CHEIRON *Classic Values, Innovative Advice*

Judicial Retirement System of New Jersey

GASB 68 Report as of June 30, 2020

Produced by Cheiron

March 2021

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SECTION I – BOARD SUMMARY

The purpose of this report is to provide accounting and financial disclosure information under Governmental Accounting Standards Board Statement 68 for the Judicial Retirement System of New Jersey (JRS, Plan or System). This information includes:

- Disclosure of Deferred Inflows and Outflows, and
- Calculation of the Annual Pension Expense.

Highlights

The reporting date for JRS is June 30, 2020. Measurements as of the reporting date are based on the fair value of assets as of June 30, 2020 and the Total Pension Liability as of the valuation date, July 1, 2019, updated to June 30, 2020. There were two changes in assumptions. The discount rate used to measure the Total Pension Liability was changed as of the measurement date. In addition, the mortality assumption was updated upon direction from the DPB. We are not aware of any other significant events that are measurable at this time 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. Additional information about the TPL can be found in the GASB 67 report.

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

Table I-1
Summary of Results

Measurement Date	6/30/2020	6/30/2019
Net Pension Liability	$ 1,108,729,132	$ 952,358,213
Deferred Outflows	(163,868,696)	(126,216,779)
Deferred Inflows	5,705,179	23,774,553
Net Impact on Statement of Net Position	$ 950,565,615	$ 849,915,987
Pension Expense	$ 138,145,741	$ 90,992,111
Pension Expense (% of Payroll)	180.28%	117.01%

SECTION II – CERTIFICATION

The purpose of this report is to provide accounting and financial reporting information under GASB 68 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, 2020 was based on the recommended demographic assumptions of the July 1, 2014 – June 30, 2018 Experience Study, which was approved by the State House Commission on July 2, 2020. The calculation of the Total Pension Liability as of June 30, 2020 was based on the same demographic assumptions except for the mortality assumption, which was based on the SOA's MP-2020 mortality improvement scale upon direction from the DPB. While we do not find the use of the SOA's Scale MP-2020 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.

This report was prepared using census data as of the July 1, 2019 valuation date and financial information as of the June 30, 2020 measurement date. Given the uncertainty and lack of credible data regarding the impact that COVID-19 may have had on the System's demographic experience between the measurement date and reporting date, no specific adjustments have been made at this time. We will continue to monitor developments regarding the COVID-19 pandemic and the impact it may have on the System. Actual experience, both demographic and economic, will be reflected in subsequent GASB 68 reports as experience emerges.

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

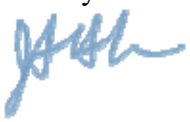
SECTION II – CERTIFICATION

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. The discount rate used to measure the Total Pension Liability is 3.10% as of June 30, 2020 and is described in Section III of the report.

The report also reflects a new DPB policy regarding the crediting of interest on member contributions for the purpose of refunds of accumulated deductions. This policy change did not impact the Total Pension Liability for this valuation.

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 auditors 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 4.07% as of June 30, 2019 and 3.10% as of June 30, 2020. As discussed with the Division of Pensions and Benefits, the projection of cash flows used to determine the discount rate as of June 30, 2020 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 assumptions are based on the recommendations of the July 1, 2014 – June 30, 2018 Experience Study, approved by the State House Commission on July 2, 2020.

  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, 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 78.00% 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 78.00% contribution rate is the total State contribution rate expected to be paid in fiscal year ending June 30, 2021 with respect to the actuarially determined contribution for the fiscal year ending June 30, 2021 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 ending 2033. Municipal bond rates of 3.50% as of June 30, 2019 and 2.21% as of June 30, 2020 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 3.50% as of June 30, 2019 and the long-term rate of return of 7.00% and the municipal bond rate of 2.21% as of June 30, 2020, the blended GASB discount rates are 4.07% as of June 30, 2019 and **3.10%** as of June 30, 2020. The assumed discount rates have been determined in accordance with the method prescribed by GASB Statement No. 67. See Appendix D for the determination of the discount rate.

