

The State Police Retirement System of New Jersey Annual Report of the Actuary

Actuarial Valuation July 1, 2017
(Revised)

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500 Plaza Drive
Secaucus, New Jersey 07096-1533

April 10, 2018

Board of Trustees
The State Police Retirement System
of New Jersey
Trenton, New Jersey 08625

Members of the Board:

The law governing the operation of the State Police Retirement System of New Jersey provides for annual actuarial valuations of the System. The results of the July 1, 2017 valuation are submitted in this report, which also includes a comparison with the results of the July 1, 2016 valuation.

This valuation reports the revised results on the Plan's July 1, 2017 actuarial valuation, which was issued December 1, 2017, to recognize the effect of the change in the investment rate of return assumption. The Treasurer has recommended a change in the investment rate of return assumption from 7.00% per annum, compounded annually to 7.50% per annum, compounded annually.

The valuation provides information concerning the financial condition of the Plan as of July 1, 2017, and sets forth the basis for determining the recommended annual contribution for the plan year beginning July 1, 2018.

This valuation reflects Chapter 26, P.L. 2016. This law amends the definition of "child" to include a child 18 years of age or older and enrolled in a secondary school, or under the age of 24 and enrolled in a degree program in an institution of higher education for at least 12 credit hours in each semester, provided that the member died in the line of duty while in active service. This law also increases the accidental death benefit payable to children if there is no surviving spouse to 70% of final compensation.

This valuation also reflects Chapter 83, P.L. 2016 which requires the State to make pension contributions on a quarterly basis: at least 25 percent by September 30, at least 50 percent by December 31, at least 75 percent by March 31, and at least 100 percent by June 30.

The valuation reflects the actual fiscal year 2017 State pension contribution of \$51,038,000. In addition, the valuation also reflects the anticipated fiscal year 2018 State pension contribution of \$72,104,412 paid in quarterly installments of \$18,026,103. This amount may be subject to change per the requirements of the State's fiscal year 2018 spending plan.

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, 2017 valuation. The rate of investment return has been revised from 7.65% per annum as of July 1, 2016 to 7.50% per annum as of July 1, 2017. We believe that this rate is consistent with the State's long-term capital market assumption. These assumptions will remain in effect for valuation purposes until such time the Board or Treasurer recommends revised assumptions.

The June 30, 2017 reporting requirements of the Governmental Accounting Standards Board Statements No. 67 and No. 68 are addressed in separate reports.

The State of New Jersey's Division of Pensions and Benefits reported the individual data for members of the State Police Retirement System of New Jersey as of the valuation date for use in the preparation of this report. While we did not verify the data at their source, we did perform tests for internal consistency and reasonableness. The amount of assets in the trust fund taken into account in the valuation was based on



statements provided to us by the Division of Pensions and Benefits. The accuracy of the results presented in this report is dependent on the accuracy of the data.

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. Any Statements regarding funded ratios have no specific relevance to any funded position that might be determined in the event a settlement is contemplated. An analysis of the potential range of future results is beyond the scope of this valuation.

Use of this report for any other purpose or by anyone other than the Board 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 HR Consulting should be asked to review any statement to be made on the basis of the results contained in this report. Conduent HR Consulting will accept no liability for any such statement made without prior review by Conduent HR Consulting.

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. These assumptions were selected in accordance with applicable Actuarial Standards of Practice published by the Actuarial Standards Board.

I am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the Qualification Standards of the Academy to render the actuarial opinions contained herein. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and I am available to answer questions concerning it.

The Table of Contents, which follows, highlights the Sections of the Report.

Respectfully submitted,

A handwritten signature in black ink that reads "Aaron Shapiro".

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

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Section I – Summary of Key Results

The State Police Retirement System of New Jersey became effective July 1, 1965 under terms of Chapter 89 of the Laws of 1965. This report, prepared as of July 1, 2017, presents the results of the annual actuarial valuation of the Fund.

For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized on the following pages.

Valuation Date	July 1, 2017	July 1, 2016
Number of Members	2,812	2,725
Annual Compensation	\$ 289,022,222	\$ 277,771,135
Number of Pensioners and Beneficiaries	3,588	3,566
Total Annual Allowance	\$ 215,773,680	\$ 213,292,784
<u>Assets</u>		
Market Value of Assets	\$ 1,830,429,239 ¹	\$ 1,744,462,405
Valuation Assets	\$ 1,923,127,122 ¹	\$ 1,931,131,875
<u>Contribution Rates</u>		
Pension Contribution		
Recommended Contribution		
Normal Contribution	13.38 %	12.38 %
Accrued Liability Contribution	41.69	39.53
Total Pension Contribution	<u>55.07 %</u>	<u>51.92 %</u>
Non-Contributory Group Insurance Premium	0.68 %	0.61 %
<u>Contribution Rates</u>		
Recommended Contribution		
Normal Contribution	\$ 38,679,357	\$ 34,392,980
Accrued Liability Contribution	<u>120,483,372</u>	<u>109,815,843</u>
Total Pension Contribution	\$ 159,162,729	\$ 144,208,823
Non-Contributory Group Insurance Premium	\$ 1,972,000	\$ 1,700,000

¹ The fiscal year 2018 recommended pension contribution of \$144,208,823 has been reduced to \$68,931,904. This amount reflects the State's planned fiscal year 2018 contribution of \$72,104,412, 50% of the recommended employer contribution discounted to the valuation date. This amount is included as a receivable contribution but may be subject to change per the requirements of the State's fiscal year 2018 spending plan.

This valuation reports the revised results on the Plan's July 1, 2017 actuarial valuation, which was issued December 1, 2017, to recognize the effect of the change in the investment rate of return assumption. The Treasurer has recommended a change in the investment rate of return assumption from 7.00% per annum, compounded annually to 7.50% per annum.

The major benefit and contribution provisions of the statute as reflected in the valuation are summarized in Appendix A. This valuation reflects the following:

- The Appropriation Act of fiscal year 2017 which reduced the recommended State Pension contribution of \$133,217,662 to \$51,038,000. This amount excludes the premium paid to the Non-Contributory Group Insurance Fund of \$1,968,614 for the lump sum death benefits.
- The potential impact of the Appropriations Act of fiscal year 2018 which allows the State Treasurer to reduce the recommended State normal cost and accrued liability contribution for fiscal year 2018 from \$144,208,823 to \$72,104,412 (50% of the recommended employer contribution). This amount excludes the estimated premium paid to the Non-Contributory Group Insurance Fund of \$1,700,000 for lump sum death benefits.
- This valuation reflects Chapter 26, P.L. 2016. This law amends the definition of "child" to include a child 18 years of age or older and enrolled in a secondary school, or under the age of 24 and enrolled in a degree program in an institution of higher education for at least 12 credit hours in each semester, provided that the member died in the line of duty while in active service. This law also increases the accidental death benefit payable to children if there is no surviving spouse to 70% of final compensation.
- Chapter 83, P.L. 2016 requires the State to make pension contributions on a quarterly basis: at least 25 percent by September 30, at least 50 percent by December 31, at least 75 percent by March 31, and at least 100 percent by June 30. Therefore, assuming the anticipated fiscal year 2018 State pension contribution of \$72,104,412 is paid in equal quarterly amounts, a discounted receivable contribution of \$68,931,904 is recognized for purposes of this valuation.

