 |
| 58 | N/A | 20.00 | 14.00 |
| 59 | N/A | 20.00 | 14.00 |
| 60 | 5.00 | 20.00 | 17.00 |
| 61 | 5.00 | 30.00 | 17.00 |
| 62 | 8.00 | 36.50 | 27.00 |
| 63 | 8.00 | 36.50 | 24.00 |
| 64 | 8.00 | 36.50 | 21.00 |
| 65 | 12.00 | 44.00 | 25.00 |
| 66 | 17.00 | 55.00 | 30.00 |
| 67 | 16.00 | 50.00 | 26.00 |
| 68 | 15.00 | 47.00 | 23.00 |
| 69 | 15.00 | 47.00 | 23.00 |
| 70 | 15.00 | 47.00 | 26.00 |
| 71 | 15.00 | 47.00 | 23.00 |
| 72 | 15.00 | 47.00 | 21.00 |
| 73 | 15.00 | 47.00 | 21.00 |
| 74 | 15.00 | 47.00 | 21.00 |
| 75 | 100.00 | 100.00 | 100.00 |

Rates apply upon retirement eligibility by tier.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Retirement rates for Local employers Tier 1-4 members are as follows:

| Local Employers' Tiers 1-4 Retirement Rates | | | |
|--|--|--------------------------------|--|
| Age | Less Than 25 Years of Service | 25 Years of Service | 26 or More Years of Service |
| < 49 | N/A | 3.00% | 2.25% |
| 49 | N/A | 3.00 | 3.00 |
| 50 | N/A | 3.50 | 3.50 |
| 51 | N/A | 4.25 | 3.75 |
| 52 | N/A | 4.75 | 3.75 |
| 53 | N/A | 7.00 | 5.00 |
| 54 | N/A | 7.00 | 6.00 |
| 55 | N/A | 15.00 | 15.00 |
| 56 | N/A | 17.00 | 13.00 |
| 57 | N/A | 18.00 | 12.00 |
| 58 | N/A | 18.00 | 12.00 |
| 59 | N/A | 18.00 | 12.00 |
| 60 | 4.50 | 18.00 | 14.00 |
| 61 | 4.50 | 18.00 | 14.00 |
| 62 | 7.50 | 34.00 | 25.00 |
| 63 | 7.50 | 34.00 | 22.00 |
| 64 | 7.50 | 34.00 | 20.00 |
| 65 | 11.00 | 35.00 | 20.00 |
| 66 | 15.00 | 43.00 | 26.00 |
| 67 | 14.00 | 40.00 | 26.00 |
| 68 | 13.00 | 40.00 | 22.00 |
| 69 | 13.00 | 37.00 | 22.00 |
| 70 | 13.00 | 37.00 | 24.00 |
| 71 | 13.00 | 37.00 | 24.00 |
| 72 | 13.00 | 37.00 | 20.00 |
| 73 | 13.00 | 37.00 | 20.00 |
| 74 | 13.00 | 37.00 | 20.00 |
| 75 | 100.00 | 100.00 | 100.00 |

Rates apply upon retirement eligibility by tier.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Retirement rates for State Tier 5 members are as follows:

| State Tier 5 Retirement Rates | | | | | |
|-------------------------------|----------------------------------|------------------------|------------------------------|------------------------|--------------------------------|
| Age | Less Than 25 Years of Service | 25 Years of Service | 26 to 29 Years of Service | 30 Years of Service | 31 or More Years of Service |
| < 49 | N/A | N/A | N/A | 3.50% | 2.00% |
| 49 | N/A | N/A | N/A | 3.50 | 2.00 |
| 50 | N/A | N/A | N/A | 3.50 | 3.50 |
| 51 | N/A | N/A | N/A | 3.50 | 3.50 |
| 52 | N/A | N/A | N/A | 6.00 | 4.25 |
| 53 | N/A | N/A | N/A | 6.00 | 5.50 |
| 54 | N/A | N/A | N/A | 7.00 | 6.75 |
| 55 | N/A | N/A | N/A | 17.50 | 18.00 |
| 56 | N/A | N/A | N/A | 17.50 | 15.00 |
| 57 | N/A | N/A | N/A | 17.50 | 14.00 |
| 58 | N/A | N/A | N/A | 20.00 | 14.00 |
| 59 | N/A | N/A | N/A | 20.00 | 14.00 |
| 60 | N/A | N/A | N/A | 20.00 | 17.00 |
| 61 | N/A | N/A | N/A | 30.00 | 17.00 |
| 62 | N/A | N/A | N/A | 36.50 | 27.00 |
| 63 | N/A | N/A | N/A | 36.50 | 24.00 |
| 64 | N/A | N/A | N/A | 36.50 | 21.00 |
| 65 | 12.00 | 44.00 | 44.00 | 44.00 | 25.00 |
| 66 | 17.00 | 55.00 | 30.00 | 30.00 | 30.00 |
| 67 | 16.00 | 50.00 | 26.00 | 26.00 | 26.00 |
| 68 | 15.00 | 47.00 | 23.00 | 23.00 | 23.00 |
| 69 | 15.00 | 47.00 | 23.00 | 23.00 | 23.00 |
| 70 | 15.00 | 47.00 | 26.00 | 26.00 | 26.00 |
| 71 | 15.00 | 47.00 | 23.00 | 23.00 | 23.00 |
| 72 | 15.00 | 47.00 | 21.00 | 21.00 | 21.00 |
| 73 | 15.00 | 47.00 | 21.00 | 21.00 | 21.00 |
| 74 | 15.00 | 47.00 | 21.00 | 21.00 | 21.00 |
| 75 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Retirement rates for Local employers Tier 5 members are as follows:

| Local Employers' Tier 5 Retirement Rates | | | | | |
|--|----------------------------------|------------------------|------------------------------|------------------------|--------------------------------|
| Age | Less Than 25 Years of Service | 25 Years of Service | 26 to 29 Years of Service | 30 Years of Service | 31 or More Years of Service |
| < 49 | N/A | N/A | N/A | 3.00% | 2.25% |
| 49 | N/A | N/A | N/A | 3.00 | 3.00 |
| 50 | N/A | N/A | N/A | 3.50 | 3.50 |
| 51 | N/A | N/A | N/A | 4.25 | 3.75 |
| 52 | N/A | N/A | N/A | 4.75 | 3.75 |
| 53 | N/A | N/A | N/A | 7.00 | 5.00 |
| 54 | N/A | N/A | N/A | 7.00 | 6.00 |
| 55 | N/A | N/A | N/A | 15.00 | 15.00 |
| 56 | N/A | N/A | N/A | 17.00 | 13.00 |
| 57 | N/A | N/A | N/A | 18.00 | 12.00 |
| 58 | N/A | N/A | N/A | 18.00 | 12.00 |
| 59 | N/A | N/A | N/A | 18.00 | 12.00 |
| 60 | N/A | N/A | N/A | 18.00 | 14.00 |
| 61 | N/A | N/A | N/A | 18.00 | 14.00 |
| 62 | N/A | N/A | N/A | 34.00 | 25.00 |
| 63 | N/A | N/A | N/A | 34.00 | 22.00 |
| 64 | N/A | N/A | N/A | 34.00 | 20.00 |
| 65 | 11.00 | 35.00 | 35.00 | 35.00 | 20.00 |
| 66 | 15.00 | 43.00 | 26.00 | 26.00 | 26.00 |
| 67 | 14.00 | 40.00 | 26.00 | 26.00 | 26.00 |
| 68 | 13.00 | 40.00 | 22.00 | 22.00 | 22.00 |
| 69 | 13.00 | 37.00 | 22.00 | 22.00 | 22.00 |
| 70 | 13.00 | 37.00 | 24.00 | 24.00 | 24.00 |
| 71 | 13.00 | 37.00 | 24.00 | 24.00 | 24.00 |
| 72 | 13.00 | 37.00 | 20.00 | 20.00 | 20.00 |
| 73 | 13.00 | 37.00 | 20.00 | 20.00 | 20.00 |
| 74 | 13.00 | 37.00 | 20.00 | 20.00 | 20.00 |
| 75 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Retirement rates for members of Prosecutors Part (Chapter 366, P.L. 2001) are as follows:

- Members with less than 25 years of service: 6.0% for all ages,
- Members with 25 years of service: 40.0% for all ages,
- Members with 26 or more years of service: 20.0% for all ages.

Rates apply upon retirement eligibility. 100% retirement is assumed at age 70.

Retirement rates for members of WCJ Part (Chapter 140, P.L. 2021) are as follows:

| Age | Less than 15 Years of WCJ Part Service | 15-19 Years of WCJ Part Service | 20 or more Years of WCJ Part Service |
|-----|--|---------------------------------|--------------------------------------|
| <60 | 0.0% | 0.0% | 0.0% |
| 60 | 2.0 | 2.0 | 20.0 |
| 61 | 2.0 | 2.0 | 20.0 |
| 62 | 2.0 | 2.0 | 20.0 |
| 63 | 2.0 | 2.0 | 20.0 |
| 64 | 2.0 | 2.0 | 20.0 |
| 65 | 5.0 | 40.0 | 30.0 |
| 66 | 2.0 | 40.0 | 20.0 |
| 67 | 2.0 | 40.0 | 20.0 |
| 68 | 2.0 | 40.0 | 20.0 |
| 69 | 2.0 | 40.0 | 20.0 |
| 70 | 100.0 | 100.0 | 100.0 |

**12. Family
Composition
Assumptions**

For members not currently in receipt, 50% of members are assumed married to spouses of the opposite sex. Males are assumed to be two years older than females.

For purposes of the optional form of payment death benefit for members currently in receipt, beneficiary status is based on the beneficiary allowance reported. If no beneficiary date of birth is provided, the beneficiary is assumed to be the member’s spouse of the opposite sex with males assumed to be two years older than females.

No additional dependent children or parents are assumed.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

13. Form of Payment Current active members are assumed to elect the Maximum Option.

**14. Non-Contributory
Group Insurance
Benefit Form of
Payment** All benefits are assumed to be paid as lump sums.

15. Data Non-contributing members reported without a salary are included in the valuation with a liability based on the reported Accumulated Deductions with interest (Annuity Savings Fund or ASF), adjusted to include interest through the valuation date.

Per discussions with DPB, the statuses for active records in Locations 4 – 7 (General Assembly and Senate) are based on changes in service instead of the contribution code.

For current beneficiaries with incomplete information, reasonable assumptions were made based on information available in prior years.

Deferred beneficiaries were reported separately from other non-contributing members for the first time in 2021. The benefit is based on the reported Accumulated Deductions with interest (Annuity Savings Fund or ASF).

Inactive participants receiving benefits according to the 2022 data but omitted from the 2023 data are assumed to have died without a beneficiary.

For retirees who earned benefits under both a State and Local employer, their total benefit is assigned to the location with the highest salary prior to retirement.

Tier 4 and 5 members on long-term disability appeared on the active data for the first time in 2019. The number of members on long-term disability is immaterial for valuation purposes. Therefore, we valued these members as regular contributing and non-contributing members while we gain clarity on what happens with these members.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

16. Rationale for Assumptions

The demographic and economic assumptions used in this report, except for the investment return assumption, reflect the results of the July 1, 2018 – June 30, 2021 Experience Study, which was approved by the Board of Trustees on November 16, 2022.

The investment return assumption was recommended by the State Treasurer. We find the investment return assumption to be reasonable based on the System's current asset allocation and the capital market outlook of the New Jersey Division of Investment.

The combined effect of the assumptions in aggregate is expected to have no significant bias.

17. Changes in Assumptions since Last Valuation

None.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

B. Projection Assumptions

- 1. Investment Rate of Return** 7.00% per annum, compounded annually.
- 2. Appropriation Percentages** The State is assumed to appropriate 100% of the Statutory contribution each year.
- 3. Administrative Expenses** The actual administrative expenses paid in FYE 2023 are assumed to increase by 2.75% per annum, compounded annually.
- 4. New Entrants**
 - Contributing active population assumed to remain at 2023 levels.
 - Assumed to join mid-year.
 - Age/sex distributions based on the last three years of new hires.
 - Salary based on salary for most recent hires reported on 2023 data.
 - New entrant salary assumed to increase with the salary increase rates applicable for members with 28 or more years of service (i.e., 2.75%).
- 5. Demographic Assumptions** Same as those used for valuation purposes.
- 6. Projection Basis**

This report includes projections of future assets, liabilities, funded status and contributions for the purpose of assisting the Board of Trustees with the management of the System.

The projections are based on the same census data and financial information as of July 1, 2023 which has been used for the actuarial valuation. The projections assume continuation of the plan provisions and actuarial assumptions in effect as of July 1, 2023 and do not reflect the impact of any changes in benefits or actuarial assumptions that may be adopted after July 1, 2023 unless otherwise indicated. While the assumptions individually are reasonable for the underlying valuation that supports the projections, specifically for projection purposes, they are also considered reasonable in the aggregate.

The projections are based on our proprietary model *PScan*, developed by our firm, that utilizes the results shown in this valuation report. The projections assume that all future assumptions are met except where indicated with respect to future investment returns and demographic assumptions. The future outcomes become increasingly uncertain over time, and therefore the general trends and not the absolute values should be considered in the review of these projections.

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

C. Actuarial Methods

The actuarial methods used for determining State and Local employers' contributions are described below.

1. Actuarial Cost Method

The actuarial cost method for funding calculations is the Projected Unit Credit Cost Method. Non-contributing members reported with a salary use the Projected Unit Credit Cost Method without any future projected salary increases.

The actuarial liability is calculated as the actuarial present value of the projected benefits linearly allocated to periods prior to the valuation year based on service (WCJ Part Service for members in the WCJ Part). Refunds are valued as the reported Accumulated Deductions with interest of the valuation date. The unfunded actuarial liability is the actuarial liability on the valuation date less the actuarial value of assets.

In accordance with Chapter 78, P.L. 2011:

- Beginning with the July 1, 2010 actuarial valuation, the accrued liability contribution shall be computed so that if the contribution is paid annually in level dollars, it will amortize the unfunded accrued liability over an open 30-year period.
- Beginning with the July 1, 2019 actuarial valuation, the accrued liability contribution shall be computed so that if the contribution is paid annually in level dollars, it will amortize the unfunded accrued liability over a closed 30-year period (i.e., for each subsequent actuarial valuation the amortization period shall decrease by one year).
- Beginning with the July 1, 2029 actuarial valuation, when the remaining amortization period reaches 20 years, any increase or decrease in the unfunded accrued liability as a result of actuarial losses or gains for subsequent valuation years shall serve to increase or decrease, respectively, the amortization period for the unfunded accrued liability, unless an increase in the amortization period will cause it to exceed 20 years. If an increase in the amortization period as a result of actuarial losses for a valuation year would exceed 20 years, the accrued liability contribution shall be computed for the valuation year using a 20-year amortization period.

Certain portions of the normal cost and unfunded actuarial liabilities attributable to Local employers are payable by the State and/or over different periods in accordance with the NJ State Statutes.

To the extent that the amortization period remains an open period in future years and depending upon the specific circumstances, it should be noted that in the absence of emerging actuarial gains or contributions made in excess of the actuarially determined contribution, any existing unfunded accrued liability may not be fully amortized in the future.

The non-contributory group life insurance benefit is funded separately through a term cost.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

2. Asset Valuation Method

For the purposes of determining contribution rates, an actuarial value of assets is used that dampens the volatility in the market value of assets, resulting in a smoother pattern of contributions.

The actuarial value of assets is adjusted to reflect actual contributions, benefit payments and administrative expenses, and an assumed rate of return on the previous year's assets and current year's cash flow at the prior year's actuarial valuation interest rate, with a further adjustment to reflect 20% of the difference between the resulting value and the actual market value of System assets.

