Conduent Human Resource Services
Retirement Consulting

CONDUENT

The State Police Retirement System of New Jersey

Information Required Under Governmental Accounting Standards Board Statement No. 67 as of June 30, 2016

Document Version: R:\Baus\NJ\Reports\2016 Reports\GASB 67\New Assumption\2016 SPRS GASB 67.docx

500 Plaza Drive
Secaucus, New Jersey 07096-1533

March 2, 2017

Director of the Division of Pension and Benefits
Division of Pension and Benefits
50 West State Street
One State Street Square
CN 295
Trenton, New Jersey 08625-0295

Director:

This valuation provides information concerning the State Police Retirement System of New Jersey in accordance with the Governmental Accounting Standards Board (GASB) Statement No. 67. This Statement is an amendment of Statements No. 25, Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans, and No. 50, Pension Disclosures, and was effective for Plan fiscal years on ending June 30, 2014 and later.

I certify that the information contained in this Actuarial Report has been prepared in accordance with generally accepted actuarial principles and practices. To the best of our knowledge, the information fairly presents the actuarial position of the State Police Retirement System of New Jersey in accordance with the requirements of GASB Statement No. 67 as of June 30, 2016.

The Board of Trustees may use this report for the review of the operation of the plan and as a source of information for the State financial statements. The report may also be used in the preparation of the plan's audited financial statements.

Use of this report for any other purpose or by anyone other than the Board of Trustees or the staff of the Division of Pensions and Benefits may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. Conduent should be asked to review any statement to be made on the basis of the results contained in this report. Conduent will accept no liability for any such statement made without prior review by Conduent.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. An analysis of the potential range of such future differences is beyond the scope of this valuation.

In preparing the actuarial results, we have relied upon information provided by the Division of Pensions and Benefits regarding plan provisions, plan participants, plan assets, contribution rates and other matters used in the actuarial valuation. Although we did not audit the data, we reviewed the data for reasonableness and consistency with the prior year's information. The accuracy of the results presented herein is dependent on the accuracy of the data.

As required under Section 32 of Chapter 89, P.L. 1965, experience studies are performed once in every three year period. The valuation was prepared using demographic assumptions recommended on the basis of the July 1, 2011 – June 30, 2014 Experience Study and approved by the Board of Trustees at the January 26, 2016 Board meeting. The Treasurer has recommended a change in the economic assumptions to be used effective with the July 1, 2016 valuation. The rate of investment return has been revised from 7.90% per annum to 7.65% per annum. The assumed future salary increases have been revised from 3.45% per annum through fiscal year ending 2021 and 4.45% per annum for fiscal years ending 2022 and thereafter to 2.95% per year through fiscal year 2025 and 3.95% per year for fiscal years 2026 and thereafter. Detailed information with regard to the change in the salary increase assumption is outlined in Section II. These assumptions will remain in effect for valuation purposes until such time the Board or Treasurer recommends revised assumptions.

In my opinion, the actuarial assumptions used are appropriate for purposes of the valuation and are reasonably related to the experience of the System and to reasonable long-term expectations. The mortality improvement assumption was selected in accordance with Actuarial Standard of Practice No. 35.

If there is reason to believe that the assumptions that were used are unreasonable, that the Plan provisions are incorrectly described, that important Plan provisions relevant to this actuarial report are not described, or that conditions have changed since the calculations were made, you should contact the authors of this actuarial note prior to relying on this information.

This report was prepared under my supervision. I am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the Academy's qualification Standards to issue this Statement of Actuarial Opinion. This report has been prepared in accordance with all applicable Actuarial Standards of Practice. I am available to answer questions and supply any additional information.

Respectfully submitted,

Aaron Shapiro

Aaron Shapiro, FSA, EA, MAAA
Principal, Consulting Actuary
Conduent

Table of Contents

Section I – GASB 67 Information

Notes to the Financial Statements for the Year Ended June 30, 2016

Summary of Significant Accounting Policies

Method used to value investments. Investments are reported at fair value.

Actuarial cost method. Entry Age Normal – Level Percentage of Pay

Plan Description

Plan administration. The State of New Jersey Division of Pensions and Benefits administers the State Police Retirement System of New Jersey (Plan), a single-employer defined benefit pension plan that provides pensions for all individuals who become full-time troopers or commissioned or noncommissioned officers of the Division of State Police enrolled in the Plan.

The general responsibility for the proper operation of the Plan is vested in the Board of Trustees (Board), and the pension committee established pursuant to Chapter 78 P.L. 2011.

The Board of Trustees consists of two active or retired members of the system appointed by the Superintendent of State Police, two members appointed by the Governor, the State Treasurer, who serves as an ex-officio member, and a member appointed by the Director of the Division of Pensions and Benefits of the State Department of the Treasury who shall be the secretary of the Board.