There were no other changes to the benefit and contribution provisions.

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, 2017 valuation. The rate of investment return has been revised from 7.65% per annum as of July 1, 2016 to 7.50% per annum as of July 1, 2017. As a result of the revised economic assumptions, the accrued liability increased by \$55,934,385 and the gross normal cost increased by \$1,692,708. The net employer contribution increased by \$4,804,635. These assumptions will remain in effect for valuation purposes until such time the Board or Treasurer recommends revised assumptions.

The valuation reflects future increases in the compensation limits imposed on certain member tiers. For Tier 1 members the compensation limit for 2017 is \$270,000 and is assumed to increase by 3% annually. The compensation limit for Tier 2 members for 2017 is \$127,200 and is assumed to increase by 4% annually.

There were no other changes to the actuarial assumptions and methods from those used in the prior valuation. The actuarial assumptions and methods used in this valuation are summarized in Appendix B.

The combination of the plan provisions, actuarial assumptions and member and beneficiary data is used to generate the overall required level of employer contributions. The required contribution is developed in Section III G. These contributions are composed of two separate portions, an "accrued liability contribution" and a "normal contribution".

The valuation also generates a balance sheet which summarizes in some detail the total present and prospective assets and liabilities of the Fund. A summary comparison of the balance sheets as of July 1, 2016 and July 1, 2017 is set forth in the following table.

Table I

Comparative Balance Sheet

	2017	2016
<u>Assets</u>		
Actuarial value of assets of Fund	\$ 1,923,127,122	\$ 1,931,131,875
Unfunded accrued liability/(surplus)	<u>1,422,955,152</u>	<u>1,278,254,158</u>
Total Assets	\$ 3,346,082,274	\$ 3,209,386,033
<u>Accrued Liabilities</u>		
Present value of benefits to present beneficiaries payable from the Retirement Reserve Fund	\$ 2,445,366,686	\$ 2,401,980,284
Present value of benefits to present active members	<u>900,715,588</u>	<u>807,405,749</u>
Total Accrued Liabilities	\$ 3,346,082,274	\$ 3,209,386,033

Section II – Employee Data

The data employed for the valuation was furnished to the actuary by the Division of Pensions and Benefits. The following summarizes and compares the Fund membership as of July 1, 2016 and July 1, 2017 by various categories

Active Membership

Group	2017		2016	
	Number	Annual Compensation ¹	Number	Annual Compensation ¹
Men	2,677	\$ 275,428,012	2,591	\$ 264,557,446
Women	135	\$ 13,594,210	134	\$ 13,213,689
Average Compensation		\$ 102,782		\$ 101,934

¹ There were no members hired on or after May 22, 2010 whose pay exceeded the Social Security Wage base.

Retired Members and Beneficiaries

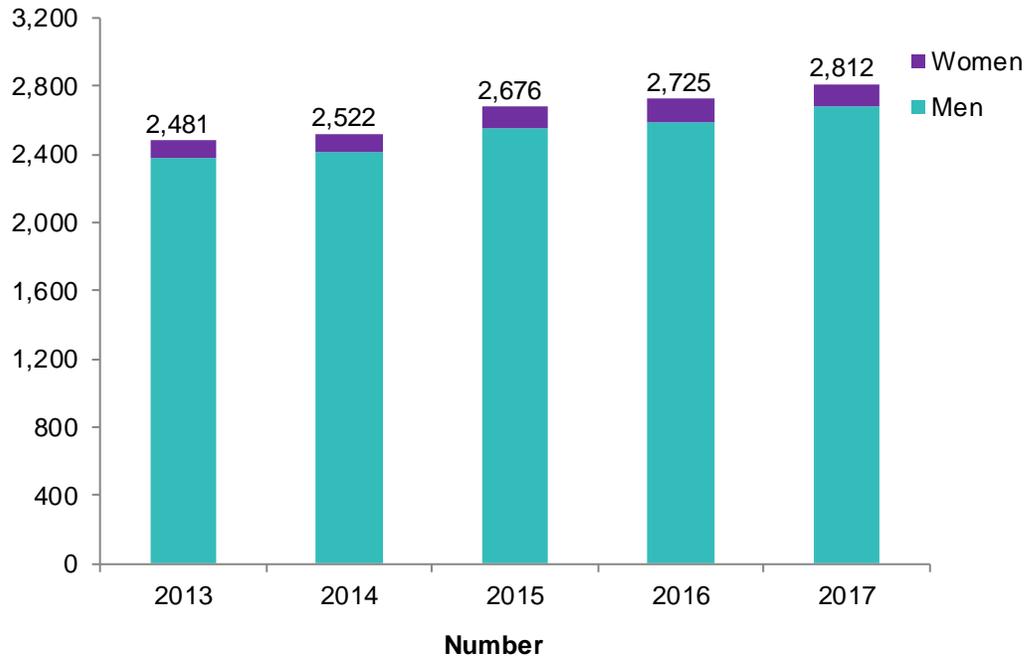
Group	2017		2016	
	Number	Annual Allowances	Number	Annual Allowances
Service Retirements	2,889	\$ 187,291,821	2,875	\$ 185,519,766
Ordinary Disability Retirements	137	\$ 4,877,728	136	\$ 4,777,404
Accidental Disability Retirements	154	\$ 8,558,614	151	\$ 8,296,419
Beneficiaries of Deceased Pensioners	351	\$ 12,450,469	349	\$ 12,230,441
Beneficiaries of Deceased Active Employees	57	\$ 2,595,048	55	\$ 2,468,754

Appendix C provides a detailed distribution between groups

Graphic presentations of the statistical data on membership for the five preceding years are shown on the following pages.