SECTION IV – EMPLOYER REPORTING AMOUNTS

We understand the State has elected to use the 2020 measurement date for its 2021 reporting date. As a result, the schedules in this section will be used by the State for its 2021 reporting.

The impact of experience gains or losses and assumption changes on the TPL are recognized in expense over the average expected remaining service life of all active and inactive members of the System. As of the measurement date, this recognition period was 3.37 years.

The following tables summarize the current balances of deferred outflows and deferred inflows of resources along with the net recognition over the next five years.

Table IV-1
Schedule of Deferred Inflows and Outflows of Resources

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 10,909,080	$ 1,542,363
Changes in assumptions	148,345,561	4,162,816
Net differences between projected and actual earnings on pension plan investments	4,614,055	0
Total	**$ 163,868,696**	**$ 5,705,179**

Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

Measurement year ended June 30:	
2021	74,696,377
2022	67,137,041
2023	14,669,171
2024	1,660,928
2025	0
Thereafter	$ 0

SECTION IV – EMPLOYER REPORTING AMOUNTS

Table IV-2
Detailed Schedule of Deferred Inflows and Outflows of Resources

Recognition of differences between expected and actual experience

From Measurement Year Ending	Remaining Recognition Period	Remaining Deferred (Inflows) and Outflows*	Recognition Year 2020	2021	2022	2023	2024	2025	Thereafter
2020	3.37	$ 2,816,229	$ 835,676	$ 835,676	$ 835,676	$ 309,201	$ 0	$ 0	$ 0
2019	2.68	14,243,127	5,314,600	5,314,600	3,613,927	0	0	0	0
2018	1.66	(3,879,274)	(2,336,911)	(1,542,363)	0	0	0	0	0
2017	0.44	1,806,132	1,806,132	0	0	0	0	0	0
Total		$ 14,986,214	$ 5,619,497	$ 4,607,913	$ 4,449,603	$ 309,201	$ 0	$ 0	$ 0

Recognition of changes in assumptions

From Measurement Year Ending	Remaining Recognition Period	Remaining Deferred (Inflows) and Outflows*	Recognition Year 2020	2021	2022	2023	2024	2025	Thereafter
2020	3.37	$ 112,739,048	$ 33,453,723	$ 33,453,723	$ 33,453,723	$ 12,377,879	$ 0	$ 0	$ 0
2019	2.68	110,167,520	41,107,284	41,107,284	27,952,952	0	0	0	0
2018	1.66	(10,470,113)	(6,307,297)	(4,162,816)	0	0	0	0	0
2017	0.44	(8,983,593)	(8,983,593)	0	0	0	0	0	0
Total		$ 203,452,862	$ 59,270,117	$ 70,398,191	$ 61,406,675	$ 12,377,879	$ 0	$ 0	$ 0

Recognition of net differences between projected and actual earnings on pension plan investments

From Measurement Year Ending	Remaining Recognition Period	Remaining Deferred (Inflows) and Outflows*	Recognition Year 2020	2021	2022	2023	2024	2025	Thereafter
2020	5.00	$ 8,304,636	$ 1,660,927	$ 1,660,927	$ 1,660,927	$ 1,660,927	$ 1,660,928	$ 0	$ 0
2019	4.00	1,284,650	321,162	321,162	321,162	321,164	0	0	0
2018	3.00	(2,103,974)	(701,324)	(701,324)	(701,326)	0	0	0	0
2017	2.00	(3,180,985)	(1,590,493)	(1,590,492)	0	0	0	0	0
2016	1.00	3,558,736	3,558,736	0	0	0	0	0	0
Total		$ 7,863,063	$ 3,249,008	$ (309,727)	$ 1,280,763	$ 1,982,091	$ 1,660,928	$ 0	$ 0
Grand Total		**$ 226,302,139**	**$ 68,138,622**	**$ 74,696,377**	**$ 67,137,041**	**$ 14,669,171**	**$ 1,660,928**	**$ 0**	**$ 0**

** As of the beginning of the measurement year*

SECTION IV – EMPLOYER REPORTING AMOUNTS

The annual pension expense recognized by the State can be calculated two different ways. First, it is the change in the amounts reported on the Statement of Net Position that relate to JRS and are not attributable to employer contributions. That is, it is the change in NPL plus the changes in deferred outflows and inflows plus employer contributions.