In accordance with Chapter 78, P.L. 2011, a pension committee is to be established when the Plan's "target funded ratio" is achieved. The "target funded ratio" is defined as the ratio of the actuarial value of assets over the actuarially determined accrued liabilities expressed as a percentage that will be 75% in State fiscal year 2012, and increased annually by equal increments in each of the subsequent seven fiscal years, until the ratio reaches 80% at which it is to remain for all subsequent fiscal years. The Plan attained the required 75% "target funded ratio" in Fiscal Year 2012, establishing the pension committee for the Plan.

The pension committee consists of four members appointed by the Governor as representatives of the public employer whose employees are enrolled in the Plan, three members appointed by the head of the State Troopers Fraternal Association, and one who is appointed by the head of the union representing the greatest number of members of the Plan who are supervisory officers having union membership.

Chapter 78, P.L. 2011 grants the authority to amend the benefit terms of the Plan to the pension committee. The pension committee will have the discretionary authority to modify the member contribution rate, formula for calculation of final compensation, fraction used to calculate the retirement allowance, age at which a member may be eligible and the benefits for service or early retirement and benefits provided for disability benefit. The pension committee will not have the authority to change the number of years required for vesting. The pension committee will have the authority to reactivate the cost of living adjustment and set the duration and extent of the activation. The pension committee must give priority consideration to the reactivation of the cost of living adjustment. No decision of the pension committee shall be implemented if the direct or indirect result of the decision will be that the Plan's funded ratio falls below the target funded ratio in any valuation period during the 30 years following the implementation of the decision.

Plan membership. Pension plan membership consisted of the following:

	June 30, 2014	June 30, 2015
Inactive plan members or beneficiaries currently receiving	3,409	3,511
Inactive plan members entitled to but not yet receiving	0	0
Active plan members	2,522	2,676
	5,931	6,187

Benefits provided. Please see Section III of the report for a summary of plan provisions.

Contributions. The Board establishes contributions based on an actuarially determined contribution recommended by an independent actuary and a contribution for the Non-Contributory Group Insurance Premium Fund (NCGIPF). The actuarially determined contribution is the estimated amount necessary to finance the costs of benefits earned by plan members during the year, with an additional amount to finance a portion of any unfunded accrued liability. For the year ended June 30, 2016, the State contributed $37,435,541 to the plan per the financial statement. This amount excludes transfers from other systems. In addition, the administrative loan fee revenue is not included and has been used as an offset to administrative expenses.

Investments

Rate of return. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested. A system specific money-weighted rate of return has not been calculated. The annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, for the co-mingled trust is as follows.

June 30, 2015	June 30, 2016
4.05%	(0.87%)

Receivables

N/A.

Net Pension Liability

The components of the net pension liability were as follows:

	June 30, 2015	June 30, 2016
Total pension liability	$ 4,821,505,776	$ 5,673,706,321
Plan fiduciary net position	(1,867,709,110)	(1,694,962,112)
State's net pension liability	$ 2,953,796,666	$ 3,978,744,209
Plan fiduciary net position as a percentage of the total pension liability	38.74%	29.87%

Actuarial assumptions

The total pension liability as of June 30, 2016 was determined by rolling forward the Plan's total pension liability as of July 1, 2015 to June 30, 2016 using the following actuarial assumptions, applied to all periods included in the measurement. In addition, an amount of $54,000 has been added to the liability as of June 30, 2016 equal to the amount in the June 30, 2016 Plan Fiduciary Net Position for transfers from other Systems. All other methods and assumptions used to determine the total pension liability are set forth in Section II and are consistent with the assumptions used for the July 1, 2015 actuarial valuation.

The actuarial cost method used to develop the total pension liability is the Entry Age Normal Cost-Level Percent of Pay method, as required by GASB Statements No. 67.

The Treasurer has recommended a change in the economic assumptions to be used effective with the July 1, 2016 valuation. The rate of investment return has been revised from 7.90% per annum to 7.65% per annum. The assumed future salary increases have been reduced by 0.5% at all ages for both the select and ultimate periods. In addition, the select period was extended from the fiscal year 2021 to the fiscal year 2026.

Long-Term Expected Rate of Return

The arithmetic mean return on the portfolio was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2016 are summarized in the following table. The capital market assumptions are per Conduent's investment consulting practice for 2016.

