

# **State Police Retirement System of New Jersey**

## **GASB 68 Report as of June 30, 2023**

**Produced by Cheiron**

**February 2024**

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**STATE POLICE RETIREMENT SYSTEM OF NEW JERSEY  
GASB 68 REPORTING FOR JUNE 30, 2023 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 68 for the State Police Retirement System of New Jersey (SPRS, Plan or System). This information includes:

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

**Highlights**

The reporting date for SPRS is June 30, 2023. Measurements as of the reporting date are based on the fair value of assets as of June 30, 2023 and the Total Pension Liability (TPL) as of the valuation date, July 1, 2022, updated to June 30, 2023. We are not aware of any significant events between the valuation date and the measurement date that are measurable at this time, so the update procedures only included the addition of service cost and interest cost offset by actual benefit payments. 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.

<b>Table I-1 Summary of Results</b>		
<b>Measurement Date</b>	<b>June 30, 2023</b>	<b>June 30, 2022</b>
Net Pension Liability	\$ 2,264,460,065	\$ 2,275,074,428
Deferred Outflows	(202,998,437)	(303,433,489)
Deferred Inflows	<u>552,707,985</u>	<u>882,284,551</u>
Net Impact on Statement of Net Position	\$ 2,614,169,613	\$ 2,853,925,490
Pension Expense/(Income)	\$ (33,327,423)	\$ (166,572,620)
Pension Expense/(Income) (% of Payroll)	(9.65%)	(50.17%)

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**SECTION II – CERTIFICATION**

The purpose of this report is to provide accounting and financial reporting information under GASB 68 for the State Police Retirement System of New Jersey (SPRS). This report is for the use of SPRS, 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 SPRS and estimating the price to settle SPRS's obligations.

In preparing our report, we relied on information (some oral and some written) supplied by the DPB. 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, Data Quality.

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 calculation of the Total Pension Liability and the projection of the Plan's contributions and benefit payments as of June 30, 2023 were based on the recommended demographic assumptions of the July 1, 2018 – June 30, 2021 Experience Study, which was approved by the Board of Trustees on November 22, 2022.

This report was prepared using census data as of the July 1, 2022 valuation date and financial information as of the June 30, 2023 measurement date.

This report reflects one change to the plan provisions. Chapter 77, P.L. 2022 provides that a member may be eligible for Accidental Disability retirement if the member becomes permanently and totally disabled because of a preexisting and asymptomatic condition that is later rendered symptomatic as a direct result of a traumatic event occurring during and as a result of the performance of regular or assigned duties. The law also permitted retirees who were denied accidental disability retirement solely on the basis of an asymptomatic pre-existing condition between 2012 and 2019 to apply for reconsideration within 30 days of enactment. This legislation did not impact the Total Pension Liability for this report due to the current demographic assumptions and covered population.

Based on the State Treasurer's recommendation, the investment return assumption used to determine the actuarially determined contributions is 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. The discount rate used to measure the Total Pension Liability is 7.00% as of June 30, 2023 and is described in Section III of the report.

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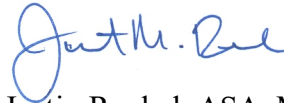
SECTION II – CERTIFICATION

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 SPRS 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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Principal Consulting Actuary



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Consulting Actuary

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**SECTION III – DETERMINATION OF DISCOUNT RATE**

The discount rate used to measure the Total Pension Liability was 7.00% as of June 30, 2022 and June 30, 2023. As discussed with the Division of Pensions and Benefits, the projection of cash flows used to determine the discount rate as of June 30, 2023 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 41 of GASB Statement No. 67, the projection of the Plan's contributions and 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, 2018 – June 30, 2021 Experience Study, which was approved by the Board of Trustees on November 22, 2022.

Based on the State Treasurer's recommendation, the investment return assumption used to determine the actuarially determined contributions is 7.00% per annum.

- It is assumed that the State will contribute 100% of the actuarially determined contribution and Non-Contributory Group Insurance Premium Fund (NCGIPF) contribution. The 100% contribution rate is the total State contribution rate expected to be paid in fiscal year ending June 30, 2024 with respect to the actuarially determined contribution for the fiscal year ending June 30, 2024 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.
- The NCGIPF contributions are assumed to be paid monthly.
- Annual administrative expenses are assumed to be 0.34% of expected pension benefit payments.

In the event the Plan's fiduciary net position was no longer sufficient to make future benefit payments, municipal bond rates of 3.54% as of June 30, 2022 and 3.65% as of June 30, 2023 would be used to develop the blended GASB discount rate. As selected by the State Treasurer, the rates are based on the Bond Buyer GO 20-Bond Municipal Bond Index.

As of June 30, 2023, based on the assumptions above, the pension Plan's fiduciary net position is expected to be sufficient to make all projected future benefit payments for current Plan members; therefore, the GASB discount rate as of June 30, 2023 is equal to the long-term rate of return of 7.00%. Similarly, the GASB discount rate as of June 30, 2022 was equal to the long-term rate of return of 7.00%. 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.