Alternatively, annual pension expense can be calculated by its individual components. While GASB does not require or suggest the organization of the individual components shown in the following table, we believe it helps to understand the level and volatility of pension expense.

First, there are components referred to as operating expenses. These are items directly attributable to the operation of the plan during the measurement year. Service cost less employee contributions represents the increase in employer-provided benefits attributable to the year, and administrative expenses are the cost of operating JRS for the year.

Second, there are the financing expenses: the interest on the Total Pension Liability less the expected return on assets.

The final category is changes. This category will drive most of the volatility in pension expense from year to year. It includes any changes in benefits made during the year and the recognized amounts due to assumption changes, gains or losses on the TPL, and investment gains or losses.

The following table shows the development of pension expense for the State through both of these methodologies.

SECTION IV – EMPLOYER REPORTING AMOUNTS

Table IV-3
Calculation of Pension Expense

Measurement Year Ending	2020	2019
Change in Net Pension Liability	$ 156,370,919	$ 198,063,341
Change in Deferred Outflows	(37,651,917)	(108,154,036)
Change in Deferred Inflows	(18,069,374)	(28,619,894)
Employer Contributions	37,496,113	29,702,700
Pension Expense	**$ 138,145,741**	**$ 90,992,111**
Pension Expense as % of Payroll	**180.28%**	**117.01%**
Operating Expenses		
Service cost	$ 43,552,248	$ 37,584,273
Employee contributions	(9,239,505)	(9,688,270)
Administrative expenses	219,976	200,338
Total	$ 34,532,719	$ 28,096,341
Financing Expenses		
Interest cost	$ 45,751,351	$ 38,067,870
Expected return on assets	(10,276,951)	(10,836,513)
Total	$ 35,474,400	$ 27,231,357
Changes		
Benefit changes	$ 0	$ 0
Recognition of assumption changes	59,270,117	25,341,485
Recognition of liability gains and losses	5,619,497	7,115,130
Recognition of investment gains and losses	3,249,008	3,207,798
Total	$ 68,138,622	$ 35,664,413
Pension Expense	**$ 138,145,741**	**$ 90,992,111**

APPENDIX A – MEMBERSHIP INFORMATION

Plan Membership		
	July 1, 2019	July 1, 2018
Contributing Actives	421	447
Non-Contributing Actives	5	6
Terminated Vested	6	4
Inactive Receiving Benefits	633	614
Total	1,065	1,071
Annual Compensation for Contributing Actives	$ 76,627,036	$ 77,763,777
Annual Retirement Allowances for Those Receiving Benefits	$ 59,393,303	$ 57,164,048

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

1. Investment Rate of Return for determining Actuarially Determined Contributions	• 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. Interest Crediting Rate on Accumulated Deductions	7.30% per annum, compounded annually. Interest credits are assumed to end upon termination.
4. GASB 67 Effective Discount Rate	• June 30, 2019: 4.07% per annum, compounded annually. • June 30, 2020: 3.10% per annum, compounded annually.
5. Price Inflation	2.75% per annum, compounded annually.
6. Wage Inflation	3.25% per annum, compounded annually.
7. Cost-of-Living Adjustments (COLAs)	No future COLA is assumed. Previously granted COLAs are included in the data.
8. 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.
9. 401(a)(17) Pay Limit	$280,000 in 2019 increasing 2.75% per annum, compounded annually.
10. Termination	None assumed.