Asset Class	Index	Target Allocation*	Long-Term Expected Real Rate of Return
Cash	Citigroup 90-Day T-Bills	5.00%	0.87%
U.S. Treasuries	Barclays Long U.S. Treasury	1.50%	1.74%
Investment Grade Credit	Aggregate Bonds	8.00%	1.79%
Mortgages	Barclays Mortgage	2.00%	1.67%
High Yield Bonds	Barclays High Yield	2.00%	4.65%
Inflation-Indexed Bonds	Barclays U.S. TIPS	1.50%	3.44%
Broad US Equities	Wilshire 5000/Russell 3000	26.00%	8.53%
Developed Foreign Equities	MSCI EAFE	13.25%	6.83%
Emerging Market Equities	MSCI Emerging Markets	6.50%	9.95%
Private Equity	Cambridge Associates	9.00%	12.40%
Hedge Funds/Absolute Return	HFRI Fund of Funds	12.50%	4.68%
Real Estate (Property)	NCREIF Property Index	2.00%	6.91%
Commodities	S&P GSCI	0.50%	5.45%
Global Debt ex US	Barclays Global Aggregate ex US	5.00%	-0.25%
REIT	FTSE NAREIT	5.25%	5.63%
Assumed Inflation – Mean			3.08%
Assumed Inflation – Standard Deviation			2.59%
Portfolio Arithmetic Mean Return**			9.39%
Portfolio Standard Deviation			12.13%
Long-Term Expected Rate of Return selected by State Treasurer			**7.65%**

*Based on target asset allocation for 2016
**Includes assumed inflation.

The Tables presented in pages 7 through 10 illustrate the projections and calculations used to determine the discount rate as required by paragraphs 40−45 of this Statement as of June 30, 2016. A similar analysis was performed in determining the discount rate as of June 30, 2015. The discount rate is the single rate that reflects (1) the long-term expected rate of return on Plan investments that are expected to be used to finance the payment of benefits, to the extent that the Plan's fiduciary net position is projected to be sufficient to make projected benefit payments and Plan assets are expected to be invested using a strategy to achieve that return, and (2) a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another scale), to the extent that the conditions for use of the long-term expected rate of return are not met.

Discount rate. The discount rates used to measure the total pension liability were 4.59% as of June 30, 2015 and 3.55% as of June 30, 2016. As discussed with the Division of Pensions and Benefits, the projection of cash flows used to determine the discount rate as of June 30, 2016 assumed:

- In accordance with Paragraph 37 of GASB Statement No. 67, the projection of the Plan's fiduciary net position and projected benefit payments were based on the recommended demographic assumptions of the July 1, 2011 – June 30, 2014 Experience Study, which was approved by the Board of Trustees on January 26, 2016. Please see Section II of the report for a summary of the revised demographic assumptions.

- The Treasurer has recommended a change in the economic assumptions to be used effective with the July 1, 2016 valuation. The rate of investment return has been revised from 7.90% per annum to 7.65% per annum. The assumed future salary increases have been reduced by 0.5% at all ages for both the select and ultimate periods. In addition, the select period was extended from the fiscal year 2021 to the fiscal year 2026. Detailed information with regard to the change in the salary increase assumption is outlined in Section II.

- It is assumed that the State will contribute 30.00% of the actuarially determined contribution and 100% of its NCGIPF contribution. The 30.00% contribution rate is the actual State contribution rate paid in fiscal year ending June 30, 2016 with respect to the actuarially determined contribution for the fiscal year ending June 30, 2016.

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 until fiscal year 2033. Municipal bond rates of 3.80% as of June 30, 2015 and 2.85% as of June 30, 2016 were used in the development of the blended GASB discount rate after that point. 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 7.90% and the municipal bond rate of 3.80% as of June 30, 2015 and the long-term rate of return of 7.65% and the municipal bond rate 2.85% as of June 30, 2016, the blended GASB discount rates are 4.59% as of June 30, 2015 and 3.55% as of June 30, 2016. The assumed discount rates have been determined in accordance with the method prescribed by GASB Statement No. 67. We believe this assumption is reasonable for the purposes of the measurements required by the Statement.

The projections of the Fiduciary Net Plan Position are based on contributions to the plan in accordance with the State's current funding policy. Should contributions to the Plan be different from those based on the State's current funding policy, the results shown in Tables 1 and 2 would reflect the new contribution policy and may result in the Fiduciary Net Plan Position not being sufficient to cover the Plan's benefit payments at some other future date and thus changing the discount rate used to determine the Plan's Total Pension Liability.