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**SECTION IV – EMPLOYER REPORTING AMOUNTS**

Consistent with previous reporting, the schedules in this section will be used by the State for its 2024 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 5.94 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.

<b>Table IV-1</b>		
<b>Schedule of Deferred Inflows and Outflows of Resources</b>		
	<b>Deferred Outflows of Resources</b>	<b>Deferred Inflows of Resources</b>
Differences between expected and actual experience	\$ 81,557,216	\$ 1,104,943
Changes in assumptions	85,902,833	551,603,042
Net differences between projected and actual earnings on pension plan investments	35,538,388	0
<b>Total</b>	<b><u>\$ 202,998,437</u></b>	<b><u>\$ 552,707,985</u></b>
Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:		
<b>Measurement year ended June 30:</b>		
2024	(160,732,531)	
2025	(170,295,890)	
2026	(27,761,166)	
2027	5,017,352	
2028	4,062,687	
Thereafter	\$ 0	

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**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							
			2023	2024	2025	2026	2027	2028	Thereafter	
2023	5.94	\$ 25,672,722	\$ 4,322,007	\$ 4,322,007	\$ 4,322,007	\$ 4,322,007	\$ 4,322,007	\$ 4,322,007	\$ 4,062,687	\$ 0
2022	4.94	70,968,436	14,366,080	14,366,080	14,366,080	14,366,080	13,504,116	0	0	0
2021	3.49	2,434,080	697,444	697,444	697,444	341,748	0	0	0	0
2020	2.58	3,049,475	1,181,966	1,181,966	685,543	0	0	0	0	0
2019	1.53	(3,189,746)	(2,084,803)	(1,104,943)	0	0	0	0	0	0
2018	0.90	(2,988,637)	(2,988,637)	0	0	0	0	0	0	0
<b>Total</b>		<b>\$ 95,946,330</b>	<b>\$ 15,494,057</b>	<b>\$ 19,462,554</b>	<b>\$ 20,071,074</b>	<b>\$ 19,029,835</b>	<b>\$ 17,826,123</b>	<b>\$ 4,062,687</b>	<b>\$ 0</b>	<b>\$ 0</b>

**Recognition of changes in assumptions**

From Measurement Year Ending	Remaining Recognition Period	Remaining Deferred (Inflows) and Outflows*	Recognition Year							
			2023	2024	2025	2026	2027	2028	Thereafter	
2023	5.94	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
2022	4.94	(20,595,198)	(4,169,068)	(4,169,068)	(4,169,068)	(4,169,068)	(3,918,926)	0	0	0
2021	3.49	(705,266,121)	(202,081,983)	(202,081,983)	(202,081,983)	(99,020,172)	0	0	0	0
2020	2.58	140,271,715	54,368,882	54,368,882	31,533,951	0	0	0	0	0
2019	1.53	(92,356,500)	(60,363,726)	(31,992,774)	0	0	0	0	0	0
2018	0.90	(57,888,349)	(57,888,349)	0	0	0	0	0	0	0
<b>Total</b>		<b>\$ (735,834,453)</b>	<b>\$ (270,134,244)</b>	<b>\$ (183,874,943)</b>	<b>\$ (174,717,100)</b>	<b>\$ (103,189,240)</b>	<b>\$ (3,918,926)</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>

**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							
			2023	2024	2025	2026	2027	2028	Thereafter	
2023	5.00	\$ (44,449,229)	\$ (8,889,846)	\$ (8,889,846)	\$ (8,889,846)	\$ (8,889,846)	\$ (8,889,845)	\$ 0	\$ 0	\$ 0
2022	4.00	261,152,343	65,288,086	65,288,086	65,288,086	65,288,085	0	0	0	0
2021	3.00	(216,144,316)	(72,048,106)	(72,048,106)	(72,048,104)	0	0	0	0	0
2020	2.00	38,659,450	19,329,726	19,329,724	0	0	0	0	0	0
2019	1.00	3,042,306	3,042,306	0	0	0	0	0	0	0
<b>Total</b>		<b>\$ 42,260,554</b>	<b>\$ 6,722,166</b>	<b>\$ 3,679,858</b>	<b>\$ (15,649,864)</b>	<b>\$ 56,398,239</b>	<b>\$ (8,889,845)</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>
<b>Grand Total</b>		<b>\$ (597,627,569)</b>	<b>\$ (247,918,021)</b>	<b>\$ (160,732,531)</b>	<b>\$ (170,295,890)</b>	<b>\$ (27,761,166)</b>	<b>\$ 5,017,352</b>	<b>\$ 4,062,687</b>	<b>\$ 0</b>	<b>\$ 0</b>

\* As of the beginning of the measurement year



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**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 SPRS 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 SPRS 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.