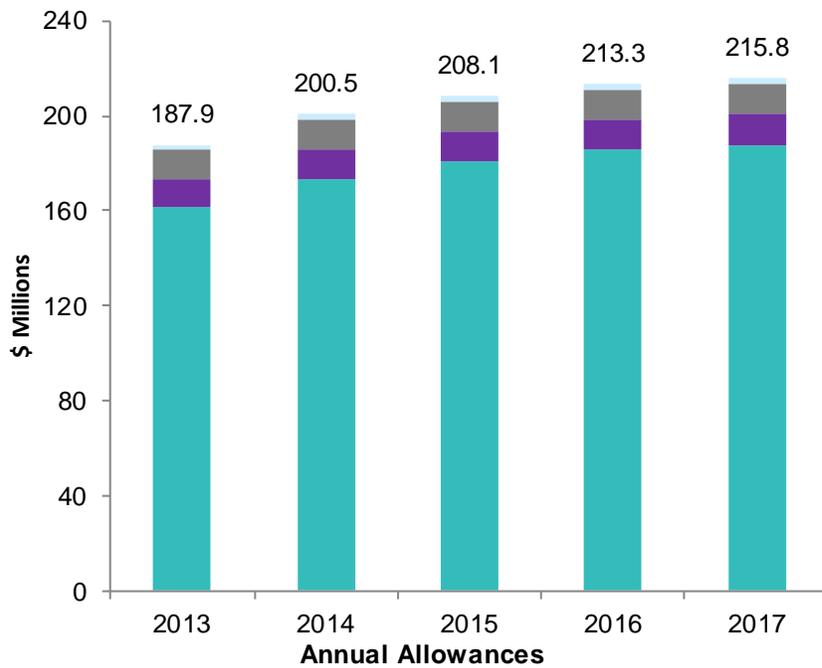
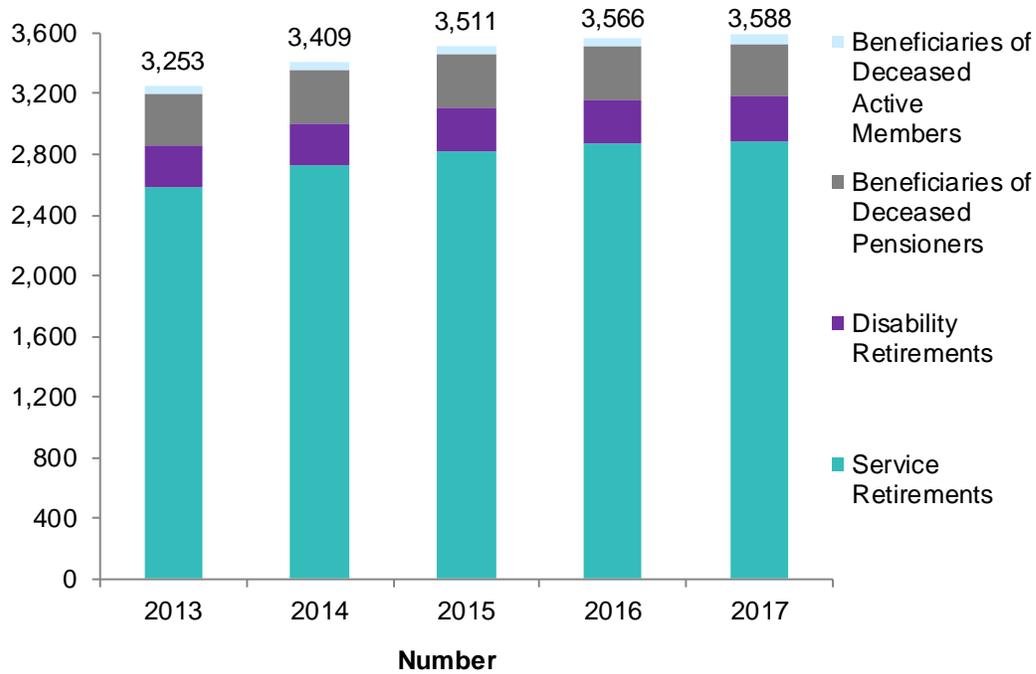
The State Police Retirement System Of New Jersey

Summary of Active Participants



The State Police Retirement System of New Jersey

Summary of Retired Participants



Section III - Assets, Liabilities and Contributions

A. Market Value of Assets as of June 30, 2017

1. Assets		
a. Cash	\$	18,969,605
b. Securities Lending Collateral		22,234,804
c. Accounts Receivable		273,507
d. Investment Holdings		1,742,513,412
e. Accrued Interest on Investments		2,024
f. Employer Contribution Receivable - NCGI		80,304
g. Members' Contributions Receivable		1,094,446
h. Dividends Receivable		0
i. Loans Receivable		14,809,672
j. Interest Receivable - Member Loans		670,282
k. Total	\$	<u>1,800,648,056</u>
2. Liabilities		
a. Pension Payroll Payable	\$	13,302,063
b. Securities Lending Collateral and Rebates Payable		22,228,240
c. Pension Adjustment Payroll Payable		1,763,135
d. Withholdings Payable		2,657,371
e. Securities Purchased in Transit		0
f. Accounts Payable - Other		(880,392)
g. Death Benefits Payable		80,304
h. Total	\$	<u>39,150,721</u>
3. Preliminary Market Value of Assets as of June 30, 2017: 1(k) - 2(h)	\$	1,761,497,335
4. Discounted State Appropriations Receivable	\$	<u>68,931,904</u> ¹
5. Market Value of Assets as of June 30, 2017: 3. + 4.	\$	1,830,429,239 ²

¹ The fiscal year 2018 recommended pension contribution of \$144,208,823 has been reduced to \$68,931,904. This amount reflects the State's planned fiscal year 2018 contribution of \$72,104,412, 50% of the recommended employer contribution discounted to the valuation date. This amount is included as a receivable contribution but may be subject to change per the requirements of the State's fiscal year 2018 spending plan.

² Excludes assets held in the Non-Contributory Group Insurance Fund.