Sensitivity of the net pension liability to changes in the discount rate. The following presents the net pension liability, calculated using the discount rate of 3.55%, as well as what the State's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (2.55%) or 1-percentage-point higher (4.55%) than the current rate:

	1% Decrease (2.55%)	**Current Discount Rate (3.55%)**	**1% Increase (4.55%)**
Net Pension Liability	$ 4,948,165,769	$ 3,978,744,209	$ 3,213,322,784

Schedules of Required Supplementary Information

Schedule of Changes in The State's Net Pension Liability and Related Ratios

	Increase (Decrease)		
Changes in Net Pension Liability	**Total Pension Liability (a)**	**Plan Fiduciary Net Positon (b)**	**Net Pension Liability (a) - (b)**
Balances as of June 30, 2015	$ 4,821,505,776	$ 1,867,709,110	$ 2,953,796,666
Changes for the year:			
Service cost	113,546,510		113,546,510
Interest on total pension liability	221,675,495		221,675,495
Effect of plan changes	0		0
Effect of economic/demographic (gains) or losses	(17,580,385)		(17,580,385)
Effect of assumptions changes or inputs	747,941,075		747,941,075
Benefit payments	(213,436,150)	(213,436,150)	0
Administrative expenses		(334,630)	334,630
Member contributions		22,818,295	(22,818,295)
Net investment income		(19,284,054)	19,284,054
Employer contributions		37,435,541	(37,435,541)
Transfers from other systems	54,000	54,000	0
Balances as of June 30, 2016	$ 5,673,706,321	$ 1,694,962,112	$ 3,978,744,209

Plan fiduciary net position as a percentage of the total pension liability	29.87%
Covered-employee payroll as of the July 1, 2015 actuarial valuation	$ 275,477,457
Net pension liability as a percentage of covered-employee payroll	1,444.31%

Notes to Schedule:

Benefit changes. None.

Changes of assumptions. The discount rate changed from 4.59% as of June 30, 2015 to 3.55% as of June 30, 2016 in accordance with Paragraph 44 of the GASB Statement No. 67. The Total Pension Liability as of June 30, 2016 was prepared using demographic assumptions recommended on the basis of the July 1, 2011 – June 30, 2014 Experience Study and the change in salary increase assumption recommended by the Treasurer. Please see Section II of the report for a summary of the revised demographic assumptions.

Employer Contributions. Includes the State's actual contributions of $35,580,000 and contributions to the NCGIPF of $1,855,541.

Schedule of State Contributions

	2015	2016
Actuarially determined contribution	$ 110,904,703[1]	$ 120,800,705[2]
Contributions related to the actuarially determined contribution	$ 38,527,297	$ 37,435,541[3]
Contribution deficiency (excess)	$ 72,377,406	$ 83,365,164

1. The above actuarially determined contribution is based on the assumption and methods in effect as of July 1, 2013.
2. The above actuarially determined contribution is based on the assumption and methods in effect as of July 1, 2014.
3. The amount represents the actual employer contributions made during fiscal year ending June 30, 2016.

Notes to Schedule

Valuation date: Actuarially determined contributions are calculated as of the July 1 preceding the fiscal year in which contributions are made. That is, the contribution calculated as of the July 1, 2015 actuarial valuation will be made during the fiscal year ended June 30, 2017.

The methods and assumptions used to determine the actuarially determined contributions to the plan are set forth in Appendix B in the July 1, 2015 valuation report.

Schedule of Investment Returns

	2015	2016
Annual money-weighted rate of return, net of investment expenses	**4.05%**	**(0.87%)**

Table 1

Projection of Fiduciary Net Position

(In Thousands)

Fiscal Year June 30	Beginning Fiduciary Net Plan Position	Member Contributions	Employer Contributions	Benefit Payments	Administrative Expenses	Projected Investment Earnings	Ending Fiduciary Net Plan Position
2016	$ 1,867,709	$ 22,818	$ 37,490	$ 213,436	$ 335	$ (19,284)	$ 1,694,962
2017	1,694,962	20,561	42,394	219,756	345	122,264	1,660,080
2018	1,660,080	20,584	46,317	223,363	350	119,467	1,622,735
2019	1,622,735	20,403	50,310	227,956	357	116,435	1,581,570
2020	1,581,570	20,025	54,250	234,043	367	113,045	1,534,480
2021	1,534,480	19,418	58,069	241,780	378	109,131	1,478,940
2022	1,478,940	18,841	62,297	248,890	389	104,598	1,415,397
2023	1,415,397	18,357	66,752	255,004	399	99,492	1,344,595
2024	1,344,595	17,597	71,565	263,196	411	93,743	1,263,893
2025	1,263,893	16,913	76,466	270,292	422	87,283	1,173,841
2026	1,173,841	16,429	81,784	275,517	430	80,186	1,076,293
2027	1,076,293	15,455	87,512	285,587	443	72,308	965,538
2028	965,538	14,434	93,118	295,654	456	63,423	840,403
2029	840,403	13,628	99,097	303,653	468	53,523	702,530
2030	702,530	12,577	105,746	313,222	482	42,579	549,728
2031	549,728	11,008	112,660	326,613	497	30,328	376,614
2032	376,614	9,487	117,326	338,940	512	16,568	180,543
2033	180,543	8,398	122,195	347,199	524	0	0
2034	0	0	0	354,882	536	0	0
2035	0	0	0	362,587	547	0	0
2036	0	0	0	366,709	554	0	0
2037	0	0	0	367,983	556	0	0
2038	0	0	0	368,817	557	0	0
2039	0	0	0	372,300	562	0	0
2040	0	0	0	377,309	570	0	0
2041	0	0	0	381,193	576	0	0
2042	0	0	0	382,022	577	0	0
2043	0	0	0	379,456	573	0	0
2044	0	0	0	375,494	567	0	0
2045	0	0	0	370,298	559	0	0
2046	0	0	0	364,225	550	0	0
2047	0	0	0	357,645	540	0	0
2048	0	0	0	350,821	530	0	0
2049	0	0	0	343,766	519	0	0
2050	0	0	0	336,463	508	0	0
2051	0	0	0	328,906	497	0	0
2052	0	0	0	321,086	485	0	0
2053	0	0	0	312,999	473	0	0
2054	0	0	0	304,645	460	0	0
2055	0	0	0	296,031	447	0	0
2056	0	0	0	287,165	434	0	0
2057	0	0	0	278,075	420	0	0
2058	0	0	0	268,774	406	0	0
2059	0	0	0	259,305	392	0	0
2060	0	0	0	249,696	377	0	0
2061	0	0	0	239,977	362	0	0