3. Contributions

Chapter 83, P.L. 2016 requires the State to make pension contributions on a quarterly basis in each fiscal year according to the following schedule: at least 25 percent by September 30, at least 50 percent by December 31, at least 75 percent by March 31, and at least 100 percent by June 30. As such, contributions are assumed to be made on a quarterly basis with the first contribution 15 months after the associated valuation date.

Local employers' contributions are expected to be paid on April 1st, 21 months after the associated valuation date.

Chapter 98, P.L. 2017, the Lottery Enterprise Contribution Act, allows PERS to receive 21.02% of the proceeds of the Lottery Enterprise, based upon its members' past or present employment in schools and institutions in the State for a term of 30 years. Revenues from Chapter 98, P.L. 2017, the Lottery Enterprise Contribution Act, are assumed to be contributed to the trust on a monthly basis. The State's pension contribution is reduced by the product of the allocable percentage for the PERS, the adjustment percentage, and the special asset adjustment.

Contributions payable in the fiscal year starting on the valuation date are included in the actuarial value of assets as receivable contributions, discounted by the applicable valuation interest rate.

Legislation has provided for additional benefits and/or funding requirements which are included in this valuation and are described as follows.

Early Retirement Incentive Programs

Local employers which elected to participate in various early retirement incentive programs authorized by NJ Statute make contributions to cover the cost of these programs over amortization periods elected by the employer to the extent permitted by NJ Statute.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Chapter 133, P.L. 2001

Chapter 133, P.L. 2001 increased the accrual rate from 1/60 to 1/55. In addition, it lowered the age required for a veteran benefit equal to 1/55 of highest 12-month Compensation for each Year of Service from 60 to 55.

Chapter 133, P.L. 2001 also established the Benefit Enhancement Fund (BEF) to fund the additional annual employer normal contribution due to the Statute's increased benefits. (Chapter 353, P.L. 2001 extended this coverage to this Statute's additional annual employer normal contribution.) If the assets in the BEF are insufficient to cover the normal contribution for the increased benefits for a valuation period, the State will pay such amount for both the State and Local employers. As of July 1, 2023, there are no assets in the BEF.

Chapter 259, P.L. 2001

Chapter 259, P.L. 2001 established the Workers' Compensation Judges Part of the System with special retirement benefits for Workers' Compensation Judges. See Appendix C for details.

In accordance with the provisions of Chapter 259, P.L. 2001, the additional contributions for these special retirement benefits will be funded by transfers from the Second Injury Fund.

Chapter 366, P.L. 2001

Chapter 366, P.L. 2001 established the Prosecutors Part of the System with special retirement benefits for Prosecutors. See Appendix C for details.

Chapter 366, P.L. 2001 also requires the State be liable for any increase in pension costs to a County that results from the enrollment of Prosecutors in the Prosecutors Part. Any increase in the unfunded actuarial liability arising from the benefits established for the Prosecutors Part are to be amortized over a closed 30-year period.

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Chapter 19, P.L. 2009

Chapter 19, P.L. 2009 provided that the State Treasurer will reduce for Local employers the normal and accrued liability contributions to 50 percent of the amount certified for fiscal year 2009. The remaining 50% of the contribution (unfunded liability) will be paid by the Local employers in level annual payments over a period of 15 years with the first payment due in the fiscal year ending June 30, 2012. The unfunded liability will be adjusted by the rate of return on the actuarial value of assets. The legislation also provided that a Local employer may pay 100 percent of the contribution for the fiscal year 2009. Such an employer will be credited with the full payment and any such amounts will not be included in their unfunded liability. In addition, certain Local employers who were eligible to defer 50% of their fiscal year 2009 pension contributions but instead paid 100% of the fiscal year 2009 pension contributions were permitted to defer 50% of their 2010 fiscal year pension contributions. The unfunded liability will be paid by these Local employers over a period of 15 years with the first payment due in the fiscal year ending June 30, 2012. The unfunded liability will be adjusted by the rate of return on the actuarial value of assets.

Chapter 140, P.L. 2021

Chapter 140, P.L. 2021 reopened the Worker's Compensation Judges (WCJ) Part of PERS and transferred WCJs from the Defined Contribution Retirement Program (DCRP) and the regular part of PERS into the WCJ Part of PERS.

The corresponding increase in the unfunded actuarial liability is amortized over a closed 20-year period. The additional unfunded actuarial liability contribution and the increased normal cost contribution will be paid by transfers from the Second Injury Fund (SIF).

4. ASOP No. 4 Disclosure

ASOP No. 4 requires the disclosure of a reasonable actuarially determined contribution (ADC), which includes the use of an asset valuation method that complies with ASOP No. 44. For purposes of this disclosure requirement only, we have calculated an ADC based on the market value of assets instead of the actuarial value of assets. Using the market value of assets would result in more volatile contribution requirements, but would avoid deferral of contribution increases due to unrecognized asset losses. The State's reasonable ADC is \$57 million, or 3.1%, greater than the FYE 2025 Statutory contribution shown in Table I-1 and the Local employers' reasonable ADC is \$25 million, or 1.9%, greater than the FYE 2025 Statutory contribution shown in Table I-2. For purposes of these reasonable ADC calculations, we use an investment rate of return assumption of 7.00%, net of administrative expenses.

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

The actuarial methods used to determine the reasonable ADC described above have been selected to balance benefit security, intergenerational equity and stability of contributions. The selection of the actuarial methods has taken into account the demographics of plan members, the funding goals and objectives of the State (as expressed through the Statutory contribution), and the need to accumulate assets to make benefit payments when due. The methods used are not the only methods that would result in a reasonable ADC. There are a range of methods that would result in reasonable ADCs. For example, a reasonable ADC could be based on a different asset smoothing method that complies with ASOP No. 44.

5. Valuation Software

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate liabilities and project benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in ProVal assumptions or output that would affect this actuarial valuation.

6. Changes Since Last Valuation

None.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX C – SUMMARY OF PLAN PROVISIONS

This summary of Plan provisions provides an overview of the major provisions of the PERS used in the actuarial valuation. It is not intended to replace the more precise language of the NJ State Statutes, Title 43, Chapter 15A, and if there is any difference between the description of the plan herein and the actual language in the NJ State Statutes, the NJ State Statutes will govern. This valuation is prepared based on plan provisions in effect as of July 1, 2023 and does not reflect the impact of any changes in the benefits that may have been approved after the valuation date.

1. Eligibility for Membership

Employees of the State or any county, municipality, school district, or public agency employed on a regular basis in a position covered by Social Security and not required to be a member of any other State or local government retirement system. Certain exceptions apply.

- a) Class B (or Tier 1) Member: Any member hired prior to July 1, 2007.
- b) Class D (or Tier 2) Member: Any member hired on or after July 1, 2007 and before November 2, 2008.
- c) Class E (or Tier 3) Member: Any member hired after November 1, 2008 and before May 22, 2010.
- d) Class F (or Tier 4) Member: Any member hired after May 21, 2010 and before June 28, 2011.
- e) Class G (or Tier 5) Member: Any member hired on or after June 28, 2011.

The hiring, rehiring, retention, and benefits of certain public employees during the COVID-19 Public Health Emergency was modified under Executive Order No. 103 of 2020, as extended.

2. Plan Year

The 12-month period beginning on July 1 and ending on June 30.

3. Years of Service

A year of service for each year an employee is a Member of the Retirement System plus service, if any, covered by a prior service liability. Tier 4 and Tier 5 Members must be scheduled to work at least 35 hours per week for the State or 32 hours per week for a Local employer. Tier 3, 4 and 5 Members must have an annual salary of \$7,500 (indexed for inflation) and other members must have an annual salary of \$1,500.

4. Compensation

Base salary upon which contributions by a Member to the Annuity Savings Fund were based. Chapter 113, P.L. 1997 provides that Compensation cannot exceed the compensation limitation of Section 401(a)(17) of the Internal Revenue Code. Chapter 103, P.L. 2007 provides that for a Tier 2, 3, 4 or 5 Member, Compensation cannot exceed the annual maximum wage contribution base for Social Security, pursuant to the Federal Insurance Contribution Act.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

5. Final Compensation

The average annual compensation upon which contributions by a Member are made for the three consecutive years of service immediately preceding retirement, or the highest three fiscal years of service, if greater. Chapter 1, P. L. 2010 provides that for a Tier 4 or Tier 5 Member, Final Compensation is the average annual compensation upon which contributions by a Member are made for the five consecutive years of service immediately preceding retirement, or the highest five fiscal years of service, if greater.

6. Final Year Compensation

The compensation upon which contributions by a Member to the Annuity Savings Fund are based in the last year of service.

7. Accumulated Deductions

The sum of all amounts deducted from the compensation of a Member or contributed by the Member or on the Member's behalf without interest.

8. Interest Credits on Accumulated Deductions

Members receive interest credits while contributing and for the first two years of inactivity. The rate depends on the type of benefit. Prior to July 1, 2018, members received interest credits for the entire period of inactivity until retirement or death.

9. Member Contributions

Each Member contributes a percentage of Compensation. Effective October 1, 2011, Chapter 78, P.L. 2011 set the member contribution rate at 6.5% and increased it by 1/7th of 1 % each July thereafter until it attained an ultimate rate of 7.5% on July 1, 2018.

For members who are eligible to retire under the Prosecutors Part as provided by Chapter 366, P.L. 2001, Chapter 78, P.L. 2011 set the member contribution rate at 10.0%, effective October 1, 2011.

10. Benefits

- a) **Service Retirement:** For a Tier 1 or Tier 2 Member, age 60. For a Tier 3 or Tier 4 Member, age 62. For a Tier 5 Member, age 65.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of:

- (1) For a Tier 1, 2 or 3 Member, 1/55 of Final Compensation for each Year of Service.
- (2) For a Tier 4 or 5 Member, 1/60 of Final Compensation for each Year of Service.

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APPENDIX C – SUMMARY OF PLAN PROVISIONS

- b) **Early Retirement:** Prior to eligibility for Service Retirement. For a Tier 1, 2, 3 or 4 Member, 25 Years of Service. For a Tier 5 Member, 30 Years of Service.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of:

- (1) For a Tier 1 Member, the Service Retirement benefit reduced by 1/4 of one percent for each month the retirement date precedes age 55.
- (2) For a Tier 2 Member, the Service Retirement benefit reduced by 1/12 of one percent for each month the retirement date precedes age 60 through age 55 and by 1/4 of one percent for each month the retirement date precedes age 55.
- (3) For a Tier 3 or 4 Member, the Service Retirement benefit reduced by 1/12 of one percent for each month the retirement date precedes age 62 through age 55 and by 1/4 of one percent for each month the retirement date precedes age 55.
- (4) For a Tier 5 Member, the Service Retirement benefit reduced by 1/4 of one percent for each month the retirement date precedes age 65.

- c) **Veteran Retirement:** Age 55 with 25 Years of Service or Age 60 with 20 Years of Service for a qualified military veteran who retires directly from active service.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of the greater of:

- (1) 54.5% of highest 12-month Compensation, or
- (2) For a member who is at least age 55 with 35 Years of Service, 1/55 of highest 12-month Compensation for each Year of Service.

Veterans may receive a Service Retirement benefit if greater.

- d) **Deferred Retirement:** Termination of service prior to eligibility for Service Retirement with 10 Years of Service.

Benefit is either:

- (1) A refund of Accumulated Deductions plus, if the member has completed three Years of Service, interest accumulated at 2.0% per annum; or
- (2) A deferred life annuity, commencing at age 60 for a Tier 1 or Tier 2 Member, age 62 for a Tier 3 or Tier 4 Member or age 65 for a Tier 5 Member, comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of the Service Retirement benefit based on Final Compensation and Years of Service at date of termination.

For Members who die during the deferral period, the benefit is a return of Accumulated Deductions with credited interest.

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APPENDIX C – SUMMARY OF PLAN PROVISIONS

- e) **Non-Vested Termination:** Termination of service prior to eligibility for Service Retirement and less than 10 Years of Service.

Benefit is a refund of Accumulated Deductions plus, if the member has completed three Years of Service, interest accumulated at 2.0% per annum.

- f) **Death Benefits**

- (1) **Ordinary Death Before Retirement:** Death of an active contributing Member. Benefit is equal to:

- a. Lump sum payment equal to 150% of Final Year Compensation, also known as the non-contributory group life insurance benefit, plus
- b. Accumulated Deductions with credited interest.

- (2) **Accidental Death Before Retirement:** Death of an active Member resulting from injuries received from an accident during performance of duty and not a result of willful negligence. Benefit is equal to:

- a. Lump sum payment equal to 150% of Final Year Compensation, also known as the non-contributory group life insurance benefit, plus
- b. Spouse life annuity of 50% of Final Year Compensation payable until spouse's death or remarriage. If there is no surviving spouse or upon death or remarriage, a total of 20% (35%, 50%) of Final Year Compensation payable to one (two, three or more) dependent child(ren). If there is no surviving spouse or dependent child(ren), 25% (40%) of Final Year Compensation to one (two) dependent parent(s). If there is no surviving spouse, dependent child(ren) or parent(s), the benefit is a refund of Accumulated Deductions with credited interest.

- (3) **Death After Retirement:** Death of a retired Member. Benefit is equal to:

- a. Lump sum payment equal to 3/16 of Final Year Compensation for a Member retired under Service, Early, Veteran or Deferred Retirement with 10 Years of Service. For a Member receiving a Disability benefit, lump sum payment of 150% of Final Year Compensation if death occurs prior to age 60 and 3/16 of Final Compensation if death occurs after age 60. This benefit is also known as the non-contributory group life insurance benefit, plus
- b. Any survivor benefit due under the Member's optional form of payment election. Previously granted COLAs also apply to life annuities.

Members are also eligible for a voluntary, employee-paid life insurance policy, known as the contributory group life insurance policy. This benefit is not paid through the System and is not considered for valuation purposes.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX C – SUMMARY OF PLAN PROVISIONS

g) Disability Retirement

- (1) Ordinary Disability Retirement: 10 Years of Service and totally and permanently incapacitated from the performance of normal or assigned duties. Only available to Tier 1, 2 and 3 Members.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of:

- a. 1.64% of Final Compensation for each Year of Service; or
- b. 43.6% of Final Compensation.

- (2) Accidental Disability Retirement: Total and permanent incapacitation as a direct result of a traumatic event occurring during and as a result of the performance of regular or assigned duties. Under certain conditions for law enforcement officers or emergency medical technicians, regular or assigned duties may include the World Trade Center (WTC) rescue, recovery, or cleanup operations between September 11, 2001 and October 11, 2001. For such members who participated in the WTC rescue, recovery, or cleanup operations, the total and permanent disability may occur after retirement on a service retirement or an ordinary disability retirement. Only available to Tier 1, 2 and 3 Members.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of 72.7% of Compensation at the date of injury.

The pension portion of the benefit will be offset for any periodic Workers' Compensation benefits.

Tier 4 and Tier 5 Members are eligible for long-term disability coverage. This benefit is not paid through the System and is not considered for valuation purposes. Both Member and employer contributions to the System continue while on long-term disability, with the policy covering the Member portion. The long-term disability benefit equals 60% of Final Year Compensation and may be offset for other periodic benefits, such as Workers' Compensation, short-term disability or Social Security. The long-term disability benefit may continue through the earlier of age 70 or commencement of a retirement benefit under the System.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

11. Benefits for Special Employee Groups

Certain members qualify for enrollment into special employee groups. Such members receive the greater of the special benefits described below or the regular PERS benefit described above. For benefit types not explicitly mentioned, the regular PERS benefit applies.

a) **Law Enforcement Officers (LEOs):**

Members employed in eligible job titles as well as individuals who do not meet the age or medical requirements for entry into the Police and Firemen's Retirement System (PFRS).