B. Reconciliation of Market Value of Assets: June 30, 2016 to June 30, 2017

1.	Market Value of Assets as of June 30, 2016	\$	1,694,962,113
2.	Increases		
	a. Pension Contributions		
	Members' Contributions	\$	23,560,509
	Transfer from Other Systems		161,275
	b. Employers' Contributions		
	State Appropriations		51,038,000
	Non-Contributory Group Insurance		1,968,614
	Transfer from Other Systems		3,925
	Administrative Fee Loans		5,111
	c. Income		
	Per Statement		<u>207,401,590</u>
	d. Total	\$	<u>284,139,024</u>
3.	Decreases		
	a. Benefits Provided by Members		
	Withdrawals - Members' Contribution		
	Regular	\$	88,220
	Death		0
	Adjustment - Member Account Loans - State		3,659
	b. Benefits Provided by Employers and Members		
	Retirement Allowances		193,774,055
	c. Benefits Provided by Employers		
	Benefit Expense - Pension Adjustment		21,469,398
	Administrative Expense		296,712
	Administrative Expense Loans		3,920
	Adjusted Member Accounts Expense - State		(776)
	NCGI Premium Expense		<u>1,968,614</u>
	d. Total	\$	<u>217,603,802</u>
4.	Preliminary Market Value of Assets as of June 30, 2017: 1. +2.(d) - 3.(d)	\$	1,761,497,335
5.	Discounted State Appropriations Receivable		<u>68,931,904</u> ¹
6.	Market Value of Assets as of June 30, 2017 = 4. + 5.	\$	1,830,429,239 ²

¹ The fiscal year 2018 recommended pension contribution of \$144,208,823 has been reduced to \$68,931,904. This amount reflects the State's planned fiscal year 2018 contribution of \$72,104,412, 50% of the recommended employer contribution discounted to the valuation date. This amount is included as a receivable contribution but may be subject to change per the requirements of the State's fiscal year 2018 spending plan.

² Excludes assets held in the Non-Contributory Group Insurance Fund.

C. Development of Actuarial Value of Assets as of July 1, 2017

The actuarial value of plan assets is determined using a five-year average market value with write up. The following summary shows the development of the actuarial value of plan assets for the current valuation:

1.	Actuarial Value of Assets July 1, 2016	\$ 1,881,631,583
2.	Net Cash Flow (excluding investment income)	(140,866,368)
3.	Expected Investment Income at 7.65%	
	a. Interest on assets as of July 1, 2016:	\$ 143,944,816
	b. Interest on Net Cash Flows	<u>(7,340,342)</u>
	c. Total	\$ 136,604,474
4.	Expected Actuarial Value of Assets as of July 1, 2017: 1. + 2. + 3.(c)	\$ 1,877,369,689
5.	20% of Difference from Preliminary Market Value of Assets	(23,174,471)
6.	Discounted Receivable Employer Contributions	<u>68,931,904</u> ¹
7.	Actuarial Value of Assets as of July 1, 2017 = 4. + 5. + 6.	\$ 1,923,127,122 ²

¹ The fiscal year 2018 recommended pension contribution of \$144,208,823 has been reduced to \$68,931,904. This amount reflects the State's planned fiscal year 2018 contribution of \$72,104,412, 50% of the recommended employer contribution discounted to the valuation date. This amount is included as a receivable contribution but may be subject to change per the requirements of the State's fiscal year 2018 spending plan.

² Excludes assets held in the Non-Contributory Group Insurance Fund.

D. Accrued Liabilities as of July 1, 2017

1. Retirees and Beneficiaries	
a. Service Retirement	\$ 2,162,584,078
b. Disability Retirements	159,390,752
c. Beneficiaries	<u>123,391,856</u>
d. Total	\$ 2,445,366,686
2. Terminated Vested Members	\$ 0
3. Contributing Active Participants	
a. Service Retirement	\$ 826,449,707
b. Ordinary Disability	18,650,125
c. Accidental Disability	26,039,895
d. Ordinary Death	8,549,345
e. Accidental Death	8,408,918
f. Vested Termination Withdrawal Benefits	973,333
g. Withdrawal Benefits	<u>137,844</u>
h. Total	\$ 889,209,167
4. Non-Contributing Active Participants	\$ 11,506,421
5. Total Accrued Liability ¹ = 1.(d) + 2. + 3.(h) + 4.	\$ 3,346,082,274

¹ Excludes lump sum death benefits payable from the Non-Contributory Group Insurance Premium Fund

E. Development of Normal Cost as of July 1, 2017

1. Service Retirements	\$ 51,294,359
2. Ordinary Disability	1,683,102
3. Accidental Disability	2,686,331
4. Ordinary Death	805,842
5. Accidental Death	1,043,026
6. Vested Termination	94,251
7. Withdrawal Benefits	<u>55,119</u>
8. Total Pension Normal Cost ¹ = 1 + 2 + 3 + 4 + 5 + 6 + 7	\$ 57,662,030

¹ Excludes lump sum death benefits payable from the Non-Contributory Group Insurance Premium Fund

F. Summary of Active Member Actuarial Accrued Liability and Normal Cost as of July 1, 2017

Membership Tier	Number of members	Total Appropriation Salary	Actuarial Accrued Liability	Gross Pension Normal Cost
Tier 1	1,997	\$ 229,350,820	\$ 871,949,123	\$ 48,465,112
Tier 2	<u>815</u>	<u>59,671,402</u>	<u>28,766,465</u>	<u>9,196,918</u>
Total	2,812	\$ 289,022,222	\$ 900,715,588	\$ 57,662,030

G. Development of Recommended State Pension Contributions

1. Accrued Liability	\$ 3,346,082,274
2. Actuarial Value of Assets	<u>1,923,127,122</u>
3. Unfunded Actuarial Accrued Liability/(Surplus) = 1. - 2.	\$ 1,422,955,152
4. Amortization Period	30
5. Amortization of Unfunded Actuarial Accrued Liability payable July 1, 2018 (Level Dollar)	\$ 120,483,372
6. a. Gross Normal Cost (excluding Non-Contributory Group Insurance Premium)	\$ 57,662,030
b. Expected Member Contributions	<u>21,681,233</u>
c. State Normal Cost = (a) - (b)	\$ <u>35,980,797</u>
d. State Normal Cost payable July 1, 2018 = (c) * 1.075	\$ 38,679,357
7. Total Recommended Pension Contribution as of July 1, 2018 = 5. +6.(d)	\$ 159,162,729

H. Non-Contributory Group Insurance Premium (One-Year Term Cost)

\$ 1,972,000

Section IV - Comments Concerning the Valuation

The variation in liabilities and contributions reflects the System's actual experience during the year. The System experienced a net actuarial loss during the year that ended June 30, 2017.

The System experienced a net liability loss among active and retired members. There was also a loss due to an actual return on System assets less than expected. For valuation purposes, a 7.65% per annum rate or return was assumed for the period July 1, 2016 through June 30, 2017. The actual return on the Fund's actuarial value of assets was 6.26% for this period. The estimated fund return on the market value of assets was 12.77%. However, due to the statutory asset smoothing method used for funding purposes, the return on the actuarial value of assets is less than the return on the market value of assets for this period.

