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Public Employees' Retirement System of New Jersey

Information Required Under Governmental Accounting Standards Board Statement No. 68 as of June 30, 2017

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April 24, 2018

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

Director:

This valuation provides information concerning the Public Employees' Retirement System of New Jersey in accordance with the Governmental Accounting Standards Board (GASB) Statement No. 68. This Statement is an amendment of Statement No. 27, Accounting for Pensions by State and Local Government Employers effective for the fiscal year ending June 30, 2015 and thereafter.

This valuation 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.

In addition, the valuation reflects Chapter 98, P.L. 2017 - Lottery Enterprise Contribution Act. Under the legislation, the Public Employees' Retirement System receives 21.02% of the proceeds of the Lottery Enterprise, based upon their members' past or present employment in schools and institutions in the State for a term of 30 years.

We certify that the information contained in this Actuarial Report has been prepared in accordance with generally accepted actuarial principles and practices. To the best of our knowledge, the information fairly presents the actuarial position of the Public Employees' Retirement System of New Jersey in accordance with the requirements of GASB Statement No. 68 as of June 30, 2017. Information necessary to comply with the reporting requirements of GASB Statement No. 67 was provided in a separate Actuarial Report, which is available on the Division of Pensions and Benefits web site. Please refer to that separate Actuarial Report for supplementary information documentation and support for the actuarial analysis and information presented herein.

The Board of Trustees, staff of the Division of Pensions and Benefits and its auditors may use this report for the review of the operation of the Plan. The report may also be used in the preparation of the audited financial statements of the State of New Jersey.

Use of this report for any other purpose or by anyone other than the Board of Trustees or the staff of the Division of Pensions and Benefits may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. Conduent 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.

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

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

As required under Chapter 84, P.L. 1954, experience studies are performed once in every three-year period. The valuation was prepared on the basis of the 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 October 14, 2015 Board meeting. The Treasurer has recommended a change in the economic assumptions to be used to determine the actuarially determined contribution from 7.65% per annum to:

- Effective with the July 1, 2017 valuation: 7.50% per annum,
- Effective with the July 1, 2019 valuation: 7.30% per annum,
- Effective with the July 1, 2021 valuation: 7.00% per annum.

In accordance with paragraph 40 of GASB Statement No. 67, this valuation is based on a long-term expected rate of return of 7.00% per annum. However, the projected actuarially determined contributions are based on the above stated Treasurer recommended rate of investment return assumptions.

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

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

Respectfully submitted,

Aaron Shapiro

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

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Section I – GASB 68 Information

Plan Description

Plan administration. The State of New Jersey Division of Pensions and Benefits administers the Public Employees' Retirement System of New Jersey (Plan), a governmental cost sharing multiple-employer defined benefit pension plan. Under the terms of Chapter 71, P.L. 1966, most public employees in New Jersey not required to become members of another contributory retirement program are required to enroll in the Plan.

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

The Board of Trustees consists of two trustees appointed by the Governor, the State Treasurer or the Deputy State Treasurer, three trustees elected by the member employees of the State from among the active or retired State members of the retirement system, one trustee elected by the member employees of counties from among the active or retired county members of the retirement system, two trustees elected by the member employees of municipalities from among the active or retired municipal members of the retirement system. The Director of the Division of Pensions and Benefits of the State Department of the Treasury shall appoint a qualified employee of the division who shall be the secretary of the Board.

In accordance with Chapter 78, P.L. 2011, a pension committee is to be established for the State portion of the System and the Local employers' portion of the System when the employer'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 time it is to remain for all subsequent fiscal years. The Local employers' portion of the System attained the required "target funded ratio" in Fiscal Year 2012, thus establishing the committee for the Local employers' portion of the Plan. The State portion of the System has not attained the required "target funded ratio" and thus the pension committee has not been established for the State portion of the System.

The pension committees consist of four members who were appointed by the Governor as representatives of public employers whose employees are enrolled in the retirement system, and four members who were appointed by the Public Employee Committee of the AFL-CIO.

Chapter 78, P.L. 2011 grants the authority to amend the benefit terms of the Plan to the pension committees. The pension committees will have the discretionary authority to modify the member contribution rate, formula for calculation of final compensation and the fraction of compensation applied to service credited after the modification, age at which a member may be eligible and the benefits for service and special retirement and benefits provided for disability benefit. The pension committees will have the authority to reactivate the cost of living adjustment and set the duration and extent of the activation. The pension committees must give priority consideration to the reactivation of the cost of living adjustment. No decision of the pension committees shall be implemented if the direct or indirect result of the decision will be that the Plan's funded ratio falls below the target funded ratio in any valuation period during the 30 years following the implementation of the decision.