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

11. Disability

Representative disability rates are as follows:

Age	Rates
30	0.022%
35	0.026
40	0.033
45	0.064
50	0.114
55	0.197
60	0.326
65	0.473

12. 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-2020.

Disabled Retiree Mortality: The Pub-2010 Non-Safety Disabled Retiree mortality table *[PubNS-2010 Disabled Retiree]* as published by the 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-2020.

Pre-Retirement (Non-Annuitants) Mortality**:** The Pub-2010 Teachers Above-Median Income Employee mortality table *[PubT-2010(A) Employee]* as published by the 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-2020.

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

13. 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

14. 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.

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.

15. Form of Payment

Current actives are assumed to elect the Maximum Option.

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

16. 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 2018 data but omitted from the 2019 data are assumed to have died without a beneficiary.

17. Rationale for Assumptions

The demographic assumptions used in this report reflect the results of the July 1, 2014 – June 30, 2018 Experience Study, approved by the State House Commission on July 2, 2020. The investment return assumption was recommended by the State Treasurer. The MP-2020 mortality improvement scale was used to calculate the Total Pension Liability upon direction from the DPB.

18. Projection Basis

This report includes projections of future assets, benefit payments and contributions for the purpose of determining the GASB 67 discount rate.

The projections are based on the census data as of July 1, 2019 and the financial information as of June 30, 2020. The projections assume continuation of the plan provisions and actuarial assumptions in effect as of July 1, 2019 and do not reflect the impact of any changes in benefits or actuarial assumptions that may be adopted after July 1, 2020 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 assume that all future assumptions are met except where indicated with respect to future investment returns and demographic assumptions.

19. Changes in Assumptions Since Last Valuation

The mortality improvement scale used to calculate the Total Pension Liability was updated from the MP-2019 scale to the MP-2020 scale upon direction from the DPB.

The GASB 67 effective discount rate was updated in accordance with the method prescribed by GASB Statement No. 67.
In connection with a new policy adopted by the DPB, interest credits are assumed to end upon termination, instead of continuing through retirement. This policy change did not impact the Total Pension Liability.

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

B. Actuarial Methods

The actuarial methods used for determining State contributions are described as follows.

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. Refunds are valued as the reported Accumulated Deductions as provided by the DPB. 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.

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 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.

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. 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 assumptions or output of ProVal that would affect this actuarial valuation.

5. Changes in Methods Since the Last Valuation

None.

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. Judicial service credit is based on biweekly pay periods for which member contributions are made to JRS.

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. Interest Credits on Accumulated Deductions

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

7. 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.)

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.

8. Retirement Allowance

Benefit comprised of a member annuity plus an employer pension.

9. Benefits

a) <u>Service Retirements</u>

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.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

(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.

(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) Deferred Retirement

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) Non-Vested Termination

Termination of service prior to age 60, with less than 5 years of judicial service or less than 10 years in the aggregate of public service.

Benefit is a refund of accumulated deductions.

e) 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.

f) 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 credited interest. This is also known as the statutory death benefit.

(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.

10. 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 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

APPENDIX C – SUMMARY OF PLAN PROVISIONS

11. Changes in Plan Provisions Since Last Valuation

Effective July 1, 2018, the DPB adopted a new policy regarding the crediting of interest in member contributions for the purpose of refund of accumulated deductions. Previously, after termination of employment but prior to retirement or death, interest was credited on member accumulated deductions for the entire period. Effective July 1, 2018, interest is only credited for the first two years of inactivity prior to retirement or death. Thereafter, no additional interest is credited. This policy change did not impact the Total Pension Liability.