Table 1
(continued)
Projection of Fiduciary Net Position
(In Thousands)

Fiscal Year June 30	Beginning Fiduciary Net Plan Position	Member Contributions	Employer Contributions	Benefit Payments	Administrative Expenses	Projected Investment Earnings	Ending Fiduciary Net Plan Position
2062	$ 0	$ 0	$ 0	$ 230,195	$ 348	$ 0	$ 0
2063	0	0	0	220,380	333	0	0
2064	0	0	0	210,561	318	0	0
2065	0	0	0	200,768	303	0	0
2066	0	0	0	191,023	288	0	0
2067	0	0	0	181,330	274	0	0
2068	0	0	0	171,718	259	0	0
2069	0	0	0	162,167	245	0	0
2070	0	0	0	152,695	231	0	0
2071	0	0	0	143,301	216	0	0
2072	0	0	0	133,987	202	0	0
2073	0	0	0	124,771	188	0	0
2074	0	0	0	115,672	175	0	0
2075	0	0	0	106,704	161	0	0
2076	0	0	0	97,917	148	0	0
2077	0	0	0	89,327	135	0	0
2078	0	0	0	80,983	122	0	0
2079	0	0	0	72,930	110	0	0
2080	0	0	0	65,203	98	0	0
2081	0	0	0	57,856	87	0	0
2082	0	0	0	50,927	77	0	0
2083	0	0	0	44,445	67	0	0
2084	0	0	0	38,443	58	0	0
2085	0	0	0	32,944	50	0	0
2086	0	0	0	27,956	42	0	0
2087	0	0	0	23,478	35	0	0
2088	0	0	0	19,511	29	0	0
2089	0	0	0	16,038	24	0	0
2090	0	0	0	13,033	20	0	0
2091	0	0	0	10,470	16	0	0
2092	0	0	0	8,313	13	0	0
2093	0	0	0	6,520	10	0	0
2094	0	0	0	5,052	8	0	0
2095	0	0	0	3,865	6	0	0
2096	0	0	0	2,917	4	0	0
2097	0	0	0	2,170	3	0	0
2098	0	0	0	1,590	2	0	0
2099	0	0	0	1,146	2	0	0
2100	0	0	0	812	1	0	0
2101	0	0	0	564	1	0	0
2102	0	0	0	385	1	0	0
2103	0	0	0	257	0	0	0
2104	0	0	0	168	0	0	0
2105	0	0	0	107	0	0	0
2106	0	0	0	67	0	0	0
2107	0	0	0	41	0	0	0
2108	0	0	0	24	0	0	0
2109	0	0	0	14	0	0	0
2110	0	0	0	8	0	0	0
2111	0	0	0	4	0	0	0
2112	0	0	0	2	0	0	0
2113	0	0	0	1	0	0	0

Table 2

Actuarial Present Values of Projected Benefit Payments

(In Thousands)