Measurement Date. The net pension liability for fiscal year ending June 30, 2018 is determined at a measurement date of June 30, 2017. The total pension liability as of June 30, 2017 was determined by rolling forward the Plan's total pension liability as of July 1, 2016 to June 30, 2017. The plan fiduciary net position is the market value of plan assets as of June 30, 2017.

Data for Valuation. In preparing the actuarial valuation as of June 30, 2016, the actuary has relied on data and assets provided by the Division of Pensions and Benefits. While not verifying the data at their source, the actuary has performed tests for consistency and reasonableness.

The following is a summary of Plan participants and the development of the average expected remaining service lives of active and inactive members as of June 30, 2016:

	Number	Expected Remaining Years of Service
Inactive Plan members or beneficiaries currently receiving	170,124	0.00
Inactive Plan members entitled to but not yet receiving	650	0.00
Active Plan members	254,685	2,332,349.54
Total	425,459	2,332,349.54

Average expected remaining service lives of active and inactive members as of June 30, 2016: 5.48 years

Benefits Provided*.* Please see Section III of the report for a summary of Plan provisions.

Contributions. The Board establishes contributions based on an actuarially determined contribution recommended by an independent actuary and a contribution for the Non-Contributory Group Insurance Premium Fund (NCGIPF). The actuarially determined contribution is the estimated amount necessary to finance the costs of benefits earned by Plan members during the year, with an additional amount to finance a portion of any unfunded accrued liability. For the year ended June 30, 2017, the State and Local Employers contributed $1,465,931,579 to the Plan, per the financial statement. This amount excludes employer delayed enrollments and appropriations, additional employer contributions, retroactive employer contributions, and transfer from other Systems. In addition, the administrative loan fee revenue is not included and has been used as an offset to administrative expenses.

Net Pension Liability

The Net Pension Liability excludes separately financed liabilities to the pension plan which are attributable to Chapter 19, P.L. 2009 and various Local employers' early retirement incentive programs (see Section III).

a. The components of the net pension liability at June 30, 2016, were as follows:

	State	Local	Total
NCGIPF			
Total pension liability	$ 616,407,242	$ 956,700,750	$ 1,573,107,992
Plan fiduciary net position	0	62,147,069	62,147,069
Plan net pension liability	$ 616,407,242	$ 894,553,681	$ 1,510,960,923
Pension			
Total pension liability	$ 35,678,782,686	$ 48,517,997,396	$ 84,196,780,082
Plan fiduciary net position	6,904,504,223	19,795,419,318	26,699,923,541
Plan net pension liability	$ 28,774,278,463	$ 28,722,578,078	$ 57,496,856,541
Total			
Total pension liability	$ 36,295,189,928	$ 49,474,698,146	$ 85,769,888,074
Plan fiduciary net position	6,904,504,223	19,857,566,387	26,762,070,610
Plan net pension liability	$ 29,390,685,705	$ 29,617,131,759	$ 59,007,817,464

b. The components of the net pension liability at June 30, 2017, were as follows:

	State	Local	Total
NCGIPF			
Total pension liability	$ 537,859,973	$ 856,719,916	$ 1,394,579,889
Plan fiduciary net position	0	64,452,030	64,452,030
Plan net pension liability	$ 537,859,973	$ 792,267,886	$ 1,330,127,859
Pension			
Total pension liability	$ 31,998,036,879	$ 43,995,647,135	$ 75,993,684,014
Plan fiduciary net position	6,890,274,055	21,509,513,433	28,399,787,488
Plan net pension liability	$ 25,107,762,824	$ 22,486,133,702	$ 47,593,896,526
Total			
Total pension liability	$ 32,535,896,852	$ 44,852,367,051	$ 77,388,263,903
Plan fiduciary net position	6,890,274,055	21,573,965,463	28,464,239,518
Plan net pension liability	$ 25,645,622,797	$ 23,278,401,588	$ 48,924,024,385

c. Sensitivity to Discount Rate: The following presents the net pension liability calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate.