(1) **Service and Special Retirement**

Mandatory retirement at age 65. Veterans with less than 20 Years of Service at age 65 must retire upon attainment of 20 Years of Service or age 70, whichever is earlier. Voluntary retirement prior to those ages.

a. **Service Retirement:** Age 55 after 20 Years of LEO Service.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of 2% of Final Compensation for each Year of LEO Service up to 25 years plus 1% of Final Compensation for each Year of LEO Service over 25 years.

The Member is also eligible for a regular PERS benefit based on any non-LEO service.

b. **Special Retirement:** 25 Years of LEO Service.

Benefit is the Service Retirement benefit plus 5% of Final Compensation with a maximum of 70% of Final Compensation.

(2) **Ordinary Disability Retirement:** 5 Years of LEO Service.

Benefit is the regular PERS Ordinary Disability benefit.

(3) **Death Benefits:**

Benefit is the regular PERS Death benefit except, upon Accidental Disability Retirement, the minimum lump sum payment is \$5,000.

b) **Legislative Retirement System (LRS):**

Members of the State Legislature. Chapter 92, P.L. 2007 closed LRS to new members enrolled on or after July 1, 2007.

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(1) Special Legislative Retirement: Age 60.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of 3% of Final Compensation for each Year of Legislative Service with a maximum of two-thirds of Final Compensation.

The Member is also eligible for a regular PERS benefit based on any non-legislative service.

(2) Deferred Retirement: Termination of service prior to eligibility for Service or Special Legislative Retirement with 8 Years of Legislative Service.

Benefit is either:

- a. A refund of Accumulated Deductions plus, if the Member has completed three Years of Service, interest accumulated at 2.0% per annum; or
- b. A deferred life annuity, commencing at age 60, comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of the Service or Special Legislative Retirement benefit based on Final Compensation and Years of Service at date of termination.

c) **Prosecutors Part (Chapter 366, P.L. 2001 and Chapter 226, P.L. 2021):**

Covers prosecutors as well as members employed in certain other related job titles. Chapter 1, P.L. 2010 closed the Prosecutors Part to new members enrolled on or after May 22, 2010.

Chapter 226, P.L. 2021 reopened the Prosecutors Part of PERS and made membership in the Prosecutors Part of PERS mandatory for prosecutors.

(1) Service and Special Retirement

Mandatory retirement at age 70. Voluntary retirement prior to that age.

In addition to the benefits described below, the member is eligible for a regular PERS benefit based on any non-Prosecutors Part service.

- a. Service Retirement: For a Prosecutors Part Member enrolled as of January 7, 2002, age 55 or 20 Years of Prosecutors Part Service. For a Prosecutors Part Member enrolled after January 7, 2002, age 55.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of the greater of:

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- i. 2% of Final Year Compensation for each Year of Prosecutors Part Service up to 30 years plus 1% of Final Year Compensation for each Year of Prosecutors Part Service over 30 years.
- ii. 50% of Final Year Compensation for Prosecutors Part Members with 20 or more Years of Prosecutors Part Service.
- iii. 1/60 of Final Year Compensation for each Year of Prosecutors Part Service.

- b. Special Retirement: 25 Years of Prosecutors Part Service.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of 65% of Final Year Compensation plus 1% of Final Year Compensation for each Year of Prosecutors Part Service in excess of 25 years with a maximum of 70% of Final Compensation.

- (2) Deferred Retirement: Termination of service prior to eligibility for Service or Special Retirement with 10 Years of Prosecutors Part Service.

Benefit is either:

- a. A refund of Accumulated Deductions plus, if the Member has completed three Years of Service, interest accumulated at 2.0% per annum; or
- b. A deferred life annuity, commencing at age 55, comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of 2% of Final Year Compensation for each Year of Prosecutors Part Service.

- (3) Death Benefits:

Benefit is the regular PERS Death benefit except, upon Service, Special or Deferred Prosecutors Part Retirement with 10 Years of Prosecutors Part Service, the lump sum payment equals 50% of Final Year Compensation.

- d) Workers Compensation Judges (WCJ) Part (Chapter 259, P.L. 2001 and Chapter 140, P.L. 2021):

Member employed in an eligible job title by the Division of Workers' Compensation. Chapter 92, P.L. 2007 closed the Workers Compensation Judges Part to new members enrolled on or after July 1, 2007.

Chapter 140, P.L. 2021 reopened the Worker's Compensation Judges (WCJ) Part of PERS and transferred WCJs from the Defined Contribution Retirement Program (DCRP) and the regular part of PERS into the WCJ Part of PERS.

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(1) Service Retirement:

Mandatory retirement age 70. Voluntary retirement prior to that age.

- a. Age 70 and 10 Years of WCJ Service; or
Age 65 and 15 Years of WCJ Service; or
Age 60 and 20 Years of WCJ Service.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of 75% of contractual Compensation at the date of retirement.

- b. Age 65, 5 consecutive Years of WCJ Service and 15 Years of Aggregate PERS Service; or
Age 60, 5 consecutive Years of WCJ Service and 20 Years of Aggregate PERS Service.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of 50% of contractual Compensation at the date of retirement.

- c. Age 60, 5 consecutive Years of WCJ Service and 15 Years of Aggregate PERS Service.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of 2% of contractual Compensation at the date of retirement for each Year of Aggregate PERS Service up to 25 years plus 1% of contractual Compensation at the date of retirement for each Year of Aggregate PERS Service over 25 years.

- d. Age 60.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of 2% of contractual Compensation at the date of retirement for each Year of WCJ Service up to 25 years plus 1% of contractual Compensation at the date of retirement for each Year of Aggregate PERS Service over 25 years.

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- (2) Early Retirement: Prior to eligibility for Service Retirement and 5 consecutive Years of WCJ Service and 25 Years of Aggregate PERS Service.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of 2% of contractual Compensation at the date of retirement for each Year of Aggregate PERS Service up to 25 years plus 1% of contractual Compensation at the date of retirement for each Year of Aggregate PERS Service over 25 years, actuarially reduced for commencement prior to age 60.

- (3) Deferred Retirement: Termination of service prior to eligibility for Service Retirement with 5 consecutive Years of WCJ Service and 10 Years of Aggregate PERS Service.

Benefit is either:

- a. A refund of Accumulated Deductions plus, if the Member has completed three years of service, interest accumulated at 2.0% per annum; or
- b. A deferred life annuity, commencing at age 60, comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of 2% of contractual Compensation at the date of retirement for each Year of Aggregate PERS Service up to 25 years plus 1% of contractual Compensation at the date of retirement for each Year of Aggregate PERS Service over 25 years.

- (4) Death Benefits

- a. Before Retirement: Death of an active WCJ Member. Benefit is equal to:
 - i. Lump sum equal to 150% of contractual Compensation at the date of death, also known as the non-contributory group life insurance benefit, plus
 - ii. Spousal life annuity of 25% of contractual Compensation at the date of death payable until spouse's remarriage plus 10% (15%) to one (two or more) dependent child(ren). If there is no surviving spouse, or upon death or remarriage, a total of 15% (20%, 30%) of contractual Compensation at the date of death payable to one (two, three or more) dependent child(ren). If there is no surviving spouse or dependent child(ren), 20% (30%) of contractual Compensation at the date of death to one (two) dependent parent(s). If there is no surviving spouse, dependent child(ren) or parent(s), the benefit is a refund of Accumulated Deductions with interest.

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- b. After Retirement: Death of a retired WCJ Member. Benefit is equal to:
- i. Lump sum equal to 25% of contractual Compensation at the date of death for a Member retired under Service or Early WCJ Retirement with 10 Years of Aggregate PERS Service. For a Member receiving a Disability benefit, lump sum payment of 150% of contractual Compensation at the date of death if death occurs prior to age 60 and 25% of contractual Compensation at the date of death if death occurs after age 60. This benefit is known as the non-contributory group life insurance benefit, plus
 - ii. Any survivor benefit due under the Member's optional form of payment election. Previously granted COLAs also apply to life annuities.

12. Optional Forms of Payment

The member may elect the following forms of payment.

- a) Maximum Option: Single life annuity with a return of the balance of the Accumulated Deductions with credited interest.
- b) Option 1: Single life annuity with a return of the balance of the initial reserve.
- c) Option 2: 100% joint and survivor annuity.
- d) Option 3: 50% joint and survivor annuity.
- e) Option 4: Other percentage joint and survivor annuity.
- f) Option A: 100% pop-up joint and survivor annuity.
- g) Option B: 75% pop-up joint and survivor annuity.
- h) Option C: 50% pop-up joint and survivor annuity.
- i) Option D: 25% pop-up joint and survivor annuity.

13. Cost-of-Living Adjustments

Also known as Pension Adjustments. Provided annually to retirees and survivors after 24 months of retirement prior to July 1, 2011. Chapter 78, P.L. 2011 eliminated future adjustments effective July 1, 2011. Adjustments may be reinstated in the future subject to certain conditions outlined in Chapter 78, P.L. 2011.

14. Changes in Plan Provisions Since Last Valuation

None.

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The information on the following tables for State and Local employers is based on the final actuarial valuation reports for the given years. The amounts do not reflect differences between the discounted State appropriations receivable and the actual State contribution amounts that became known after the issuance of the reports.

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APPENDIX D – HISTORICAL DATA AND REQUIRED EXHIBITS

**Table D-1
Historical Summary of Assets and Liabilities
State**

| Valuation Date July 1, | Market Value of Assets | Actuarial Value of Assets | | Funded Ratio | |
|---------------------------|---------------------------|---------------------------------------|---------------------|--------------|-----------------|
| | | with Special Asset Value ¹ | Actuarial Liability | Market Value | Actuarial Value |
| 2023 | \$ 9,222,531,715 | \$ 12,502,517,768 | \$ 28,762,696,821 | 32.1% | 43.5% |
| 2022 | 8,485,901,686 | 11,979,875,759 | 28,185,048,883 | 30.1% | 42.5% |
| 2021 | 9,116,415,984 | 11,533,493,169 | 27,489,997,258 | 33.2% | 42.0% |
| 2020 | 7,249,876,062 | 10,687,660,452 | 26,285,137,008 | 27.6% | 40.7% |
| 2019 | 7,454,643,131 | 10,669,315,506 | 25,666,760,996 | 29.0% | 41.6% |
| 2018 | 7,533,286,615 | 10,710,534,806 | 23,745,716,631 | 31.7% | 45.1% |
| 2017 | 7,520,536,539 | 10,861,669,626 | 23,324,861,385 | 32.2% | 46.6% |
| 2016 | 7,370,865,995 | 11,109,798,893 | 22,411,751,124 | 32.9% | 49.6% |
| 2015 | 8,218,735,979 | 8,868,254,006 | 21,635,507,298 | 38.0% | 41.0% |
| 2014 | 8,778,291,546 | 9,128,235,998 | 20,842,690,918 | 42.1% | 43.8% |

¹ Includes Special Asset Value beginning with July 1, 2016 valuation

**Table D-2
Historical Summary of Employer Contributions¹
State**

| Fiscal Year Ending June 30, | Statutory Contribution / | | Lottery Revenue | Contribution Deficiency/ (Excess) | Percentage of Contribution Covered |
|-----------------------------------|-------------------------------------|----------------------------|-----------------|--------------------------------------|------------------------------------|
| | Actuarially Determined Contribution | Actual State Appropriation | | | |
| 2024 ² | \$ 1,821,307,122 | \$ 1,691,228,219 | \$ 234,510,384 | \$ (104,431,481) | 105.7% |
| 2023 | 1,757,720,407 | 1,628,706,270 | 245,934,000 | (116,919,863) | 106.7% |
| 2022 | 1,718,462,218 | 1,624,706,855 | 233,550,067 | (139,794,704) | 108.1% |
| 2021 | 1,622,539,084 | 1,037,865,734 | 232,271,000 | 352,402,350 | 78.3% |
| 2020 | 1,432,190,871 | 776,970,874 | 213,353,000 | 441,866,997 | 69.1% |
| 2019 | 1,406,859,836 | 627,377,884 | 232,271,000 | 547,210,952 | 61.1% |
| 2018 | 1,324,313,829 | 451,752,000 | 205,155,662 | 667,406,167 | 49.6% |
| 2017 | 1,263,740,460 | 506,499,652 | 0 | 757,240,808 | 40.1% |
| 2016 | 1,182,038,756 | 355,290,348 | 0 | 826,748,408 | 30.1% |
| 2015 | 1,058,157,699 | 195,153,000 | 0 | 863,004,699 | 18.4% |

¹ Excludes contributions from NCGI and contributions payable from the Second Injury Fund for Chapter 259, P.L. 2001 and Chapter 140, P.L. 2021

² Reflects the State's planned contribution of 100% of the Statutory contribution and expected lottery revenue

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APPENDIX D – HISTORICAL DATA AND REQUIRED EXHIBITS

**Table D-3
Historical Summary of Assets and Liabilities
Local Employers**

| Valuation Date July 1, | Market Value of Assets | Actuarial Value of Assets | Actuarial Liability | Funded Ratio | |
|---------------------------|------------------------|---------------------------|---------------------|--------------|-----------------|
| | | | | Market Value | Actuarial Value |
| 2023 | \$ 27,347,606,002 | \$ 27,638,369,472 | \$ 40,366,610,080 | 67.7% | 68.5% |
| 2022 | 25,757,807,667 | 26,694,121,356 | 39,317,139,093 | 65.5% | 67.9% |
| 2021 | 28,329,219,469 | 25,965,285,547 | 38,393,126,094 | 73.8% | 67.6% |
| 2020 | 22,891,936,466 | 24,424,654,983 | 36,410,100,750 | 62.9% | 67.1% |
| 2019 | 23,249,120,186 | 23,928,515,595 | 35,526,210,970 | 65.4% | 67.4% |
| 2018 | 22,645,367,115 | 23,264,877,618 | 33,103,627,533 | 68.4% | 70.3% |
| 2017 | 21,470,284,400 | 22,522,697,150 | 32,238,416,280 | 66.6% | 69.9% |
| 2016 | 19,756,262,137 | 21,900,421,798 | 30,673,935,604 | 64.4% | 71.4% |
| 2015 | 20,557,496,076 | 21,495,828,937 | 29,431,895,200 | 69.8% | 73.0% |
| 2014 | 20,250,197,472 | 20,766,663,796 | 28,255,077,220 | 71.7% | 73.5% |

**Table D-4
Historical Summary of Employer Contributions¹
Local Employers**

| Fiscal Year Ending June 30, | Statutory Contribution / | | Contribution Deficiency/ (Excess) | Percentage of Contribution Covered |
|--------------------------------|-------------------------------------|----------------------------|--------------------------------------|------------------------------------|
| | Actuarially Determined Contribution | Actual Local Appropriation | | |
| 2024 | \$ 1,290,896,136 | \$ 1,290,896,136 | \$ 0 | 100.0% |
| 2023 | 1,218,309,080 | 1,218,309,080 | 0 | 100.0% |
| 2022 | 1,167,822,171 | 1,129,430,662 | 38,391,509 | 96.7% |
| 2021 | 1,136,379,268 | 1,059,596,249 | 76,783,019 | 93.2% |
| 2020 | 943,133,465 | 943,131,078 | 2,387 | 100.0% |
| 2019 | 970,120,667 | 970,150,173 | (29,506) | 100.0% |
| 2018 | 901,781,034 | 901,868,890 | (87,856) | 100.0% |
| 2017 | 866,468,492 | 866,468,492 | 0 | 100.0% |
| 2016 | 836,545,013 | 836,545,013 | 0 | 100.0% |
| 2015 | 789,965,173 | 789,965,173 | 0 | 100.0% |