APPENDIX D – DETERMINATION OF DISCOUNT RATE

Table 1 - Projection of the Pension Plan's Fiduciary Net Position
(In Thousands)
Projections Commence June 30, 2020

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	$ 146,429	$ 8,629	$ 52,090	$ 64,546	$ 233	$ 9,673	$ 152,042
2	152,042	8,235	52,709	66,584	241	9,998	156,160
3	156,160	7,681	55,058	68,913	249	10,248	159,985
4	159,985	7,158	55,992	71,268	258	10,441	162,049
5	162,049	6,642	56,789	73,474	266	10,512	162,252
6	162,252	6,099	57,530	75,788	274	10,447	160,265
7	160,265	5,535	58,054	78,024	282	10,225	155,773
8	155,773	5,061	58,522	79,940	289	9,840	148,967
9	148,967	4,578	59,021	81,694	296	9,300	139,876
10	139,876	4,189	59,619	82,667	299	8,632	129,350
11	129,350	3,717	60,522	84,029	304	7,855	117,111
12	117,111	3,217	59,989	85,376	309	6,921	101,552
13	101,552	2,719	59,250	86,546	313	5,756	82,418
14	82,418	2,255	58,466	87,288	316	4,354	59,888
15	0	0	0	87,502	317	0	0
16	0	0	0	87,322	316	0	0
17	0	0	0	86,676	314	0	0
18	0	0	0	85,512	309	0	0
19	0	0	0	83,882	303	0	0
20	0	0	0	82,188	297	0	0
21	0	0	0	80,120	290	0	0
22	0	0	0	77,604	280	0	0
23	0	0	0	74,975	271	0	0
24	0	0	0	72,070	260	0	0
25	0	0	0	69,004	249	0	0
26	0	0	0	65,881	238	0	0
27	0	0	0	62,638	226	0	0
28	0	0	0	59,331	214	0	0
29	0	0	0	56,039	202	0	0
30	0	0	0	52,820	190	0	0
31	0	0	0	49,613	178	0	0
32	0	0	0	46,436	167	0	0
33	0	0	0	43,353	156	0	0
34	0	0	0	40,316	145	0	0
35	0	0	0	37,369	134	0	0
36	0	0	0	34,517	124	0	0
37	0	0	0	31,767	114	0	0
38	0	0	0	29,124	104	0	0
39	0	0	0	26,595	95	0	0
40	0	0	0	24,183	86	0	0
41	0	0	0	21,892	78	0	0
42	0	0	0	19,726	70	0	0
43	0	0	0	17,686	63	0	0
44	0	0	0	15,773	56	0	0
45	0	0	0	13,987	50	0	0
46	0	0	0	12,328	44	0	0
47	0	0	0	10,795	38	0	0
48	0	0	0	9,387	33	0	0
49	0	0	0	8,102	29	0	0
50	0	0	0	6,937	24	0	0

APPENDIX D – DETERMINATION OF DISCOUNT RATE

Table 1 - Projection of the Pension Plan's Fiduciary Net Position
(In Thousands)
Projections Commence June 30, 2020

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	$ 5,892	$ 21	$ 0	$ 0
52	0	0	0	4,961	17	0	0
53	0	0	0	4,142	15	0	0
54	0	0	0	3,428	12	0	0
55	0	0	0	2,813	10	0	0
56	0	0	0	2,290	8	0	0
57	0	0	0	1,850	6	0	0
58	0	0	0	1,483	5	0	0
59	0	0	0	1,182	4	0	0
60	0	0	0	938	3	0	0
61	0	0	0	741	3	0	0
62	0	0	0	585	2	0	0
63	0	0	0	462	2	0	0
64	0	0	0	365	1	0	0
65	0	0	0	291	1	0	0
66	0	0	0	233	1	0	0
67	0	0	0	188	1	0	0
68	0	0	0	154	1	0	0
69	0	0	0	128	0	0	0
70	0	0	0	108	0	0	0
71	0	0	0	92	0	0	0
72	0	0	0	79	0	0	0
73	0	0	0	68	0	0	0
74	0	0	0	59	0	0	0
75	0	0	0	51	0	0	0
76	0	0	0	44	0	0	0
77	0	0	0	37	0	0	0
78	0	0	0	31	0	0	0
79	0	0	0	26	0	0	0
80	0	0	0	21	0	0	0
81	0	0	0	17	0	0	0
82	0	0	0	13	0	0	0
83	0	0	0	10	0	0	0
84	0	0	0	8	0	0	0
85	0	0	0	6	0	0	0
86	0	0	0	4	0	0	0
87	0	0	0	3	0	0	0
88	0	0	0	2	0	0	0
89	0	0	0	1	0	0	0
90	0	0	0	1	0	0	0
91	0	0	0	0	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

