



Judicial Retirement System of New Jersey

**GASB 67 Report
as of June 30, 2019**

Produced by Cheiron

March 2020

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**JUDICIAL RETIREMENT SYSTEM OF NEW JERSEY
GASB 67 REPORTING FOR JUNE 30, 2019 MEASUREMENT DATE**

SECTION I – BOARD SUMMARY

The purpose of this report is to provide accounting and financial disclosure information under Governmental Accounting Standards Board Statement 67 for the Judicial Retirement System of New Jersey (JRS, Plan, or System). This information includes:

- Projection of the Total Pension Liability from the valuation date to the measurement date,
- Calculation of the Net Pension Liability at the discount rate as well as discount rates 1% higher and lower than the discount rate, and
- Changes in the Net Pension Liability.

Highlights

The reporting date for JRS is June 30, 2019. Measurements as of the reporting date are based on the fair value of assets as of June 30, 2019 and the Total Pension Liability as of the valuation date, July 1, 2018, updated to June 30, 2019. As a result of the Experience Study covering the period July 1, 2014 through June 30, 2018, the assumed rates of retirement, mortality, salary increases and inflation were updated. To see a detailed comparison of the changes refer to the Draft Experience Study. The assumed discount rate used to measure the Total Pension Liability also changed as of the measurement date. We are not aware of any other significant events between the valuation date and the measurement date so the update procedures only included the addition of service cost and interest cost offset by actual benefit payments, and an adjustment to reflect the changes in assumptions.

The following table provides a summary of the key results during this reporting period.

| Table I-1 Summary of Results | | |
|---|----------------------|----------------------|
| Measurement Date | June 30, 2019 | June 30, 2018 |
| Total Pension Liability | \$ 1,110,222,406 | \$ 922,019,220 |
| Plan Fiduciary Net Position | <u>157,864,193</u> | <u>167,724,348</u> |
| Net Pension Liability | \$ 952,358,213 | \$ 754,294,872 |

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SECTION II – CERTIFICATION

The purpose of this report is to provide accounting and financial reporting information under GASB 67 for the Judicial Retirement System of New Jersey (JRS). This report is for the use of JRS, the Division of Pensions and Benefits (DPB) and their auditors in preparing financial reports in accordance with applicable law and accounting requirements. This report is not appropriate for other purposes, including the measurement of funding requirements for JRS and estimating the price to settle JRS's obligations.

In preparing our report, we relied on information (some oral and some written) supplied by the Division of Pensions and Benefits. This information includes, but is not limited to, the 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.

Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law.

For purposes of this report, the projection of the Plan's contributions and projected benefit payments as of June 30, 2019 was based on the recommended demographic assumptions of the July 1, 2014 – June 30, 2018 Draft Experience Study, pending approval by the State House Commission. The calculation of the Total Pension Liability as of June 30, 2019 was based on the same demographic assumptions except for the mortality assumption, which was based on the SOA's MP-2019 mortality improvement scale upon direction from the DPB. While we do not find the use of the SOA's Scale MP-2019 unreasonable, it does not reflect the analysis of actual mortality experience from our Experience Study which was the basis for our recommended mortality assumptions, including the mortality improvement scale.

Based on the State Treasurer's recommendation the following investment return assumptions are used to determine the actuarially determined contributions:

- Effective with the July 1, 2017 valuation: 7.50% per annum,
- Effective with the July 1, 2019 valuation: 7.30% per annum,
- Effective with the July 1, 2021 valuation: 7.00% per annum.

In accordance with Paragraph 40 of GASB Statement No. 67, the projection of the Plan's fiduciary net position is based on a long-term expected rate of return of 7.00% per annum.

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SECTION II – CERTIFICATION

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 report was prepared for JRS for the purposes described herein and for the use by the plan auditor in completing an audit related to the matters herein. 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.



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SECTION III – DETERMINATION OF DISCOUNT RATE

The discount rate used to measure the Total Pension Liability was 4.09% as of June 30, 2018 and 4.07% as of June 30, 2019. As discussed with the Division of Pensions and Benefits, the projection of cash flows used to determine the discount rate as of June 30, 2019 assumed:

- In accordance with Paragraph 40 of GASB Statement No. 67, the projection of the Plan’s fiduciary net position is based on a long-term expected rate of return of 7.00% per annum.
- In accordance with Paragraph 37 of GASB Statement No. 67, the projection of the Plan’s contributions and projected benefit payments are based on the same assumptions used to determine the expected contributions for the System. The demographic assumption are based on the recommendations of the July 1, 2014 – June 30, 2018 Draft Experience Study, pending approval by the State House Commission.

Based on the State Treasurer’s recommendation the following investment return assumptions are used to determine the actuarially determined contributions:

- Effective with the July 1, 2017 valuation: 7.50% per annum,
 - Effective with the July 1, 2019 valuation: 7.30% per annum,
 - Effective with the July 1, 2021 valuation: 7.00% per annum.
- It is assumed that the State will contribute 70.00% of the actuarially determined contribution for JRS and 100% of its Non-Contributory Group Insurance Premium Fund (NCGIPF) contribution for all years of the projection. The 70.00% contribution rate is the total State contribution rate expected to be paid in fiscal year ending June 30, 2020 with respect to the actuarially determined contribution for the fiscal year ending June 30, 2020 for all State administered retirement systems.
 - Consistent with Chapter 83, P.L. 2016, it is assumed that the State will make pension contributions in equal amounts at the end of each quarter.
 - Annual administrative expenses are assumed to be 0.34% of expected pension benefit payments.

Based on these assumptions, the pension Plan’s fiduciary net position was projected to be available to make all projected future benefit payments of current Plan members through fiscal year 2030. Municipal bond rates of 3.87% as of June 30, 2018 and 3.50% as of June 30, 2019 were used in the development of the blended GASB discount rate after the Plan’s fiduciary net position was no longer sufficient to make future benefit payments. As selected by the State Treasurer, the rates are based on the Bond Buyer GO 20-Bond Municipal Bond Index. Based on the long-term rate of return of 7.00% and the municipal bond rate of 3.87% as of June 30, 2018 and the long-term rate of return of 7.00% and the municipal bond rate of 3.50% as of June 30, 2019, the blended GASB discount rates are 4.09% as of June 30, 2018 and **4.07%** as of June 30, 2019. The assumed discount rates have been determined in accordance with the method prescribed by GASB Statement No. 67.