¹ Excludes contributions from NCGI and includes ERIs and Chapter 19, P.L. 2009 payments

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APPENDIX D – HISTORICAL DATA AND REQUIRED EXHIBITS

In accordance with the Government Finance Officers Association (GFOA) and their recommended checklist for Annual Comprehensive Financial Reports, we prepared the following schedules for the System. The GFOA checklist uses the term Actuarial Accrued Liability, which is the same as the Actuarial Liability used elsewhere in this report.

| Table D-5 Schedule Retirees and Beneficiaries Added to and Removed From Rolls State | | | | | | | | |
|---|----------------|---------------------|---------------------|---------------------|----------------------|---------------------|---|---|
| Valuation Date July 1, | Added to Rolls | | Removed from Rolls | | Rolls at End of Year | | Average Annual Allowance ¹ | % Increase in Average Annual Allowance ¹ |
| | Number | Annual Allowance | Number ¹ | Annual Allowance | Number ¹ | Annual Allowance | | |
| 2023 | 3,155 | \$ 109,670,177 | 2,220 | \$ 48,912,378 | 63,777 | \$ 1,918,915,717 | \$ 30,088 | 1.79% |
| 2022 | 3,680 | 130,517,862 | 2,373 | 50,234,719 | 62,842 | 1,857,631,695 | 29,560 | 2.37% |
| 2021 | 2,975 | 98,190,097 | 2,223 | 48,208,424 | 61,535 | 1,776,844,453 | 28,875 | 1.66% |
| 2020 | 3,127 | 99,862,605 | 2,193 | 45,081,368 | 60,783 | 1,726,418,877 | 28,403 | 1.72% |
| 2019 | 3,232 | 103,191,557 | 1,939 | 40,171,452 | 59,849 | 1,671,166,694 | 27,923 | 1.70% |
| 2018 | 3,217 | 102,255,260 | 2,281 | 45,351,461 | 58,556 | 1,607,733,796 | 27,456 | 1.25% |
| 2017 | 3,267 | 104,489,121 | 1,479 | 29,655,761 | 57,174 | 1,550,464,743 | 27,118 | 1.83% |
| 2016 | 3,515 | 109,122,538 | 2,203 | 40,303,068 | 55,386 | 1,474,917,885 | 26,630 | 2.45% |
| 2015 | 4,114 | 124,446,887 | 1,754 | 32,905,541 | 54,074 | 1,405,596,194 | 25,994 | 2.33% |
| 2014 | 3,183 | 93,940,693 | 1,696 | 30,809,304 | 51,714 | 1,313,713,988 | 25,403 | 2.06% |

¹ Beginning with the 2018 valuation, multiple members with benefits in receipt from both State and Local employers are included in State headcounts. This change resulted in 446 more records on the rolls as of July 1, 2018. The annual allowance for these records was included for all years.

| Table D-6 Schedule Retirees and Beneficiaries Added to and Removed From Rolls Local Employers | | | | | | | | |
|---|----------------|---------------------|--------------------|---------------------|----------------------|---------------------|--------------------------------|--|
| Valuation Date July 1, | Added to Rolls | | Removed from Rolls | | Rolls at End of Year | | Average Annual Allowance | % Increase in Average Annual Allowance |
| | Number | Annual Allowance | Number | Annual Allowance | Number | Annual Allowance | | |
| 2023 | 7,467 | \$ 177,184,037 | 5,528 | \$ 83,648,671 | 130,138 | \$ 2,612,310,525 | \$ 20,073 | 2.23% |
| 2022 | 7,956 | 185,974,696 | 5,594 | 84,197,549 | 128,199 | 2,517,340,724 | 19,636 | 2.35% |
| 2021 | 7,336 | 167,060,350 | 5,491 | 81,935,010 | 125,837 | 2,414,370,737 | 19,186 | 2.17% |
| 2020 | 7,078 | 157,358,396 | 5,729 | 81,347,000 | 123,992 | 2,328,399,284 | 18,779 | 2.30% |
| 2019 | 7,199 | 158,384,725 | 4,748 | 65,855,298 | 122,643 | 2,251,384,758 | 18,357 | 2.24% |
| 2018 | 7,272 | 151,992,839 | 5,537 | 76,519,975 | 120,192 | 2,157,906,233 | 17,954 | 2.17% |
| 2017 | 7,444 | 155,525,527 | 3,725 | 50,460,932 | 118,457 | 2,081,607,680 | 17,573 | 2.04% |
| 2016 | 7,856 | 159,065,854 | 5,681 | 72,658,490 | 114,738 | 1,975,865,848 | 17,221 | 2.65% |
| 2015 | 7,870 | 149,903,333 | 4,309 | 54,707,095 | 112,563 | 1,888,507,678 | 16,777 | 2.02% |
| 2014 | 7,003 | 137,416,194 | 4,288 | 52,540,322 | 109,002 | 1,792,563,653 | 16,445 | 2.40% |

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APPENDIX D – HISTORICAL DATA AND REQUIRED EXHIBITS

**Table D-7
Schedule Retirees and Beneficiaries Added to and Removed From Rolls
Total**

| Valuation Date July 1, | Added to Rolls | | Removed from Rolls | | Rolls at End of Year | | Average Annual Allowance ¹ | % Increase in Average Annual Allowance ¹ |
|---------------------------|----------------|------------------|---------------------|------------------|----------------------|------------------|---------------------------------------|---|
| | Number | Annual Allowance | Number ¹ | Annual Allowance | Number ¹ | Annual Allowance | | |
| 2023 | 10,622 | \$ 286,854,214 | 7,748 | \$ 132,561,048 | 193,915 | \$ 4,531,226,242 | \$ 23,367 | 2.04% |
| 2022 | 11,636 | 316,492,558 | 7,967 | 134,432,267 | 191,041 | 4,374,972,419 | 22,901 | 2.38% |
| 2021 | 10,311 | 265,250,447 | 7,714 | 130,143,433 | 187,372 | 4,191,215,190 | 22,368 | 1.93% |
| 2020 | 10,205 | 257,221,002 | 7,922 | 126,428,368 | 184,775 | 4,054,818,161 | 21,945 | 2.09% |
| 2019 | 10,431 | 261,576,282 | 6,687 | 106,026,750 | 182,492 | 3,922,551,452 | 21,494 | 2.03% |
| 2018 | 10,489 | 254,248,099 | 7,818 | 121,871,436 | 178,748 | 3,765,640,029 | 21,067 | 1.87% |
| 2017 | 10,711 | 260,014,648 | 5,204 | 80,116,693 | 175,631 | 3,632,072,423 | 20,680 | 1.95% |
| 2016 | 11,371 | 268,188,392 | 7,884 | 112,961,558 | 170,124 | 3,450,783,733 | 20,284 | 2.61% |
| 2015 | 11,984 | 274,350,220 | 6,063 | 87,612,636 | 166,637 | 3,294,103,872 | 19,768 | 2.28% |
| 2014 | 10,186 | 231,356,887 | 5,984 | 83,349,626 | 160,716 | 3,106,277,641 | 19,328 | 2.30% |

¹ Beginning with the 2018 valuation, multiple members with benefits in receipt from both State and Local employers are included in State headcounts. This change resulted in 446 more records on the rolls as of July 1, 2018. The annual allowance for these records was included for all years.

**Table D-8
Schedule of Active Member Valuation Data
State**

| Valuation Date July 1, | Number of Contributing Active Members ¹ | Annual Compensation ² | Annual Average Compensation | % Increase in Average Annual Compensation | Number of Participating Employers ³ |
|---------------------------|--|----------------------------------|-----------------------------|---|--|
| 2023 | 64,048 | \$ 4,769,262,833 | \$ 74,464 | 2.73% | 278 |
| 2022 | 64,357 | 4,664,968,264 | 72,486 | 3.78% | 281 |
| 2021 | 65,555 | 4,578,674,071 | 69,845 | 2.07% | 282 |
| 2020 | 67,774 | 4,637,529,278 | 68,426 | 2.37% | 283 |
| 2019 | 67,906 | 4,539,069,588 | 66,843 | 5.80% | 286 |
| 2018 | 68,593 | 4,333,772,974 | 63,181 | -0.45% | 283 |
| 2017 | 68,156 | 4,325,784,579 | 63,469 | -0.49% | N/A |
| 2016 | 68,502 | 4,369,066,658 | 63,780 | 0.02% | N/A |
| 2015 | 69,687 | 4,443,605,376 | 63,765 | 2.39% | N/A |
| 2014 | 72,952 | 4,543,384,095 | 62,279 | 1.64% | N/A |

¹ Beginning with the 2018 valuation, reflects all records for multiple members

² Limited annual compensation

³ Number of locations reporting contributing active members. For GASB reporting purposes, the State may be considered the participating employer for multiple locations.

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APPENDIX D – HISTORICAL DATA AND REQUIRED EXHIBITS

| Table D-9 Schedule of Active Member Valuation Data Local Employers | | | | | | |
|--|--|----------------------------------|-----------------------------|---|--|--|
| Valuation Date July 1, | Number of Contributing Active Members ¹ | Annual Compensation ² | Annual Average Compensation | % Increase in Average Annual Compensation | Number of Participating Employers ³ | |
| 2023 | 140,550 | \$ 7,952,897,088 | \$ 56,584 | 3.66% | 1,646 | |
| 2022 | 139,073 | 7,591,465,466 | 54,586 | 2.71% | 1,651 | |
| 2021 | 138,672 | 7,369,908,268 | 53,146 | 3.53% | 1,659 | |
| 2020 | 142,757 | 7,328,393,274 | 51,335 | 3.07% | 1,663 | |
| 2019 | 145,287 | 7,236,080,086 | 49,805 | 2.76% | 1,664 | |
| 2018 | 146,615 | 7,106,248,788 | 48,469 | 1.66% | 1,670 | |
| 2017 | 147,283 | 7,022,322,604 | 47,679 | 2.61% | N/A | |
| 2016 | 149,077 | 6,927,278,654 | 46,468 | 2.76% | N/A | |
| 2015 | 152,070 | 6,876,593,371 | 45,220 | 2.33% | N/A | |
| 2014 | 156,101 | 6,898,049,131 | 44,190 | 2.75% | N/A | |

¹ Beginning with the 2018 valuation, reflects all records for multiple members

² Limited annual compensation

³ Number of locations reporting contributing active members

| Table D-10 Schedule of Active Member Valuation Data Total | | | | | | |
|---|--|----------------------------------|-----------------------------|---|--|--|
| Valuation Date July 1, | Number of Contributing Active Members ¹ | Annual Compensation ² | Annual Average Compensation | % Increase in Average Annual Compensation | Number of Participating Employers ³ | |
| 2023 | 204,598 | \$ 12,722,159,921 | \$ 62,181 | 3.21% | 1,924 | |
| 2022 | 203,430 | 12,256,433,730 | 60,249 | 2.98% | 1,932 | |
| 2021 | 204,227 | 11,948,582,339 | 58,506 | 2.94% | 1,941 | |
| 2020 | 210,531 | 11,965,922,552 | 56,837 | 2.91% | 1,946 | |
| 2019 | 213,193 | 11,775,149,674 | 55,232 | 3.90% | 1,950 | |
| 2018 | 215,208 | 11,440,021,762 | 53,158 | 0.92% | 1,953 | |
| 2017 | 215,439 | 11,348,107,183 | 52,674 | 1.46% | N/A | |
| 2016 | 217,579 | 11,296,345,312 | 51,918 | 1.70% | N/A | |
| 2015 | 221,757 | 11,320,198,747 | 51,048 | 2.20% | N/A | |
| 2014 | 229,053 | 11,441,433,226 | 49,951 | 2.37% | N/A | |

¹ Beginning with the 2018 valuation, reflects all records for multiple members

² Limited annual compensation

³ Number of locations reporting contributing active members. For GASB reporting purposes, the State may be considered the participating employer for multiple locations.

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APPENDIX D – HISTORICAL DATA AND REQUIRED EXHIBITS

| Table D-11 Schedule of Funding Progress State | | | | | | |
|---|---|------------------------------------|--|---------------------------|-------------------------------------|---|
| Valuation Date July 1, | Actuarial Value of Assets ¹ (a) | Actuarial Accrued Liability (b) | (Surplus)/Unfunded | | Covered Payroll ² (d) | (Surplus)/Unfunded Actuarial Accrued Liability as % of Covered Payroll (c) / (d) |
| | | | Actuarial Accrued Liability (c) = (b) - (a) | Funded Ratio (a) / (b) | | |
| 2023 | \$ 9,900,003,769 | \$ 28,762,696,821 | \$ 18,862,693,052 | 34.42% | \$ 4,769,262,833 | 395.51% |
| 2022 | 9,354,810,560 | 28,185,048,883 | 18,830,238,323 | 33.19% | 4,664,968,264 | 403.65% |
| 2021 | 8,889,754,699 | 27,489,997,258 | 18,600,242,559 | 32.34% | 4,578,674,071 | 406.24% |
| 2020 | 8,045,759,732 | 26,285,137,008 | 18,239,377,276 | 30.61% | 4,637,529,278 | 393.30% |
| 2019 | 8,017,468,579 | 25,666,760,996 | 17,649,292,417 | 31.24% | 4,539,069,588 | 388.83% |
| 2018 | 8,057,092,909 | 23,745,716,631 | 15,688,623,722 | 33.93% | 4,333,772,974 | 362.01% |
| 2017 | 8,208,333,488 | 23,324,861,385 | 15,116,527,897 | 35.19% | 4,325,784,579 | 349.45% |
| 2016 | 8,466,901,791 | 22,411,751,124 | 13,944,849,333 | 37.78% | 4,369,066,658 | 319.17% |
| 2015 | 8,868,254,006 | 21,635,507,298 | 12,767,253,292 | 40.99% | 4,443,605,376 | 287.32% |
| 2014 | 9,128,235,998 | 20,842,690,918 | 11,714,454,920 | 43.80% | 4,543,384,095 | 257.84% |

¹ Includes receivable amounts. Excludes Special Asset Value.

² Limited annual compensation for contributing actives

| Table D-12 Schedule of Funding Progress Local Employers | | | | | | |
|---|---|------------------------------------|--|---------------------------|-------------------------------------|---|
| Valuation Date July 1, | Actuarial Value of Assets ¹ (a) | Actuarial Accrued Liability (b) | (Surplus)/Unfunded | | Covered Payroll ² (d) | (Surplus)/Unfunded Actuarial Accrued Liability as % of Covered Payroll (c) / (d) |
| | | | Actuarial Accrued Liability (c) = (b) - (a) | Funded Ratio (a) / (b) | | |
| 2023 | \$ 27,638,369,472 | \$ 40,366,610,080 | \$ 12,728,240,608 | 68.47% | \$ 7,952,897,088 | 160.05% |
| 2022 | 26,694,121,356 | 39,317,139,093 | 12,623,017,737 | 67.89% | 7,591,465,466 | 166.28% |
| 2021 | 25,965,285,547 | 38,393,126,094 | 12,427,840,547 | 67.63% | 7,369,908,268 | 168.63% |
| 2020 | 24,424,654,983 | 36,410,100,750 | 11,985,445,767 | 67.08% | 7,328,393,274 | 163.55% |
| 2019 | 23,928,515,595 | 35,526,210,970 | 11,597,695,375 | 67.35% | 7,236,080,086 | 160.28% |
| 2018 | 23,264,877,618 | 33,103,627,533 | 9,838,749,915 | 70.28% | 7,106,248,788 | 138.45% |
| 2017 | 22,522,697,150 | 32,238,416,280 | 9,715,719,130 | 69.86% | 7,022,322,604 | 138.35% |
| 2016 | 21,900,421,798 | 30,673,935,604 | 8,773,513,806 | 71.40% | 6,927,278,654 | 126.65% |
| 2015 | 21,495,828,937 | 29,431,895,200 | 7,936,066,263 | 73.04% | 6,876,593,371 | 115.41% |
| 2014 | 20,766,663,796 | 28,255,077,220 | 7,488,413,424 | 73.50% | 6,898,049,131 | 108.56% |

¹ Includes receivable amounts. Excludes Special Asset Value.