APPENDIX D – DETERMINATION OF DISCOUNT RATE

Table 2 - Actuarial Present Values of Projected Benefit Payments
(In Thousands)
Projections Commence June 30, 2020
* 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	"Unfunded" Portion of Benefit Payments	Present Value of "Funded" Benefit Payments	Present Value of "Unfunded" Benefit Payments	Present Value of Benefit Payments Using the Single Discount Rate
(a)	(b)	(c)	(d) = (c) if (b) >= (c)	(e) = (c) - (d)	(f) = (d) / (1+7.00%)^[(a) - .5]	(g) = (e) / (1+2.21%)^[(a) - .5]	(h) = (c) / (1+3.10%)^[(a) - .5]
1	$ 146,429	$ 64,546	$ 64,546	$ 0	$ 62,399	$ 0	$ 63,567
2	152,042	66,584	66,584	0	60,158	0	63,601
3	156,160	68,913	68,913	0	58,189	0	63,845
4	159,985	71,268	71,268	0	56,241	0	64,040
5	162,049	73,474	73,474	0	54,189	0	64,035
6	162,252	75,788	75,788	0	52,239	0	64,065
7	160,265	78,024	78,024	0	50,261	0	63,969
8	155,773	79,940	79,940	0	48,127	0	63,568
9	148,967	81,694	81,694	0	45,965	0	63,007
10	139,876	82,667	82,667	0	43,470	0	61,840
11	129,350	84,029	84,029	0	41,295	0	60,967
12	117,111	85,376	85,376	0	39,213	0	60,080
13	101,552	86,546	86,546	0	37,149	0	59,070
14	82,418	87,288	82,418	4,871	33,063	3,626	57,784
15	0	87,502	0	87,502	0	63,733	56,183
16	0	87,322	0	87,322	0	62,226	54,380
17	0	86,676	0	86,676	0	60,431	52,353
18	0	85,512	0	85,512	0	58,330	50,096
19	0	83,882	0	83,882	0	55,981	47,662
20	0	82,188	0	82,188	0	53,665	45,294
21	0	80,120	0	80,120	0	51,183	42,825
22	0	77,604	0	77,604	0	48,504	40,232
23	0	74,975	0	74,975	0	45,847	37,700
24	0	72,070	0	72,070	0	43,118	35,148
25	0	69,004	0	69,004	0	40,391	32,640
26	0	65,881	0	65,881	0	37,729	30,225
27	0	62,638	0	62,638	0	35,096	27,873
28	0	59,331	0	59,331	0	32,524	25,606
29	0	56,039	0	56,039	0	30,056	23,458
30	0	52,820	0	52,820	0	27,717	21,445
31	0	49,613	0	49,613	0	25,471	19,537
32	0	46,436	0	46,436	0	23,325	17,736
33	0	43,353	0	43,353	0	21,305	16,060
34	0	40,316	0	40,316	0	19,384	14,485
35	0	37,369	0	37,369	0	17,579	13,022
36	0	34,517	0	34,517	0	15,886	11,667
37	0	31,767	0	31,767	0	14,304	10,414
38	0	29,124	0	29,124	0	12,831	9,260
39	0	26,595	0	26,595	0	11,463	8,201
40	0	24,183	0	24,183	0	10,198	7,233
41	0	21,892	0	21,892	0	9,033	6,351
42	0	19,726	0	19,726	0	7,963	5,551
43	0	17,686	0	17,686	0	6,985	4,827
44	0	15,773	0	15,773	0	6,095	4,175
45	0	13,987	0	13,987	0	5,288	3,591
46	0	12,328	0	12,328	0	4,560	3,070
47	0	10,795	0	10,795	0	3,907	2,607
48	0	9,387	0	9,387	0	3,323	2,199
49	0	8,102	0	8,102	0	2,806	1,841
50	0	6,937	0	6,937	0	2,351	1,529