The following shows the development of the actuarial experience and identifies the major experience components:

A. Calculation of Actuarial Experience for the Year Ended June 30, 2017

1.	Unfunded Accrued Liability/(Surplus) as of July 1, 2016	\$ 1,278,254,158
2.	Gross Normal Cost as of July 1, 2016	52,837,495
3.	Interest on (1) and (2) at 7.65%	101,828,511
4.	Actual Members' Contributions Received	23,560,509
5.	Employers' Contributions (including discounted receivable)	68,931,904
6.	Interest on Contributions at 7.65%	<u>884,584</u>
7.	Expected Unfunded Accrued Liability/(Surplus) as of July 1, 2017 = (1) + (2) + (3) - (4) - (5) - (6)	\$ 1,339,543,167
8.	Change in Unfunded Accrued Liability due to the revised fiscal year 2017 State contribution ¹	2,249,065
9.	Change in Unfunded Accrued Liability due to assumption changes	55,934,385
10.	Change in Unfunded Accrued Liability due to Chapter 26, P.L. 2016	239,606
11.	Actual Unfunded Accrued Liability as of July 1, 2017	<u>1,422,955,152</u>
12.	Actuarial (Gain)/Loss = (11) - (7) - (8) - (9) - (10)	\$ 24,988,929

¹ The anticipated fiscal year 2017 contribution of \$53,287,065 has been decreased to \$51,038,000 to reflect the actual State contribution made during fiscal year 2017.

B. Components of Actuarial Experience

1.	Investment (Gain)/Loss	\$ 23,174,471
2.	Other (Gain)/Loss, including mortality, changes in employee data and salary increases different than expected	<u>1,814,458</u>
3.	Total Actuarial (Gain)/Loss	\$ 24,988,929

C. Funded Ratios

The following table presents the System's funded ratios based on the actuarial value of assets (including receivables) and market value basis (including receivables)

	June 30, 2017	June 30, 2016	Change
Actuarial Value of Assets¹	57.5%	60.2%	(2.7)%
Market Value of Assets	54.7%	54.4%	0.3%

¹ Statutory funded ratio.

In accordance with Chapter 78, P.L. 2011, a pension committee is to be established when the System'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 System attained the required 75% "target funded ratio" in Fiscal Year 2012, establishing the pension committee for the System.

The System's statutory funded ratio is 60.2% and 57.5% as of June 30, 2016 and June 30, 2017, respectively. For purposes of Chapter 78, P.L. 2011, the "target funded ratio" is 79.285% and 80.000% for June 30, 2016 and June 30, 2017, respectively. Therefore, the System's statutory funded ratio did not reach the "target funded ratio" for June 30, 2016 and remained below the "target funded ratio" for June 30, 2017.

There is a difference on a market value basis since the actuarial value smooths the investment gains and losses over time. Since July 1, 2000, the funded ratio on a market value basis has decreased by 78.1%. This decrease is primarily due to investment losses experienced over the period, State contributions less than the statutorily determined amounts, and the strengthening of actuarial assumptions.

As of June 30, 2017, the market value of assets is less than the actuarial liability attributable to retirees. Furthermore, if the assets contained in the Annuity Savings Fund (ASF) of \$212,674,110 are excluded, the funded ratio of the remaining market value of assets to the actuarial accrued liability for retirees is 66.2%.

As of June 30, 2017, the ratio of market value of assets to the prior year's benefit payment is 8.5. This is a simplistic measure of the number of years that the assets can cover benefit payments, excluding: future increases in those payments, State and member contributions, and investment income. This ratio increased by 4% from the previous year's ratio of 8.2. If ASF assets are excluded, since they represent accumulated contributions from active and inactive members, the ratio is 7.5.

D. Schedule of Assets and Liability

The following presents a ten-year schedule of the System's assets, liabilities and funded ratio. The System's assets and funded ratio are provided on a market value (including receivables) basis and actuarial value of assets (including receivables) basis.

Actuarial Valuation Date	Market Value of Assets ¹ (a)	Actuarial Value of Assets ¹ (b)	Accrued Liability (c)	Funded Ratio	
				Market Value (a)/(c)	Actuarial Value (b)/(c)
7/1/2017	\$ 1,830,429,239	\$ 1,923,127,122	\$ 3,346,082,274	54.7%	57.5%
7/1/2016	\$ 1,744,462,405	\$ 1,931,131,875	\$ 3,209,386,033	54.4%	60.2%
7/1/2015	\$ 1,900,695,725	\$ 1,969,239,472	\$ 3,090,220,484	61.5%	63.7%
7/1/2014	\$ 1,967,141,815	\$ 1,981,376,495	\$ 2,963,182,120	66.4%	66.9%
7/1/2013	\$ 1,832,851,456	\$ 1,990,797,312	\$ 2,870,590,700	63.8%	69.4%
7/1/2012	\$ 1,755,429,511	\$ 1,995,388,133	\$ 2,767,768,813	63.4%	72.1%
7/1/2011	\$ 1,820,438,444	\$ 2,015,624,130	\$ 2,581,950,846	70.5%	78.1%
7/1/2010	\$ 1,656,194,924	\$ 2,019,350,048	\$ 2,497,094,137	66.3%	80.9%
7/1/2009	\$ 1,564,180,409	\$ 2,067,242,877	\$ 2,825,455,568	55.4%	73.2%
7/1/2008	\$ 1,976,540,990	\$ 2,136,006,509	\$ 2,609,164,869	75.8%	81.9%

1. The information in the above table has been taken directly from the final valuation reports for each plan year and does not reflect subsequent changes in actual employer contribution amounts from the reported receivable contribution after the valuation reports were issued.

E. Schedule of Employer Pension Contributions

The following table presents a ten-year schedule that provides information about the System's actuarially determined contribution and the percentage of the actuarially determined contribution recognized by the System as contributed.

Fiscal Year Ending June 30	Actuarially Determined Contribution ¹ (a)	Actual Pension Contribution ² (b)	Contribution Deficiency (a) - (b)	Percentage of Contribution Made	
				Annual (b)/(a)	Five-Year Average
2018	\$ 144,208,823	\$ 72,104,412	\$ 72,104,411	50.00%	37.11%
2017	\$ 133,217,662	\$ 51,038,000	\$ 82,179,662	38.31%	32.82%
2016	\$ 118,600,705	\$ 35,580,000	\$ 83,020,705	30.00%	28.02%
2015	\$ 108,904,703	\$ 37,358,000	\$ 71,546,703	34.30%	22.02%
2014	\$ 106,977,623	\$ 35,231,000	\$ 71,746,623	32.93%	15.16%
2013	\$ 89,535,903	\$ 25,582,000	\$ 63,953,903	28.57%	9.46%
2012	\$ 89,671,744	\$ 12,810,000	\$ 76,861,744	14.29%	13.59%
2011	\$ 103,745,281	\$ 0	\$ 103,745,281	0.00%	22.01%
2010	\$ 82,485,012	\$ 0	\$ 82,485,012	0.00%	27.29%
2009	\$ 75,889,699	\$ 3,378,000	\$ 72,511,699	4.45%	

1. The information in the above table has been taken directly from the final valuation reports for each plan year and does not reflect subsequent changes in actual employer contribution amounts from the reported receivable contribution after the valuation reports were issued.

