Conduent Human Resource Services
Retirement Consulting

The Judicial Retirement System of New Jersey Annual Report of the Actuary

Actuarial Valuation July 1, 2017
(Revised)

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CONDUENT
500 Plaza Drive
Secaucus, New Jersey 07096-1533

April 10, 2018

State House Commission
The Judicial Retirement System
of New Jersey
Trenton, New Jersey 08625

Members of the Commission:

The law governing the operation of the Judicial 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 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 Chapter 78, P.L. 2011, which increases member contributions by 9% of salary phased-in over a period of seven years, beginning October 2011. The increase in member contributions is fully phased-in in July 2017.

The valuation reflects the actual fiscal year 2017 State pension contributions of $19,677,000. In addition, the valuation also reflects the anticipated fiscal year 2018 State pension contribution of $23,265,972 paid in quarterly installments of $5,816,493. This amount may be subject to change per the requirements of the State's fiscal year 2018 spending plan.

As required under Section 31 of Chapter 140, P.L. 1973, 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 State House Commission on October 26, 2015. 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 State House Commission 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 Judicial 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 State House Commission 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,

Aaron Shapiro

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

Table of Contents

Section I – Summary of Key Results

The Judicial Retirement System of New Jersey became effective June 1, 1973. 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	430	410
Annual Compensation	$ 71,385,705	$ 68,062,584
Number of Pensioners and Beneficiaries	623	605
Annual Allowance	$ 56,481,444	$ 55,093,264
Number of Vested Terminated Members	4	4
Annual Allowances	$ 183,500	$ 183,500
Assets		
Market Value of Assets	$ 197,567,630 [1]	$ 196,407,352
Valuation Assets	$ 216,952,852 [1]	$ 226,310,119
Contribution Rates		
Recommended Contribution		
Normal Contribution	16.81 %	17.44 %
Accrued Liability Contribution	50.95	50.93
Total Pension Contribution	67.76 %	68.37 %
Non-Contributory Group Insurance Premium	1.02 %	1.02 %
Contribution Amounts		
Recommended Contribution		
Normal Contribution	$ 11,997,151	$ 11,866,873
Accrued Liability Contribution	36,370,890	34,665,070
Total Pension Contribution	$ 48,368,041	$ 46,531,943
Non-Contributory Group Insurance Premium	$ 731,000	$ 693,000

[1] The fiscal year 2018 recommended pension contribution of $46,531,943 has been reduced to $22,242,297. This amount reflects the State's planned fiscal year 2018 contribution of $23,265,972, 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 $44,156,771 to $19,677,000. This amount excludes the premium paid to the Non-Contributory Group Insurance Fund of $663,479 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 $46,531,943 to $23,265,972 (50% of the recommended employer contribution). This amount excludes the estimated premium paid to the Non-Contributory Group Insurance Fund of $693,000 for lump sum death benefits.

- 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 $23,265,972 is paid in equal quarterly amounts, a discounted receivable contribution of $22,242,297 is recognized for purposes of this valuation.

- The valuation reflects Chapter 78, P.L. 2011, which increased member contribution by 9% of salary phased-in over a period of seven years, beginning October 2011. The increase in member contributions was fully phased-in in July 2017.

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

As required under Chapter 140, P.L. 1973 experience studies are preformed 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 State House Commission on October 26, 2015. 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 $7,782,928 and the gross normal cost increased by $405,488. The net employer contribution increased by $548,247. 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 members. The compensation limit for 2017 is $270,000 and is assumed to increase by 3% annually.

There were no other changes to the actuarial assumptions and methods since 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 recommended contribution is developed in Section III F. 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
Assets		
Actuarial value of assets of Fund	$ 216,952,852	$ 226,310,119
Unfunded accrued liability/(surplus)	429,554,257	403,500,693
Total Assets	$ 646,507,109	$ 629,810,812
Accrued Liabilities		
Present value of benefits to present beneficiaries payable from the Retirement Reserve Fund	$ 471,714,228	$ 460,298,517
Present value of benefits to present active members and terminated vested members	174,792,881	169,512,295
Total Accrued Liabilities	$ 646,507,109	$ 629,810,812

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	Number	Annual Compensation
Men	238	$ 39,536,866	246	$ 40,829,942
Women	192	$ 31,848,839	164	$ 27,232,642
Average Compensation		$ 166,013		$ 166,006