² Limited annual compensation for contributing actives

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APPENDIX D – HISTORICAL DATA AND REQUIRED EXHIBITS

**Table D-13
Schedule of Funding Progress
Total**

| Valuation Date July 1, | Actuarial Value of Assets ¹ (a) | Actuarial Accrued Liability (b) | (Surplus)/Unfunded | | Covered Payroll ² (d) | (Surplus)/Unfunded Actuarial Accrued Liability as % of Covered Payroll |
|---------------------------|---|------------------------------------|--|---------------------------|-------------------------------------|--|
| | | | Actuarial Accrued Liability (c) = (b) - (a) | Funded Ratio (a) / (b) | | (c) / (d) |
| 2023 | \$ 37,538,373,241 | \$ 69,129,306,901 | \$ 31,590,933,660 | 54.30% | \$ 12,722,159,921 | 248.31% |
| 2022 | 36,048,931,916 | 67,502,187,976 | 31,453,256,060 | 53.40% | 12,256,433,730 | 256.63% |
| 2021 | 34,855,040,246 | 65,883,123,352 | 31,028,083,106 | 52.90% | 11,948,582,339 | 259.68% |
| 2020 | 32,470,414,715 | 62,695,237,758 | 30,224,823,043 | 51.79% | 11,965,922,552 | 252.59% |
| 2019 | 31,945,984,174 | 61,192,971,966 | 29,246,987,792 | 52.21% | 11,775,149,674 | 248.38% |
| 2018 | 31,321,970,527 | 56,849,344,164 | 25,527,373,637 | 55.10% | 11,440,021,762 | 223.14% |
| 2017 | 30,731,030,638 | 55,563,277,665 | 24,832,247,027 | 55.31% | 11,348,107,183 | 218.82% |
| 2016 | 30,367,323,589 | 53,085,686,728 | 22,718,363,139 | 57.20% | 11,296,345,312 | 201.11% |
| 2015 | 30,364,082,943 | 51,067,402,498 | 20,703,319,555 | 59.46% | 11,320,198,747 | 182.89% |
| 2014 | 29,894,899,794 | 49,097,768,138 | 19,202,868,344 | 60.89% | 11,441,433,226 | 167.84% |

¹ Includes receivable amounts. Excludes Special Asset Value.

² Limited annual compensation for contributing actives

**Table D-14
Schedule of Funded Liabilities by Type (Solvency Test)
State**

| Valuation Date July 1, | Actuarial Accrued Liability for | | | Actuarial Value of Assets ³ | Portion of Actuarial Accrued Liabilities Covered by Actuarial Value of Assets | | |
|---------------------------|---|---|---|--|---|--------|-------|
| | Contributing Active & Non-Contributing Member Contributions ¹ (1) | Retirees, Beneficiaries & Deferred Vested ² (2) | Contributing Active & Non-Contributing Member Benefits Financed by Employer ^{1,2} (3) | | (1) | (2) | (3) |
| 2023 | \$ 6,758,381,603 | \$ 18,461,762,575 | \$ 3,542,552,643 | \$ 9,900,003,769 | 100.00% | 17.02% | 0.00% |
| 2022 | 6,623,312,348 | 17,965,645,572 | 3,596,090,963 | 9,354,810,560 | 100.00% | 15.20% | 0.00% |
| 2021 | 6,592,343,771 | 17,328,578,369 | 3,569,075,118 | 8,889,754,699 | 100.00% | 13.26% | 0.00% |
| 2020 | 6,381,123,395 | 16,544,875,478 | 3,359,138,135 | 8,045,759,732 | 100.00% | 10.06% | 0.00% |
| 2019 | 6,152,782,465 | 16,087,603,025 | 3,426,375,506 | 8,017,468,579 | 100.00% | 11.59% | 0.00% |
| 2018 | 5,953,378,763 | 15,070,236,164 | 2,722,101,704 | 8,057,092,909 | 100.00% | 13.96% | 0.00% |
| 2017 | 5,727,517,176 | 14,487,785,677 | 3,109,558,532 | 8,208,333,488 | 100.00% | 17.12% | 0.00% |
| 2016 | 5,504,706,131 | 13,686,116,692 | 3,220,928,301 | 8,466,901,791 | 100.00% | 21.64% | 0.00% |
| 2015 | 5,302,732,138 | 12,797,013,628 | 3,535,761,532 | 8,868,254,006 | 100.00% | 27.86% | 0.00% |
| 2014 | 5,169,631,309 | 11,857,858,226 | 3,815,201,383 | 9,128,235,998 | 100.00% | 33.38% | 0.00% |

¹ Includes deferred beneficiaries

² Prior to July 1, 2018, actuarial accrued liability for deferred vesteds included under (3) instead of (2)

³ Includes receivable amounts. Excludes Special Asset Value.

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APPENDIX D – HISTORICAL DATA AND REQUIRED EXHIBITS

**Table D-15
Schedule of Funded Liabilities by Type (Solvency Test)
Local Employers**

Actuarial Accrued Liability for

| Valuation Date July 1, | Contributing Active & Non-Contributing Member | | Contributing Active & Non-Contributing Member Benefits | | Actuarial Value of Assets ³ | Portion of Actuarial Accrued Liabilities Covered by Actuarial Value of Assets | | |
|---------------------------|---|---|--|--|--|---|-------|-----|
| | Contributions ¹ (1) | Retirees, Beneficiaries & Deferred Vested ² (2) | Financed by Employer ^{1,2} (3) | Actuarial Value of Assets ³ | | (1) | (2) | (3) |
| 2023 | \$ 10,231,450,653 | \$ 24,581,821,568 | \$ 5,553,337,859 | \$ 27,638,369,472 | 100.00% | 70.81% | 0.00% | |
| 2022 | 10,018,520,222 | 23,735,979,687 | 5,562,639,184 | 26,694,121,356 | 100.00% | 70.25% | 0.00% | |
| 2021 | 9,867,154,217 | 22,934,745,828 | 5,591,226,049 | 25,965,285,547 | 100.00% | 70.19% | 0.00% | |
| 2020 | 9,574,866,049 | 21,680,763,400 | 5,154,471,301 | 24,424,654,983 | 100.00% | 68.49% | 0.00% | |
| 2019 | 9,234,762,976 | 20,983,426,083 | 5,308,021,911 | 23,928,515,595 | 100.00% | 70.03% | 0.00% | |
| 2018 | 8,934,728,567 | 19,552,684,545 | 4,616,214,421 | 23,264,877,618 | 100.00% | 73.29% | 0.00% | |
| 2017 | 8,542,088,646 | 18,737,855,865 | 4,958,471,769 | 22,522,697,150 | 100.00% | 74.61% | 0.00% | |
| 2016 | 8,168,141,804 | 17,622,616,344 | 4,883,177,456 | 21,900,421,798 | 100.00% | 77.92% | 0.00% | |
| 2015 | 7,829,248,004 | 16,502,540,582 | 5,100,106,614 | 21,495,828,937 | 100.00% | 82.82% | 0.00% | |
| 2014 | 7,477,372,802 | 15,523,266,419 | 5,254,437,999 | 20,766,663,796 | 100.00% | 85.61% | 0.00% | |

¹ Includes deferred beneficiaries

² Prior to July 1, 2018, actuarial accrued liability for deferred vesteds included under (3) instead of (2)

³ Includes receivable amounts. Excludes Special Asset Value.

**Table D-16
Schedule of Funded Liabilities by Type (Solvency Test)
Total**

Actuarial Accrued Liability for

| Valuation Date July 1, | Contributing Active & Non-Contributing Member | | Contributing Active & Non-Contributing Member Benefits | | Actuarial Value of Assets ³ | Portion of Actuarial Accrued Liabilities Covered by Actuarial Value of Assets | | |
|---------------------------|---|---|--|--|--|---|-------|-----|
| | Contributions ¹ (1) | Retirees, Beneficiaries & Deferred Vested ² (2) | Financed by Employer ^{1,2} (3) | Actuarial Value of Assets ³ | | (1) | (2) | (3) |
| 2023 | \$ 16,989,832,256 | \$ 43,043,584,143 | \$ 9,095,890,502 | \$ 37,538,373,241 | 100.00% | 47.74% | 0.00% | |
| 2022 | 16,641,832,570 | 41,701,625,259 | 9,158,730,147 | 36,048,931,916 | 100.00% | 46.54% | 0.00% | |
| 2021 | 16,459,497,988 | 40,263,324,197 | 9,160,301,167 | 34,855,040,246 | 100.00% | 45.69% | 0.00% | |
| 2020 | 15,955,989,444 | 38,225,638,878 | 8,513,609,436 | 32,470,414,715 | 100.00% | 43.20% | 0.00% | |
| 2019 | 15,387,545,441 | 37,071,029,108 | 8,734,397,417 | 31,945,984,174 | 100.00% | 44.67% | 0.00% | |
| 2018 | 14,888,107,330 | 34,622,920,709 | 7,338,316,125 | 31,321,970,527 | 100.00% | 47.47% | 0.00% | |
| 2017 | 14,269,605,822 | 33,225,641,542 | 8,068,030,301 | 30,731,030,638 | 100.00% | 49.54% | 0.00% | |
| 2016 | 13,672,847,935 | 31,308,733,036 | 8,104,105,757 | 30,367,323,589 | 100.00% | 53.32% | 0.00% | |
| 2015 | 13,131,980,142 | 29,299,554,210 | 8,635,868,146 | 30,364,082,943 | 100.00% | 58.81% | 0.00% | |
| 2014 | 12,647,004,111 | 27,381,124,645 | 9,069,639,382 | 29,894,899,794 | 100.00% | 62.99% | 0.00% | |

¹ Includes deferred beneficiaries

² Prior to July 1, 2018, actuarial accrued liability for deferred vesteds included under (3) instead of (2)

³ Includes receivable amounts. Excludes Special Asset Value.

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APPENDIX D – HISTORICAL DATA AND REQUIRED EXHIBITS

**Table D-17
Analysis of Financial Experience
Change in Unfunded Actuarial Accrued Liability
State**

| Valuation Date July 1, | Actuarial Value Of Assets Investment (Gain)/Loss | Actuarial Accrued Liability (Gain)/Loss | Assumption & Method Changes | Plan/Policy Changes | Contributions ¹ | Change in Unfunded Actuarial Accrued Liability |
|---------------------------|---|--|-----------------------------------|------------------------|----------------------------|--|
| 2023 | \$ 169,368,014 | \$ 179,396,467 | \$ 0 | \$ 0 | \$ (316,309,752) | \$ 32,454,729 |
| 2022 | 217,227,219 | 377,528,001 | (100,572,196) | 2,886,789 | (267,074,049) | 229,995,764 |
| 2021 | (56,665,321) | (70,592,801) | 798,443,571 | 4,799,089 | (315,119,255) | 360,865,283 |
| 2020 | 198,970,917 | 138,357,335 | 0 | 0 | 252,756,607 | 590,084,859 |
| 2019 | 140,706,362 | 461,324,998 | 1,081,742,399 | (6,603,404) | 283,498,340 | 1,960,668,695 |
| 2018 | 130,951,573 | 93,268,738 | (112,274,899) | 0 | 460,150,413 | 572,095,825 |
| 2017 | 171,949,238 | 103,170,590 | 328,696,298 | 0 | 567,862,438 | 1,171,678,564 |
| 2016 | 274,008,949 | 21,165,025 | 199,010,114 | 0 | 683,411,953 | 1,177,596,041 |
| 2015 | 162,379,506 | 164,489,294 | 53,217,646 | 0 | 672,711,926 | 1,052,798,372 |
| 2014 | 87,486,113 | 95,327,747 | 10,733,967 | 0 | 1,141,647,711 | 1,335,195,538 |

¹ Change due to contributions (greater)/less than normal cost plus interest on the Unfunded Actuarial Accrued Liability.

**Table D-18
Analysis of Financial Experience
Change in Unfunded Actuarial Accrued Liability
Local Employers**

| Valuation Date July 1, | Actuarial Value Of Assets Investment (Gain)/Loss | Actuarial Accrued Liability (Gain)/Loss | Assumption & Method Changes | Plan/Policy Changes | Contributions ¹ | Change in Unfunded Actuarial Accrued Liability |
|---------------------------|---|--|-----------------------------------|------------------------|----------------------------|--|
| 2023 | \$ 72,690,868 | \$ 200,717,054 | \$ 0 | \$ 0 | \$ (168,185,051) | \$ 105,222,871 |
| 2022 | 234,078,422 | 202,540,254 | (150,132,560) | 8,219,652 | (99,528,578) | 195,177,190 |
| 2021 | (590,983,481) | (26,972,346) | 1,086,372,117 | 0 | (26,021,510) | 442,394,780 |
| 2020 | 383,179,629 | (53,231,151) | 0 | 0 | 57,801,914 | 387,750,392 |
| 2019 | 169,848,852 | 207,179,448 | 1,392,592,722 | (6,437,745) | (4,237,817) | 1,758,945,460 |
| 2018 | 154,877,626 | 161,064,936 | (176,743,018) | 0 | (16,168,759) | 123,030,785 |
| 2017 | 263,103,187 | 249,175,903 | 439,168,994 | 0 | (9,242,760) | 942,205,324 |
| 2016 | 536,039,915 | 28,949,988 | 251,983,145 | 0 | 20,474,495 | 837,447,543 |
| 2015 | 234,583,215 | 90,076,858 | 152,550,941 | 0 | (29,558,175) | 447,652,839 |
| 2014 | 129,116,581 | 303,918,905 | 12,554,678 | 0 | 15,639,375 | 461,229,539 |

¹ Change due to contributions (greater)/less than normal cost plus interest on the Unfunded Actuarial Accrued Liability.

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APPENDIX D – HISTORICAL DATA AND REQUIRED EXHIBITS

| Table D-19 Analysis of Financial Experience Change in Unfunded Actuarial Accrued Liability Total | | | | | | | |
|---|---|--|-----------------------------------|------------------------|----------------------------|--|--|
| Valuation Date July 1, | Actuarial Value Of Assets Investment (Gain)/Loss | Actuarial Accrued Liability (Gain)/Loss | Assumption & Method Changes | Plan/Policy Changes | Contributions ¹ | Change in Unfunded Actuarial Accrued Liability | |
| 2023 | \$ 242,058,882 | \$ 380,113,521 | \$ 0 | \$ 0 | \$ (484,494,803) | \$ 137,677,600 | |
| 2022 | 451,305,641 | 580,068,255 | (250,704,756) | 11,106,441 | (366,602,627) | 425,172,954 | |
| 2021 | (647,648,802) | (97,565,147) | 1,884,815,688 | 4,799,089 | (341,140,765) | 803,260,063 | |
| 2020 | 582,150,546 | 85,126,184 | 0 | 0 | 310,558,521 | 977,835,251 | |
| 2019 | 310,555,214 | 668,504,446 | 2,474,335,121 | (13,041,149) | 279,260,523 | 3,719,614,155 | |
| 2018 | 285,829,199 | 254,333,674 | (289,017,917) | 0 | 443,981,654 | 695,126,610 | |
| 2017 | 435,052,425 | 352,346,493 | 767,865,292 | 0 | 558,619,678 | 2,113,883,888 | |
| 2016 | 810,048,864 | 50,115,013 | 450,993,259 | 0 | 703,886,448 | 2,015,043,584 | |
| 2015 | 396,962,721 | 254,566,152 | 205,768,587 | 0 | 643,153,751 | 1,500,451,211 | |
| 2014 | 216,602,694 | 399,246,652 | 23,288,645 | 0 | 1,157,287,086 | 1,796,425,077 | |

¹ Change due to contributions (greater)/less than normal cost plus interest on the Unfunded Actuarial Accrued Liability.