2. The fiscal year 2018 contribution amount reflects the State's planned contribution of 50% of the recommended employer contribution. This amount is subject to change per the requirements of the State's fiscal year 2018 spending plan.

Section V – Level of Funding

The tables below present the liabilities determined on a Financial Accounting Standards Board ASC 715 (formerly Statement No. 87) Accumulated Benefit Obligation (ABO) basis. This is the same approach as was used under GASB Statement No. 5 except that no assumption is made as to future salary increases and assets are at market value without receivables.

ASC 715 ABO Funded Ratios

Actuarial present value of accumulated benefits:	June 30, 2017	June 30, 2016
Vested benefits		
Participants currently receiving payments	\$ 2,445,366,686	\$ 2,401,980,284
Other participants	<u>492,341,699</u>	<u>433,467,084</u>
	\$ 2,937,708,385	\$ 2,835,447,368
Non-vested benefits	<u>237,151,384</u>	<u>212,800,988</u>
Total	\$ 3,174,859,769	\$ 3,048,248,356
Assets at market value ¹	\$ 1,761,497,335	\$ 1,694,962,113
Ratio of assets to total present value	55.5%	55.6%

1. Assets at market value do not include any receivable contributions.

The actuarial present value of vested and non-vested accrued benefits was based on an interest rate of 7.50% for 2017 and 7.65% for 2016.

Appendix A

Brief Summary of the Benefit and Contribution Provisions as Interpreted for Valuation Purposes

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, 70% of adjusted final compensation payable to surviving children in equal shares. 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 9.0% of Compensation.

Summary of Changes from the July 1, 2016 Valuation

The definition of child has been changed to include children of age 18 or older and enrolled in a secondary school, or under age 24 and enrolled in a degree program in an institution of higher education for at least 12 credit hours in each semester. The accidental death benefit payable to dependent children if there is no surviving spouse has been increased to 70% of adjusted final compensation from a total of 20%, 35% or 50% of final compensation payable to one, two or three dependent children. The impact of these plan changes is shown in Section IV A which indicates an increase in the accrued liability of \$239,606 due to these plan changes.

Appendix B

Outline of Actuarial Assumptions and Methods

Valuation Interest Rate

7.50% per annum, compounded annually.

COLA

No future COLA is assumed.

Salary Increases

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

\$270,000 for 2017 increasing 3.00% per annum, compounded annually.

Social Security Wage Base

\$127,200 for 2017 increasing 4.00% per annum, compounded annually

Termination

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

Age	Lives per Thousand	
	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:

Age	Annual Rates of ¹				
	Ordinary Death ²		Accidental Death	Ordinary Disability	Accidental Disability
	Male	Female			
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

1 Per one thousand lives.

2 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 2014 Projection Scale. Rates shown above are unadjusted for the Conduent Modified 2014 Projection Scale.

Marriage

Husbands are assumed to be 3 years older than wives. Among the active population, 83.3% of participants are assumed married. No children are assumed. Neither the percentage married nor the number of children assumption is individually explicit but are considered reasonable as a single combined assumption.

Valuation Method

Projected Unit Credit Method. This method essentially funds the System's benefits accrued to the valuation date. Experience gains and losses are recognized in future accrued liability contributions. 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 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.

State Contribution Payable Dates

Prior to the July 1, 2017 valuation, it is assumed the State will make pension contributions the June 30th following the valuation date. Effective with the July 1, 2017 valuation, Chapter 83, P.L. 2016 requires the State to make pension contributions on a quarterly basis: at least 25 percent by September 30, at least 50 percent by December 31, at least 75 percent by March 31, and at least 100 percent by June 30.

Receivable Contributions

For the July 1, 2016 valuation, State contributions are expected to be paid the June 30th following the valuation date and are discounted by the valuation interest rate of 7.65% to the valuation date. Effective with the July 1, 2017 valuation, State contributions are expected to be paid in equal quarterly amounts as of September 30th, December 31st, March 31st, and June 30th following the valuation date and are discounted by the interest rate of 7.50% to the valuation date.

Asset Valuation Method

A five-year average of market values with write-up. This method takes into account appreciation (depreciation) in investments in order to smooth asset values by averaging the excess of the actual over the expected income, on a market value basis, over a five-year period.

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 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 2014 Projection Scale are shown below:

Age	Lives per Thousand			
	Retired Members and Beneficiaries of Deceased Members		Disabled Members	
	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

Service	Lives Per 100
<u>Greater than 25:</u>	
(a) through age 42	5.0
(b) ages 43-47	28.0
(c) ages 48-53	33.0
(d) age 54	61.0

Summary of Changes from the July 1, 2016 Valuation

The rate of investment return has been reduced from 7.65% per annum to 7.50% per annum. The impact of this assumption change is shown in Section IV A which indicates an increase in the accrued liability of \$55,934,385 due to this assumption change.

Appendix C

Tabulations Used as a Basis for the 2017 Valuation

The following tables give a reconciliation of data from July 1, 2016 to June 30, 2017. Tables are also given showing active member number and salaries by age and length of service as of July 1, 2017 and showing the number and retirement allowances of beneficiaries classified by age as of July 1, 2017.

Table 1
Reconciliation of Data from July 1, 2016 to June 30, 2017

	Actives		Deferred Vested	Retirees				Beneficiaries	Dependents	Domestic Relations Beneficiaries		Total
	Contrib.	Noncontrib.		Service	Special	Deferred	Disabled			Retirees	Disabilities	
Members as of July 1, 2016	2,680	45	0	353	2,303	6	263	401	3	213	24	6,291
Changed to Contributing	4	(4)										
Changed to Noncontributing	(13)	13										
Terminated Vested												
Terminated Non-Vested												
Service Retirement	(10)	(1)		11								
Special Retirement	(34)				34							
Deferred Vesteds Now Payable												
New Disabled	(6)	(1)					7				1	1
New Death	(2)	(1)		(20)	(21)	(1)	(2)	(24)		(1)		(72)
Payments Began												
Payments Ceased										(8)	(2)	(10)
Lump sum	(5)	(1)										(6)
New Actives	148											148
Rehires												
New Beneficiaries								26	2	20		48
Data Corrections												
Members as of June 30, 2017	2,762	50	0	344	2,316	5	268	403	5	224	23	6,400