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SECTION IV – PROJECTION OF TOTAL PENSION LIABILITY

The Total Pension Liability (TPL) at the end of the measurement year, June 30, 2019, is measured as of a valuation date of July 1, 2018 and projected to June 30, 2019. The TPL and service cost were calculated using the Entry Age Normal Cost Method as prescribed by GASB 67. All TPL amounts shown in Table IV-1 below include liabilities attributable to the NCGIPF. In addition, employer transfer contributions and member transfer contributions with accumulated interest have been added to the June 30, 2019 TPL.

During the measurement year there was a change in assumptions. There were no other significant events during the projection period of which we are aware. Because the TPL shown in the prior report was measured as of July 1, 2017 and projected to June 30, 2018, it will not match the amounts measured as of July 1, 2018 that are shown in this exhibit.

The following table shows the projection of the TPL at discount rates equal to the rate used for disclosure and plus and minus one percent from the rate used for disclosure.

| Table IV-1 | | | |
|---|-------------------------|-------------------------|-------------------------|
| Projection of Total Pension Liability from Valuation to Measurement Date | | | |
| Discount Rate | 3.07% | 4.07% | 5.07% |
| Total Pension Liability, 7/1/2018 | | | |
| Actives | \$ 437,923,339 | \$ 381,735,150 | \$ 335,125,033 |
| Deferred Vested | 3,782,811 | 3,237,115 | 2,801,587 |
| Retirees | <u>762,643,266</u> | <u>695,153,107</u> | <u>637,594,996</u> |
| Total | \$ 1,204,349,416 | \$ 1,080,125,372 | \$ 975,521,616 |
| Service Cost | 53,123,192 | 43,808,609 | 36,399,759 |
| Benefit Payments | (59,591,606) | (59,591,606) | (59,591,606) |
| Transfer Contributions - Employer | 722,322 | 722,322 | 722,322 |
| Transfer Contributions - Member | 587,796 | 587,796 | 587,796 |
| Interest | <u>37,716,551</u> | <u>44,569,913</u> | <u>49,845,244</u> |
| Total Pension Liability, 6/30/2019 | \$ 1,236,907,671 | \$ 1,110,222,406 | \$ 1,003,485,131 |

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SECTION V – NOTE DISCLOSURES

The following table shows the changes in the Total Pension Liability, the Plan Fiduciary Net Position (i.e., fair value of System assets), and the Net Pension Liability during the Measurement Year. There were changes in assumptions including the assumed rates of retirement, mortality, salary increases, and inflation as a result of the July 1, 2014 - June 30, 2018 Draft Experience Study. The mortality rates used for the TPL were based on the MP-2019 mortality improvement scale as directed by the DPB. In addition, the discount rate was decreased from 4.09% as of June 30, 2018 to 4.07% as of June 30, 2019 in accordance with the method prescribed by GASB Statement No. 67. The impact of these changes is displayed in the following table.

| Table V-1 Change in Net Pension Liability | | | |
|--|-----------------------------------|---------------------------------------|---------------------------------------|
| | Increase (Decrease) | | |
| | Total Pension Liability (a) | Plan Fiduciary Net Position (b) | Net Pension Liability (a) - (b) |
| Balances at 6/30/2018 | \$ 922,019,220 | \$ 167,724,348 | \$ 754,294,872 |
| Changes for the year: | | | |
| Service cost | 37,584,273 | | 37,584,273 |
| Interest | 38,067,870 | | 38,067,870 |
| Changes of benefits | 0 | | 0 |
| Differences between expected and actual experience | 19,557,727 | | 19,557,727 |
| Changes of assumptions | 151,274,804 | | 151,274,804 |
| Contributions - employer | | 29,702,700 | (29,702,700) |
| Contributions - member | | 9,688,270 | (9,688,270) |
| Transfers from other systems - employer | 722,322 | 722,322 | 0 |
| Transfers from other systems - member | 587,796 | 587,796 | 0 |
| Net investment income | | 9,230,701 | (9,230,701) |
| Benefit payments | (59,591,606) | (59,591,606) | 0 |
| Administrative expense | | (200,338) | 200,338 |
| Net changes | <u>188,203,186</u> | <u>(9,860,155)</u> | <u>198,063,341</u> |
| Balances at 6/30/2019 | <u>\$ 1,110,222,406</u> | <u>\$ 157,864,193</u> | <u>\$ 952,358,213</u> |

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SECTION V – NOTE DISCLOSURES

Changes in the discount rate affect the measurement of the TPL. Lower discount rates produce a higher TPL and higher discount rates produce a lower TPL. Because the discount rate does not affect the measurement of assets, the percentage change in the NPL can be very significant for a relatively small change in the discount rate. The following table shows the sensitivity of the NPL to the discount rate.

| Table V-2 Sensitivity of Net Pension Liability to Changes in Discount Rate | | | |
|---|----------------------------------|------------------------------------|----------------------------------|
| | 1% Decrease 3.07% | Discount Rate 4.07% | 1% Increase 5.07% |
| Total Pension Liability | \$ 1,236,907,671 | \$ 1,110,222,406 | \$ 1,003,485,131 |
| Plan Fiduciary Net Position | <u>157,864,193</u> | <u>157,864,193</u> | <u>157,864,193</u> |
| Net Pension Liability | <u>\$ 1,079,043,478</u> | <u>\$ 952,358,213</u> | <u>\$ 845,620,938</u> |
| Plan Fiduciary Net Position as a Percentage of the Total Pension Liability | 12.8% | 14.2% | 15.7% |

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SECTION VI – REQUIRED SUPPLEMENTARY INFORMATION

The schedule below shows the changes in NPL and related ratios required by GASB for the current and prior years.