Retired Members and Beneficiaries

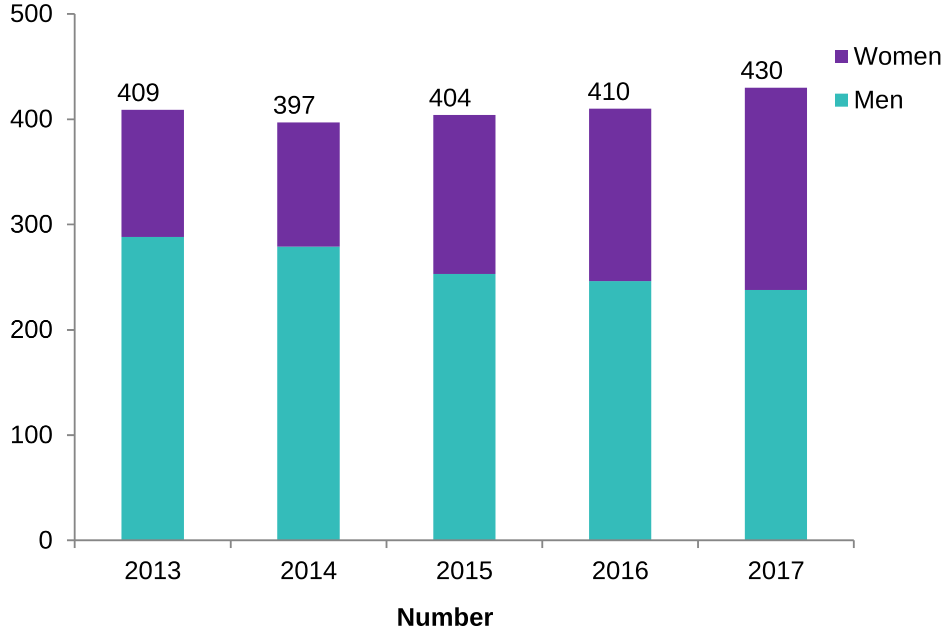
Group	2017		2016	
	Number	Annual Allowances	Number	Annual Allowances
Deferred Terminated Vesteds	4	$ 183,500	4	$ 183,500
Service Retirements	454	$ 47,014,884	438	$ 45,779,171
Disability Retirements	7	$ 818,564	7	$ 818,564
Beneficiaries	162	$ 8,647,996	160	$ 8,495,529

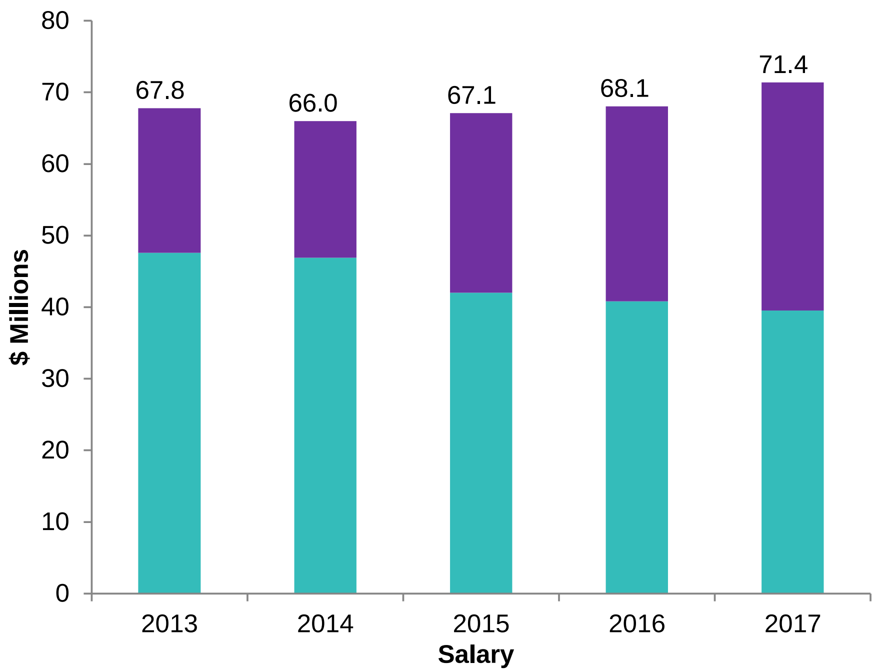
Appendix C provides a detailed distribution between groups.