June 30, 2016

	1% Decrease (2.98%)	Current (3.98%)	1% Increase (4.98%)
State	$ 34,422,851,197	$ 29,390,685,705	$ 25,246,574,457
Local	36,292,338,055	29,617,131,759	24,106,170,190
Total	$ 70,715,189,252	$ 59,007,817,464	$ 49,352,744,647

June 30, 2017

	1% Decrease (4.00%)	Current (5.00%)	1% Increase (6.00%)
State	$ 29,818,581,732	$ 25,645,622,797	$ 22,179,578,513
Local	28,878,437,027	23,278,401,588	18,612,878,069
Total	$ 58,697,018,759	$ 48,924,024,385	$ 40,792,456,582

Pension Expense as of June 30, 2017

	State	Local	Total
Service cost	$ 779,633,287	$ 1,085,764,932	$ 1,865,398,219
Interest cost	1,442,517,068	1,970,271,944	3,412,789,012
Expected return on assets	(477,442,668)	(1,406,759,398)	(1,884,202,066)
Current period effect of benefit changes	0	0	0
Current period difference between expected and actual experience	24,992,702	31,018,501	56,011,203
Current period effect of changes in assumptions	(810,437,137)	(1,042,991,527)	(1,853,428,664)
Current period difference between projected and actual investment earnings	(64,085,035)	(199,553,320)	(263,638,355)
Member contributions	(331,469,748)	(516,482,389)	(847,952,137)
Administrative expenses	6,134,333	13,514,382	19,648,715
Current period recognition of prior years' deferred outflows of resources	1,407,448,464	2,038,465,808	3,445,914,272
Current period recognition of prior years' deferred inflows of resources	(152,714,563)	(278,943,320)	(431,657,883)
Sub Total	$ 1,824,576,703	$ 1,694,305,613	$ 3,518,882,316
Pension expense related to specific liabilities of individual employers:			
Employer contribution - delayed enrollments	(140,761)	(890,013)	(1,030,774)
Employer contribution - delayed appropriation	(30,408)	(3,194,204)	(3,224,612)
Employer contribution - retroactive	(64,946)	(11,165,575)	(11,230,521)
Employer contribution - additional	0	(25,676)	(25,676)
Pension expense subject to allocation	$ 1,824,340,588	$ 1,679,030,145	$ 3,503,370,733

The pension expense for the fiscal year ending June 30, 2017 is based on the June 30, 2016 valuation.

The effect of the change in assumptions, experience different from expected and change in employers' proportion are recognized over the average expected remaining service lives of active and inactive members as of June 30, 2016 (5.48 years).

The difference between projected and actual investment earnings is recognized over 5 years.

Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2017, the System has a collective pension expense of $3,503,370,733 ($1,824,340,588 for State and $1,679,030,145 for Local employers). At June 30, 2017, there are deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflow of Resources	Deferred Inflow of Resources
State		
Changes in Assumptions	$ 3,354,611,220	$ 3,630,758,372
Difference between expected and actual experience	587,560,065	0
Difference between projcted and actual investment earnings	162,886,865	0
Total	$ 4,105,058,150	$ 3,630,758,372
Local		
Changes in Assumptions	$ 4,689,795,719	$ 4,672,602,040
Difference between expected and actual experience	548,125,995	0
Difference between projcted and actual investment earnings	158,510,187	0
Total	$ 5,396,431,901	$ 4,672,602,040
Total		
Changes in Assumptions	$ 8,044,406,939	$ 8,303,360,412
Difference between expected and actual experience	1,135,686,060	0
Difference between projcted and actual investment earnings	321,397,052	0
Total	$ 9,501,490,051	$ 8,303,360,412

Annual changes to the net pension liability (asset) resulting from differences between expected and actual experience with regard to economic and demographic factors and from changes of assumptions about future economic or demographic factors or other inputs are deferred and amortized over a closed period equal to the average of the expected service lives of all employees that are provided with pension benefits determined for the period during which the changes occurred. Differences between projected and actual earnings on pension plan investments are amortized over a closed 5-year period. The following presents a summary of changes in the collective outflows of resources and deferred inflows of resources for the year ended June 30, 2017:

Deferred (Inflows)/Outflows of Resources	Measurement Period July 1- June 30	Amortization Period	Original balance	Accumulated amortization	Beginning balance on prior measurement period deferrals	Current measurement period additions	Amounts recognized in current year expense	End of year balance
State								
Differences between expected and actual experience	2015	5.72	$ 401,805,013	$ 140,491,264	$ 261,313,749	$ 0	$ 70,245,632	$ 191,068,117
	2016	5.57	443,922,203	79,698,780	364,223,423	0	79,698,780	284,524,643
	2017	5.48	136,960,007	0	0	136,960,007	24,992,702	111,967,305
	Total		$ 982,687,223	$ 220,190,044	$ 625,537,172	$ 136,960,007	$ 174,937,114	$ 587,560,065
Difference due to changes in assumptions	2014	6.44	$ 525,469,393	$ 244,783,878	$ 280,685,515	$ 0	$ 81,594,626	$ 199,090,889
	2015	5.72	1,752,396,102	612,725,910	1,139,670,192	0	306,362,955	833,307,237
	2016	5.57	3,623,172,812	650,479,859	2,972,692,953	0	650,479,859	2,322,213,094
	2017	5.48	(4,441,195,509)	0	0	(4,441,195,509)	(810,437,137)	(3,630,758,372)
	Total		$ 1,459,842,798	$ 1,507,989,647	$ 4,393,048,660	$ (4,441,195,509)	$ 228,000,303	$ (276,147,152)
Net difference between projected and actual earnings on investments	2014	5	$ (763,572,817)	$ (458,143,689)	$ (305,429,128)	$ 0	$ (152,714,563)	$ (152,714,565)
	2015	5	426,291,324	170,516,530	255,774,794	$ 0	85,258,265	170,516,529
	2016	5	669,041,733	133,808,347	535,233,386	$ 0	133,808,347	401,425,039
	2017	5	(320,425,173)	0	0	(320,425,173)	(64,085,035)	(256,340,138)
	Total		$ 11,335,067	$ (153,818,812)	$ 485,579,052	$ (320,425,173)	$ 2,267,014	$ 162,886,865
Local Employers								
Differences between expected and actual experience	2015	5.72	$ 648,990,145	$ 226,919,632	$ 422,070,513	$ 0	$ 113,459,816	$ 308,610,697
	2016	5.57	156,884,302	28,165,943	128,718,359	0	28,165,943	100,552,416
	2017	5.48	169,981,383	0	0	169,981,383	31,018,501	138,962,882
	Total		$ 975,855,830	$ 255,085,575	$ 550,788,872	$ 169,981,383	$ 172,644,260	$ 548,125,995
Difference due to changes in assumptions	2014	6.44	$ 696,968,161	$ 324,674,610	$ 372,293,551	$ 0	$ 108,224,870	$ 264,068,681
	2015	5.72	2,339,161,359	817,888,588	1,521,272,771	0	408,944,294	1,112,328,477
	2016	5.57	5,169,644,253	928,122,846	4,241,521,407	0	928,122,846	3,313,398,561
	2017	5.48	(5,715,593,567)	0	0	(5,715,593,567)	(1,042,991,527)	(4,672,602,040)
	Total		$ 2,490,180,206	$ 2,070,686,044	$ 6,135,087,729	$ (5,715,593,567)	$ 402,300,483	$ 17,193,679
Net difference between projected and actual earnings on investments	2014	5	$ (1,394,716,598)	$ (836,829,960)	$ (557,886,638)	$ 0	$ (278,943,320)	$ (278,943,318)
	2015	5	594,886,692	237,954,676	356,932,016	$ 0	118,977,338	237,954,678
	2016	5	1,662,853,507	332,570,701	1,330,282,806	$ 0	332,570,701	997,712,105
	2017	5	(997,766,598)	0	0	(997,766,598)	(199,553,320)	(798,213,278)
	Total		$ (134,742,997)	$ (266,304,583)	$ 1,129,328,184	$ (997,766,598)	$ (26,948,601)	$ 158,510,187
Total								
Differences between expected and actual experience	2015	5.72	$ 1,050,795,158	$ 367,410,896	$ 683,384,262	$ 0	$ 183,705,448	$ 499,678,814
	2016	5.57	600,806,505	107,864,723	492,941,782	0	107,864,723	385,077,059
	2017	5.48	306,941,390	0	0	306,941,390	56,011,203	250,930,187
	Total		$ 1,958,543,053	$ 475,275,619	$ 1,176,326,044	$ 306,941,390	$ 347,581,374	$ 1,135,686,060
Difference due to changes in assumptions	2014	6.44	$ 1,222,437,554	$ 569,458,488	$ 652,979,066	$ 0	$ 189,819,496	$ 463,159,570
	2015	5.72	4,091,557,461	1,430,614,498	2,660,942,963	0	715,307,249	1,945,635,714
	2016	5.57	8,792,817,065	1,578,602,705	7,214,214,360	0	1,578,602,705	5,635,611,655
	2017	5.48	(10,156,789,076)	0	0	(10,156,789,076)	(1,853,428,664)	(8,303,360,412)
	Total		$ 3,950,023,004	$ 3,578,675,691	$ 10,528,136,389	$ (10,156,789,076)	$ 630,300,786	$ (258,953,473)
Net difference between projected and actual earnings on investments	2014	5	$ (2,158,289,415)	$ (1,294,973,649)	$ (863,315,766)	$ 0	$ (431,657,883)	$ (431,657,883)
	2015	5	1,021,178,016	408,471,206	612,706,810	0	204,235,603	408,471,207
	2016	5	2,331,895,240	466,379,048	1,865,516,192	0	466,379,048	1,399,137,144
	2017	5	(1,318,191,771)	0	0	(1,318,191,771)	(263,638,355)	(1,054,553,416)
	Total		$ (123,407,930)	$ (420,123,395)	$ 1,614,907,236	$ (1,318,191,771)	$ (24,681,587)	$ 321,397,052