| Table VI-1 | | |
|---|-------------------------|------------------------|
| Schedule of Changes in Net Pension Liability and Related Ratios | | |
| | FYE 2019 | FYE 2018 |
| <u>Total Pension Liability</u> | | |
| Service cost | \$ 37,584,273 | \$ 35,477,981 |
| Interest (includes interest on service cost) | 38,067,870 | 36,209,627 |
| Changes of benefit terms | 0 | 0 |
| Differences between expected and actual experience | 19,557,727 | (8,553,096) |
| Changes of assumptions | 151,274,804 | (23,084,707) |
| Transfers from other systems - employer | 722,322 | 672,453 |
| Transfers from other systems - member | 587,796 | 2,187,388 |
| Benefit payments, including refunds of member contributions | (59,591,606) | (58,286,421) |
| Net change in total pension liability | \$ 188,203,186 | \$ (15,376,775) |
| Total pension liability - beginning | 922,019,220 | 937,395,995 |
| Total pension liability - ending | \$ 1,110,222,406 | \$ 922,019,220 |
| <u>Plan fiduciary net position</u> | | |
| Contributions - employer | \$ 29,702,700 | \$ 24,023,637 |
| Contributions - member | 9,688,270 | 9,177,453 |
| Transfers from other systems - employer | 722,322 | 672,453 |
| Transfers from other systems - member | 587,796 | 2,187,388 |
| Net investment income | 9,230,701 | 14,809,869 |
| Benefit payments, including refunds of member contributions | (59,591,606) | (58,286,421) |
| Administrative expense | (200,338) | (185,364) |
| Net change in plan fiduciary net position | \$ (9,860,155) | \$ (7,600,985) |
| Plan fiduciary net position - beginning | 167,724,348 | 175,325,333 |
| Plan fiduciary net position - ending | \$ 157,864,193 | \$ 167,724,348 |
| Net pension liability - ending | \$ 952,358,213 | \$ 754,294,872 |
| Plan fiduciary net position as a percentage of the total pension liability | 14.22% | 18.19% |
| Covered payroll | \$ 77,763,777 | \$ 69,216,709 |
| Net pension liability as a percentage of covered employee payroll | 1,224.68% | 1,089.76% |

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SECTION VI – REQUIRED SUPPLEMENTARY INFORMATION

If an Actuarially Determined Contribution (ADC) is calculated, the following schedule is required. An ADC is a contribution amount determined in accordance with Actuarial Standards of Practice. Amounts shown for the ADC and actual contributions in the table below include the Non-Contributory Group Insurance Premium Fund costs.

| Table VI-2 Schedule of Employer Contributions | | |
|--|----------------------|----------------------|
| | FYE 2019 | FYE 2018 |
| Actuarially Determined Contribution | \$ 49,099,041 | \$ 47,224,943 |
| Contributions in Relation to the Actuarially Determined Contribution | <u>29,702,700</u> | <u>24,023,637</u> |
| Contribution Deficiency/(Excess) | <u>\$ 19,396,341</u> | <u>\$ 23,201,306</u> |
| Covered Payroll | \$ 77,763,777 | \$ 69,216,709 |
| Contributions as a Percentage of Covered Payroll | 38.20% | 34.71% |

The following summarizes key methods and assumptions used to determine the Actuarially Determined Contribution for FYE 2019.

| | |
|--------------------------------|--|
| Valuation Date: | July 1, 2017 |
| Timing: | Actuarial determined contributions are calculated as of the July 1 preceding the fiscal year in which contributions are made. |
| Actuarial cost method: | Projected Unit Credit |
| Amortization method: | Level dollar |
| Remaining amortization period: | Open 30-year period |
| Asset valuation method: | 5-year smoothing of difference between market value and expected actuarial value |
| Investment rate of return: | 7.50% |
| Salary increases: | 2.00% per year through fiscal year 2025; 3.00% per year for fiscal years 2026 and thereafter |
| Mortality: | <i>Healthy Lives:</i> RP-2000 Combined Healthy Mortality Table, set forward 3 years for females, projected on a generational basis using Scale BB from the base year of 2000 to 2013 and the Conduent Modified 2014 Projection scale thereafter <i>Disabled Lives:</i> RP-2000 Disabled Mortality Table, set forward 2 years for both males and females |

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APPENDIX A – MEMBERSHIP INFORMATION

| Plan Membership | | |
|---|---------------|---------------|
| | July 1, 2018 | July 1, 2017 |
| Contributing Actives | 447 | 417 |
| Non-Contributing Actives | 6 | 11 |
| Terminated Vested | 4 | 4 |
| Inactive Receiving Benefits | 614 | 607 |
| Total | 1,071 | 1,039 |
| Annual Compensation for Contributing Actives | \$ 77,763,777 | \$ 69,216,709 |
| Annual Retirement Allowances for Those Receiving Benefits | \$ 57,164,048 | \$ 56,283,292 |

The July 1, 2017 membership information shown in the table above is based on Cheiron's processed data and may not match the prior actuary's report.

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

- 1. Investment Rate of Return for determining Actuarially Determined Contributions**
 - July 1, 2018 valuation: 7.50% per annum, compounded annually.
 - July 1, 2019 valuation: 7.30% per annum, compounded annually.
 - July 1, 2020 valuation: 7.30% per annum, compounded annually.
 - July 1, 2021 and later valuations: 7.00% per annum, compounded annually.

- 2. Long-Term Expected Rate of Return** 7.00% per annum, compounded annually.

- 3. GASB 67 Effective Discount Rate**
 - June 30, 2018: 4.09% per annum, compounded annually.
 - June 30, 2019: 4.07% per annum, compounded annually.

- 4. Price Inflation** 2.75% per annum, compounded annually.

- 5. Wage Inflation** 3.25% per annum, compounded annually.

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

- 7. Salary Increases** Salaries are assumed to increase 4.6% from fiscal year ending (FYE) 2018 to FYE 2019, 4.4% from FYE 2019 to FYE 2020, 2.0% per year for the following five years (from FYE 2020 to FYE 2025), and 2.75% per year thereafter.

Salary increases are assumed to occur on January 1.

- 8. 401(a)(17) Pay Limit** \$275,000 in 2018 increasing 2.75% per annum, compounded annually.

- 9. Termination** None assumed.

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

10. Disability

Disability rates are as follows:

| Age | Rates | Age | Rates |
|-----|--------|-----|--------|
| 20 | 0.019% | 45 | 0.064% |
| 21 | 0.020 | 46 | 0.071 |
| 22 | 0.020 | 47 | 0.080 |
| 23 | 0.020 | 48 | 0.091 |
| 24 | 0.021 | 49 | 0.102 |
| 25 | 0.021 | 50 | 0.114 |
| 26 | 0.021 | 51 | 0.126 |
| 27 | 0.021 | 52 | 0.142 |
| 28 | 0.022 | 53 | 0.157 |
| 29 | 0.022 | 54 | 0.177 |
| 30 | 0.022 | 55 | 0.197 |
| 31 | 0.023 | 56 | 0.218 |
| 32 | 0.024 | 57 | 0.218 |
| 33 | 0.024 | 58 | 0.269 |
| 34 | 0.026 | 59 | 0.296 |
| 35 | 0.026 | 60 | 0.326 |
| 36 | 0.028 | 61 | 0.354 |
| 37 | 0.028 | 62 | 0.383 |
| 38 | 0.030 | 63 | 0.412 |
| 39 | 0.030 | 64 | 0.442 |
| 40 | 0.033 | 65 | 0.473 |
| 41 | 0.036 | 66 | 0.510 |
| 42 | 0.043 | 67 | 0.550 |
| 43 | 0.047 | 68 | 0.599 |
| 44 | 0.054 | 69 | 0.652 |

11. Mortality

Healthy Retiree Mortality: The Pub-2010 Teachers Above-Median Income Healthy Retiree mortality table [*PubT-2010(A) Healthy Retiree*] as published by the Society of Actuaries (SOA), unadjusted, and with future improvement from the base year of 2010 on a generational basis. For purposes of calculating projected cash flows used to determine the GASB discount rate, mortality improvement is based on SOA’s Scale MP-2018. Upon direction from the DPB, for purposes of calculating the Total Pension Liability, mortality improvement is based on SOA’s Scale MP-2019.