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

The Judicial Retirement System Of New Jersey

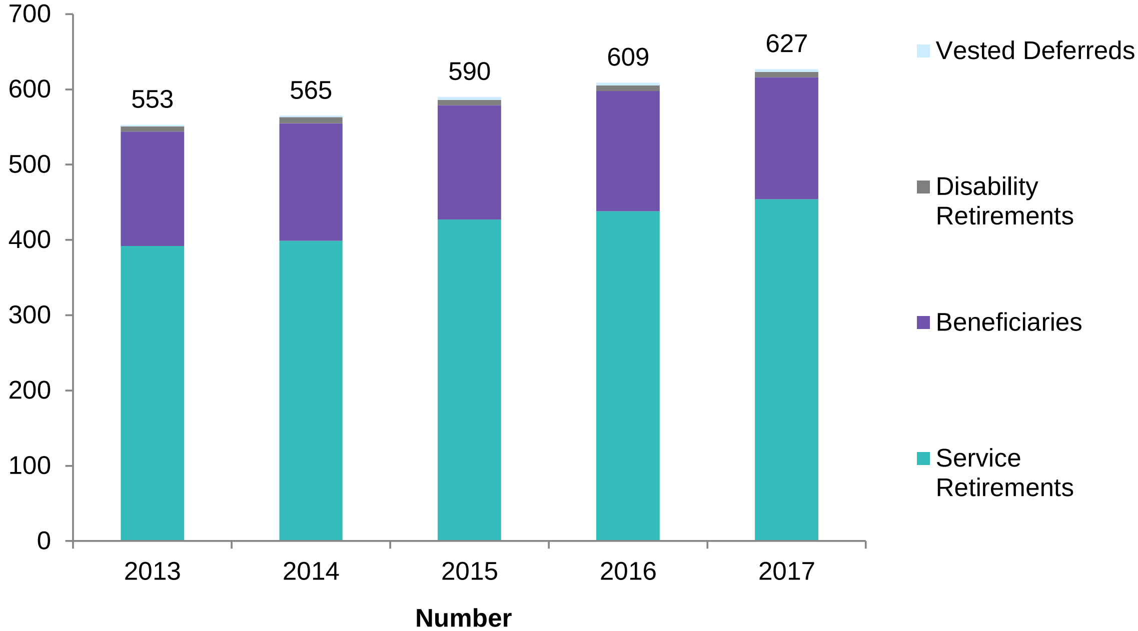
Summary of Active Participants

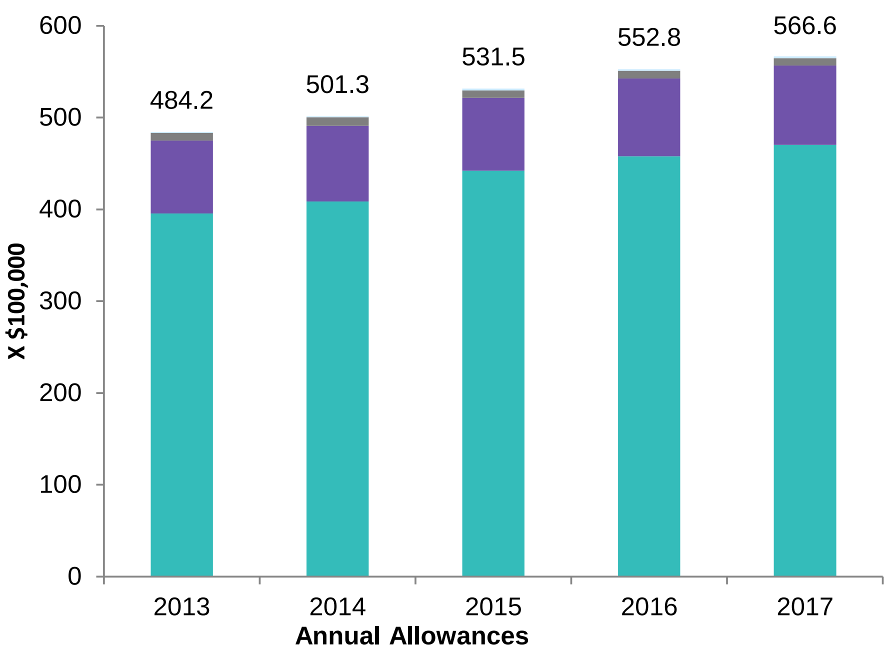




The Judicial Retirement System of New Jersey

Summary of Retired Participants





Section III - Assets, Liabilities and Contributions

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

1.	Assets			
	a.	Cash	$	5,000,117
	b.	Securities Lending Collateral		2,296,449
	c.	Investment Holdings		172,394,943
	d.	Interest Receivable on Investments		486
	e.	Employer Contribution Receivable - NCGI		0
	f.	Members' Contributions Receivable		676,066
	g.	Accounts Receivable		1,307,451
	h.	Dividends Receivable		0
	i.	Loans Receivable		511,721
	j.	Interest Receivable - Member Loans		0
	k.	Total	$	182,187,233
2.	Liabilities			
	a.	Pension Payroll Payable	$	3,409,986
	b.	Pension Adjustment Payroll Payable		276,601
	c.	Withholdings Payable		828,582
	d.	Securities Lending Collateral and Rebates Payable		2,295,771
	e.	Accounts Payable - Other		50,960
	f.	Securities Purchased in Transit		0
	g.	Death Benefits Payable		0
	h.	Total	$	6,861,900
3.	Preliminary Market Value of Assets as of June 30, 2017: 1(k) - 2(h)		$	175,325,333
4.	Discounted State Appropriations Receivable		$	22,242,297 [1]
5.	Market Value of Assets as of June 30, 2017: 3. + 4.		$	197,567,630 [2]

[1] The fiscal year 2018 recommended pension contribution of $46,531,943 has been reduced to $22,242,297. This amount reflects the State's planned fiscal year 2018 contribution of $23,265,972, 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		$	179,999,820
2.	Increases			
	a.	Pension Contributions		
		Members' Contributions	$	7,758,193
		Transfer from Other Systems		1,359,144
	b.	Accumulative Interest		
		Transfer from Other Systems		1,230,854
	c.	Employers' Contributions		
		State Appropriations		19,677,000
		Non-Contributory Group Insurance		664,379
		Transfer from Other Systems		1,121,097
		Administrative Fee Loans		176
	d.	Income		
		Per Statement		20,031,152
	e.	Total	$	51,841,995
3.	Decreases			
	a.	Benefits Provided by Members		
		Withdrawals - Members' Contribution		
		Regular	$	59,265
		Transfer		0
		Withdrawals - Member Interest		
		Regular		0
		Transfer		0
	b.	Benefits Provided by Employers and Members		
		Retirement Allowances		52,257,757
	c.	Benefits Provided by Employers		
		Benefit Expense - Pension Adjustment		3,384,317
		Administrative Expense		149,330
		Transfer Withdrawal - Employer Benefits		0
		Administrative Expense Loans		184
		Miscellaneous Expense		1,250
		NCGI Premium Expense		664,379
	d.	Total	$	56,516,482
4.	Preliminary Market Value of Assets as of June 30, 2017: 1. +2.(e) - 3.(d)		$	175,325,333
5.	Discounted State Appropriations Receivable			22,242,297 [1]
6.	Market Value of Assets as of June 30, 2017 = 4. + 5.		$	197,567,630 [2]