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in the State's pension expense as follows:

Fiscal Year ending June 30	**State**	**Local**	**Total**
2018	$ 405,204,429	$ 547,996,144	$ 953,200,573
2019	557,918,993	826,939,464	1,384,858,457
2020	321,517,331	501,083,041	822,600,372
2021	(433,327,648)	(666,441,734)	(1,099,769,382)
2022	(377,013,327)	(485,747,054)	(862,760,381)
Thereafter	0	0	0

Actuarial Assumptions

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

The total pension liability as of June 30, 2017 was determined by rolling forward the Plan's total pension liability as of July 1, 2016 to June 30, 2017 using the following actuarial assumptions, applied to all periods included in the measurement. In addition, an amount of $854,976 has been added to the liability as of June 30, 2017 equal to the amount in the June 30, 2017 Plan Fiduciary Net Position for transfers from other systems.

The Treasurer has recommended a change in the economic assumptions to be used to determine the actuarially determined contribution from 7.65% per annum to:

- Effective with the July 1, 2017 valuation: 7.50% per annum,
- Effective with the July 1, 2019 valuation: 7.30% per annum,
- Effective with the July 1, 2021 valuation: 7.00% per annum.

All other methods and assumptions used to determine the total pension liability are set forth in Section II and are consistent with the assumptions used for the July 1, 2016 actuarial valuation except as noted.

Long-Term Expected Rate of Return

The long-term expected rate of return used for this valuation is 7.00% per annum.

The long-term expected rate of return on pension System investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension System investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic rates of return for each major asset class included in the System's target asset allocation as of June 30, 2017 are summarized in Appendix A, as provided by the Division of Pension and Benefits.

Discount rate

The discount rate is the single rate that reflects (1) the long-term expected rate of return on Plan investments that are expected to be used to finance the payment of benefits, to the extent that the Plan's fiduciary net position is projected to be sufficient to make projected benefit payments and Plan assets are expected to be invested using a strategy to achieve that return, and (2) a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another scale), to the extent that the conditions for use of the long-term expected rate of return are not met.

The discount rate used to measure the total pension liability as of June 30, 2016 was 3.98% and as of June 30, 2017 was 5.00%. As discussed with the Division of Pensions and Benefits, the projection of cash flows used to determine the discount rate as of June 30, 2017 assumed:

- In accordance with paragraph 37 of GASB Statement No. 67, the projection of the Plan's fiduciary net position and projected benefit payments were based on the recommended demographic assumptions of the July 1, 2011 – June 30, 2014 Experience Study, which was approved by the Board of Trustees on October 14, 2015. Please see Section II of the report for a summary of the demographic assumptions.

- The Treasurer has recommended a change in the economic assumptions to be used to determine the actuarially determined contribution from 7.65% per annum to:

    - Effective with the July 1, 2017 valuation: 7.50% per annum,
    - Effective with the July 1, 2019 valuation: 7.30% per annum,
    - Effective with the July 1, 2021 valuation: 7.00% per annum.

- It is assumed that the Locals will contribute 100.0% of their actuarially determined contribution and the NCGIPF contribution while the State will contribute 40.00% of the actuarially determined contribution and 100% of its NCGIPF contribution. The 40.00% contribution rate is the actual total State contribution rate paid in fiscal year ending June 30, 2017 with respect to the actuarially determined contribution for the fiscal year ending June 30, 2017 for all State administered retirement systems.

- 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% by September 30, at least 50% by December 31, at least 75% by March 31, and at least 100% by June 30.

- Under Chapter 98, P.L. 2017 - Lottery Enterprise Contribution Act, the Public Employees' Retirement System receives 21.02% of the proceeds of the Lottery Enterprise, based upon their members' past or present employment in schools and institutions in the state for a term of 30 years. Revenues from Chapter 98, P.L. 2017 – Lottery Enterprise Contribution Act are assumed to be contributed to the trust on a monthly basis.