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Disabled Retiree Mortality: The Pub-2010 Non-Safety Disabled Retiree mortality table [*PubNS-2010 Disabled Retiree*] as published by the Society of Actuaries, unadjusted, and with future improvement from the base year of 2010 on a generational basis. For purposes of calculating projected cash flows used to determine the GASB discount rate, mortality improvement is based on SOA’s Scale MP-2018. Upon direction from the DPB, for purposes of calculating the Total Pension Liability, mortality improvement is based on SOA’s Scale MP-2019.

Pre-Retirement (Non-Annuitants) Mortality: The Pub-2010 Teachers Above-Median Income Employee mortality table [*PubT-2010(A) Employee*] as published by the Society of Actuaries, unadjusted, and with future improvement from the base year of 2010 on a generational basis. For purposes of calculating projected cash flows used to determine the GASB discount rate, mortality improvement is based on SOA’s Scale MP-2018. Upon direction from the DPB, for purposes of calculating the Total Pension Liability, mortality improvement is based on SOA’s Scale MP-2019.

12. Retirement

Retirement rates are as follows:

| Age | Less than 15 Years of Judicial Service | 15-19 Years of Judicial Service | 20 or more Years of Judicial Service |
|------|--|--|---|
| < 60 | 0.0% | 0.0% | 0.0% |
| 60 | 2.0 | 5.0 | 20.0 |
| 61 | 2.0 | 5.0 | 20.0 |
| 62 | 2.0 | 5.0 | 20.0 |
| 63 | 2.0 | 5.0 | 20.0 |
| 64 | 2.0 | 5.0 | 20.0 |
| 65 | 5.0 | 40.0 | 30.0 |
| 66 | 2.0 | 50.0 | 20.0 |
| 67 | 2.0 | 60.0 | 20.0 |
| 68 | 2.0 | 60.0 | 20.0 |
| 69 | 2.0 | 60.0 | 20.0 |
| 70 | 100.0 | 100.0 | 100.0 |

13. Family Composition Assumptions

For members not currently in receipt, 90% of members are assumed married to spouses of the opposite sex. Males are assumed to be three years older than females.

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

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 three years older than females.

For purposes of the statutory death benefit for members currently in receipt, 100% of participants are assumed married, with the exception of those members who elected Optional Forms A, B, C or D and are currently in receipt of their maximum retirement allowance. The spouse is assumed to be the reported beneficiary. If no beneficiary date of birth is provided, males are assumed to be three years older than females.

No additional dependent children or parents are assumed.

Current dependents under age 21 are assumed to receive a benefit until age 21. Current dependents over age 21 are assumed to receive a benefit for the remainder of their lifetime.

14. Form of Payment

Current actives are assumed to elect the Maximum Option.

15. Data

Information provided by the prior actuary was relied upon for the purposes of valuing the deferred vested members.

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

Inactives receiving benefits according to the 2017 data but omitted from the 2018 data are assumed to have died without a beneficiary.

16. Rationale for Assumptions

The demographic assumptions used in this report reflect the results of the July 1, 2014 – June 30, 2018 Draft Experience Study, pending approval by the State House Commission. The investment return assumption was recommended by the State Treasurer. The MP-2019 mortality improvement scale was used to calculate the Total Pension Liability upon direction from the DPB.

17. Changes in Assumptions Since Last Valuation

The assumed rates of retirement, mortality, salary increases, and inflation were updated based on the July 1, 2014 – June 30, 2018 Draft Experience Study.

The GASB 67 effective discount rate was updated in accordance with the method prescribed by GASB Statement No. 67.

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

B. Actuarial Methods

The actuarial methods used for determining State contributions are described below.

1. Actuarial Cost Method

The actuarial cost method for funding calculations is the Projected Unit Credit Cost Method.

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 judicial service. 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.

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.

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 return on the previous year's assets and the 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 Plan assets.

**JUDICIAL RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

3. State Contribution Payable Dates

Chapter 83, P.L. 2016 requires the State to make the required 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.

4. Changes in Methods Since the Last Valuation

None.

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APPENDIX C – SUMMARY OF PLAN PROVISIONS

This summary of Plan provisions provides an overview of the major provisions of the JRS used in the actuarial valuation. It is not intended to replace the more precise language of the NJ State Statutes, Title 43, Chapter 6A, 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.

1. Eligibility for Membership

Chief Justice and Associate Justices of the State Supreme Court, and judges of the Appellate Court, Superior Court and Tax Court of the State of New Jersey.

2. Plan Year

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

3. Service Credit

A year is credited for each year of service as a public employee in the State of New Jersey. Any service, for which the member did not receive annual salary of at least \$500, shall be excluded.

4. Final Salary

Annual salary received by the member at the time of retirement or other termination of service. (Effective June 30, 1996, Chapter 113, P.L. 1997 provided that the amount of compensation used for employer and member contributions and benefits under the program cannot exceed the compensation limitation of Section 401(a)(17) of the Internal Revenue Code.)

5. Accumulated Deductions

The sum of all amounts deducted from the compensation of a member or contributed by him or on his behalf.

6. Employee Contributions

Any member enrolled prior to January 1, 1996 contributes 3% of the difference between current salary and salary for the position on January 18, 1982. Members enrolled on or after January 1, 1996 contribute 3% of their full salary.

Chapter 78, P.L. 2011 increases Member Contributions by 9% of salary phased in over a period of seven years beginning October 2011. (The additional 9% of salary was fully recognized in July 2017.)

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APPENDIX C – SUMMARY OF PLAN PROVISIONS

a) For Members enrolled prior to January 1, 1996:

- (1) Member contributes 9% (phased in over a period of seven years beginning October 2011) of the salary for that position on January 18, 1982.
- (2) Member contributes 12% (9% of that phased in over a period of seven years beginning October 2011) of the difference between current salary and salary for that position on January 18, 1982.

b) For members enrolled on or after January 1, 1996, Member contributes 12% (9% of that phased in over a period of seven years beginning October 2011) of full salary.