			Benefit Payments		Present Value of Benefit Payments		
Fiscal Year Ending June 30	Beginning Fiduciary Net Plan Position	Benefit Payments	Funded Portion	Unfunded Portion	Funded Portion at 7.65%	Unfunded Portion at 2.85%	Using Single Discount Rate of 3.55%
2016	$ 1,867,709	$ 213,436	$ 213,436	$ 0	$ 205,713	$ 0	$ 209,750
2017	1,694,962	219,756	219,756	0	196,752	0	208,566
2018	1,660,080	223,363	223,363	0	185,770	0	204,731
2019	1,622,735	227,956	227,956	0	176,117	0	201,786
2020	1,581,570	234,043	234,043	0	167,970	0	200,081
2021	1,534,480	241,780	241,780	0	161,192	0	199,618
2022	1,478,940	248,890	248,890	0	154,141	0	198,452
2023	1,415,397	255,004	255,004	0	146,704	0	196,365
2024	1,344,595	263,196	263,196	0	140,657	0	195,733
2025	1,263,893	270,292	270,292	0	134,184	0	194,128
2026	1,173,841	275,517	275,517	0	127,058	0	191,105
2027	1,076,293	285,587	285,587	0	122,342	0	191,307
2028	965,538	295,654	295,654	0	117,655	0	191,269
2029	840,403	303,653	303,653	0	112,250	0	189,717
2030	702,530	313,222	313,222	0	107,560	0	188,996
2031	549,728	326,613	326,613	0	104,188	0	190,327
2032	376,614	338,940	338,940	0	100,436	0	190,748
2033	180,543	347,199	180,544	166,655	49,698	101,915	188,705
2034	0	354,882	0	354,882	0	211,011	186,277
2035	0	362,587	0	362,587	0	209,618	183,804
2036	0	366,709	0	366,709	0	206,126	179,529
2037	0	367,983	0	367,983	0	201,111	173,984
2038	0	368,817	0	368,817	0	195,981	168,407
2039	0	372,300	0	372,300	0	192,350	164,177
2040	0	377,309	0	377,309	0	189,536	160,688
2041	0	381,193	0	381,193	0	186,181	156,784
2042	0	382,022	0	382,022	0	181,416	151,745
2043	0	379,456	0	379,456	0	175,204	145,564
2044	0	375,494	0	375,494	0	168,570	139,113
2045	0	370,298	0	370,298	0	161,631	132,490
2046	0	364,225	0	364,225	0	154,575	125,855
2047	0	357,645	0	357,645	0	147,577	119,350
2048	0	350,821	0	350,821	0	140,749	113,064
2049	0	343,766	0	343,766	0	134,097	106,997
2050	0	336,463	0	336,463	0	127,611	101,138
2051	0	328,906	0	328,906	0	121,289	95,481
2052	0	321,086	0	321,086	0	115,124	90,019
2053	0	312,999	0	312,999	0	109,114	84,747
2054	0	304,645	0	304,645	0	103,259	79,661
2055	0	296,031	0	296,031	0	97,559	74,758
2056	0	287,165	0	287,165	0	92,015	70,036
2057	0	278,075	0	278,075	0	86,633	65,497
2058	0	268,774	0	268,774	0	81,415	61,139
2059	0	259,305	0	259,305	0	76,370	56,965
2060	0	249,696	0	249,696	0	71,502	52,976
2061	0	239,977	0	239,977	0	66,815	49,170
2062	0	230,195	0	230,195	0	62,316	45,551
2063	0	220,380	0	220,380	0	58,005	42,116

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

			Benefit Payments		Present Value of Benefit Payments		
Fiscal Year Ending June 30	Beginning Fiduciary Net Plan Position	Benefit Payments	Funded Portion	Unfunded Portion	Funded Portion at 7.65%	Unfunded Portion at 2.85%	Using Single Discount Rate of 3.55%
2064	$ 0	$ 210,561	$ 0	$ 210,561	$ 0	$ 53,885	$ 38,861
2065	0	200,768	0	200,768	0	49,955	35,785
2066	0	191,023	0	191,023	0	46,213	32,882
2067	0	181,330	0	181,330	0	42,653	30,145
2068	0	171,718	0	171,718	0	39,273	27,570
2069	0	162,167	0	162,167	0	36,061	25,145
2070	0	152,695	0	152,695	0	33,013	22,865
2071	0	143,301	0	143,301	0	30,124	20,724
2072	0	133,987	0	133,987	0	27,385	18,713
2073	0	124,771	0	124,771	0	24,795	16,830
2074	0	115,672	0	115,672	0	22,350	15,068
2075	0	106,704	0	106,704	0	20,046	13,424
2076	0	97,917	0	97,917	0	17,885	11,897
2077	0	89,327	0	89,327	0	15,864	10,481
2078	0	80,983	0	80,983	0	13,984	9,177
2079	0	72,930	0	72,930	0	12,244	7,981
2080	0	65,203	0	65,203	0	10,644	6,891
2081	0	57,856	0	57,856	0	9,183	5,906
2082	0	50,927	0	50,927	0	7,859	5,020
2083	0	44,445	0	44,445	0	6,669	4,231
2084	0	38,443	0	38,443	0	5,608	3,535
2085	0	32,944	0	32,944	0	4,673	2,925
2086	0	27,956	0	27,956	0	3,855	2,397
2087	0	23,478	0	23,478	0	3,148	1,944
2088	0	19,511	0	19,511	0	2,544	1,561
2089	0	16,038	0	16,038	0	2,033	1,239
2090	0	13,033	0	13,033	0	1,606	972
2091	0	10,470	0	10,470	0	1,255	754
2092	0	8,313	0	8,313	0	969	578
2093	0	6,520	0	6,520	0	739	438
2094	0	5,052	0	5,052	0	556	328
2095	0	3,865	0	3,865	0	414	242
2096	0	2,917	0	2,917	0	304	177
2097	0	2,170	0	2,170	0	220	127
2098	0	1,590	0	1,590	0	156	90
2099	0	1,146	0	1,146	0	110	62
2100	0	812	0	812	0	76	43
2101	0	564	0	564	0	51	29
2102	0	385	0	385	0	34	19
2103	0	257	0	257	0	22	12
2104	0	168	0	168	0	14	8
2105	0	107	0	107	0	9	5
2106	0	67	0	67	0	5	3
2107	0	41	0	41	0	3	2
2108	0	24	0	24	0	2	1
2109	0	14	0	14	0	1	1
2110	0	8	0	8	0	1	0
2111	0	4	0	4	0	0	0
2112	0	2	0	2	0	0	0
2113	0	1	0	1	0	0	0