Table 2

Distribution Of Active Members By Age and Service

Age	Service	1	5	10	15	20	25	30	35	40	Total
20	Number										
	Salary										
25	Number	111	41								152
	Salary	7,956,644	2,998,282								10,954,926
30	Number	193	294	53							540
	Salary	13,837,571	21,790,855	4,740,301							40,368,727
35	Number	42	94	375	100						611
	Salary	3,007,708	7,082,531	36,677,355	10,823,456						57,591,050
40	Number	2	13	198	355	35	1				604
	Salary	144,986	998,903	20,357,290	40,768,083	4,114,484	116,119				66,499,865
45	Number		2	41	165	247	40				495
	Salary		152,215	4,305,799	19,270,067	31,356,008	5,446,942				60,531,031
50 and over	Number		1	4	44	148	158	54		1	410
	Salary		64,258	292,504	5,117,508	19,194,992	21,089,047	7,172,232		146,082	53,076,623
Total	Number	348	445	671	664	430	199	54		1	2,812
	Salary	24,946,909	33,087,044	66,373,249	75,979,114	54,665,484	26,652,108	7,172,232		146,082	289,022,222

Table 3

The Number And Annual Compensation Of
Active Members Distributed By Age
As Of June 30, 2017

Age	Men		Women	
	Number	Amount	Number	Amount
24	9	\$ 644,885		
25	26	1,863,090	2	\$ 143,290
26	39	2,797,436	1	71,645
27	72	5,219,629	3	214,951
28	108	7,807,524	5	358,257
29	94	6,859,403	16	1,169,731
30	96	7,057,662	4	306,859
31	104	7,835,807	6	444,355
32	104	8,290,208	3	238,921
33	91	7,580,763	4	309,756
34	115	10,356,421	2	197,316
35	114	10,470,514	11	1,052,407
36	128	12,672,461	6	535,443
37	137	14,104,543	3	311,426
38	126	13,286,591	5	491,568
39	118	13,015,925	4	438,193
40	129	14,394,424	9	993,941
41	94	10,459,115	4	453,201
42	109	12,289,247	6	677,660
43	85	9,843,416	5	600,770
44	84	10,015,252	6	662,288
45	89	11,022,431	2	229,289
46	106	12,992,276	7	915,719
47	104	13,339,143	7	910,447
48	88	11,203,796	2	247,532
49	74	9,581,185	2	258,129
50	56	7,184,498	3	400,296
51	60	7,930,696	3	395,546
52	39	5,187,561	2	280,262
53	36	4,659,480		
54	28	3,512,750	2	285,012
55	11	1,458,886		
58	1	112,204		
60	1	102,208		
63	1	130,500		
67	1	146,082		
Total	2,677	\$ 275,428,012	135	\$ 13,594,210

Of the 2,812 active members included in the June 30, 2017 valuation data, 1,743 are vested and 1,069 have not yet completed the vesting service requirement.

Table 4

The Number And Annual Compensation Of
Active Members Distributed By Service
As Of June 30, 2017

Years Of Service	Men		Women	
	Number	Amount	Number	Amount
0	146	\$ 10,462,516	3	\$ 214,983
1	99	7,092,881	11	788,095
2	84	6,027,077	5	361,357
3	120	8,603,246	8	573,160
4	185	13,741,882	9	670,878
5	74	5,817,160	7	562,352
6	17	1,236,651	3	229,420
7	18	1,330,168	4	322,127
8	86	7,404,283	1	89,027
9	146	13,762,870	7	666,415
10	67	6,426,684	8	780,599
11	91	9,171,481	5	508,037
12	253	26,815,305	7	748,548
13	158	17,467,727	3	327,739
14	117	13,098,146	9	1,022,156
15	62	6,933,028	3	353,055
16	256	30,323,773	12	1,425,947
17	41	4,673,783	3	353,760
18	31	3,530,211		
19	116	14,553,155	8	993,784
20	107	13,425,115	6	777,310
21	20	2,439,961		
22	134	17,827,771	8	1,118,177
23	97	13,005,351	4	569,032
24	68	9,089,380		
25	13	1,714,068		
26	7	925,846		
27	9	1,210,179	1	138,252
28	8	1,123,945		
29	22	2,877,422		
30	15	2,001,557		
31	6	743,016		
32	3	426,292		
39	1	146,082		
Total	2,677	\$ 275,428,012	135	\$ 13,594,210

Of the 2,812 active members included in the June 30, 2017 valuation data, 1,743 are vested and 1,069 have not yet completed the vesting service requirement.

Table 5

State Police Retirement System of New Jersey

	Service Retirement		Special Retirement (25 Years of Service)		Ordinary Disability		Accidental Disability		Survivors	
	Average Age At Retirement	Average Annual Benefit At Retirement ¹	Average Age At Retirement	Average Annual Benefit At Retirement ¹	Average Age At Retirement	Average Annual Benefit At Retirement ¹	Average Age At Retirement	Average Annual Benefit At Retirement ¹	Average Age At Retirement ²	Average Annual Benefit At Retirement
All Retirees	50.3	\$ 33,057	51.0	\$ 69,229	41.7	\$ 34,017	40.0	\$ 52,437	42.0	\$ 25,695
New Retirees	54.2	\$ 63,055	52.8	\$ 97,945	N/A	N/A	41.8	\$ 74,770	43.4	\$ 29,938

	All Retirements (excluding Survivors)	
	Average Age At Retirement	Average Annual Benefit At Retirement
All Retirees	50.0	\$ 62,793

¹The Average Annual Benefit at Retirement does not reflect COLA's granted after retirement.

²Calculated as of Member's Date of Retirement

Table 6

The Number And Annual Retirement Allowances Of Retired Members Distributed By Age As Of June 30, 2017

Service Retirements

Age	Men		Women	
	Number	Amount	Number	Amount
45			2	\$ 92,036
46			2	26,423
47			3	61,488
48	3	\$ 236,883	6	102,580
49	9	732,006	2	57,364
50	38	3,008,946	10	197,938
51	72	5,786,791	11	278,394
52	111	9,041,282	16	584,339
53	143	11,084,938	21	577,186
54	136	11,020,117	19	671,316
55	129	10,224,882	19	707,316
56	122	9,620,013	18	717,715
57	79	6,013,200	13	471,324
58	103	8,103,504	21	849,582
59	91	7,044,353	12	303,855
60	94	7,149,558	9	487,779
61	89	6,597,817	8	298,228
62	62	4,519,731	10	317,146
63	79	5,840,092	7	294,852
64	50	3,727,773	5	82,597
65	59	4,301,332	3	100,462
66	69	4,698,016	4	50,634
67	50	3,536,277	2	36,622
68	68	4,708,348	6	148,901
69	63	3,944,053	1	31,212
70	83	5,428,787	9	204,060
71	94	5,738,034	7	146,918
72	72	4,220,970	6	129,630
73	63	3,504,198		
74	83	4,665,614		
75	75	4,021,313	1	12,000
76	79	4,120,163	3	52,772
77	52	2,733,573		