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**SECTION IV – EMPLOYER REPORTING AMOUNTS**

<b>Table IV-3 Calculation of Pension Expense</b>		
<b>Measurement Year Ending</b>	<b>2023</b>	<b>2022</b>
Change in Net Pension Liability	\$ (10,614,363)	\$ 351,183,621
Change in Deferred Outflows	100,435,052	(98,619,151)
Change in Deferred Inflows	(329,576,566)	(625,302,600)
Employer Contributions	<u>206,428,454</u>	<u>206,165,510</u>
<b>Pension Expense/(Income)</b>	<b>\$ (33,327,423)</b>	<b>\$ (166,572,620)</b>
<b>Pension Expense/(Income) as % of Payroll</b>	<b>(9.65%)</b>	<b>(50.17%)</b>
<b>Operating Expenses</b>		
Service cost	\$ 85,593,034	\$ 72,160,698
Employee contributions	(30,727,554)	(27,081,021)
Administrative expenses	<u>861,652</u>	<u>701,981</u>
Total	\$ 55,727,132	\$ 45,781,658
<b>Financing Expenses</b>		
Interest cost	\$ 292,841,117	\$ 280,610,597
Expected return on assets	<u>(133,977,651)</u>	<u>(156,053,803)</u>
Total	\$ 158,863,466	\$ 124,556,794
<b>Changes</b>		
Benefit changes	\$ 0	\$ 0
Recognition of assumption changes	(270,134,244)	(359,042,508)
Recognition of liability gains and losses	15,494,057	13,650,756
Recognition of investment gains and losses	<u>6,722,166</u>	<u>8,480,680</u>
Total	\$ (247,918,021)	\$ (336,911,072)
<b>Pension Expense/(Income)</b>	<b>\$ (33,327,423)</b>	<b>\$ (166,572,620)</b>

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**APPENDIX A – MEMBERSHIP INFORMATION**

Plan Membership		
	July 1, 2022	July 1, 2021
Contributing Actives	2,994	2,957
Non-Contributing Actives	65	61
Terminated Vested	0	0
Inactive Receiving Benefits*	3,612	3,544
Total	6,671	6,562
Annual Compensation for Contributing Actives	\$ 345,191,396	\$ 332,022,798
Annual Retirement Allowances for Those Receiving Benefits	\$ 247,559,564	\$ 238,690,959

\* QDRO recipients are excluded from the counts

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**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**A. Actuarial Assumptions**

- 1. Investment Rate of Return for determining Actuarially Determined Contributions**      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, 2022: 7.00% per annum, compounded annually.
  - June 30, 2023: 7.00% 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 COLAs are assumed. Previously granted COLAs are included in the data.

- 7. Salary Increases**      Salaries are assumed to increase annually as follows:

Service	Rates
0-11	6.75%
12-25	3.75
26+	2.75

Salaries increases are assumed to occur on January 1

- 8. 401(a)(17) Pay Limit**      \$305,000 in 2022 increasing 2.75% per annum, compounded annually.
- 9. Social Security Wage Base**      \$147,000 in 2022 increasing 3.25% per annum, compounded annually.

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**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**10. Termination**

Termination rates are as follows:

Service	Rates
0	0.450%
1	0.450
2	0.450
3	0.450
4	0.300
5	0.225
6	0.200
7	0.175
8	0.150
9	0.125
10	0.100
11	0.075
12	0.075
13	0.075
14	0.075
15	0.075
16	0.075
17	0.075
18	0.075
19	0.075
20	0.000

No termination is assumed after attainment of retirement eligibility.

All members with 10 or more years of service at termination are assumed to elect a deferred retirement benefit.

**11. Disability**

Representative disability rates are as follows:

Age	Ordinary Disability	Accidental Disability
20	0.009%	0.015%
25	0.015	0.025
30	0.032	0.053
35	0.116	0.194
40	0.125	0.208
45	0.128	0.214
50	0.132	0.220
54	0.177	0.295

No ordinary disability is assumed prior to attainment of ordinary disability retirement eligibility at four years of service or after attainment of special retirement eligibility at 25 years of service.

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Accidental disability rates apply at all ages until the mandatory retirement age of 55.

Members retiring under the ordinary disability decrement with 20 or more years of service are assumed to receive the involuntary disability retirement benefit.

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

**12. Mortality**

Pre-Retirement (Non-Annuitant): The Pub-2010 Public Safety Above-Median Income Employee mortality table [*PubS-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 using SOA's Scale MP-2021.

35% of the deaths are assumed to be accidental.

For purposes of pre-retirement accidental death benefits based on Adjusted Final Compensation, the benefit is assumed to increase at 3.75% per year, consistent with the assumed salary increases for members with 12 to 25 years of service.

Healthy Retirees (Healthy Annuitants): The Pub-2010 Public Safety Above-Median Income Healthy Retiree mortality table [*PubS-2010(A) Healthy Retiree*] as published by the Society of Actuaries, unadjusted, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2021.

Beneficiaries (Contingent Annuitants): The Pub-2010 General Above-Median Income Healthy Retiree mortality table [*PubG-2010(A) Healthy Retiree*] as published by the Society of Actuaries, unadjusted, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2021.

Disabled Retirees (Disabled Annuitants): The Pub-2010 Public Safety Disabled Retiree mortality table [*PubS-2010 Disabled Retiree*] as published by the Society of Actuaries, unadjusted, and with future improvement from a base year of 2010 on a generational basis using SOA's Scale MP-2021.