Based on these assumptions, the pension Plan's fiduciary net position was projected to be available to make projected future benefit payments of current Plan members until fiscal year 2040. Municipal bond rates of 2.85% as of June 30, 2016 and 3.58% as of June 30, 2017 were used in the development of the blended GASB discount rate after that point. As selected by the State Treasurer, the rates are based on the Bond Buyer Go 20-Bond Municipal Bond Index. Based on the long-term rate of return of 7.65% and the municipal bond rate of 2.85% as of June 30, 2016 and the long-term rate of return of 7.00% and the municipal bond rate of 3.58% as of June 30, 2017, the blended GASB discount rates are 3.98% as of June 30, 2016 and 5.00% as of June 30, 2017. The assumed discount rate has been determined in accordance with the method prescribed by GASB Statement No. 67. We believe this assumption is reasonable for the purposes of the measurements required by the Statement.

The projections of the Fiduciary Net Plan Position are based on contributions to the plan in accordance with the State and the Local Employers' current funding policy and a 7.00% per annum long-term expected rate of return. Should contributions to the Plan be different from those outlined above, the results would be different and may result in the Fiduciary Net Plan Position not being sufficient to cover the Plan's benefit payments at some other future date and thus changing the discount rate used to determine the Plan's Total Pension Liability.

Actuarial Cost Method

Entry Age Normal – Level Percentage of Pay

Asset Valuation Method

Invested assets are reported at fair value.

Section II – Actuarial Assumptions and Methods

Investment Rate of Return to Determine the Actuarially Determined Contribution:

- July 1, 2016 valuation: 7.65% per annum, compounded annually.
- July 1, 2017 valuation: 7.50% per annum, compounded annually.
- July 1, 2018 valuation: 7.50% per annum, compounded annually.
- July 1, 2019 valuation: 7.30% per annum, compounded annually
- July 1, 2020 valuation: 7.30% per annum, compounded annually.
- July 1, 2021 and later valuations: 7.00% per annum, compounded annually.

Long-Term Expected Rate of Return to Project the Plan
Fiduciary Net Position and GASB 67 Effective Discount Rate: 7.00% per annum, compounded annually.

GASB 67 Effective Discount Rate

- June 30, 2016: 3.98% per annum, compounded annually.
- June 30, 2017: 5.00% per annum, compounded annually.

Employee Contribution Interest Rate: Investment rate of return as stated above.

COLA: No future COLA is assumed.

Separations from Service and Salary Increases: Representative values of the assumed annual rates of separation and annual rates of salary increases are as follows:

401(a)(17) Pay Limit: $265,000 for 2016 increasing 3.00% per annum, compounded annually.

Social Security Wage Base: $118,500 for 2016 increasing 4.00% per annum, compounded annually.

Representative values of the assumed annual rates of separation and annual rates of salary increases are as follows:

Annual Rates of

	Select Withdrawal						Ultimate Withdrawal[1]			
	1st Year		2nd Year		3rd Year		Prior to Eligibility For Benefit		After Eligibility For Benefit	
Age	State	Local	State	Local	State	Local	State	Local	State	Local
20	28.90%	40.19%	13.53%	15.12%	9.52%	12.19%	4.48%	6.31%		
25	36.12	40.19	13.53	15.12	9.52	12.19	4.69	6.31		
30	36.12	38.84	13.53	14.67	9.52	13.32	3.82	6.11		.03%
35	26.14	33.51	10.83	11.74	7.99	10.77	2.86	3.99	.05%	.03
40	21.66	32.05	8.86	10.52	6.37	10.66	1.80	2.91	.05	.05
45	20.41	31.01	8.26	10.08	5.79	10.36	1.22	2.46	.24	.16
50	20.41	28.39	7.65	9.58	5.21	9.57	.90	1.94	1.10	.64
55	20.41	27.96	7.65	9.40	5.21	9.08	.88	1.60	1.43	.77
60	20.41	22.37	7.65	9.40	5.21	6.84	.88	1.52	.90	.77

[1] The rates of withdrawal prior to eligibility for a benefit assume a refund of contributions. The rates assumed for members withdrawing with a benefit are the sum of the rates of withdrawal after eligibility for a benefit and those prior to eligibility.