[1] The fiscal year 2018 recommended pension contribution of $46,531,943 has been reduced to $22,242,297. This amount reflects the State's planned fiscal year 2018 contribution of $23,265,972, 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			
	(without State Appropriations Receivable)	$	209,902,587	
2.	Net Cash Flow excluding investment income		(24,705,639)	
3.	Expected Investment Income at 7.65%			
	a. Interest on assets as of July 1, 2016:	$	16,057,548	
	b. Interest on Net Cash Flows		(1,697,636)	
	c. Total	$	14,359,912	
4.	Expected Actuarial Value of Assets as of July 1, 2017:			
	1. + 2. + 3.(c)	$	199,556,860	
5.	20% of Difference from Preliminary Market Value of Assets		(4,846,305)	
6.	Discounted State Appropriations Receivable		22,242,297	[1]
7.	Actuarial Value of Assets as of July 1, 2017 = 4. + 5. + 6.	$	216,952,852	[2]

[1] The fiscal year 2018 recommended pension contribution of $46,531,943 has been reduced to $22,242,297. This amount reflects the State's planned fiscal year 2018 contribution of $23,265,972, 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	$	410,778,094
	b. Disability Retirements		5,822,977
	c. Beneficiaries		55,113,157
	d. Total	$	471,714,228
2.	Terminated Vested Members	$	1,841,688
3.	Active Participants		
	a. Service Retirement	$	162,885,275
	b. Disability Retirement		5,836,117
	c. Spousal Annuity Active Death Benefit		4,229,801
	d. Total	$	172,951,193
4.	Total Accrued Liability[1] = 1.(d) +2. + 3.(d).	$	646,507,109

[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	$	17,426,692
2.	Disability Retirement		1,107,833
3.	Spousal Annuity Active Death Benefit		767,173
4.	Total Pension Normal Cost[1] = 1 + 2 + 3	$	19,301,698

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

F. Development of Recommended State Pension Contributions

1.	Accrued Liability	$	646,507,109
2.	Actuarial Value of Assets		216,952,852
3.	Unfunded Actuarial Accrued Liability/(Surplus) = 1. - 2.	$	429,554,257
4.	Amortization Period		30
5.	Amortization of Unfunded Actuarial Accrued Liability payable July 1, 2018 (Level Dollar)	$	36,370,890
6.	a. Gross Normal Cost (excluding Non-Contributory Group Insurance Premium)	$	19,301,698
	b. Expected Member Contributions		8,141,558
	c. State Normal Cost = (a) - (b)	$	11,160,140
	d. State Normal Cost payable July 1, 2018 = (c) * 1.075	$	11,997,151
7.	Total Recommended Pension Contribution as of July 1, 2018 = 5. +6.(d)	$	48,368,041

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

$ 731,000

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 gain 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 4.82% for this period. The estimated fund return on the market value of assets was 11.95%. 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, and discusses the impact of the unfunded liability on various funded ratios:

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

1.	Unfunded Accrued Liability as of July 1, 2016	$	403,500,693
2.	Gross Normal Cost as of July 1, 2016		17,948,798
3.	Interest on (1) and (2) at 7.65%		32,240,886
4.	Actual Members' Contributions Received		7,758,193
5.	Employers' Contributions (including discounted receivable)		22,242,297
6.	Interest on Contributions (excluding receivables) at 7.65%		291,283
7.	Expected Unfunded Accrued Liability/(Surplus) as of July 1, 2017 = (1) + (2) + (3) - (4) - (5) - (6)	$	423,398,604
8.	Change in Unfunded Accrued Liability due to the revised fiscal year 2017 State contribution[1]		(2,014,292)
9.	Change in Unfunded Accrued Liability due to assumption changes		7,782,928
10.	Actual Unfunded Accrued Liability as of July 1, 2017		429,554,257
11.	Actuarial (Gain)/Loss = (10) - (7) - (8) - (9)	$	387,017

[1] The anticipated fiscal year 2017 contribution of $17,662,708 has been increased to $19,677,000 to reflect the actual State contribution made during fiscal year 2017.

B. Components of Actuarial Experience

1.	Investment (Gain)/Loss	$	4,846,305
2.	Other (Gain)/Loss, including mortality, changes in employee data and salary increases different than expected		(4,459,288)
3.	Total Actuarial (Gain)/Loss	$	387,017

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 Assets[1]	33.6%	35.9%	(2.3)%
Market Value of Assets	30.6%	31.2%	(0.6)%

[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 has not attained the required "target funded ratio" and thus the pension committee has not been established for the System.