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

**13. Retirement**

For those with 24 years of service or less: 0.50%

For those with 25 years of service:

Age	Rates
48 or younger	25.00%
49-54	50.00

For those with 26 or more years of service: 35.00%

Mandatory retirement at age 55.

**14. Family Composition Assumptions**

For members not currently in receipt, 83.3% of members are assumed married to spouses of the opposite sex. Males are assumed to be two years older than females.

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

No additional dependent children or parents are assumed.

For current dependents receiving a pre-retirement accidental death benefit, those under age 24 are assumed to receive a benefit until age 24 while those over age 24 are assumed to receive a benefit for the remainder of their lifetime.

For current dependents receiving a benefit other than a pre-retirement accidental death benefit, those under age 18 are assumed to receive a benefit until age 18 while those over age 18 are assumed to receive a benefit for the remainder of their lifetime.

**15. Data**

Information provided by the prior actuary was relied upon for the purposes of setting the status of and valuing non-contributing active records.

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

Inactives receiving benefits according to the 2021 data but omitted from the 2022 data are assumed to have died without a beneficiary.

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**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

The maintenance amount reported in the 2022 active data was unchanged from the prior year. This amount was expected to increase by 8.75% in accordance with the recent contract between the State and State Troopers Fraternal Associations covering Fiscal Years 2020-2023. We reflected the 8.75% increase in the maintenance amount in the 2022 valuation data.

**16. Rationale for Assumptions**

The demographic assumptions used in this report reflect the results of the July 1, 2018 – June 30, 2021 Experience Study, which was approved by the Board of Trustees on November 22, 2022. The investment return assumption was recommended by the State Treasurer. We find the investment return assumption to be reasonable based on the System’s current asset allocation and the capital market outlook of the New Jersey Division of Investment.

**17. 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, 2022 and the financial information as of June 30, 2023. The projections assume continuation of the plan provisions and actuarial assumptions in effect as of July 1, 2023 and do not reflect the impact of any changes in benefits or actuarial assumptions that may be adopted after July 1, 2023 unless otherwise indicated. While the assumptions individually are reasonable for the underlying valuation that supports the projections, specifically for projection purposes, they are also considered reasonable in the aggregate.

**18. Changes in Assumptions Since Last Valuation**

None.



**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 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.

**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**2. Asset Valuation Method**

For the purpose 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% by September 30, at least 50% by December 31, at least 75% by March 31, and at least 100% by June 30. As such, contributions are assumed to be made on a quarterly basis with the first contribution 15 months after the associated valuation date, with the exception of the FYE 2022 contribution. For FYE 2022 only, we assumed that the entire contribution was made in a single payment on July 1, 2021 based on information provided by the DPB.

**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 Last Valuation**

None.

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

This summary of Plan provisions provides an overview of the major provisions of the SPRS used in the actuarial valuation. It is not intended to replace the more precise language of the NJ State Statutes, Title 53, Chapter 5A, 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 of Membership**

All members of the former State Police and Benevolent Fund and full-time commissioned officers, non-commissioned officers or troopers of the Division of State Police. Membership is a condition of employment.

- a) Tier 1 Member: Any member hired on or before May 21, 2010.
- b) Tier 2 Member: Any member hired after May 21, 2010.

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

**2. Plan Year**

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

**3. Service Credit**

Service rendered while a member as described above. Chapter 399, P.L. 2021 permits members to purchase service credit earned from public employment in another state or with the United States Government.

**4. Credited Service**

A year is credited for each year of service as an officer or trooper in the State Police.

**5. Compensation**

Base salary in accordance with established salary policies of the state for all employees in the same position. Compensation does not include individual salary adjustments granted primarily in anticipation of the retirement or for temporary or extracurricular duties beyond the regular workday or shift. 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. Chapter 1, P. L. 2010 provides that for members hired on or after May 22, 2010, the amount of compensation used for employer and member contributions and benefits under the System cannot exceed the annual maximum wage contribution base for Social Security, pursuant to the Federal Insurance Contributions Act.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

**6. Final Compensation**

Average compensation received by the member in the last 12 months of credited service preceding retirement or death. Such term includes the value of the member's maintenance allowance for the same period. Chapter 1, P. L. 2010 provides that for members hired on or after May 22, 2010, Final Compensation means the average annual compensation for service for which contributions are made during any three fiscal years of membership providing the largest possible benefit to the member or the member's beneficiary.

**7. Aggregate Contributions**

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

**8. Member Contributions**

Each member contributes 9.0% of base salary. For contribution purposes, compensation does not include overtime, bonuses, maintenance or any adjustments before retirement.

**9. Adjusted Final Compensation**

For purposes of the pre-retirement accidental death benefit, the amount of compensation or compensation as adjusted, as the case may be, increased by the same percentage increase which is applied in any adjustments of the compensation schedule of active members after the member's death and before the date on which the deceased member of the retirement system would have accrued 25 years of service under an assumption of continuous service, at which time that amount will become fixed. Adjustments to compensation or adjusted compensation shall take effect at the same time as any adjustments in the compensation schedule of active members.