Annual Rates of

Age	Service Retirement		Salary Increases Effective as of July 1, 2016	
	State	Local	FY2016 to FY2026	FY2026 and thereafter
20			4.15%	5.15%
25			3.90	4.90
30			3.65	4.65
35			3.40	4.40
40			3.15	4.15
45			2.90	3.90
50			2.65	3.65
55	17.50%	11.70%	2.40	3.40
60	9.00	7.80	2.15	3.15
65	16.20	16.54	1.65	2.65
69	15.00	11.55	1.65	2.65

Annual Rates of

Age	Ordinary Death[2]				Accidental Death		Ordinary Disability		Accidental Disability	
	State		Local							
	Male	Female	Male	Female	State	Local	State	Local	State	Local
20	.03%	.02%	.03%	.02%	0.001%	0.001%	0.005%		0.001%	0.001%
25	.04	.02	.04	.02	0.001	0.001	0.006		0.001	0.002
30	.04	.02	.04	.02	0.001	0.001	0.097	0.060%	0.004	0.004
35	.05	.03	.06	.02	0.001	0.001	0.216	0.189	0.011	0.005
40	.08	.05	.10	.04	0.001	0.001	0.304	0.269	0.020	0.012
45	.11	.08	.13	.06	0.001	0.001	0.410	0.363	0.023	0.017
50	.16	.12	.19	.09	0.001	0.001	0.462	0.434	0.035	0.021
55	.23	.18	.26	.14	0.001	0.001	0.559	0.587	0.047	0.026
60	.33	.28	.40	.21	0.001	0.001	0.987	0.759	0.041	0.030
65	.54	.43	.65	.33	0.001	0.001	1.190	0.932	0.061	0.027
69	.76	.58	.86	.47	0.001	0.001	1.417	1.110	0.062	0.027

[2] RP-2000 Employee Preretirement Mortality Table for male and female active participants. For State, mortality tables are set back 4 years for males and 4 years for females. For Employees of Local employers, mortality tables are set back 2 years for males and 7 years for females. In addition, the tables provide for future improvements in mortality from the base year of 2013 using a generational approach based on Conduent Modified MP-2014. Rates shown above are unadjusted for Conduent Modified MP-2014.

Prosecutors Part (Chapter 366, P.L. 2001): This legislation introduced special retirement eligibility for certain benefits. The valuation used the following annual rates of service retirement:

Age	Less than 20 Years		20 Years	21 to 24 Years	25 or More Years	
	State	Local			State	Local
40	0.00%	0.00%	2.50%	0.00%	23.10%	15.40%
45	0.00	0.00	2.50	0.00	23.10	15.40
50	0.00	0.00	3.75	0.00	23.10	15.40
55	2.59	3.06	5.00	0.00	26.22	17.48
60	2.63	3.06	5.00	0.00	34.17	22.78
65	2.63	3.06	37.50	0.00	100.00	100.00
69	2.63	3.06	37.50	0.00	100.00	100.00

Deaths After Retirement: The RP-2000 Combined Healthy Male and Female Mortality Tables (set back 1 year for males and females) for service retirement and beneficiaries of former members and a one year static projection based on mortality improvement scale AA. The RP-2000 Disabled Mortality Tables (set back 3 years for males and set forward 1 year for females) are used to value disabled retirees. In addition, the tables for service retirement and beneficiaries of former members provide for future improvements in mortality from the base year of 2013 using a generational approach based on the Conduent Modified 2014 projection scale. Illustrative rates of mortality unadjusted for the Conduent Modified 2014 projection scale are shown below:

	Service Retirements			Disability Retirements	
Age	Men	Women	Age	Men	Women
55	0.31%	0.24%	35	2.26%	0.75%
60	0.59	0.44	40	2.26	0.75
65	1.11	0.86	45	2.26	0.82
70	1.95	1.48	50	2.51	1.25
75	3.34	2.53	55	3.16	1.76
80	5.73	4.12	60	3.80	2.29
85	9.91	6.90	65	4.50	2.96

Marriage: Husbands are assumed to be 3 years older than wives. Among the active population, 100% of participants are assumed married.

Valuation Method:

GASB actuarial cost method: Entry Age Normal – Level Percentage of Pay

Funding calculations: 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 9actuarial 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% by September 30, at least 50% by December 31, at least 75% by March 31, and at least 100% by June 30.

In addition, revenues from Chapter 98, P.L. 2017 – Lottery Enterprise Contribution Act are assumed to be contributed to the trust on a monthly basis.

Receivable Contributions:

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

Local contributions expected to be paid the April 1st, following the valuation are discounted by the interest rate used at the valuation date.

Asset Valuation Method:

GASB method used to value investments: Investments are reported at fair value.

Funding calculations: 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.

Section III – Summary of Plan Provisions

1. Definitions

Final Compensation (FC)

Average annual compensation for the three years of creditable service immediately preceding retirement or the highest three fiscal years of membership 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. Chapter 103, P.L. 2007 provides that for Class D, Class E, Class F and Class G members, 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. Chapter 1, P.L. 2010 provides that for Class F and Class G members FC is the average annual compensation for the five years of creditable service immediately preceding retirement or the highest five fiscal years of membership service.