The System's statutory funded ratio is 35.9% and 33.6% 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 88.4%. 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 $70,319,118 are excluded, the funded ratio of the remaining market value of assets to the actuarial accrued liability for retirees is 27%.

As of June 30, 2017, the ratio of market value of assets to the prior year's benefit payment is 3.6. 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 decreased by 0% from the previous year's ratio of 3.6. If ASF assets are excluded, since they represent accumulated contributions from active and inactive members, the ratio is 2.3.

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)	Funded Ratio Actuarial Value (b)/(c)
7/1/2017	$ 197,567,630	$ 216,952,852	$ 646,507,109	30.56%	33.56%
7/1/2016	$ 196,407,352	$ 226,310,119	$ 629,810,812	31.19%	35.93%
7/1/2015	$ 225,712,843	$ 243,864,022	$ 602,364,200	37.47%	40.48%
7/1/2014	$ 244,567,822	$ 258,101,497	$ 632,679,937	38.66%	40.79%
7/1/2013	$ 244,280,889	$ 276,966,331	$ 620,376,292	39.38%	44.64%
7/1/2012	$ 243,679,037	$ 290,191,842	$ 605,180,634	40.27%	47.95%
7/1/2011	$ 270,183,306	$ 310,724,782	$ 585,700,787	46.13%	53.05%
7/1/2010	$ 261,523,992	$ 329,030,387	$ 554,540,403	47.16%	59.33%
7/1/2009	$ 261,751,336	$ 355,522,646	$ 594,043,375	44.06%	59.85%
7/1/2008	$ 352,989,790	$ 383,958,713	$ 553,284,647	63.80%	69.40%

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 w ere 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)	Percentage of Contribution Made Five-Year Average
2018	$ 46,531,943	$ 23,265,972	$ 23,265,971	50.00%	39.48%
2017	$ 44,156,771	$ 19,677,000	$ 24,479,771	44.56%	35.20%
2016	$ 46,502,819	$ 13,951,000	$ 32,551,819	30.00%	29.14%
2015	$ 44,334,504	$ 16,506,000	$ 27,828,504	37.23%	23.14%
2014	$ 43,050,167	$ 15,334,000	$ 27,716,167	35.62%	15.70%
2013	$ 40,751,804	$ 11,643,000	$ 29,108,804	28.57%	9.46%
2012	$ 38,352,572	$ 5,479,000	$ 32,873,572	14.29%	13.75%
2011	$ 34,653,737	$ 0	$ 34,653,737	0.00%	22.26%
2010	$ 28,857,945	$ 0	$ 28,857,945	0.00%	29.48%
2009	$ 26,089,212	$ 1,157,000	$ 24,932,212	4.43%	

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 w ere 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 with receivables.

ASC 715 ABO Funded Ratios

Actuarial present value of accumulated benefits:	June 30, 2017	June 30, 2016
Vested benefits		
Participants currently receiving payments	$ 471,714,228	$ 460,298,517
Other participants	115,494,722	112,076,264
	$ 587,208,950	$ 572,374,781
Non-vested benefits	42,572,584	41,000,851
Total	$ 629,781,534	$ 613,375,632
Assets at market value[1]	$ 175,325,333	$ 179,999,820
Ratio of assets to total present value	27.8%	29.3%

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

Chief Justice and associate justices of the Supreme Court, judges of the Superior Court and tax courts of the State of New Jersey.

1. Definitions

Plan Year

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

Service

A year is credited for each year of service as a public employee in the State of New Jersey. Any service, for which member did not receive annual salary of at least $500, shall be excluded

Final Salary

Annual salary received by the member at the time of retirement or other termination of service. (Effective June 30, 1996, Chapter 113, P.L. 1997 provided that the amount of compensation used for employer and member contributions and benefits under the program cannot exceed the compensation limitation of Section 401(a)(17) of the Internal Revenue Code.)

Accumulated Deductions

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

Retirement Allowance

Pension derived from contributions of the State plus the annuity derived from employee contributions.

2. Benefits

Service Retirement

A. Mandatory retirement at age 70. Voluntary retirement prior to age 70 as follows:

   i. Age 70 and 10 years of judicial service;
   ii. Age 65 and 15 years of judicial service; or
   iii. Age 60 and 20 years of judicial service.

   Benefit is an annual retirement allowance equal to 75% of final salary.

B. Age 65 while serving as a judge, 5 consecutive years of judicial service and 15 years in the aggregated of public service; or

   Age 60 while serving as a judge, 5 consecutive years of judicial service and 20 years in the aggregated of public service.

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

C. Age 60 while serving as a judge, 5 consecutive years of judicial service and 15 years in the aggregate of public service. Benefit is an annual retirement allowance equal to 2% of final salary for each year of public service up to 25 years plus 1% of final salary for each year in excess of 25 years.

D. Age 60 while serving as a judge. Benefit is an annual retirement allowance equal to 2% of final salary for each year of judicial service up to 25 years plus 1% for each year in excess of 25 years.