**10. Benefits**

**a) Service and Special Retirement:**

Mandatory retirement at age 55. Voluntary retirement prior to age 55.

- (1) Service Retirement: 20 years of service credit, or members as of August 29, 1985 who would not have 20 years of service credit at age 55.

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

- (2) Special Retirement: 25 years of service credit.

Benefit is an annual retirement allowance equal to 65% of final compensation, plus 1% for each year of service credit in excess of 25 years, to a maximum of 70% of final compensation.

- (3) Members as of August 29, 1985 who would have 20 years of service credit but not 25 years at age 55.

Benefit is an annual retirement allowance equal to 50% of final compensation, plus 3% for each year of service credit in excess of 20 years.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

b) **Deferred Retirement:**

Termination of service prior to age 55 with 10 years of service credit.

Benefit is either a refund of aggregate contributions, or a deferred life annuity beginning at age 55 equal to 2% of final compensation for each year of service credit up to 25 years.

For members who die during the deferral period, the benefit is a return of aggregate contributions.

c) **Non-Vested Termination:**

Termination of service prior to age 55 and less than 10 years of service credit.

Benefit is a return of aggregate contributions.

d) **Death Benefits**

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

- a) Lump sum payment equal to 350% of final compensation, also known as the noncontributory group life insurance benefit, plus
- b) Spousal life annuity of 50% of final compensation payable until spouse's death or remarriage. If there is no surviving spouse, or upon death or remarriage, 50% of final compensation payable to surviving children in equal shares. If there is no surviving spouse or dependent child(ren), 25% (40%) of final compensation to one (two) dependent parent(s). If there is no surviving spouse, dependent child(ren) or parent(s), the benefit is a refund of accumulated contributions.

(2) **Accidental Death Before Retirement:** Death of an active member of the plan resulting during performance of duties. Benefit is equal to:

- a) Lump sum payment equal to 350% of final compensation, also known as the noncontributory group life insurance benefit, plus
- b) Spousal life annuity of 70% of final compensation or adjusted final compensation (if appropriate) payable until spouse's death. If there is no surviving spouse, or upon death of the surviving spouse, 70% of final compensation or adjusted final compensation (if appropriate) payable to surviving children in equal shares. If there is no surviving spouse or dependent children, 25% (40%) of final compensation or adjusted final compensation (if appropriate) to one (two) dependent parents. If there is no surviving spouse, dependent child(ren) or parent(s), the benefit is a refund of accumulated contributions.

**APPENDIX C – SUMMARY OF PLAN PROVISIONS**

- (3) Death After Retirement: Death of a retired member of the plan. Accidental death benefits in certain circumstances are provided to surviving spouses and children of SPRS retirees who participated in the World Trade Center rescue, recovery or cleanup operations and died prior to July 8, 2019. Benefit is equal to:
- a) Lump sum payment equal to 50% of final compensation for a member retired under service, special or deferred retirement. For a member receiving a disability benefit, lump sum payment of 350% of final compensation if death occurs prior to age 55 and 50% of final compensation if death occurs after age 55. This benefit is also known as the noncontributory group life insurance benefit, plus
  - b) Spousal life annuity of 50% of final compensation payable until spouse's death or remarriage. If there is no surviving spouse, or upon death or remarriage, a total of 20% (35%, 50%) of final compensation payable to one (two, three or more) dependent child(ren). Previously granted COLAs also apply.

e) **Disability Retirement**

- (1) Ordinary Disability Retirement: Four years of service credit and mentally or physically incapacitated for the performance of his usual duty and of any other available duty in the Division of State Police and such incapacity is likely to be permanent.

Benefit is an immediate life annuity equal to the greater of:

- a) 40% of final compensation, or
- b) 1.5% of final compensation for each year of service credit.

- (2) Involuntary Ordinary Disability Retirement: Ordinary Disability Retirement applied for by the employer.

Benefit is an immediate life annuity equal to:

- a) For members with 20 years of service credit but less than 25 years, 50% of final compensation plus 3% of final compensation for each year of service credit in excess of 20 years, to a maximum of 65% of final compensation.
- b) For all other members, the Ordinary Disability benefit.

**APPENDIX C – SUMMARY OF PLAN PROVISIONS**

- (3) Accidental Disability Retirement: Totally and permanently disabled as a direct result of a traumatic event occurring during and as a result of his regular or assigned duties and such member is mentally or physically incapacitated for the performance of his usual duties in the Division of State Police. A member may also be eligible if the member becomes totally and permanently disabled because of a preexisting and asymptomatic condition that is later rendered symptomatic as a direct result of a traumatic event occurring during and as a result of the performance of regular or assigned duties. Under certain conditions, regular or assigned duties may include the World Trade Center (WTC) rescue, recovery, or cleanup operations between September 11, 2001 and October 11, 2011. For such members who participated in the WTC rescue, recovery, or cleanup operations, the total and permanent disability may occur after retirement on a service retirement or an ordinary disability retirement.