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APPENDIX E – EARLY RETIREMENT INCENTIVE PROGRAMS

| Table E-1 State ERI Contribution Schedule | | | |
|--|------------------------------------|-------------------------------------|---|
| Location Number | Location Name | Fiscal Year 2025 Payment | Present Value as of 7/1/2023 |
| Chapter 23, P.L. 2002 | | | |
| 410 | ROWAN UNIVERSITY | \$ 785,800 | \$ 9,292,697 |
| 411 | NEW JERSEY CITY UNIVERSITY | 544,199 | 6,435,582 |
| 412 | KEAN UNIVERSITY | 479,714 | 5,672,989 |
| 413 | WILLIAM PATTERSON UNIVERSITY OF NJ | 335,181 | 3,963,778 |
| 414 | MONCLAIR STATE UNIVERSITY | 213,100 | 2,520,078 |
| 415 | THE COLLEGE OF NEW JERSEY | 599,150 | 7,085,421 |
| 420 | RAMAPO COLLEGE OF NEW JERSEY | 175,459 | 2,074,934 |
| 421 | STOCKTON UNIVERSITY | 461,069 | 5,452,500 |
| 430 | THOMAS EDISON STATE UNIVERSITY | 139,164 | 1,645,717 |
| 498 | RUTGERS UNIVERSITY | 5,102,607 | 60,342,307 |
| 32700 | NEW JERSEY INSTITUTE OF TECHNOLOGY | 264,473 | 3,127,605 |
| | ALL OTHER STATE LOCATIONS | <u>106,047,767</u> | <u>1,254,097,417</u> |
| | Sub-Total | \$ 115,147,683 | \$ 1,361,711,025 |
| | Chapter 21, P.L. 2008 | \$ 25,753,933 | \$ 304,560,308 |
| | Total | \$ 140,901,616 | \$ 1,666,271,333 |

Consistent with established methodology, payment amounts calculated using a payment date 12 months after the valuation date.

Present values as of July 1, 2023 exclude expected payments for fiscal year ending 2024.

State ERI amounts are not used in determining the Statutory contribution. They are used only in allocating the Statutory contribution to State locations.

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APPENDIX E – EARLY RETIREMENT INCENTIVE PROGRAMS

| Table E-2 Local Employers ERI 2 Contribution Schedule | | | |
|--|---------------------------------|-------------------------------------|---|
| Location Number | Location Name | Fiscal Year 2025 Payment | Present Value as of 7/1/2023 |
| 10071 | BURLINGTON CO BD OF SOCIAL SERV | \$ 52,601 | \$ 384,738 |
| 10171 | MERCER CO BD OF SOCIAL SERVICE | 113,655 | 831,307 |
| 20100 | LAVALLETTE BOROUGH | 15,676 | 114,659 |
| 20114 | LINDEN CTY FREE PUBLIC LIBRARY | 15,576 | 113,928 |
| 20264 | MONTCLAIR PUBLIC LIBRARY | 39,447 | 288,528 |
| 20320 | PALMYRA BOROUGH | 24,239 | 177,288 |
| 20720 | WASHINGTON BOROUGH | 10,134 | 74,121 |
| 21303 | WEST NEW YORK BD OF ED | 3,461 | 22,937 |
| 21480 | EATONTOWN BOROUGH | 24,571 | 179,722 |
| 21663 | BEVERLY CITY BD OF ED | 894 | 5,923 |
| 22030 | VERONA TOWNSHIP | 16,880 | 123,465 |
| 22540 | BOUND BROOK BOROUGH | 9,759 | 71,379 |
| 30130 | TRENTON HOUSING AUTHORITY | 107,582 | 786,887 |
| 30160 | ATLANTIC CITY HOUSING AUTHORITY | 58,027 | 424,427 |
| 30230 | ASBURY PK HOUSING AUTHORITY | 1,842 | 13,471 |
| 30250 | NEW BRUNSWICK HOUSING AUTHORITY | 3,495 | 25,562 |
| 30420 | BURLINGTON COUNTY BRIDGE COMM | 21,231 | 155,288 |
| 30510 | PATERSON HOUSING AUTHORITY | 5,288 | 38,676 |
| 30560 | MIDDLESEX CO UTILITIES AUTH | 170,022 | 1,243,591 |
| 30770 | PATERSON PARKING AUTHORITY | 3,438 | 25,149 |
| 30900 | GLOUCESTER TWP M U A | 14,127 | 103,326 |
| 31190 | BRIDGETON CITY HOUSING AUTH | 1,738 | 12,714 |
| 31250 | JERSEY CITY MUNICIPAL UT. AUTH | 3,646 | 26,667 |
| 31260 | LINDEN CITY HOUSING AUTHORITY | 19,369 | 154,451 |
| 31370 | MERCER CO IMPROVEMENT AUTHORITY | 15,505 | 113,409 |
| 31580 | MOUNT LAUREL TWP MUN UTIL AUTH | 1,842 | 13,471 |
| 31680 | OCEAN GROVE BD OF FIRE COMM | 15,459 | 113,074 |
| 31720 | NJ SPORTS & EXPOSITION AUTH | 1,789 | 13,085 |
| 32080 | OCEAN TWP MUN UTIL AUTHORITY | 3,651 | 26,707 |
| 32260 | HUDSON CO COMMUNITY COLLEGE | 5,502 | 40,246 |
| 32700 | NJ INSTITUTE OF TECHNOLOGY | 91,423 | 668,692 |
| 39990 | COMPENSATION RATING & INS BUR | 95,470 | 698,298 |
| 50050 | ALLENTOWN BOROUGH | 1,815 | 13,272 |
| 50130 | AUDUBON BOROUGH | 3,902 | 28,542 |
| 50830 | EAST HANOVER TOWNSHIP | 22,080 | 161,500 |
| 51750 | LEBANON BOROUGH | 1,755 | 12,834 |

Consistent with established methodology, payment amounts calculated using a payment date 9 months after the valuation date.

Present values as of July 1, 2023 exclude expected payments for fiscal year ending 2024.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX E – EARLY RETIREMENT INCENTIVE PROGRAMS

| Table E-2 (cont.) Local Employers ERI 2 Contribution Schedule | | | |
|--|---------------------------------|-------------------------------------|---|
| Location Number | Location Name | Fiscal Year 2025 Payment | Present Value as of 7/1/2023 |
| 51800 | LINWOOD CITY | \$ 39,365 | \$ 287,930 |
| 52630 | PENNSAUKEN TOWNSHIP | 9,077 | 66,392 |
| 53490 | WALLINGTON BOROUGH | 18,891 | 138,176 |
| 53670 | WEST LONG BRANCH BOROUGH | 9,752 | 71,332 |
| 55640 | FLORHAM PARK SEW AUTHORITY | 5,639 | 41,242 |
| 55880 | WRIGHTSTOWN MUN UTIL AUTH | 1,812 | 13,253 |
| 60023 | HUDSON CO SCHOOLS OF TECHNOLOGY | 9,701 | 64,284 |
| Total | | \$ 1,091,128 | \$ 7,983,943 |

Consistent with established methodology, payment amounts calculated using a payment date 9 months after the valuation date.

Present values as of July 1, 2023 exclude expected payments for fiscal year ending 2024.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX E – EARLY RETIREMENT INCENTIVE PROGRAMS

| Table E-3 Local Employer ERI Contribution Schedules due to Recent ERI Legislation | | | | |
|--|---------------------------------|---------------------------|--------------------------|------------------------------|
| Location Number | Location Name | Years and Form of Payment | Fiscal Year 2025 Payment | Present Value as of 7/1/2023 |
| Chapter 59, P.L. 1999 | | | | |
| 21960 | WOODBRIIDGE TOWNSHIP | 15 Year - Level | \$ 404,657 | \$ 1,080,064 |
| Chapter 23, P.L. 2002 | | | | |
| 30440 | SOUTH JERSEY PORT CORPORATION | 30 Year - Increasing | \$ 123,273 | \$ 983,018 |
| 31210 | NJ HOUSING & MTG FINANCE AGENCY | 30 Year - Increasing | 149,558 | 1,192,617 |
| 34920 | SOUTH JERSEY TRANS AUTHORITY | 30 Year - Increasing | 129,714 | 1,034,377 |
| 39990 | COMPENSATION RATING & INS BUR | 30 Year - Increasing | 158,913 | 1,267,218 |
| Sub-Total | | | \$ 561,458 | \$ 4,477,230 |
| Total | | | \$ 966,115 | \$ 5,557,294 |

Consistent with established methodology, payment amounts calculated using a payment date 9 months after the valuation date.

Present values as of July 1, 2023 exclude expected payments for fiscal year ending 2024.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX F – CHAPTER 19, P.L. 2009

**Table F-1
Local Employer Chapter 19, P.L. 2009 Deferral and Payment Schedule**

| Location Number | Location Name | Fiscal Year 2025 Payment | Present Value as of 7/1/2023 |
|------------------------|--------------------------------|---------------------------------|-------------------------------------|
| 10042 | MIDDLESEX CO MOSQ EXTERM COMM | \$ 5,282 | \$ 9,077 |
| 10100 | UNION COUNTY | 487,021 | 836,975 |
| 10101 | UNION CO BD OF SOCIAL SERVICES | 156,912 | 269,662 |
| 10152 | SALEM CO MOSQUITO COMMISSION | 1,716 | 2,949 |
| 20080 | POINT PLEASANT BEACH BOROUGH | 15,296 | 26,287 |
| 20090 | LAKEWOOD TOWNSHIP | 59,619 | 102,458 |
| 20093 | LAKEWOOD TWP BD OF ED | 31,306 | 53,801 |
| 20110 | LINDEN CITY | 103,804 | 178,393 |
| 20114 | LINDEN CTY FREE PUBLIC LIBRARY | 5,504 | 9,459 |
| 20130 | PLAINFIELD CITY | 68,060 | 116,965 |
| 20150 | SEASIDE HEIGHTS BOROUGH | 14,373 | 24,700 |
| 20160 | ASBURY PARK CITY | 39,821 | 68,435 |
| 20170 | EAST ORANGE CITY | 151,266 | 259,961 |
| 20180 | EGG HARBOR CITY | 6,587 | 11,321 |
| 20200 | PERTH AMBOY CITY | 71,853 | 123,484 |
| 20210 | WILDWOOD CITY | 35,894 | 61,686 |
| 20220 | BELLEVILLE TOWNSHIP | 35,775 | 61,482 |
| 20230 | BLOOMFIELD TOWNSHIP | 45,646 | 78,446 |
| 20243 | DOVER BD OF ED | 114 | 195 |
| 20250 | IRVINGTON TOWNSHIP | 62,033 | 106,608 |
| 20270 | MORRISTOWN TOWN | 35,998 | 61,865 |
| 20283 | WEST ORANGE TOWNSHIP BD OF ED | 73,823 | 126,870 |
| 20350 | ORANGE CITY | 42,108 | 72,365 |
| 20353 | ORANGE CITY BD OF ED | 25,776 | 44,297 |
| 20413 | WESTFIELD TOWN BD OF ED | 43,354 | 74,507 |
| 20440 | GLEN RIDGE BOROUGH | 11,203 | 19,253 |
| 20483 | RIDGEFIELD BORO BD OF ED | 25,902 | 44,515 |
| 20533 | SOUTH HACKENSACK BD OF ED | 2,844 | 4,888 |
| 20570 | SOUTH ORANGE VILLAGE | 31,247 | 53,699 |
| 20590 | HACKENSACK CITY | 62,498 | 107,407 |
| 20650 | FAIRVIEW BOROUGH | 17,014 | 29,239 |
| 20680 | NEW MILFORD BOROUGH | 15,400 | 26,466 |
| 20700 | RUTHERFORD BOROUGH | 33,252 | 57,145 |
| 20703 | RUTHERFORD BORO BD OF ED | 19,243 | 33,070 |
| 20710 | SOMERVILLE BOROUGH | 22,197 | 38,146 |

Consistent with established methodology, payment amounts calculated using a payment date 21 months after the valuation date.

Present values as of July 1, 2023 exclude expected payments for fiscal year ending 2024.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX F – CHAPTER 19, P.L. 2009

**Table F-1 (cont.)
Local Employer Chapter 19, P.L. 2009 Deferral and Payment Schedule**

| Location Number | Location Name | Fiscal Year 2025 Payment | Present Value as of 7/1/2023 |
|------------------------|-----------------------------|---------------------------------|-------------------------------------|
| 20720 | WASHINGTON BOROUGH | \$ 8,213 | \$ 14,114 |
| 20760 | MAPLEWOOD TOWNSHIP | 38,578 | 66,299 |
| 20780 | ATLANTIC CITY | 167,208 | 287,357 |
| 20790 | BRIDGETON CITY | 24,194 | 41,580 |
| 20800 | CLIFTON CITY | 79,112 | 135,958 |
| 20830 | PASSAIC CITY | 67,487 | 115,980 |
| 20840 | RAHWAY CITY | 34,622 | 59,500 |
| 20844 | RAHWAY PUBLIC LIBRARY | 4,564 | 7,843 |
| 20849 | RAHWAY WATER COMM | 1,273 | 2,187 |
| 20850 | BRIELLE BOROUGH | 7,359 | 12,646 |
| 20860 | COLLINGSWOOD BOROUGH | 15,823 | 27,193 |
| 20900 | GARWOOD BOROUGH | 6,035 | 10,371 |
| 20920 | KEANSBURG BOROUGH | 13,654 | 23,465 |
| 20950 | MATAWAN BOROUGH | 10,128 | 17,406 |
| 20960 | MIDDLESEX BOROUGH | 18,800 | 32,309 |
| 20980 | PALISADES PARK BOROUGH | 16,051 | 27,585 |
| 21003 | ROCKAWAY BOROUGH BD OF ED | 4,875 | 8,378 |
| 21010 | ROSELLE BOROUGH | 19,244 | 33,072 |
| 21080 | HILLSIDE TOWNSHIP | 27,711 | 47,624 |
| 21093 | MILLBURN TWP PUBLIC SCHOOLS | 37,758 | 64,889 |
| 21110 | WEEHAWKEN TOWNSHIP | 27,339 | 46,983 |
| 21120 | HOBOKEN CITY | 75,074 | 129,019 |
| 21130 | LONG BRANCH CITY | 47,358 | 81,388 |
| 21160 | HARRISON TOWN (HUDSON) | 39,817 | 68,428 |
| 21180 | OCEANPORT BOROUGH | 5,577 | 9,584 |
| 21190 | ORADELL BOROUGH | 10,522 | 18,082 |
| 21210 | FAIRFIELD TOWNSHIP (ESSEX) | 19,208 | 33,010 |
| 21250 | UNION TOWNSHIP (UNION) | 56,453 | 97,017 |
| 21254 | UNION TOWNSHIP LIBRARY | 5,728 | 9,844 |
| 21270 | BAYONNE CITY | 91,387 | 157,054 |
| 21280 | ELIZABETH CITY | 155,585 | 267,382 |
| 21284 | ELIZABETH PUBLIC LIBRARY | 8,577 | 14,740 |
| 21290 | UNION CITY | 67,156 | 115,411 |
| 21300 | WEST NEW YORK TOWN | 47,356 | 81,383 |
| 21373 | MONMOUTH BEACH BD OF ED | 1,279 | 2,198 |

Consistent with established methodology, payment amounts calculated using a payment date 21 months after the valuation date.

