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Judicial Retirement System of New Jersey

GASB 68 Report as of June 30, 2019

Produced by Cheiron

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SECTION I – BOARD SUMMARY

The purpose of this report is to provide accounting and financial disclosure information under Government 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, 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 was 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. 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	6/30/2019	6/30/2018
Net Pension Liability	$ 952,358,213	$ 754,294,872
Deferred Outflows	(126,216,779)	(18,062,743)
Deferred Inflows	23,774,553	52,394,447
Net Impact on Statement of Net Position	$ 849,915,987	$ 788,626,576
Pension Expense	$ 90,992,111	$ 43,367,178
Pension Expense (% of Payroll)	117.01%	62.65%

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, 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.

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 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 4.09% 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 assumptions 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.

SECTION IV – EMPLOYER REPORTING AMOUNTS

We understand the State has elected to use the 2019 measurement date for its 2020 reporting date. As a result, the schedules in this section will be used by the State for its 2020 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 3.68 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	$ 16,049,259	$ 3,879,274
Changes in assumptions	110,167,520	19,453,706
Net differences between projected and actual earnings on pension plan investments	0	441,573
Total	**$ 126,216,779**	**$ 23,774,553**

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

Measurement year ended June 30:	
2020	32,188,296
2021	38,746,051
2022	31,186,715
2023	321,164
2024	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 2019	2020	2021	2022	2023
2019	3.68	$ 19,557,727	$ 5,314,600	$ 5,314,600	$ 5,314,600	$ 3,613,927	$ 0
2018	2.66	(6,216,185)	(2,336,911)	(2,336,911)	(1,542,363)	0	0
2017	1.44	5,910,979	4,104,847	1,806,132	0	0	0
2016	0.44	32,594	32,594	0	0	0	0
Total		$ 19,285,115	$ 7,115,130	$ 4,783,821	$ 3,772,237	$ 3,613,927	$ 0

Recognition of changes in assumptions

From Measurement Year Ending	Remaining Recognition Period	Remaining Deferred (Inflows) and Outflows*	Recognition Year 2019	2020	2021	2022	2023
2019	3.68	$ 151,274,804	$ 41,107,284	$ 41,107,284	$ 41,107,284	$ 27,952,952	$ 0
2018	2.66	(16,777,410)	(6,307,297)	(6,307,297)	(4,162,816)	0	0
2017	1.44	(29,400,852)	(20,417,259)	(8,983,593)	0	0	0
2016	0.44	10,958,757	10,958,757	0	0	0	0
Total		$ 116,055,299	$ 25,341,485	$ 25,816,394	$ 36,944,468	$ 27,952,952	$ 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 2019	2020	2021	2022	2023
2019	5.00	$ 1,605,812	$ 321,162	$ 321,162	$ 321,162	$ 321,162	$ 321,164
2018	4.00	(2,805,298)	(701,324)	(701,324)	(701,324)	(701,326)	0
2017	3.00	(4,771,478)	(1,590,493)	(1,590,493)	(1,590,492)	0	0
2016	2.00	7,117,473	3,558,737	3,558,736	0	0	0
2015	1.00	1,619,716	1,619,716	0	0	0	0
Total		$ 2,766,225	$ 3,207,798	$ 1,588,081	$ (1,970,654)	$ (380,164)	$ 321,164

Grand Total		**$ 138,106,639**	**$ 35,664,413**	**$ 32,188,296**	**$ 38,746,051**	**$ 31,186,715**	**$ 321,164**

* *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	2019	2018
Change in Net Pension Liability	$ 198,063,341	$ (7,775,790)
Change in Deferred Outflows	(108,154,036)	31,810,782
Change in Deferred Inflows	(28,619,894)	(4,691,451)
Employer Contributions	29,702,700	24,023,637
Pension Expense	**$ 90,992,111**	**$ 43,367,178**
Pension Expense as % of Payroll	**117.01%**	**62.65%**
Operating Expenses		
Service cost	$ 37,584,273	$ 35,477,981
Employee contributions	(9,688,270)	(9,177,453)
Administrative expenses	200,338	185,364
Total	$ 28,096,341	$ 26,485,892
Financing Expenses		
Interest cost	$ 38,067,870	$ 36,209,627
Expected return on assets	(10,836,513)	(11,303,247)
Total	$ 27,231,357	$ 24,906,380
Changes		
Benefit changes	$ 0	$ 0
Recognition of assumption changes	25,341,485	(8,797,213)
Recognition of liability gains and losses	7,115,130	1,553,147
Recognition of investment gains and losses	3,207,798	(781,028)
Total	$ 35,664,413	$ (8,025,094)
Pension Expense	**$ 90,992,111**	**$ 43,367,178**

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.

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.

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.

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

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.

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 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. 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.

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.

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.)

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.

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.

(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.

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

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

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	"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+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

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	"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+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. 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.