7. Retirement Allowance

Pension derived from contributions of the State plus the annuity derived from employee contributions.

8. Benefits

a) Service Retirements

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

- (1) Age 70 and 10 years of judicial service; or
Age 65 and 15 years of judicial service; or
Age 60 and 20 years of judicial service.

Benefit is an annual retirement allowance equal to 75% of final salary.

- (2) Age 65 while serving as a judge, 5 consecutive years of judicial service and 15 years in the aggregate of public service; or
Age 60 while serving as a judge, 5 consecutive years of judicial service and 20 years in the aggregate of public service.

Benefit is an annual retirement allowance equal to 50% of final salary.

- (3) Age 60 while serving as a judge, 5 consecutive years of judicial service and 15 years in the aggregate of public service.

Benefit is an annual retirement allowance equal to 2% of final salary for each year of public service up to 25 years plus 1% of final salary for each year of public service in excess of 25 years.

**JUDICIAL RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX C – SUMMARY OF PLAN PROVISIONS

(4) Age 60 while serving as a judge.

Benefit is an annual retirement allowance equal to 2% of final salary for each year of judicial service up to 25 years plus 1% for each year of public service in excess of 25 years.

b) Early Retirement

Prior to age 60 while serving as a judge, 5 consecutive years of judicial service and 25 or more years in the aggregate of public service.

Benefit is an annual retirement allowance equal to 2% of final salary for each year of public service up to 25 years plus 1% of final salary for each year of public service in excess of 25 years, actuarially reduced for commencement prior to age 60.

c) Vested Termination

Termination of service prior to age 60, with 5 consecutive years of judicial service and 10 years in the aggregate of public service.

Benefit is a refund of accumulated deductions, or a deferred life annuity beginning at age 60 equal to 2% of final salary for each year of public service up to 25 years, plus 1% of final salary for each year of public service in excess of 25 years.

d) Disability Retirement

Physically or otherwise incapacitated for the full and efficient service to State in his judicial capacity and such incapacity is likely to be permanent.

Benefit is an annual retirement allowance of 75% of final salary.

e) Death Benefits

(1) Before Retirement: Death of an active member of the plan. Benefit is equal to:

- a) Lump sum payment equal to 150% of final salary, also known as the non-contributory group life insurance benefit, plus
- b) Spousal life annuity of 25% of final salary 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 final salary payable to one (two, three or more) dependent child(ren). If there is no surviving spouse or dependent child(ren), 20% (30%) of final salary 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. This is also known as the statutory death benefit.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

(2) After Retirement: Death of a retired member of the plan. The benefit is equal to:

- a) Lump sum of 25% of final salary for a member retired under service or early retirement. For a member receiving a disability benefit, a lump sum of 150% of final salary if death occurred before the member attained age 60 and 25% of final salary if death occurred after age 60. This is also known as the non-contributory group life insurance benefit, plus
- b) Spousal life annuity of 25% of final salary adjusted for any previously granted Cost-of-Living Adjustments, or the salary of an active judge in the member's final position at retirement, if larger, 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 final salary payable to one (two, three or more) dependent child(ren). This is also known as the statutory death benefit.

9. Forms of Payment

In addition to the postretirement death benefits listed above, the member may elect the following forms of payment.

- a) Maximum Option: Single life annuity with a return of the balance of the member accumulated deductions with 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.

10. Changes in Plan Provisions Since Last Valuation

None.

**JUDICIAL RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX D – DETERMINATION OF DISCOUNT RATE

Table 1 - Projection of the Pension Plan's Fiduciary Net Position

(In Thousands)

Projections Commence June 30, 2019

| Year | Projected Beginning Fiduciary Net Position (a) | Projected Member Contributions (b) | Projected Employer Contributions (c) | Projected Benefit Payments (d) | Projected Administrative Expenses (e) | Projected Investment Earnings (f) | Projected Ending Fiduciary Net Position (g) = (a) + (b) + (c) - (d) - (e) + (f) |
|------|--|---|---|---|--|--|---|
| 1 | \$ 157,864 | \$ 8,794 | \$ 37,405 | \$ 62,962 | \$ 212 | \$ 10,154 | \$ 151,043 |
| 2 | 151,043 | 8,426 | 46,336 | 65,331 | 220 | 9,813 | 150,068 |
| 3 | 150,068 | 8,051 | 47,303 | 67,141 | 226 | 9,695 | 147,749 |
| 4 | 147,749 | 7,531 | 49,620 | 69,162 | 233 | 9,505 | 145,011 |
| 5 | 145,011 | 7,030 | 50,759 | 71,288 | 240 | 9,253 | 140,526 |
| 6 | 140,526 | 6,532 | 51,757 | 73,292 | 246 | 8,878 | 134,155 |
| 7 | 134,155 | 6,000 | 52,757 | 75,461 | 254 | 8,365 | 125,563 |
| 8 | 125,563 | 5,443 | 53,574 | 77,602 | 261 | 7,692 | 114,409 |
| 9 | 114,409 | 4,964 | 54,346 | 79,430 | 267 | 6,852 | 100,874 |
| 10 | 100,874 | 4,510 | 55,147 | 80,971 | 272 | 5,856 | 85,145 |
| 11 | 85,145 | 4,121 | 56,190 | 81,903 | 275 | 4,737 | 68,014 |
| 12 | 68,014 | 3,655 | 57,433 | 83,185 | 280 | 3,510 | 49,147 |
| 13 | 0 | 0 | 0 | 84,463 | 284 | 0 | 0 |
| 14 | 0 | 0 | 0 | 85,736 | 288 | 0 | 0 |
| 15 | 0 | 0 | 0 | 86,434 | 291 | 0 | 0 |
| 16 | 0 | 0 | 0 | 86,507 | 291 | 0 | 0 |
| 17 | 0 | 0 | 0 | 86,151 | 290 | 0 | 0 |
| 18 | 0 | 0 | 0 | 85,389 | 287 | 0 | 0 |
| 19 | 0 | 0 | 0 | 84,160 | 283 | 0 | 0 |
| 20 | 0 | 0 | 0 | 82,467 | 277 | 0 | 0 |
| 21 | 0 | 0 | 0 | 80,749 | 271 | 0 | 0 |
| 22 | 0 | 0 | 0 | 78,661 | 264 | 0 | 0 |
| 23 | 0 | 0 | 0 | 76,141 | 256 | 0 | 0 |
| 24 | 0 | 0 | 0 | 73,500 | 247 | 0 | 0 |
| 25 | 0 | 0 | 0 | 70,626 | 237 | 0 | 0 |
| 26 | 0 | 0 | 0 | 67,593 | 227 | 0 | 0 |
| 27 | 0 | 0 | 0 | 64,512 | 217 | 0 | 0 |
| 28 | 0 | 0 | 0 | 61,326 | 206 | 0 | 0 |
| 29 | 0 | 0 | 0 | 58,108 | 195 | 0 | 0 |
| 30 | 0 | 0 | 0 | 54,878 | 184 | 0 | 0 |
| 31 | 0 | 0 | 0 | 51,700 | 174 | 0 | 0 |
| 32 | 0 | 0 | 0 | 48,565 | 163 | 0 | 0 |
| 33 | 0 | 0 | 0 | 45,459 | 153 | 0 | 0 |
| 34 | 0 | 0 | 0 | 42,444 | 143 | 0 | 0 |
| 35 | 0 | 0 | 0 | 39,474 | 133 | 0 | 0 |
| 36 | 0 | 0 | 0 | 36,589 | 123 | 0 | 0 |
| 37 | 0 | 0 | 0 | 33,796 | 114 | 0 | 0 |
| 38 | 0 | 0 | 0 | 31,101 | 105 | 0 | 0 |
| 39 | 0 | 0 | 0 | 28,510 | 96 | 0 | 0 |
| 40 | 0 | 0 | 0 | 26,029 | 88 | 0 | 0 |
| 41 | 0 | 0 | 0 | 23,661 | 80 | 0 | 0 |
| 42 | 0 | 0 | 0 | 21,413 | 72 | 0 | 0 |
| 43 | 0 | 0 | 0 | 19,286 | 65 | 0 | 0 |
| 44 | 0 | 0 | 0 | 17,282 | 58 | 0 | 0 |
| 45 | 0 | 0 | 0 | 15,404 | 52 | 0 | 0 |
| 46 | 0 | 0 | 0 | 13,651 | 46 | 0 | 0 |
| 47 | 0 | 0 | 0 | 12,023 | 40 | 0 | 0 |
| 48 | 0 | 0 | 0 | 10,519 | 35 | 0 | 0 |
| 49 | 0 | 0 | 0 | 9,139 | 31 | 0 | 0 |
| 50 | 0 | 0 | 0 | 7,879 | 26 | 0 | 0 |