Present values as of July 1, 2023 exclude expected payments for fiscal year ending 2024.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX F – CHAPTER 19, P.L. 2009

| Table F-1 (cont.) Local Employer Chapter 19, P.L. 2009 Deferral and Payment Schedule | | | |
|---|-------------------------|-----------------------------|---------------------------------|
| Location Number | Location Name | Fiscal Year 2025 Payment | Present Value as of 7/1/2023 |
| 21470 | BOGOTA BOROUGH | \$ 5,178 | \$ 8,899 |
| 21500 | MOUNTAINSIDE BOROUGH | 8,299 | 14,262 |
| 21560 | GLOUCESTER CITY | 18,529 | 31,843 |
| 21650 | SECAUCUS TOWN | 42,621 | 73,246 |
| 21653 | SECAUCUS TOWN BD OF ED | 22,205 | 38,160 |
| 21690 | FREEHOLD BOROUGH | 17,879 | 30,726 |
| 21700 | MANVILLE BOROUGH | 13,939 | 23,956 |
| 21740 | EWING TOWNSHIP | 38,216 | 65,676 |
| 21760 | SALEM CITY | 11,687 | 20,085 |
| 21780 | TRENTON CITY | 237,360 | 407,918 |
| 21800 | MAYWOOD BOROUGH | 11,041 | 18,974 |
| 21850 | CAMDEN CITY | 145,789 | 250,548 |
| 21853 | CAMDEN CITY BD OF ED | 241,634 | 415,263 |
| 21910 | PATERSON CITY | 131,027 | 225,179 |
| 22030 | VERONA TOWNSHIP | 25,041 | 43,034 |
| 22050 | CINNAMINSON TOWNSHIP | 13,008 | 22,355 |
| 22113 | HAWTHORNE BD OF ED | 20,619 | 35,435 |
| 22150 | HAWORTH BOROUGH | 7,095 | 12,193 |
| 22180 | CEDAR GROVE TOWNSHIP | 16,564 | 28,467 |
| 22190 | EMERSON BOROUGH | 9,024 | 15,508 |
| 22220 | HOWELL TOWNSHIP | 54,685 | 93,979 |
| 22230 | MILLTOWN BOROUGH | 13,963 | 23,996 |
| 22310 | FANWOOD BOROUGH | 8,223 | 14,133 |
| 22350 | MIDDLETOWN TOWNSHIP | 72,582 | 124,736 |
| 22380 | WALL TOWNSHIP | 48,354 | 83,099 |
| 22440 | SOMERDALE BOROUGH | 5,745 | 9,874 |
| 22500 | WILLINGBORO TOWNSHIP | 37,091 | 63,744 |
| 22520 | JEFFERSON TOWNSHIP | 28,920 | 49,701 |
| 22533 | PENNSVILLE TWP BD OF ED | 15,549 | 26,722 |
| 22540 | BOUND BROOK BOROUGH | 10,169 | 17,475 |
| 22580 | LYNDHURST TOWNSHIP | 30,034 | 51,616 |
| 22583 | LYNDHURST TWP BD OF ED | 14,449 | 24,832 |
| 22710 | WEST MILFORD TOWNSHIP | 60,053 | 103,205 |
| 22720 | RINGWOOD BOROUGH | 15,877 | 27,286 |
| 22730 | BLOOMINGDALE BOROUGH | 10,607 | 18,230 |

Consistent with established methodology, payment amounts calculated using a payment date 21 months after the valuation date.

Present values as of July 1, 2023 exclude expected payments for fiscal year ending 2024.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX F – CHAPTER 19, P.L. 2009

**Table F-1 (cont.)
Local Employer Chapter 19, P.L. 2009 Deferral and Payment Schedule**

| Location Number | Location Name | Fiscal Year 2025 Payment | Present Value as of 7/1/2023 |
|------------------------|---------------------------------|---------------------------------|-------------------------------------|
| 22770 | PARAMUS BOROUGH | \$ 65,898 | \$ 113,250 |
| 22780 | METUCHEN BOROUGH | 15,063 | 25,886 |
| 22810 | MOUNT ARLINGTON BOROUGH | 7,125 | 12,244 |
| 22850 | WINFIELD TOWNSHIP | 1,436 | 2,469 |
| 22930 | LITTLE FALLS TWP | 11,515 | 19,789 |
| 22990 | BERLIN BOROUGH | 9,450 | 16,240 |
| 23020 | GLOUCESTER TOWNSHIP | 36,806 | 63,254 |
| 23030 | SOUTH BRUNSWICK TOWNSHIP | 79,396 | 136,446 |
| 23040 | BARNEGAT TOWNSHIP | 19,268 | 33,114 |
| 23070 | PLEASANTVILLE CITY | 21,992 | 37,795 |
| 23120 | HOLMDEL TOWNSHIP | 20,671 | 35,524 |
| 23130 | NORTH HALEDON BOROUGH | 10,162 | 17,465 |
| 23170 | RUNNEMEDE BOROUGH | 7,905 | 13,585 |
| 23273 | LITTLE FERRY BD OF ED | 5,550 | 9,538 |
| 23300 | BUENA VISTA TOWNSHIP | 5,517 | 9,481 |
| 23323 | MINE HILL TWP BD OF ED | 2,348 | 4,036 |
| 23340 | WEST PATERSON BOROUGH | 12,459 | 21,411 |
| 23343 | WOODLAND PARK BD OF ED | 7,970 | 13,697 |
| 23350 | NORWOOD BOROUGH | 6,309 | 10,842 |
| 23360 | MARLBORO TOWNSHIP | 43,730 | 75,153 |
| 23400 | WINSLOW TOWNSHIP | 32,165 | 55,278 |
| 23490 | PINE HILL BOROUGH | 5,077 | 8,725 |
| 23510 | LEBANON TOWNSHIP | 5,155 | 8,859 |
| 23560 | WEST AMWELL TOWNSHIP | 3,483 | 5,986 |
| 23570 | EGG HARBOR TOWNSHIP | 34,272 | 58,898 |
| 23630 | SOUTH AMBOY CITY | 16,327 | 28,059 |
| 23660 | WEST DEPTFORD TOWNSHIP | 35,278 | 60,627 |
| 23700 | LAMBERTVILLE CITY | 4,600 | 7,905 |
| 23823 | MILLSTONE TOWNSHIP BD OF ED | 16,933 | 29,100 |
| 30070 | NEWARK HOUSING AUTHORITY | 161,582 | 277,689 |
| 30130 | TRENTON HOUSING AUTHORITY | 17,833 | 30,648 |
| 30160 | ATLANTIC CITY HOUSING AUTHORITY | 20,570 | 35,351 |
| 30200 | ORANGE CITY HOUSING AUTHORITY | 5,517 | 9,481 |
| 30220 | HOBOKEN HOUSING AUTHORITY | 15,258 | 26,222 |
| 30250 | NEW BRUNSWICK HOUSING AUTHORITY | 8,865 | 15,235 |
| 30360 | IRVINGTON HOUSING AUTH | 9,734 | 16,728 |

Consistent with established methodology, payment amounts calculated using a payment date 21 months after the valuation date.

Present values as of July 1, 2023 exclude expected payments for fiscal year ending 2024.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX F – CHAPTER 19, P.L. 2009

| Table F-1 (cont.) Local Employer Chapter 19, P.L. 2009 Deferral and Payment Schedule | | | |
|---|---------------------------------|-----------------------------|---------------------------------|
| Location Number | Location Name | Fiscal Year 2025 Payment | Present Value as of 7/1/2023 |
| 30400 | UNION CITY HOUSING AUTHORITY | \$ 9,793 | \$ 16,830 |
| 30430 | NEW BRUNSWICK PARKING AUTHORITY | 13,802 | 23,720 |
| 30450 | MORRISTOWN HOUSING AUTHORITY | 5,780 | 9,933 |
| 30460 | PASSAIC CITY HOUSING AUTHORITY | 9,420 | 16,188 |
| 30480 | WEST NEW YORK HOUSING AUTHORITY | 7,482 | 12,858 |
| 30490 | NORTH BERGEN HOUSING AUTHORITY | 8,215 | 14,118 |
| 30510 | PATERSON HOUSING AUTHORITY | 16,263 | 27,949 |
| 30520 | HACKENSACK HOUSING AUTHORITY | 4,711 | 8,095 |
| 30550 | GARFIELD HOUSING AUTHORITY | 5,786 | 9,944 |
| 30570 | CAMDEN CITY HOUSING AUTHORITY | 20,504 | 35,238 |
| 30580 | TRENTON PARKING AUTHORITY | 1,475 | 2,535 |
| 30590 | PLAINFIELD HOUSING AUTHORITY | 9,533 | 16,384 |
| 30600 | EDISON TWP HOUSING AUTHORITY | 2,495 | 4,288 |
| 30660 | UNION CITY PARKING AUTHORITY | 3,999 | 6,873 |
| 30710 | HADDON TWP FIRE DISTRICT 1 | 114 | 195 |
| 30770 | PATERSON PARKING AUTHORITY | 7,346 | 12,625 |
| 30790 | FRANKLIN TWP SEWERAGE AUTH | 6,102 | 10,486 |
| 30830 | HAMILTON TWP FIRE DISTRICT 2 | 126 | 216 |
| 30900 | GLOUCESTER TWP M U A | 9,882 | 16,982 |
| 30970 | GUTTENBERG HOUSING AUTHORITY | 3,499 | 6,014 |
| 31000 | OCEAN CITY HOUSING AUTHORITY | 1,132 | 1,945 |
| 31030 | FRANKLIN TWP HOUSING AUTHORITY | 617 | 1,060 |
| 31050 | JERSEY CITY INCINERATOR AUTH | 41,452 | 71,238 |
| 31070 | MILLVILLE HOUSING AUTHORITY | 8,956 | 15,392 |
| 31170 | RARITAN VALL COMMUNITY COLLEGE | 37,408 | 64,287 |
| 31190 | BRIDGETON CITY HOUSING AUTH | 5,006 | 8,604 |
| 31250 | JERSEY CITY MUNICIPAL UT. AUTH | 26,523 | 45,581 |
| 31350 | CLEMENTON HOUSING AUTHORITY | 972 | 1,671 |
| 31360 | BERGEN CO HOUSING AUTHORITY | 17,078 | 29,349 |
| 31370 | MERCER CO IMPROVEMENT AUTHORITY | 10,269 | 17,648 |
| 31520 | CARLSTADT SEWERAGE AUTHORITY | 586 | 1,007 |
| 31560 | WOODBINE MUNICIPAL UTIL AUTH | 398 | 683 |
| 31600 | WILDWOOD CITY HOUSING AUTHORITY | 2,357 | 4,051 |
| 31640 | RARITAN TWP MUN UTIL AUTHORITY | 8,323 | 14,304 |
| 31680 | OCEAN GROVE BD OF FIRE COMM | 146 | 251 |
| 31710 | WEYMOUTH TWP MUN UTIL AUTHORITY | 79 | 136 |

Consistent with established methodology, payment amounts calculated using a payment date 21 months after the valuation date.

Present values as of July 1, 2023 exclude expected payments for fiscal year ending 2024.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX F – CHAPTER 19, P.L. 2009

**Table F-1 (cont.)
Local Employer Chapter 19, P.L. 2009 Deferral and Payment Schedule**

| Location Number | Location Name | Fiscal Year 2025 Payment | Present Value as of 7/1/2023 |
|-----------------|---------------------------------|--------------------------|------------------------------|
| 31720 | NJ SPORTS & EXPOSITION AUTH | \$ 106,824 | \$ 183,583 |
| 31730 | EDGEWATER HOUSING AUTHORITY | 1,459 | 2,507 |
| 31870 | DOVER TOWN HOUSING AUTHORITY | 713 | 1,225 |
| 31890 | BURLINGTON CO AVA COMM | 1,430 | 2,457 |
| 31970 | NEPTUNE TWP SEWERAGE AUTHORITY | 7,441 | 12,788 |
| 32250 | NEWTON TOWN HOUSING AUTHORITY | 752 | 1,292 |
| 32300 | DOVER TWP PARKING AUTHORITY | 1,390 | 2,390 |
| 32350 | GLOUCESTER TWP FIRE DISTRICT 2 | 467 | 803 |
| 32360 | HUNTERDON CO SOIL CONSERV DIST | 3,106 | 5,337 |
| 32420 | CAPE ATL SOIL CONSRVTN DIST | 2,192 | 3,767 |
| 32440 | TOMS RIVER FIRE DISTRICT # 2 | 726 | 1,248 |
| 32460 | BERGEN COUNTY SOIL CONSER DIST | 1,747 | 3,003 |
| 32530 | COLLINGSWOOD BORO HOUSING AUTH | 791 | 1,360 |
| 32660 | MID BERGEN REG HEALTH COMM | 1,198 | 2,059 |
| 32720 | BURLINGTON CO SOIL CON DIST | 1,739 | 2,989 |
| 32870 | MADISON BORO HOUSING AUTHORITY | 3,245 | 5,576 |
| 32900 | NJ TRANSIT CORPORATION | 19,303 | 33,173 |
| 32950 | NEPTUNE CITY HOUSING AUTHORITY | 329 | 565 |
| 33000 | CAMDEN CO SOIL CONSERVATN DIST | 1,572 | 2,702 |
| 33020 | MONMOUTH OCEAN ED SERV COMM | 23,928 | 41,122 |
| 34120 | GLOUCESTER TWP FIRE DISTRICT 3 | 139 | 238 |
| 34240 | WARREN CO AUDIO VISUAL AIDS | 182 | 313 |
| 34260 | OCEAN TWP FIRE DISTRICT 2 | 834 | 1,433 |
| 34270 | CAMDEN CO IMPROVEMENT AUTHORITY | 4,820 | 8,284 |
| 34380 | SALEM CITY MUNICIPAL PORT AUTH | 146 | 251 |
| 34400 | BRICK TWP JOINT BD OF FIRE COMM | 2,908 | 4,997 |
| 34420 | UNION CO UTILITIES AUTHORITY | 6,132 | 10,538 |
| 34500 | SOUTH TOMS RIVER SEWERAGE AUTH | 173 | 297 |
| 34560 | LAKEWOOD TWP FIRE DISTRICT 1 | 630 | 1,083 |
| 34630 | CAMDEN CO HEALTH SERVICES CTR | 122,420 | 210,386 |
| 34640 | NJ SCHOOL BD ASSOC INS GROUP | 15,852 | 27,242 |
| 34680 | DELAWARE RIVER JT TOLL BRG COM | 1,713 | 2,943 |
| 34690 | DELRAN TWP FIRE DISTRICT #1 | 772 | 1,326 |
| 34710 | NORTH BERGEN M.U.A. | 16,428 | 28,233 |
| 34770 | HOWELL TWP FIRE DISTRICT 3 | 227 | 390 |
| 34840 | EAST BRUNSWICK TWP FIRE DIST #2 | 1,217 | 2,091 |

Consistent with established methodology, payment amounts calculated using a payment date 21 months after the valuation date.