Table 6

The Number And Annual Retirement Allowances Of Retired Members Distributed By Age As Of June 30, 2017

**Service Retirements
(Continued)**

Age	Men		Women	
	Number	Amount	Number	Amount
78	38	\$ 2,005,276	3	\$ 77,114
79	45	2,223,489	2	57,691
80	22	1,038,385		
81	25	1,092,899	1	2,600
82	21	992,113		
83	14	655,030		
84	14	604,307		
85	22	1,021,488		
86	21	856,646		
87	17	683,824		
88	16	631,234		
89	20	865,267		
90	5	159,639		
91	12	366,989		
92	6	210,783		
93	5	150,973		
94	2	67,072		
95	1	23,316		
96	1	40,453		
Total	2,627	\$ 179,061,747	262	\$ 8,230,074

Table 7

The Number And Annual Retirement Allowances Of Beneficiaries Distributed By Age As Of June 30, 2017

Beneficiaries Of Deceased Pensioners

Age	Men		Women	
	Number	Amount	Number	Amount
49			1	\$ 41,495
51			1	45,902
54			2	80,325
55			3	143,528
57			1	31,357
58			5	232,377
59	1	\$ 10,100	2	104,570
60			5	224,658
61			2	96,960
62	1	63,120	3	110,702
63			2	69,443
64			4	180,787
65			3	135,059
66			2	102,619
67			10	464,199
68			6	220,250
69			13	488,819
70	1	10,132	17	715,227
71			4	155,118
72			9	375,112
73			15	604,690
74			12	429,507
75	1	41,306	16	648,071
76			17	643,973
77			13	453,404
78			8	320,596

Table 7

The Number And Annual Retirement Allowances Of Beneficiaries Distributed By Age As Of June 30, 2017

Beneficiaries Of Deceased Pensioners (Continued)

Age	Men		Women	
	Number	Amount	Number	Amount
79			14	\$ 501,592
80			10	353,685
81			7	220,867
82			10	318,821
83			11	347,971
84			12	393,863
85			18	513,046
86			14	378,226
87			16	514,735
88			14	425,025
89			11	319,847
90			12	360,008
91			6	177,890
92			4	114,493
93			2	55,376
94			3	51,434
95			3	90,669
97			1	28,095
98			1	9,548
99			1	21,859
102			1	10,013
Total	4	\$ 124,658	347	\$ 12,325,811

Table 8

The Number And Annual Retirement Allowances Of Beneficiaries Distributed By Age As Of June 30, 2017

Beneficiaries Of Deceased Active Employees

Age	Men		Women	
	Number	Amount	Number	Amount
1	1	\$ 25,020		
2	1	25,020		
28			1	\$ 44,198
30			1	38,645
37			2	127,918
41			1	75,469
42			1	47,113
44			1	76,154
49			2	138,801
51			2	130,089
52			1	76,449
53			1	37,577
54			2	151,690
55			1	76,449
56			1	52,511
58			1	65,123
59			2	111,851
62			1	40,928
63			1	45,884
65			1	59,625
66			2	84,074
67			1	56,211
68			2	75,000
70			1	36,769
71			1	50,776
72			3	113,570
73			2	79,894
74			3	146,710
75			1	47,768
76			2	80,957
77			2	62,886
78			1	21,964
80			1	41,037
82			1	29,387
83			1	36,622
85			1	24,135
87			1	27,716
88			1	22,518
92			1	19,466
93			2	52,289
96			1	18,325
97			1	20,460
Total	2	\$ 50,040	55	\$ 2,545,008

Table 9

The Number And Annual Retirement Allowances Of Beneficiaries Distributed By Age As Of June 30, 2017

Ordinary Disability Retirements

Age	Men		Women	
	Number	Amount	Number	Amount
36	1	\$ 40,973		
38	1	31,970		
39	1	43,464		
41	2	79,960		
42	2	43,677	1	\$ 43,524
45			1	38,141
46	1	40,556	1	28,593
47	1	43,528		
48	2	84,009		
49	4	160,925		
50	3	106,726		
51	7	253,350	3	43,900
52	4	112,840		
53	8	282,468	3	118,406
54	5	225,846	3	108,757
55	5	199,616	3	69,652
56	5	195,046	3	72,623
57	1	37,270	1	18,497
58	6	302,670	2	65,299
59	5	178,259	1	9,007
60	4	247,497	1	51,125
61	3	146,915		
62	1	56,880		
63	4	205,345	1	26,235
64	2	83,864		
65	3	143,500		
66	2	29,357	1	8,141
67	1	26,351	1	21,833
68	1	50,998		
69	2	28,573		
70	4	132,403	1	32,532
72	2	49,944		
73	2	88,750	1	13,757
74	1	23,847		
75	3	82,557		
76	2	39,317		
77	3	73,789		
78	2	75,309		
79	2	40,046		
80	1	19,311		
Total	109	\$ 4,107,706	28	\$ 770,022

Table 10

The Number And Annual Retirement Allowances Of Beneficiaries Distributed By Age As Of June 30, 2017

Accidental Disability Retirements

Age	Men		Women	
	Number	Amount	Number	Amount
35	2	\$ 108,180	1	\$ 49,612
36	1	47,708		
37	1	68,053		
38	3	195,559	1	70,405
39	4	260,784		
41	2	131,805		
42	2	143,755		
43	3	134,716		
44	3	159,400		
45	4	236,631		
46	7	462,438		
47	2	126,931		
48	1	50,017		
49	5	288,639		
50	9	552,389	4	194,549
51	4	259,952		
52	8	543,127	1	57,133
53	10	631,388	1	8,016
54	8	520,916	1	61,104
55	7	408,825		
56	7	367,956	2	25,854
57	4	264,376	1	40,988
58	4	269,782	1	3,380
59	2	96,843	1	31,413
60	1	71,460	2	112,506
61	4	206,630		
62	1	63,937		
63	3	177,645		
65	3	140,156	1	10,452
67	3	176,931	1	51,830
70	1	54,720		
71	1	36,349		
72	1	74,400		
73	2	65,090		
74	1	28,265		
75	5	161,462		
76	1	26,722		
77	1	25,289		
78	3	105,442		
79	1	45,399		
80	1	51,305		
Total	136	\$ 7,841,372	18	\$ 717,242