**JUDICIAL RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX D – DETERMINATION OF DISCOUNT RATE

Table 1 - Projection of the Pension Plan's Fiduciary Net Position
(In Thousands)
Projections Commence June 30, 2019

| Year | Projected Beginning Fiduciary Net Position (a) | Projected Member Contributions (b) | Projected Employer Contributions (c) | Projected Benefit Payments (d) | Projected Administrative Expenses (e) | Projected Investment Earnings (f) | Projected Ending Fiduciary Net Position (g) = (a) + (b) + (c) - (d) - (e) + (f) |
|------|--|---|---|---|--|--|---|
| 51 | \$ 0 | \$ 0 | \$ 0 | \$ 6,739 | \$ 23 | \$ 0 | \$ 0 |
| 52 | 0 | 0 | 0 | 5,716 | 19 | 0 | 0 |
| 53 | 0 | 0 | 0 | 4,807 | 16 | 0 | 0 |
| 54 | 0 | 0 | 0 | 4,006 | 13 | 0 | 0 |
| 55 | 0 | 0 | 0 | 3,310 | 11 | 0 | 0 |
| 56 | 0 | 0 | 0 | 2,710 | 9 | 0 | 0 |
| 57 | 0 | 0 | 0 | 2,201 | 7 | 0 | 0 |
| 58 | 0 | 0 | 0 | 1,773 | 6 | 0 | 0 |
| 59 | 0 | 0 | 0 | 1,418 | 5 | 0 | 0 |
| 60 | 0 | 0 | 0 | 1,128 | 4 | 0 | 0 |
| 61 | 0 | 0 | 0 | 892 | 3 | 0 | 0 |
| 62 | 0 | 0 | 0 | 704 | 2 | 0 | 0 |
| 63 | 0 | 0 | 0 | 554 | 2 | 0 | 0 |
| 64 | 0 | 0 | 0 | 437 | 1 | 0 | 0 |
| 65 | 0 | 0 | 0 | 345 | 1 | 0 | 0 |
| 66 | 0 | 0 | 0 | 275 | 1 | 0 | 0 |
| 67 | 0 | 0 | 0 | 220 | 1 | 0 | 0 |
| 68 | 0 | 0 | 0 | 179 | 1 | 0 | 0 |
| 69 | 0 | 0 | 0 | 147 | 0 | 0 | 0 |
| 70 | 0 | 0 | 0 | 122 | 0 | 0 | 0 |
| 71 | 0 | 0 | 0 | 102 | 0 | 0 | 0 |
| 72 | 0 | 0 | 0 | 87 | 0 | 0 | 0 |
| 73 | 0 | 0 | 0 | 75 | 0 | 0 | 0 |
| 74 | 0 | 0 | 0 | 65 | 0 | 0 | 0 |
| 75 | 0 | 0 | 0 | 56 | 0 | 0 | 0 |
| 76 | 0 | 0 | 0 | 49 | 0 | 0 | 0 |
| 77 | 0 | 0 | 0 | 42 | 0 | 0 | 0 |
| 78 | 0 | 0 | 0 | 36 | 0 | 0 | 0 |
| 79 | 0 | 0 | 0 | 30 | 0 | 0 | 0 |
| 80 | 0 | 0 | 0 | 25 | 0 | 0 | 0 |
| 81 | 0 | 0 | 0 | 20 | 0 | 0 | 0 |
| 82 | 0 | 0 | 0 | 16 | 0 | 0 | 0 |
| 83 | 0 | 0 | 0 | 13 | 0 | 0 | 0 |
| 84 | 0 | 0 | 0 | 10 | 0 | 0 | 0 |
| 85 | 0 | 0 | 0 | 7 | 0 | 0 | 0 |
| 86 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| 87 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| 88 | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| 89 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 90 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 91 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 92 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 93 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 94 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 96 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 98 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**JUDICIAL RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX D – DETERMINATION OF DISCOUNT RATE

Table 2 - Actuarial Present Values of Projected Benefit Payments

(In Thousands)

Projections Commence June 30, 2019

* From Table 1 - Projection of the Pension Plan's Fiduciary Net Position, column (a)