Present values as of July 1, 2023 exclude expected payments for fiscal year ending 2024.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX F – CHAPTER 19, P.L. 2009

| Table F-1 (cont.) Local Employer Chapter 19, P.L. 2009 Deferral and Payment Schedule | | | |
|---|----------------------------------|--------------------------|------------------------------|
| Location Number | Location Name | Fiscal Year 2025 Payment | Present Value as of 7/1/2023 |
| 34880 | BURLINGTON TWP FIRE DISTRICT 1 | \$ 679 | \$ 1,167 |
| 34940 | WILDWOODS JOINT CONSTRUCTION | 317 | 545 |
| 34990 | TRENTON DOWNTOWN ASSOCIATION | 1,198 | 2,059 |
| 35130 | WESTVILLE FIRE DISTRICT # 1 | 487 | 837 |
| 35200 | VINELAND-MILLVILLE URB. ENT.ZON | 570 | 979 |
| 35210 | NORTH HUDSON REG. COMM CENTER | 3,840 | 6,599 |
| 35250 | NJ REDEVELOPMENT AUTHORITY | 5,050 | 8,679 |
| 35290 | HAZLET TWP FIRE DIST | 598 | 1,028 |
| 35370 | OLD BRIDGE TWP DISTRICT 1 | 33 | 56 |
| 35400 | SOARING HEIGHTS CHARTER SCHOOL | 1,431 | 2,459 |
| 35420 | JERSEY CITY COMM CHARTER SCHOOL | 8,370 | 14,384 |
| 35530 | EMILY FISHER CHARTER SCHOOL | 8,525 | 14,651 |
| 35620 | EAST ORANGE COMMUNITY CHART SCH | 8,185 | 14,066 |
| 35670 | RED BANK CHARTER SCHOOL | 1,241 | 2,133 |
| 35690 | INTERNATIONAL CHARTER SCHOOL | 622 | 1,069 |
| 35900 | CLASSICAL ACAD. CHARTER SCHOOL | 284 | 488 |
| 36500 | CAMDEN CITY REDEVELOPMENT AGENCY | 6,801 | 11,689 |
| 37800 | ENGLEWOOD ON THE PALISADES CHAR | 1,138 | 1,955 |
| 38400 | HUDSON CO ECONOMIC DEVELOP CORP | 975 | 1,675 |
| 38500 | HOWELL TWP FIRE DISTRICT 4 | 131 | 226 |
| 39100 | BRICK TWP FIRE DISTRICT 1 | 137 | 236 |
| 39200 | QUEEN CITY ACADEMY CHARTER SCH | 2,366 | 4,067 |
| 39800 | WALL TOWNSHIP FIRE DISTRICT 3 | 1,021 | 1,755 |
| 40150 | BORDENTOWN REG SCH DISTRICT | 21,882 | 37,606 |
| 40340 | TOMS RIVER SCHOOL DIST | 152,691 | 262,409 |
| 40380 | WOODSTOWN-PILESGROVE REG SCH | 12,593 | 21,642 |
| 41000 | RAHWAY CITY REDEVELOPMENT AG | 944 | 1,622 |
| 41100 | UNIVERSITY ACADEMY CHARTER HS | 1,145 | 1,969 |
| 41400 | BAYSHORE JOINTURE COMMISSION | 2,733 | 4,697 |
| 41600 | TEAM ACADEMY CHARTER SCHOOL | 3,949 | 6,787 |
| 42000 | CARTERET REDEVELOPMENT AGENCY | 208 | 358 |
| 42400 | PATERSON CHART SCH-SCIENCE/TECH | 2,861 | 4,916 |
| 43800 | SECAUCUS MUNICIPAL UTIL. AUTH. | 5,435 | 9,341 |
| 43900 | MONTCLAIR PARKING AUTHORITY | 759 | 1,305 |

Consistent with established methodology, payment amounts calculated using a payment date 21 months after the valuation date.

Present values as of July 1, 2023 exclude expected payments for fiscal year ending 2024.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX F – CHAPTER 19, P.L. 2009

**Table F-1 (cont.)
Local Employer Chapter 19, P.L. 2009 Deferral and Payment Schedule**

| Location Number | Location Name | Fiscal Year 2025 Payment | Present Value as of 7/1/2023 |
|------------------------|---------------------------------|---------------------------------|-------------------------------------|
| 44600 | MIDDLE TOWNSHIP FIRE DIST #1 | \$ 972 | \$ 1,671 |
| 45000 | CUMBERLAND-SALEM CONSERV. DIST. | 1,372 | 2,358 |
| 45100 | BRICK TOWNSHIP FIRE DIST 2 | 143 | 246 |
| 45300 | FREEDOM ACADEMY CHARTER SCHOOL | 952 | 1,636 |
| 45800 | BLOOMFIELD PARKING AUTHORITY | 596 | 1,024 |
| 50033 | ALLAMUCHY BD OF ED | 3,350 | 5,757 |
| 50050 | ALLENTOWN BOROUGH | 1,839 | 3,161 |
| 50130 | AUDUBON BOROUGH | 8,922 | 15,334 |
| 50250 | BERKELEY TOWNSHIP MUNICIPAL BLD | 42,704 | 73,390 |
| 50410 | BROOKLAWN BOROUGH | 3,476 | 5,973 |
| 50413 | BROOKLAWN BORO BD OF ED | 2,220 | 3,815 |
| 50420 | BUENA BOROUGH | 4,534 | 7,792 |
| 50530 | CHESILHURST BOROUGH | 1,555 | 2,672 |
| 50733 | DENNIS TWP BD OF ED | 6,912 | 11,878 |
| 50770 | DUNELLEN BOROUGH | 6,713 | 11,536 |
| 50790 | EASTAMPTON TOWNSHIP | 2,955 | 5,078 |
| 50830 | EAST HANOVER TOWNSHIP | 27,643 | 47,507 |
| 50840 | EAST NEWARK BOROUGH | 869 | 1,494 |
| 50930 | ENGLEWOOD CLIFFS BOROUGH | 8,286 | 14,240 |
| 50940 | ENGLISHTOWN BOROUGH | 2,696 | 4,633 |
| 50973 | FAIRFIELD TWP BD ED (CUMBERLND) | 2,325 | 3,995 |
| 51080 | FRANKLIN TOWNSHIP (GLOUCESTER) | 12,632 | 21,709 |
| 51093 | FRANKLIN TWP BD OF ED (HUNTRDN) | 2,089 | 3,591 |
| 51140 | FRELINGHUYSEN TWP | 1,232 | 2,117 |
| 51260 | GUTTENBERG TOWN | 6,711 | 11,532 |
| 51283 | HAINESPORT TOWNSHIP BD OF ED | 4,269 | 7,336 |
| 51290 | HALEDON BOROUGH | 9,440 | 16,223 |
| 51333 | HAMPTON BOROUGH BD OF ED | 1,173 | 2,016 |
| 51360 | HARDWICK TOWNSHIP | 1,555 | 2,672 |
| 51400 | HARRISON TOWNSHIP (GLOUCESTER) | 7,146 | 12,280 |
| 51470 | HIGHTSTOWN BOROUGH | 11,719 | 20,140 |
| 51520 | HOPATCONG BOROUGH | 21,433 | 36,834 |
| 51640 | JERSEY CITY | 111,179 | 191,067 |
| 51670 | KNOWLTON TOWNSHIP | 3,005 | 5,165 |
| 51730 | LAWNSIDE BOROUGH | 5,564 | 9,562 |
| 51790 | LINDENWOLD BOROUGH | 13,103 | 22,518 |

Consistent with established methodology, payment amounts calculated using a payment date 21 months after the valuation date.

Present values as of July 1, 2023 exclude expected payments for fiscal year ending 2024.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX F – CHAPTER 19, P.L. 2009

**Table F-1 (cont.)
Local Employer Chapter 19, P.L. 2009 Deferral and Payment Schedule**

| Location Number | Location Name | Fiscal Year 2025 Payment | Present Value as of 7/1/2023 |
|-----------------|---------------------------------|--------------------------|------------------------------|
| 51970 | MANCHESTER TOWNSHIP | \$ 28,633 | \$ 49,207 |
| 52000 | MANSFIELD TOWNSHIP (WARREN) | 5,050 | 8,679 |
| 52050 | ABERDEEN TOWNSHIP | 16,713 | 28,723 |
| 52060 | MAURICE RIVER TOWNSHIP | 4,092 | 7,033 |
| 52203 | MONROE TWP BD OF ED (GLOUCESTR) | 25,855 | 44,433 |
| 52340 | NATIONAL PARK BOROUGH | 2,475 | 4,253 |
| 52360 | NEWARK CITY | 528,079 | 907,536 |
| 52363 | NEWARK PUBLIC SCHOOLS | 598,394 | 1,028,377 |
| 52620 | PENNS GROVE BOROUGH | 4,554 | 7,827 |
| 52720 | PLAINSBORO TOWNSHIP | 27,220 | 46,780 |
| 52770 | PROSPECT PARK BOROUGH | 3,418 | 5,875 |
| 52920 | ROSELAND BOROUGH | 14,550 | 25,006 |
| 52960 | SADDLE BROOK TOWNSHIP | 17,921 | 30,798 |
| 53100 | LAKE COMO BOROUGH | 4,526 | 7,778 |
| 53110 | SOUTH BOUND BROOK BOROUGH | 4,400 | 7,562 |
| 53140 | SOUTH TOMS RIVER BOROUGH | 2,376 | 4,083 |
| 53260 | SUSSEX BOROUGH | 2,147 | 3,689 |
| 53360 | UNION BEACH BOROUGH | 6,689 | 11,495 |
| 53420 | UPPER SADDLE RIVER BORO | 9,669 | 16,617 |
| 53510 | WANAQUE BOROUGH | 12,806 | 22,009 |
| 53800 | WOODBURY HEIGHTS BOROUGH | 4,875 | 8,378 |
| 53823 | WOODLAND TWP BD OF ED | 1,736 | 2,984 |
| 55130 | CAPE MAY CO BRIDGE COMM | 6,231 | 10,708 |
| 55450 | BERKELEY TWP SEWERAGE AUTHORITY | 4,805 | 8,257 |
| 55510 | HADDON TOWNSHIP HOUSING AUTH | 922 | 1,585 |
| 55520 | PRINCETON HOUSING AUTHORITY | 2,102 | 3,613 |
| 55950 | HIGHLANDS HOUSING AUTH | 1,030 | 1,770 |
| 55970 | PLEASANTVILLE HOUSING AUTH | 3,886 | 6,678 |
| 56120 | RED BANK BORO HOUSING AUTH | 2,348 | 4,036 |
| 56140 | CARTERET HOUSING AUTHORITY | 4,716 | 8,104 |
| 56170 | EDGEWATER PARK SEWERAGE AUTH | 316 | 544 |
| 56300 | KEANSBURG BORO HOUSING AUTH | 1,269 | 2,181 |
| 56320 | NEWARK PARKING AUTHORITY | 732 | 1,259 |
| 56370 | BEVERLY CITY HOUSING AUTHORITY | 656 | 1,127 |
| 56400 | HIGHLAND PARK HOUSING AUTHORITY | 1,477 | 2,539 |
| 56440 | FLORENCE TWP HOUSING AUTHORITY | 365 | 627 |

Consistent with established methodology, payment amounts calculated using a payment date 21 months after the valuation date.

Present values as of July 1, 2023 exclude expected payments for fiscal year ending 2024.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
JULY 1, 2023 ACTUARIAL VALUATION**

APPENDIX F – CHAPTER 19, P.L. 2009

| Table F-1 (cont.) Local Employer Chapter 19, P.L. 2009 Deferral and Payment Schedule | | | |
|---|---------------------------------|-----------------------------|---------------------------------|
| Location Number | Location Name | Fiscal Year 2025 Payment | Present Value as of 7/1/2023 |
| 56480 | BOONTON HOUSING AUTHORITY | \$ 1,321 | \$ 2,271 |
| 57270 | SHORE REGIONAL H S DISTRICT | 5,709 | 9,811 |
| 57530 | NEW HANOVER TWP BD OF ED | 1,460 | 2,509 |
| 60023 | HUDSON CO SCHOOLS OF TECHNOLOGY | 60,789 | 104,470 |
| 60030 | PASSAIC COUNTY | 472,743 | 812,438 |
| 60031 | PASSAIC CO BD OF SOCIAL SERVICE | 187,175 | 321,671 |
| 60050 | WATERFRONT COMM OF NY HARBOR | 1,543 | 2,653 |
| 70023 | GUTTENBERG BORO BD OF ED | 3,994 | 6,863 |
| 79100 | NJ FIREMENS HOME | 14,035 | 24,120 |
| | Total | \$ 8,737,980 | \$ 15,016,751 |

Consistent with established methodology, payment amounts calculated using a payment date 21 months after the valuation date.

Present values as of July 1, 2023 exclude expected payments for fiscal year ending 2024.

APPENDIX G – GLOSSARY OF TERMS

1. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disability, and retirement; changes in compensation; inflation; rates of investment earnings, and asset appreciation or depreciation; and other relevant items.

2. Actuarial Cost Method

A procedure for determining the Actuarial Present Value of pension plan benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a Normal Cost and an Actuarial Liability.

3. Actuarial 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 Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

4. Actuarial Liability

The portion of the Actuarial Present Value of Projected Benefits which will not be paid by future Normal Costs. It represents the value of the past Normal Costs with interest to the valuation date.

5. Actuarial Present Value (Present Value)

The value as of a given date of a future amount or series of payments. The Actuarial Present Value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made. As a simple example: assume you owe \$100 to a friend one year from now. Also, assume there is a 1% probability of your friend dying over the next year, in which case you won't be obligated to pay him. If the assumed investment return is 10%, the actuarial present value is:

$$\frac{\text{Amount}}{\text{Payment}} \times \frac{\text{Probability of}}{(1 - .01)} \times \frac{1/(1+\text{Investment Return})}{1/(1+.1)} = \$90$$

6. Actuarial Valuation

The determination, as of a specified date, of the Normal Cost, Actuarial Liability, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.

7. Actuarial Value of Assets

The value of cash, investments and other property belonging to a pension plan as used by the actuary for the purpose of an Actuarial Valuation. The purpose of an Actuarial Value of Assets is to smooth out fluctuations in market values. This way long-term costs are not distorted by short-term fluctuations in the market.

APPENDIX G – GLOSSARY OF TERMS

8. Actuarially Equivalent

Of equal Actuarial Present Value, determined as of a given date with each value based on the same set of Actuarial Assumptions.

9. Amortization Payment

The portion of the pension plan contribution which is designed to pay interest and principal on the Unfunded Actuarial Liability in order to pay for that liability in a given number of years.

10. Funded Ratio

The ratio of the Actuarial Value of Assets to the Actuarial Liabilities.

11. Investment Return Assumption

The assumed interest rate used for projecting dollar related values in the future.

12. Mortality Table

A set of percentages which estimate the probability of death at a particular point in time. Typically, the rates are annual and based on age and sex.

13. Normal Cost

That portion of the Actuarial Present Value of pension plan benefits and expenses, which is allocated to a valuation year by the Actuarial Cost Method.

14. Projected Benefits

Those pension plan benefit amounts which are expected to be paid in the future under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and increases in future compensation and service credits.

15. Projected Unit Credit Cost Method

A method under which the Actuarial Liability is calculated as the Actuarial Present Value of the Projected Benefits allocated to periods prior to the valuation year.

16. Unfunded Actuarial Liability

The excess of the Actuarial Liability over the Actuarial Value of Assets.