Early Retirement

Prior to age 60 while serving as a judge, 5 consecutive years of judicial service and 25 or more years in the aggregate of public service. Benefit is an annual retirement allowance equal to 2% of final salary for each year of public service up to 25 years plus 1% of final salary for each year of public service in excess of 25 years, actuarially reduced for commencement prior to age 60.

Vested Termination

Termination of service prior to age 60, with 5 consecutive years of judicial service and 10 years in the aggregate of public service. Benefit is a refund of accumulated deductions, or a deferred life annuity beginning at age 60 equal to 2% of final salary for each year of public service up to 25 years, plus 1% for service in excess of 25 years.

Death Benefits

Before Retirement

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

A. Lump sum payment equal to 1-1/2 times compensation, plus

B. Spousal life annuity of 25% of final salary payable until spouse's remarriage plus 10% (15%) to one (two or more) dependent child (children). If there is no surviving spouse, or upon death or remarriage, a total of 15% (20%, 30%) of final salary payable to one (two, three or more) dependent child (children). If there is no surviving spouse (or dependent children), 20% or 30% of final salary to one or two dependent parents.

After Retirement

Death of a retired member of the plan. The benefit is equal to:

A. Lump sum of 25 % of final salary for a member retired under normal or early retirement. If a member were receiving a disability benefit, a lump sum 1-1/2 times final salary if death occurred before the member attained age 60 and 1/4 times final salary if death occurred after age 60, plus

B. Spousal life annuity of 25% of final salary payable until spouse's remarriage plus 10% (15%) to one (two or more) dependent child (children). If there is no surviving spouse, or upon death or remarriage, a total of 15% (20%, 30%) of final salary payable to one (two, three or more) dependent child (children).

Disability Retirement

Physically or otherwise incapacitated for the full and efficient service to State in his judicial capacity and such incapacity is likely to be permanent. Benefit is an annual retirement allowance of 75% of final salary.

Member Contributions

Any member enrolled prior to January 1, 1996 contributes 3% of the difference between current salary and salary for the position of January 18, 1982. Members enrolled on and after January 1, 1996 contribute 3% of their full salary.

Chapter 78, P.L. 2011 increases Member Contributions by 9% of salary phased-in over a period of seven years beginning October 2011. (The additional 9% of salary will be fully phased-in in July 2017.)

A. For members enrolled prior to January 1, 1996:

   i. Member Contributions of 9% (phased-in over a period of seven years beginning October 2011) of the salary for that position on January 18, 1982.

   ii. Member Contributions increased from 3% to 12% (phased-in over a period of seven years beginning October 2011) of the difference between current salary and salary for that position on January 18, 1982.

   Benefit is an annual retirement allowance equal to 75% of final salary.

B. For members enrolled on or after January 1, 1996, Member Contributions increased from 3% to 12% of full salary phased-in over a period of seven years beginning October 2011.

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 2.00% per year through fiscal year 2025 and 3.00% per year for fiscal years 2026 and thereafter.

401(a)(17) Pay Limit

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

Separations from Service

Representative mortality and disability rates are as follows:

	Lives per Thousand		
	Death[1]		
Age	Male	Female	Disability
30	0.43	0.38	0.22
35	0.74	0.58	0.26
40	1.04	0.90	0.33
45	1.45	1.38	0.64
50	2.06	2.12	1.14
55	3.49	3.68	1.97
60	6.16	6.71	3.26
65	10.89	11.49	4.73

1. RP-2000 Combined Healthy Male and RP-2000 Combined Healthy Female Mortality Tables (unadjusted for males and set forward 3 years for females) projected on a generational basis from the base year of 2000 to 2013 using Projection Scale BB for the base tables. The base tables are projected beyond the base year using the Conduent Modified 2014 Projection scale. The above rates are unadjusted for the Conduent Modified 2014 Projection Scale.

Deaths after Retirement

RP-2000 Combined Heathy Mortality Tables (unadjusted for males and set forward 3 years for females) for service retirement and beneficiaries of former member projected on a generational basis from the base year of 2000 to 2013 using Projection Scale BB for the base tables. The base tables are projected beyond the base year using the Conduent Modified 2014 Projection scale. The RP-2000 Disability Mortality Tables (set forward 2 years for males and females) are used to value disabled retirees. Representative values of the annual rates of mortality unadjusted for the Conduent Modified 2014 Projection Scale are as follows:

Age	Lives Per Thousand			
	Retired Members & Beneficiaries of Deceased Members		Disabled Members	
	Male	Female	Male	Female
55	3.49	3.68	38.03	18.65
60	6.16	6.71	44.98	24.08
65	10.89	11.49	54.45	31.32
70	18.25	19.63	69.41	42.85
75	31.09	32.13	92.15	59.54
80	52.89	53.43	121.88	82.30
85	91.00	91.72	155.23	114.51
90	158.84	147.61	216.61	159.92