Benefit is an immediate life annuity equal to  $2/3$  of annual rate of compensation, including the maintenance allowance, at the time of the traumatic event or retirement, whichever is greater.

**11. Forms of Payment**

No optional forms of payment available.

**12. Changes in Plan Provisions Since Last Valuation**

Chapter 77, P.L. 2022 provides that a member may be eligible for Accidental Disability retirement if the member becomes permanently and totally disabled because of a preexisting and asymptomatic condition that is later rendered symptomatic as a direct result of a traumatic event occurring during and as a result of the performance of regular or assigned duties. The law also permitted retirees who were denied accidental disability retirement solely on the basis of an asymptomatic pre-existing condition between 2012 and 2019 to apply for reconsideration within 30 days of enactment.

**STATE POLICE 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, 2023

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	\$ 2,108,654	\$ 26,352	\$ 223,289	\$ 263,683	\$ 891	\$ 145,213	\$ 2,238,934
2	2,238,934	26,400	225,488	271,333	916	154,128	2,372,701
3	2,372,701	26,630	228,344	277,300	936	163,370	2,512,808
4	2,512,808	26,267	231,859	287,797	971	172,895	2,655,061
5	2,655,061	25,751	233,324	298,998	1,009	182,487	2,796,616
6	2,796,616	25,381	234,288	308,741	1,042	192,073	2,938,576
7	2,938,576	24,764	235,745	320,025	1,080	201,639	3,079,619
8	3,079,619	23,625	236,333	334,978	1,130	210,973	3,214,443
9	3,214,443	22,478	233,524	349,018	1,178	219,815	3,340,064
10	3,340,064	21,683	230,794	359,621	1,214	228,146	3,459,853
11	3,459,853	20,843	229,458	369,728	1,248	236,120	3,575,298
12	3,575,298	19,891	228,125	379,646	1,281	243,792	3,686,180
13	3,686,180	19,270	226,619	386,292	1,303	251,265	3,795,739
14	3,795,739	18,867	226,360	390,716	1,318	258,763	3,907,695
15	3,907,695	18,326	226,940	395,835	1,335	266,421	4,022,213
16	4,022,213	17,418	227,135	403,635	1,361	274,143	4,135,912
17	4,135,912	15,964	225,967	415,160	1,400	281,625	4,242,908
18	4,242,908	14,555	222,812	425,809	1,436	288,618	4,341,649
19	4,341,649	13,110	219,799	436,165	1,471	295,046	4,431,969
20	4,431,969	11,716	216,639	445,832	1,503	300,906	4,513,895
21	4,513,895	10,021	213,396	457,514	1,542	306,096	4,584,352
22	4,584,352	8,118	208,894	470,084	1,585	310,413	4,640,109
23	4,640,109	6,433	203,490	480,452	1,620	313,762	4,681,722
24	4,681,722	4,273	198,518	494,729	1,668	315,980	4,704,096
25	4,704,096	2,316	191,233	505,947	1,706	316,904	4,706,897
26	4,706,897	1,338	184,561	508,052	1,713	316,823	4,699,854
27	4,699,854	695	181,483	506,739	1,708	316,275	4,689,860
28	4,689,860	336	179,565	502,412	1,692	315,664	4,681,321
29	4,681,321	145	178,597	496,126	1,670	315,253	4,677,520
30	4,677,520	28	178,171	488,773	1,644	315,228	4,680,530
31	4,680,530	0	142,200	480,196	1,614	314,804	4,655,724
32	4,655,724	0	15,714	471,006	1,583	310,113	4,508,962
33	4,508,962	0	10,209	461,487	1,550	300,027	4,356,161
34	4,356,161	0	10,024	451,660	1,516	289,666	4,202,676
35	4,202,676	0	10,057	441,555	1,481	279,273	4,048,970
36	4,048,970	0	10,083	431,207	1,445	268,872	3,895,273
37	3,895,273	0	10,094	420,657	1,409	258,479	3,741,780
38	3,741,780	0	10,093	409,948	1,372	248,104	3,588,657
39	3,588,657	0	10,086	399,119	1,335	237,760	3,436,049
40	3,436,049	0	10,076	388,203	1,297	227,454	3,284,079
41	3,284,079	0	10,069	377,223	1,260	217,196	3,132,860
42	3,132,860	0	10,067	366,193	1,222	206,991	2,982,504
43	2,982,504	0	10,072	355,112	1,184	196,850	2,833,130
44	2,833,130	0	10,083	343,973	1,146	186,779	2,684,873
45	2,684,873	0	10,100	332,761	1,107	176,789	2,537,893
46	2,537,893	0	10,121	321,455	1,068	166,892	2,392,383
47	2,392,383	0	10,142	310,033	1,029	157,102	2,248,564
48	2,248,564	0	10,159	298,472	989	147,434	2,106,697
49	2,106,697	0	10,167	286,753	949	137,909	1,967,071
50	1,967,071	0	10,160	274,864	908	128,546	1,830,004