** From Table 1 - Projection of the Pension Plan's Fiduciary Net Position, column (d)

| Year | Projected Beginning Fiduciary Net Position* | Projected Benefit Payments for current Plan participants** | "Funded" Portion of Benefit Payments (d) = (c) if (b) >= (c) | "Unfunded" Portion of Benefit Payments (e) = (c) - (d) | Present Value of "Funded" Benefit Payments (f) = (d) / (1+7.00%)^[a] - .5] | Present Value of "Unfunded" Benefit Payments (g) = (e) / (1+3.50%)^[a] - .5] | Present Value of Benefit Payments Using the Single Discount Rate (h) = (c) / (1+4.07%)^[a] - .5] |
|------|--|---|--|--|--|--|---|
| (a) | (b) | (c) | (d) = (c) if (b) >= (c) | (e) = (c) - (d) | (f) = (d) / (1+7.00%)^[a] - .5] | (g) = (e) / (1+3.50%)^[a] - .5] | (h) = (c) / (1+4.07%)^[a] - .5] |
| 1 | \$ 157,864 | \$ 62,962 | \$ 62,962 | \$ 0 | \$ 60,868 | \$ 0 | \$ 61,719 |
| 2 | 151,043 | 65,331 | 65,331 | 0 | 59,026 | 0 | 61,537 |
| 3 | 150,068 | 67,141 | 67,141 | 0 | 56,693 | 0 | 60,770 |
| 4 | 147,749 | 69,162 | 69,162 | 0 | 54,579 | 0 | 60,151 |
| 5 | 145,011 | 71,288 | 71,288 | 0 | 52,576 | 0 | 59,576 |
| 6 | 140,526 | 73,292 | 73,292 | 0 | 50,518 | 0 | 58,856 |
| 7 | 134,155 | 75,461 | 75,461 | 0 | 48,610 | 0 | 58,229 |
| 8 | 125,563 | 77,602 | 77,602 | 0 | 46,719 | 0 | 57,539 |
| 9 | 114,409 | 79,430 | 79,430 | 0 | 44,691 | 0 | 56,592 |
| 10 | 100,874 | 80,971 | 80,971 | 0 | 42,578 | 0 | 55,434 |
| 11 | 85,145 | 81,903 | 81,903 | 0 | 40,251 | 0 | 53,881 |
| 12 | 68,014 | 83,185 | 68,014 | 15,171 | 31,238 | 10,214 | 52,584 |
| 13 | 0 | 84,463 | 0 | 84,463 | 0 | 54,943 | 51,304 |
| 14 | 0 | 85,736 | 0 | 85,736 | 0 | 53,885 | 50,042 |
| 15 | 0 | 86,434 | 0 | 86,434 | 0 | 52,487 | 48,476 |
| 16 | 0 | 86,507 | 0 | 86,507 | 0 | 50,755 | 46,621 |
| 17 | 0 | 86,151 | 0 | 86,151 | 0 | 48,837 | 44,613 |
| 18 | 0 | 85,389 | 0 | 85,389 | 0 | 46,768 | 42,490 |
| 19 | 0 | 84,160 | 0 | 84,160 | 0 | 44,536 | 40,241 |
| 20 | 0 | 82,467 | 0 | 82,467 | 0 | 42,164 | 37,890 |
| 21 | 0 | 80,749 | 0 | 80,749 | 0 | 39,890 | 35,650 |
| 22 | 0 | 78,661 | 0 | 78,661 | 0 | 37,544 | 33,370 |
| 23 | 0 | 76,141 | 0 | 76,141 | 0 | 35,112 | 31,038 |
| 24 | 0 | 73,500 | 0 | 73,500 | 0 | 32,748 | 28,790 |
| 25 | 0 | 70,626 | 0 | 70,626 | 0 | 30,404 | 26,583 |
| 26 | 0 | 67,593 | 0 | 67,593 | 0 | 28,114 | 24,446 |
| 27 | 0 | 64,512 | 0 | 64,512 | 0 | 25,925 | 22,420 |
| 28 | 0 | 61,326 | 0 | 61,326 | 0 | 23,811 | 20,479 |
| 29 | 0 | 58,108 | 0 | 58,108 | 0 | 21,799 | 18,646 |
| 30 | 0 | 54,878 | 0 | 54,878 | 0 | 19,891 | 16,921 |
| 31 | 0 | 51,700 | 0 | 51,700 | 0 | 18,106 | 15,318 |
| 32 | 0 | 48,565 | 0 | 48,565 | 0 | 16,432 | 13,827 |
| 33 | 0 | 45,459 | 0 | 45,459 | 0 | 14,861 | 12,436 |
| 34 | 0 | 42,444 | 0 | 42,444 | 0 | 13,407 | 11,158 |
| 35 | 0 | 39,474 | 0 | 39,474 | 0 | 12,047 | 9,971 |
| 36 | 0 | 36,589 | 0 | 36,589 | 0 | 10,789 | 8,881 |
| 37 | 0 | 33,796 | 0 | 33,796 | 0 | 9,628 | 7,882 |
| 38 | 0 | 31,101 | 0 | 31,101 | 0 | 8,561 | 6,970 |
| 39 | 0 | 28,510 | 0 | 28,510 | 0 | 7,582 | 6,140 |
| 40 | 0 | 26,029 | 0 | 26,029 | 0 | 6,688 | 5,386 |
| 41 | 0 | 23,661 | 0 | 23,661 | 0 | 5,874 | 4,705 |
| 42 | 0 | 21,413 | 0 | 21,413 | 0 | 5,136 | 4,091 |
| 43 | 0 | 19,286 | 0 | 19,286 | 0 | 4,470 | 3,541 |
| 44 | 0 | 17,282 | 0 | 17,282 | 0 | 3,870 | 3,049 |
| 45 | 0 | 15,404 | 0 | 15,404 | 0 | 3,333 | 2,611 |
| 46 | 0 | 13,651 | 0 | 13,651 | 0 | 2,853 | 2,224 |
| 47 | 0 | 12,023 | 0 | 12,023 | 0 | 2,428 | 1,882 |
| 48 | 0 | 10,519 | 0 | 10,519 | 0 | 2,053 | 1,582 |
| 49 | 0 | 9,139 | 0 | 9,139 | 0 | 1,723 | 1,321 |
| 50 | 0 | 7,879 | 0 | 7,879 | 0 | 1,435 | 1,094 |

**JUDICIAL RETIREMENT SYSTEM OF NEW JERSEY
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APPENDIX D – DETERMINATION OF DISCOUNT RATE