Retirement

Age	Age 60 with 20 Years Judicial Service or Age 65 with 15 Years Judicial Service	After Age 59 with Less than 12 Years Judicial Service	After Age 59 with 12 or More Years Judicial Service (but have not attained 60/20JS or 65/15JS)	Prior to age 60 with 5 Years Judicial Service and 25 Years Public Service
50	0.00000	0.00000	0.00000	0.00000
51	0.00000	0.00000	0.00000	0.00000
52	0.00000	0.00000	0.00000	0.00000
53	0.00000	0.00000	0.00000	0.00000
54	0.00000	0.00000	0.00000	0.00000
55	0.00000	0.00000	0.00000	0.00000
56	0.00000	0.00000	0.00000	0.00000
57	0.00000	0.00000	0.00000	0.00000
58	0.00000	0.00000	0.00000	0.00000
59	0.00000	0.00000	0.00000	0.00000
60	0.30000	0.02500	0.00000	0.00000
61	0.20000	0.02500	0.00000	0.00000
62	0.20000	0.02500	0.00000	0.00000
63	0.30000	0.02500	0.00000	0.00000
64	0.30000	0.02500	0.00000	0.00000
65	0.37500	0.02500	0.10000	0.00000
66	0.24000	0.02500	0.00000	0.00000
67	0.24000	0.02500	0.00000	0.00000
68	0.24000	0.02500	0.00000	0.00000
69	0.24000	0.02500	0.00000	0.00000

Marriage

Husbands are assumed to be 3 years older than wives. Among the active population, 90% of participants are assumed married. No children are assumed. Neither the percentage married nor the number of children assumption is individually explicit 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 was used. (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).

Summary of Changes from 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 $7,782,928 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	Retirees						Domestic Relations	
	Contrib.	Noncontrib.	Vested	Service	Special	Deferred	Disabled	Beneficiaries	Dependents	Beneficiaries	Total
Members as of July 1, 2016	410	0	4	419	3	4	7	156	4	12	1,019
Changed to Contributing											
Changed to Noncontributing											
Terminated Vested											
Terminated Non-Vested											
Service Retirement	(25)			25							
Special Retirement	(1)				1						
Deferred Vesteds Now Payable											
New Disabled											
New Death	(5)			(10)				(8)			(23)
New Beneficiaries								8	3		11
Payments Ceased											
Lump sum											
New Actives	51										51
Rehires											
Data Corrections								(1)			(1)
Members as of June 30, 2017	430	0	4	434	4	4	7	155	7	12	1,057

Table 2

Distribution Of Active Members By Age and Service

Age	Service	1	5	10	15	20	25	30	35	Total
20	Number									
	Salary									
25	Number									
	Salary									
30	Number									
	Salary									
35	Number	1								**1**
	Salary	165,000								**165,000**
40	Number	4								**4**
	Salary	660,000								**660,000**
45	Number	20	9	1						**30**
	Salary	3,300,000	1,485,000	165,000						**4,950,000**
50	Number	26	19	9						**54**
	Salary	4,290,000	3,135,000	1,491,731						**8,916,731**
55	Number	25	33	21	11					**90**
	Salary	4,125,000	5,451,731	3,503,329	1,815,000					**14,895,060**
60	Number	28	26	30	21	12	1			**118**
	Salary	4,620,000	4,331,550	4,960,534	3,488,996	1,997,265	175,534			**19,573,879**
63	Number	6	20	12	25	11	2	2		**78**
	Salary	990,000	3,300,000	1,997,265	4,211,028	1,866,795	347,265	340,534		**13,052,887**
66 and over	Number	3	12	22	6	4	7	1		**55**
	Salary	515,482	1,980,000	3,630,000	1,021,602	681,068	1,178,996	165,000		**9,172,148**
Total	**Number**	**113**	**119**	**95**	**63**	**27**	**10**	**3**		**430**
	Salary	**18,665,482**	**19,683,281**	**15,747,859**	**10,536,626**	**4,545,128**	**1,701,795**	**505,534**		**71,385,705**

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
37	1	$ 165,000		
38			1	$ 165,000
42	1	165,000	2	330,000
43	2	330,000	2	330,000
44	3	495,000	2	330,000
45	2	330,000	5	825,000
46	3	495,000	1	165,000
47	3	495,000	7	1,155,000
48	6	990,000	7	1,155,000
49	5	831,731	3	495,000
50	4	660,000	7	1,155,000
51	7	1,155,000	2	330,000
52	4	660,000	9	1,485,000
53	11	1,815,000	8	1,320,000
54	4	660,000	5	825,000
55	10	1,650,000	12	1,980,000
56	4	660,000	10	1,650,000
57	18	3,015,060	8	1,320,000
58	9	1,485,000	8	1,357,747
59	15	2,485,534	12	1,980,000
60	13	2,166,068	8	1,320,000
61	10	1,667,265	15	2,481,731
62	13	2,145,000	15	2,485,534
63	17	2,839,530	7	1,182,213
64	16	2,678,333	11	1,842,799
65	16	2,677,747	11	1,832,265
66	10	1,681,602		
67	5	835,534	8	1,351,016
68	9	1,491,731	3	505,534
69	13	2,151,731	2	330,000
70	4	660,000	1	165,000
Total	238	$ 39,536,866	192	$ 31,848,839