APPENDIX D – DETERMINATION OF DISCOUNT RATE

Table 2 - Actuarial Present Values of Projected Benefit Payments
(In Thousands)
Projections Commence June 30, 2020
* 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	"Unfunded" Portion of Benefit Payments	Present Value of "Funded" Benefit Payments	Present Value of "Unfunded" Benefit Payments	Present Value of Benefit Payments Using the Single Discount Rate
	(a)	(b)	(c)	(d) = (c) if (b) >= (c)	(e) = (c) - (d)	(f) = (d) / (1+7.00%)^[(a) - .5]	(g) = (e) / (1+2.21%)^[(a) - .5]	(h) = (c) / (1+3.10%)^[(a) - .5]
51	$ 0	$ 5,892	$ 0	$ 5,892	$ 0	$ 1,954	$ 1,259
52	0	4,961	0	4,961	0	1,610	1,028
53	0	4,142	0	4,142	0	1,315	833
54	0	3,428	0	3,428	0	1,065	669
55	0	2,813	0	2,813	0	855	532
56	0	2,290	0	2,290	0	681	420
57	0	1,850	0	1,850	0	538	329
58	0	1,483	0	1,483	0	422	256
59	0	1,182	0	1,182	0	329	198
60	0	938	0	938	0	255	152
61	0	741	0	741	0	198	117
62	0	585	0	585	0	153	89
63	0	462	0	462	0	118	68
64	0	365	0	365	0	91	52
65	0	291	0	291	0	71	40
66	0	233	0	233	0	56	31
67	0	188	0	188	0	44	25
68	0	154	0	154	0	35	20
69	0	128	0	128	0	29	16
70	0	108	0	108	0	24	13
71	0	92	0	92	0	20	11
72	0	79	0	79	0	16	9
73	0	68	0	68	0	14	7
74	0	59	0	59	0	12	6
75	0	51	0	51	0	10	5
76	0	44	0	44	0	8	4
77	0	37	0	37	0	7	4
78	0	31	0	31	0	6	3
79	0	26	0	26	0	5	2
80	0	21	0	21	0	4	2
81	0	17	0	17	0	3	1
82	0	13	0	13	0	2	1
83	0	10	0	10	0	2	1
84	0	8	0	8	0	1	1
85	0	6	0	6	0	1	0
86	0	4	0	4	0	1	0
87	0	3	0	3	0	0	0
88	0	2	0	2	0	0	0
89	0	1	0	1	0	0	0
90	0	1	0	1	0	0	0
91	0	0	0	0	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
					$ 681,956	**+ $ 984,165**	**= $ 1,666,122**

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. Deferred Inflow of Resources

An acquisition of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 68, these are experience gains on the Total Pension Liability, assumption changes reducing the Total Pension Liability, or investment gains that are recognized in future reporting periods.

4. Deferred Outflow of Resources

A consumption of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 68, these are experience losses on the Total Pension Liability, assumption changes increasing the Total Pension Liability, or investment losses that are recognized in future reporting periods.

5. Entry Age Actuarial Cost Method

The actuarial cost method required for GASB 68 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.

6. 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.

APPENDIX E – GLOSSARY OF TERMS

7. 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.

8. Plan Fiduciary Net Position

The fair or market value of assets.

9. Reporting Date

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

10. 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 68. The Service Cost is the normal cost calculated under the entry age actuarial cost method.

11. 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 68. 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.