Section II – Actuarial Assumptions and Methods

Investment Rate of Return:
- July 1, 2015 valuation: 7.90% per annum, compounded annually.
- July 1, 2016 valuation: 7.65% per annum, compounded annually.

GASB Discount Rate:
- June 30, 2015: 4.59% per annum, compounded annually.
- June 30, 2016: 3.55% per annum, compounded annually.

COLA: No future COLA is assumed.

Salary Increases:
- July 1, 2015 valuation: Salaries are assumed to increase by 3.45% per year through fiscal year ending 2021 and 4.45% per year for fiscal years ending 2022 and thereafter.
- July 1, 2016 valuation: Salaries are assumed to increase by 2.95% per year through fiscal year 2025 and 3.95% per year for fiscal years 2026 and thereafter.

401(a)(17) Pay Limit: $265,000 for 2015 increasing 3.00% per annum, compounded annually.

Social Security Wage Base: $118,500 for 2015 increasing 4.00% per annum, compounded annually.

Termination: Withdrawal rates vary by length of service. Illustrative rates are shown below:

	Lives per Thousand	
Age	Less Than 5 Years of Service	Five to Nineteen Years of Service
25	3.8	0.0
30	3.8	2.0
35	8.3	1.4
40	0.0	0.8
45	0.0	1.0
50	0.0	0.0

Separations From Service: Representative mortality, disability and retirement rates are as follows:

	Annual Rates of*				
	Ordinary Death**				
Age	Male	Female	Accidental Death	Ordinary Disability	Accidental Disability
25	0.4	0.2	0.3	0.4	0.2
30	0.4	0.3	0.5	0.6	0.5
35	0.5	0.5	0.5	1.5	1.9
40	0.9	0.7	0.5	1.7	2.1
45	1.2	1.1	0.7	2.2	2.1
50	1.7	1.6	0.9	3.8	2.3

* Per one thousand lives.

** RP-2000 Combined Healthy Male (set back 3 years) and RP-2000 Combined Healthy Female Mortality Tables projected on a generational basis from the base year of 2000 to 2013 using Projection Scale BB as the base table. The base tables will be further projected using the Conduent Modified MP-2014 Projection Scale. Rates shown above are unadjusted for the Conduent Modified MP-2014 Projection Scale.

Deaths After Retirement: For healthy inactive members and beneficiaries of deceased members the RP-2000 Combined Healthy Male (set back 3 years) and RP-2000 Combined Healthy Female Mortality tables projected on a generational basis from the base year of 2000 to 2013 using Projection Scale BB. These base tables will be further projected beyond the valuation date using the Conduent Modified MP-2014 mortality improvement scale. For disabled members the RP-2000 Combined Healthy Male (set forward 5 years) and RP-2000 Combined Healthy Female Mortality (set forward 5 years) tables are used. Illustrative rates of mortality unadjusted for the Conduent Modified MP-2014 Projection Scale are shown below:

	Lives per Thousand			
	Retired Members and Beneficiaries of Deceased Members		Disabled Members	
Age	Males	Females	Males	Females
55	2.6	2.5	6.7	5.1
60	4.3	4.4	12.7	9.7
65	7.5	8.3	22.2	16.7
70	13.2	14.3	37.8	28.1
75	22.4	24.0	64.4	45.9
80	38.5	39.2	110.8	77.4
85	66.1	66.2	183.4	131.7
90	117.8	114.0	267.5	194.5

Rates of Retirement: Rates of retirement vary by length of service and age (if more than 24 years of service) with 100% of those remaining at age 55 retiring at age 55. The rates are shown below:

Service	Lives Per 100
20	2.0
21	0.5
22	0.0
23	0.0
24	0.0
25	50.0
Greater than 25 :	
(a) through age 42	5.0
(b) ages 43-47	28.0
(c) ages 48-53	33.0
(d) age 54	61.0

Section III – Summary of Plan Provisions

New Jersey Statutes, Title 53, Chapter 5A.