**STATE POLICE 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, 2023

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	1,830,004	0	10,133	262,801	867	119,367	1,695,835
52	1,695,835	0	10,081	250,568	825	110,396	1,564,919
53	1,564,919	0	10,003	238,180	783	101,658	1,437,616
54	1,437,616	0	9,895	225,657	740	93,175	1,314,288
55	1,314,288	0	9,755	213,025	698	84,974	1,195,295
56	1,195,295	0	9,585	200,315	655	77,078	1,080,988
57	1,080,988	0	9,379	187,556	611	69,510	971,710
58	971,710	0	9,136	174,785	569	62,294	867,786
59	867,786	0	8,856	162,041	526	55,450	769,526
60	769,526	0	8,534	149,363	483	48,999	677,212
61	677,212	0	8,169	136,805	442	42,958	591,092
62	591,092	0	7,761	124,425	400	37,344	511,372
63	511,372	0	7,308	112,287	360	32,167	438,200
64	438,200	0	6,818	100,472	322	27,436	371,660
65	371,660	0	6,296	89,061	284	23,155	311,766
66	311,766	0	5,744	78,134	249	19,321	258,448
67	258,448	0	5,176	67,780	215	15,927	211,557
68	211,557	0	4,596	58,074	184	12,960	170,855
69	170,855	0	4,014	49,094	155	10,401	136,021
70	136,021	0	3,447	40,906	129	8,226	106,660
71	106,660	0	2,903	33,558	105	6,406	82,306
72	82,306	0	2,398	27,081	85	4,908	62,446
73	62,446	0	1,941	21,476	67	3,696	46,540
74	46,540	0	1,539	16,721	52	2,733	34,039
75	34,039	0	1,193	12,767	40	1,982	24,407
76	24,407	0	904	9,550	30	1,409	17,140
77	17,140	0	668	6,990	22	981	11,777
78	11,777	0	481	5,001	16	668	7,910
79	7,910	0	338	3,494	11	444	5,187
80	5,187	0	230	2,380	7	289	3,319
81	3,319	0	153	1,580	5	183	2,070
82	2,070	0	98	1,021	3	113	1,257
83	1,257	0	61	641	2	68	744
84	744	0	37	391	1	40	428
85	428	0	22	232	1	23	240
86	240	0	12	133	0	13	131
87	131	0	7	75	0	7	70
88	70	0	4	41	0	4	36
89	36	0	2	22	0	2	18
90	18	0	1	11	0	1	9
91	9	0	1	6	0	0	4
92	4	0	0	3	0	0	2
93	2	0	0	1	0	0	1
94	1	0	0	1	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
101	0	0	0	0	0	0	0

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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, 2023

\* 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+3.65%)^[a] - .5]	Present Value of Benefit Payments Using the Single Discount Rate (h) = (c) / (1+7.00%)^[a] - .5]
(a)	(b)	(c)	(d) = (c) if (b) >= (c)	(e) = (c) - (d)	(f) = (d) / (1+7.00%)^[a] - .5]	(g) = (e) / (1+3.65%)^[a] - .5]	(h) = (c) / (1+7.00%)^[a] - .5]
1	\$ 2,108,654	\$ 263,683	\$ 263,683	\$ 0	\$ 254,912	\$ 0	\$ 254,912
2	2,238,934	271,333	271,333	0	245,147	0	245,147
3	2,372,701	277,300	277,300	0	234,148	0	234,148
4	2,512,808	287,797	287,797	0	227,113	0	227,113
5	2,655,061	298,998	298,998	0	220,516	0	220,516
6	2,796,616	308,741	308,741	0	212,806	0	212,806
7	2,938,576	320,025	320,025	0	206,153	0	206,153
8	3,079,619	334,978	334,978	0	201,668	0	201,668
9	3,214,443	349,018	349,018	0	196,375	0	196,375
10	3,340,064	359,621	359,621	0	189,103	0	189,103
11	3,459,853	369,728	369,728	0	181,699	0	181,699
12	3,575,298	379,646	379,646	0	174,368	0	174,368
13	3,686,180	386,292	386,292	0	165,813	0	165,813
14	3,795,739	390,716	390,716	0	156,740	0	156,740
15	3,907,695	395,835	395,835	0	148,405	0	148,405
16	4,022,213	403,635	403,635	0	141,430	0	141,430
17	4,135,912	415,160	415,160	0	135,951	0	135,951
18	4,242,908	425,809	425,809	0	130,316	0	130,316
19	4,341,649	436,165	436,165	0	124,753	0	124,753
20	4,431,969	445,832	445,832	0	119,176	0	119,176
21	4,513,895	457,514	457,514	0	114,297	0	114,297
22	4,584,352	470,084	470,084	0	109,755	0	109,755
23	4,640,109	480,452	480,452	0	104,837	0	104,837
24	4,681,722	494,729	494,729	0	100,890	0	100,890
25	4,704,096	505,947	505,947	0	96,428	0	96,428
26	4,706,897	508,052	508,052	0	90,494	0	90,494
27	4,699,854	506,739	506,739	0	84,356	0	84,356
28	4,689,860	502,412	502,412	0	78,164	0	78,164
29	4,681,321	496,126	496,126	0	72,136	0	72,136
30	4,677,520	488,773	488,773	0	66,418	0	66,418
31	4,680,530	480,196	480,196	0	60,984	0	60,984
32	4,655,724	471,006	471,006	0	55,903	0	55,903
33	4,508,962	461,487	461,487	0	51,190	0	51,190
34	4,356,161	451,660	451,660	0	46,823	0	46,823
35	4,202,676	441,555	441,555	0	42,780	0	42,780
36	4,048,970	431,207	431,207	0	39,045	0	39,045
37	3,895,273	420,657	420,657	0	35,598	0	35,598
38	3,741,780	409,948	409,948	0	32,422	0	32,422
39	3,588,657	399,119	399,119	0	29,500	0	29,500
40	3,436,049	388,203	388,203	0	26,816	0	26,816
41	3,284,079	377,223	377,223	0	24,353	0	24,353
42	3,132,860	366,193	366,193	0	22,094	0	22,094
43	2,982,504	355,112	355,112	0	20,024	0	20,024
44	2,833,130	343,973	343,973	0	18,127	0	18,127
45	2,684,873	332,761	332,761	0	16,389	0	16,389
46	2,537,893	321,455	321,455	0	14,796	0	14,796
47	2,392,383	310,033	310,033	0	13,337	0	13,337
48	2,248,564	298,472	298,472	0	12,000	0	12,000
49	2,106,697	286,753	286,753	0	10,774	0	10,774
50	1,967,071	274,864	274,864	0	9,652	0	9,652