Table 2 - Actuarial Present Values of Projected Benefit Payments

(In Thousands)

Projections Commence June 30, 2019

* From Table 1 - Projection of the Pension Plan's Fiduciary Net Position, column (a)

** From Table 1 - Projection of the Pension Plan's Fiduciary Net Position, column (d)

| Year | Projected Beginning Fiduciary Net Position* | Projected Benefit Payments for current Plan participants** | "Funded" Portion of Benefit Payments (d) = (c) if (b) >= (c) | "Unfunded" Portion of Benefit Payments (e) = (c) - (d) | Present Value of "Funded" Benefit Payments (f) = (d) / (1+7.00%) ^[(a) - .5] | Present Value of "Unfunded" Benefit Payments (g) = (e) / (1+3.50%) ^[(a) - .5] | Present Value of Benefit Payments Using the Single Discount Rate (h) = (c) / (1+4.07%) ^[(a) - .5] |
|------|--|---|--|--|--|--|---|
| (a) | (b) | (c) | (d) = (c) if (b) >= (c) | (e) = (c) - (d) | (f) = (d) / (1+7.00%) ^[(a) - .5] | (g) = (e) / (1+3.50%) ^[(a) - .5] | (h) = (c) / (1+4.07%) ^[(a) - .5] |
| 51 | \$ 0 | \$ 6,739 | \$ 0 | \$ 6,739 | \$ 0 | \$ 1,186 | \$ 899 |
| 52 | 0 | 5,716 | 0 | 5,716 | 0 | 972 | 733 |
| 53 | 0 | 4,807 | 0 | 4,807 | 0 | 790 | 592 |
| 54 | 0 | 4,006 | 0 | 4,006 | 0 | 636 | 474 |
| 55 | 0 | 3,310 | 0 | 3,310 | 0 | 508 | 377 |
| 56 | 0 | 2,710 | 0 | 2,710 | 0 | 402 | 296 |
| 57 | 0 | 2,201 | 0 | 2,201 | 0 | 315 | 231 |
| 58 | 0 | 1,773 | 0 | 1,773 | 0 | 245 | 179 |
| 59 | 0 | 1,418 | 0 | 1,418 | 0 | 190 | 138 |
| 60 | 0 | 1,128 | 0 | 1,128 | 0 | 146 | 105 |
| 61 | 0 | 892 | 0 | 892 | 0 | 111 | 80 |
| 62 | 0 | 704 | 0 | 704 | 0 | 85 | 61 |
| 63 | 0 | 554 | 0 | 554 | 0 | 65 | 46 |
| 64 | 0 | 437 | 0 | 437 | 0 | 49 | 35 |
| 65 | 0 | 345 | 0 | 345 | 0 | 38 | 26 |
| 66 | 0 | 275 | 0 | 275 | 0 | 29 | 20 |
| 67 | 0 | 220 | 0 | 220 | 0 | 22 | 16 |
| 68 | 0 | 179 | 0 | 179 | 0 | 18 | 12 |
| 69 | 0 | 147 | 0 | 147 | 0 | 14 | 10 |
| 70 | 0 | 122 | 0 | 122 | 0 | 11 | 8 |
| 71 | 0 | 102 | 0 | 102 | 0 | 9 | 6 |
| 72 | 0 | 87 | 0 | 87 | 0 | 7 | 5 |
| 73 | 0 | 75 | 0 | 75 | 0 | 6 | 4 |
| 74 | 0 | 65 | 0 | 65 | 0 | 5 | 3 |
| 75 | 0 | 56 | 0 | 56 | 0 | 4 | 3 |
| 76 | 0 | 49 | 0 | 49 | 0 | 4 | 2 |
| 77 | 0 | 42 | 0 | 42 | 0 | 3 | 2 |
| 78 | 0 | 36 | 0 | 36 | 0 | 2 | 2 |
| 79 | 0 | 30 | 0 | 30 | 0 | 2 | 1 |
| 80 | 0 | 25 | 0 | 25 | 0 | 2 | 1 |
| 81 | 0 | 20 | 0 | 20 | 0 | 1 | 1 |
| 82 | 0 | 16 | 0 | 16 | 0 | 1 | 1 |
| 83 | 0 | 13 | 0 | 13 | 0 | 1 | 0 |
| 84 | 0 | 10 | 0 | 10 | 0 | 1 | 0 |
| 85 | 0 | 7 | 0 | 7 | 0 | 0 | 0 |
| 86 | 0 | 5 | 0 | 5 | 0 | 0 | 0 |
| 87 | 0 | 4 | 0 | 4 | 0 | 0 | 0 |
| 88 | 0 | 3 | 0 | 3 | 0 | 0 | 0 |
| 89 | 0 | 2 | 0 | 2 | 0 | 0 | 0 |
| 90 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 91 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 92 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 93 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 94 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 96 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 98 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | \$ 588,346 | + \$ 856,981 | = \$ 1,445,327 |

APPENDIX E – GLOSSARY OF TERMS

1. Actuarially Determined Contribution

A target or recommended contribution for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.

2. Actuarial Valuation Date

The date as of which an actuarial valuation is performed. This date may be up to 24 months prior to the measurement date and up to 30 months prior to the employer's reporting date.

3. Entry Age Actuarial Cost Method

The actuarial cost method required for GASB 67 calculations. Under this method, the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages. The portion of this actuarial present value allocated to a valuation year is called the Service Cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future service costs is called the Total Pension Liability.

4. Measurement Date

The date as of which the Total Pension Liability and Plan Fiduciary Net Position are measured. The Total Pension Liability may be projected from the Actuarial Valuation Date to the Measurement Date. The Measurement Date must be the same as the Reporting Date for the plan.

5. Net Pension Liability

The liability of employers and nonemployer contributing entities for employees for benefits provided through a defined benefit pension plan. It is calculated as the Total Pension Liability less the Plan Fiduciary Net Position.

6. Plan Fiduciary Net Position

The fair or market value of assets.

7. Reporting Date

The last day of the plan or employer's fiscal year.

APPENDIX E – GLOSSARY OF TERMS

8. Service Cost

The portion of the actuarial present value of projected benefit payments that is attributed to the current period of employee service in conformity with the requirements of GASB 67. The Service Cost is the normal cost calculated under the entry age actuarial cost method.

9. Total Pension Liability

The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of GASB 67. The Total Pension Liability is the actuarial liability calculated under the entry age actuarial cost method. This measurement generally is not appropriate for estimating the cost to settle the Plan's liabilities.