Eligibility for Membership

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

1. Definitions

Plan Year	The 12-month period beginning on July 1 and ending on June 30.
Service	Service rendered while a member as described above.
Credited Service	A year is credited for each year of service as an officer or trooper in the State Police. Service with other State Retirement Systems is included in the calculation of the retirement benefit at the rate of 1% of final compensation for each year of service credit.
Compensation	Based on contractual salary, including maintenance allowance, received by the member in the last 12 months of credited service preceding retirement, termination or death. Compensation does not include individual salary adjustments granted primarily in anticipation of the retirement or for temporary or extracurricular duties beyond the ordinary work day. (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.)
Final Compensation	Average compensation received by member in 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 salary 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. Such term shall include the value of the member's maintenance allowance.)

Aggregate Contributions	The sum of all amounts deducted from the compensation of a member or contributed by him or on his behalf. For contribution purposes, compensation does not include overtime, bonuses, maintenance or any adjustments before retirement.
Adjusted Final Compensation	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.

2. Benefits

Service Retirement

Mandatory retirement at age 55. Voluntary retirement prior to age 55 with 20 years of credited service. Benefit is an annual retirement allowance equal to the greater of (a), (b), or (c), as follows:

(a) 50% of final compensation;

(b) For members retiring with 25 or more years of service, 65% of final compensation, plus 1% for each year of service in excess of 25 years, to a maximum of 70% of final compensation.

(c) For members as of August 29, 1985 who would not have 20 years of service by age 55, benefit as defined in (a) above. For members as of August 29, 1985 who would have 20 years of service but would not have 25 years of service at age 55, benefit as defined in (a) above plus 3% for each year of service in excess of 20 years.

Vested Termination

Termination of service prior to age 55. Benefit for 10 to 20 years of service - Refund of aggregate contributions, or a deferred life annuity beginning at age 55 equal to 2% of final compensation for each year of service up to 20 years.

Non-Vested Termination

Termination of service prior to age 55 and less than 10 years of service – Return of aggregate contributions.

Ordinary Death

Before Retirement

Death of an active member of the plan. Benefit is equal to:

(a) Lump sum payment equal to 3-1/2 times compensation, 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% or 50% of final compensation payable to one, two or three dependent children. If there is no surviving spouse (or dependent children), 25% or 40% of final compensation to one or two dependent parents.
	Minimum benefit: Aggregate contributions.
After Retirement	Death of a retired member of the plan. The benefit is equal to:
	(a) Lump sum of 50% of compensation, 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% or 50% of final compensation payable to one, two or three dependent children, respectively.
Accidental Death	Death of an active member of the plan resulting during performance of duties. Benefit is equal to:
	(a) Lump sum payment equal to 3-1/2 times compensation, plus
	(b) Spousal life annuity of 70% of adjusted final compensation payable until spouse's death. If there is no surviving spouse, or upon death of the surviving spouse, a total of 20%, 35% or 50% of adjusted final compensation payable to one, two or three dependent children. If there is no surviving spouse or dependent children, 25% or 40% of adjusted final compensation to one or two dependent parents.
Ordinary Disability	
Retirement	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.
	(a) The benefit for members with less than four years of service is a refund of the member's aggregate contributions.
	(b) For members with at least four years of service, the benefit is an immediate life annuity equal to 40% of final compensation plus 1-1/2% of final compensation for years of creditable service in excess of 26-2/3.
	(c) For members who are forced to retire with 20 but less than 25 years of service, the benefit is 50% of the member's final compensation plus 3% of final compensation for each year of service in excess of 20 years, to a maximum of 65% of final compensation.

	For death following disability retirement, a lump sum equal to 3-1/2 times compensation if death occurs prior to age 55 or 1/2 of compensation after age 55.
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. Benefit is an immediate life annuity equal to 2/3 of final compensation. Upon death after disability retirement, lump sum benefit of 3-1/2 times final compensation if death occurs before 55 and 1/2 times final compensation if death occurs after 55.
Loan Provision	Eligible if an active member of the State Police Retirement System with at least 3 years of contributory service. If eligible, a member may borrow an amount which is greater than $50, but not more than 50% of aggregate contributions. The loan accrues interest at a rate set by the State Treasurer, which is based on a commercially reasonable rate as required by the Internal Revenue Code. An administrative fee may be charged for the loan.
Member Contributions	Each member contributes 7.5% of Compensation. Chapter 78, P.L. 2011 increased Member Contributions from 7.5% to 9.0% of Compensation effective October 2011.