**STATE POLICE RETIREMENT SYSTEM OF NEW JERSEY  
GASB 68 REPORTING FOR JUNE 30, 2023 MEASUREMENT DATE**

**APPENDIX D – DETERMINATION OF DISCOUNT RATE**

**Table 2 - Actuarial Present Values of Projected Benefit Payments**  
(In Thousands)

Projections Commence June 30, 2023

\* 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+3.65%)^(a) - .5]	Present Value of Benefit Payments Using the Single Discount Rate (h) = (c) / (1+7.00%)^(a) - .5]
(a)	(b)	(c)	(d) = (c) if (b) >= (c)	(e) = (c) - (d)	(f) = (d) / (1+7.00%)^(a) - .5]	(g) = (e) / (1+3.65%)^(a) - .5]	(h) = (c) / (1+7.00%)^(a) - .5]
51	1,830,004	262,801	262,801	0	8,625	0	8,625
52	1,695,835	250,568	250,568	0	7,685	0	7,685
53	1,564,919	238,180	238,180	0	6,827	0	6,827
54	1,437,616	225,657	225,657	0	6,045	0	6,045
55	1,314,288	213,025	213,025	0	5,334	0	5,334
56	1,195,295	200,315	200,315	0	4,687	0	4,687
57	1,080,988	187,556	187,556	0	4,102	0	4,102
58	971,710	174,785	174,785	0	3,572	0	3,572
59	867,786	162,041	162,041	0	3,095	0	3,095
60	769,526	149,363	149,363	0	2,666	0	2,666
61	677,212	136,805	136,805	0	2,282	0	2,282
62	591,092	124,425	124,425	0	1,940	0	1,940
63	511,372	112,287	112,287	0	1,636	0	1,636
64	438,200	100,472	100,472	0	1,368	0	1,368
65	371,660	89,061	89,061	0	1,134	0	1,134
66	311,766	78,134	78,134	0	929	0	929
67	258,448	67,780	67,780	0	753	0	753
68	211,557	58,074	58,074	0	603	0	603
69	170,855	49,094	49,094	0	477	0	477
70	136,021	40,906	40,906	0	371	0	371
71	106,660	33,558	33,558	0	285	0	285
72	82,306	27,081	27,081	0	215	0	215
73	62,446	21,476	21,476	0	159	0	159
74	46,540	16,721	16,721	0	116	0	116
75	34,039	12,767	12,767	0	83	0	83
76	24,407	9,550	9,550	0	58	0	58
77	17,140	6,990	6,990	0	40	0	40
78	11,777	5,001	5,001	0	26	0	26
79	7,910	3,494	3,494	0	17	0	17
80	5,187	2,380	2,380	0	11	0	11
81	3,319	1,580	1,580	0	7	0	7
82	2,070	1,021	1,021	0	4	0	4
83	1,257	641	641	0	2	0	2
84	744	391	391	0	1	0	1
85	428	232	232	0	1	0	1
86	240	133	133	0	0	0	0
87	131	75	75	0	0	0	0
88	70	41	41	0	0	0	0
89	36	22	22	0	0	0	0
90	18	11	11	0	0	0	0
91	9	6	6	0	0	0	0
92	4	3	3	0	0	0	0
93	2	1	1	0	0	0	0
94	1	1	1	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
101	0	0	0	0	0	0	0
					\$ 5,232,135	+ \$ 0	= \$ 5,232,135

## 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.