Of the 430 active members included in the June 30, 2017 valuation data, 273 are vested and 157 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	5	$ 825,000	4	$ 660,000
1	12	1,980,000	37	6,125,482
2	16	2,640,000	24	3,960,000
3	8	1,320,000	22	3,630,000
4	17	2,805,000	12	1,980,000
5	12	1,980,000	6	990,000
6	15	2,475,000	11	1,835,482
7	10	1,667,265	4	660,000
8	24	3,970,534	11	1,815,000
9	12	1,980,000	7	1,155,000
10	19	3,180,060	6	990,000
11	6	990,000	1	165,000
12	12	1,980,000	5	835,534
13	11	1,849,530	2	330,000
14	9	1,506,068	7	1,155,000
15	11	1,852,747	4	670,534
16	14	2,331,068	5	825,000
17	4	660,000	4	673,462
18	4	677,265	3	515,482
19	5	842,265	3	512,265
20	5	835,534	4	681,068
21			1	165,000
22			2	336,731
23	1	165,000		
24	1	175,534	1	165,000
25	1	175,534	1	175,534
26	2	336,731	3	501,731
27	1	171,731		
28	1	165,000	2	340,534
Total	238	$ 39,536,866	192	$ 31,848,839

Of the 430 active members included in the June 30, 2017 valuation data, 273 are vested and 157 have not yet completed the vesting service requirement.

Table 5

Average Age and Annual Benefit at Retirement

	Service Retirement		Disability Retirement		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[2]	Average Annual Benefit At Retirement
All Retirees	65.7	$ 98,116	61.6	$ 110,798	59.0	$ 48,394
New Retirees	66.9	$ 98,428	N/A	N/A	58.6	$ 44,375

	All Retirements (excluding Survivors)	
	Average Age At Retirement	Average Annual Benefit At Retirement
All Retirees	65.2	$ 99,329

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

[2]Calculated 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
56	1	$ 54,676		
60	1	86,699	1	$ 12,375
61	2	235,249		
62			2	156,252
63	2	208,290	2	189,281
64	2	199,155	2	229,448
65	5	481,896	1	131,651
66	8	886,661	2	170,644
67	14	1,612,694	3	174,955
68	10	1,111,101	10	1,194,527
69	16	1,847,254	5	462,507
70	23	2,416,874	5	392,222
71	15	1,586,112	4	386,363
72	27	3,001,483	7	761,503
73	22	2,346,438	3	364,196
74	19	2,058,559	5	385,537
75	21	2,380,139	6	684,618
76	21	2,283,439	1	117,925
77	15	1,657,258	1	123,750
78	15	1,503,064	1	46,212
79	10	1,146,785	4	430,997
80	19	1,886,299		
81	17	1,605,642	2	183,012
82	9	877,850	3	240,232
83	13	1,262,138		
84	10	999,827	2	47,063
85	11	1,056,672		
86	6	680,029	2	160,453
87	10	1,024,801		
88	10	955,288	1	104,422
89	4	391,044	1	103,503
90	2	212,112		
91	5	469,372		
92	1	101,350		
93	5	470,129		
94	4	372,235		
95	1	99,337	1	101,350
96			1	91,935
Total	376	$ 39,567,951	78	$ 7,446,933

Table 7

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

Disability Retirements

Age	Men		Women	
	Number	Amount	Number	Amount
61			1	$ 115,531
67	1	$ 124,922		
69			1	123,750
70	1	123,750		
72	1	123,750		
74	1	111,746		
97	1	95,115		
Total	5	$ 579,283	2	$ 239,281

Table 8

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

Active Members' Death Benefits

Age	Men		Women	
	Number	Amount	Number	Amount
75			1	$ 39,703
78	1	$ 34,807		
80			3	99,266
81			1	37,104
82			1	33,783
83			2	67,285
84			2	66,353
86			2	61,673
88			1	33,783
93			1	27,915
Total	1	$ 34,807	14	$ 466,865

Table 9

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

Retired Members' Death Benefits

Age	Men		Women	
	Number	Amount	Number	Amount
11			1	$ 12,375
15			1	12,375
16	1	$ 20,420		
20			1	19,081
49			1	41,250
50	1	21,252		
63	2	121,175	1	39,628
65	1	43,884	2	164,967
66			3	139,075
67			1	136,039
68			1	128,955
69	1	11,761	4	196,466
70			3	200,800
71			3	158,701
72			3	143,632
73			6	492,814
74			2	80,711
75	1	41,250	8	634,481
76	1	43,239	4	337,923
77			5	366,106
78			2	185,200
79	1	44,093	4	231,351
80			7	386,349
81			5	280,459
82			5	316,368
83			6	355,438
84			5	186,849
85			4	251,457
86			6	406,054
87			1	41,250
88			6	257,406
89			3	90,686
90			9	428,282
91			7	352,956
92			1	35,250
93			5	181,913
94			4	246,249
95			1	34,291
96			1	33,783
97			2	53,729
99			3	95,618
105			1	42,933
Total	9	$ 347,074	138	$ 7,799,250

Table 10

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

Deferred Terminated Vesteds

Age	Men		Women	
	Number	Amount	Number	Amount
55			1	$ 39,875
56			1	66,000
58	1	$ 56,375		
72	1	21,250		
Total	2	$ 77,625	2	$ 105,875