Accumulated Deductions

Sum of all required amounts deducted from the compensation of a member or contributed by him.

Class B Member

Any member who was hired prior to July 1, 2007.

Class D Member

Any member who was hired on or after July 1, 2007 but prior to November 2, 2008.

Class E Member

Any member who was hired after November 1, 2008 but prior to May 22, 2010.

Class F Member

Any member who was hired on or after May 22, 2010 but prior to June 28, 2011.

Class G Member

Any member who was hired on or after June 28, 2011.

2. Benefits[1]

Service Retirement

Eligible at age 60. Benefit equals a member annuity plus an employer pension, which together, equal 1/55th of FC for each year of service. Chapter 89, P.L. 2008 changed the eligibility age to age 62 for Class E members, Chapter 1, P.L. 2010 changed the eligibility age to age 62 for Class F members and changed the basic accrual rate from 1/55th to 1/60th of FC for each year of service for Class F and Class G members and Chapter 78, P.L. 2011 changed the eligibility age to age 65 for Class G members.

Ordinary Disability Retirement

Eligible after 10 years of service. Benefit equals a member annuity plus an employer pension which, together, equal 1.64% of FC for each year of service; minimum benefit of 43.6% of FC. Class F and Class G members are not eligible for an Ordinary Disability Retirement benefit in accordance with Chapter 3, P.L. 2010.

Accidental Disability

Eligible upon total and permanent disability prior to age 65 as a result of a duty injury. Benefit equals a member annuity plus an employer pension which, together, equal 72.7% of contributory compensation at the date of injury. Class F and Class G members are not eligible for an Accidental Disability Retirement benefit in accordance with Chapter 3, P.L. 2010.

Lump Sum Withdrawal

Eligible upon service termination prior to age 60 (age 62 for Class E and Class F members and age 65 for Class G members) and prior to 10 years of service. Benefit equals refund of accumulated deductions plus, if the member has completed three years of service, interest allowed thereon.

Vested Retirement

Eligible after 10 years of service. Benefit equals the lump sum benefit described above or a deferred retirement benefit, commencing at age 60 (age 62 for Class E and Class F members and age 65 for Class G members), equal to the service retirement benefit based on service and FC at date of termination.

Early Retirement

Eligible after 25 years of service (30 years of service for Class G members). Benefit equals the lump sum benefit described above or the vested benefit reduced by 1/4 percent for each month the retirement date precedes age 55. Chapter 103, P.L. 2007 provides that for Class D members, the reduction shall be 1/12 percent for each month (up to 60 months) the retirement date precedes age 60 plus 1/4 percent for each month the retirement date precedes age 55. Chapter 89, P.L. 2008 and Chapter 1, P.L. 2010 provides that for Class E and Class F members, the reduction shall be 1/12 percent for each month (up to 84 months) the retirement date precedes age 62 plus 1/4 percent for each month the retirement date precedes age 55. Chapter 78, P.L. 2011 provides that for Class G members, the reduction shall be 1/4 percent for each month the retirement date precedes age 65.

[1] Special benefits for veterans, law enforcement officers, legislators, prosecutors and workers compensation judges are summarized at the end of this section.

Ordinary Death (Insured)

Before Retirement

Eligible if active. Benefit equals accumulated deductions with interest plus an amount equal to 1-1/2 times contributory compensation at date of death.

After Retirement - Before Age 60

Eligible if disabled or vested terminated. Benefit equals 1-1/2 times last contributory compensation if disabled, accumulated deductions only if vested terminated.

After Retirement - After Age 60 or Early Retirement

Eligible after early retirement or after attainment of age 60 for other types of retirement (if not disabled, 10 years of service credit required on members enrolling after July 1, 1971). Benefit equals 3/16 of last contributory compensation.

Voluntary Death Benefit

An additional, employee-paid, death benefit is also available through the purchase of group insurance with an outside carrier.

Accidental Death

Eligible upon death resulting during performance of duty. Benefit varies as follows:

Widow(er)

50% of contributory compensation paid as pension.

Child(ren)

No spouse - 20% (1 child), 35% (2 children), 50% (3 or more children) of contributory compensation paid as pension to age 18 or life if disabled.

Surviving dependent parent

No spouse or child - 25% (1 parent) or 40% (2 parents) of contributory compensation paid as pension.

No relation above

Accumulated deductions paid to other beneficiary or estate.

In addition the employer-paid lump sum ordinary death benefit is paid.

Optional Benefits

Various forms of payment of equivalent actuarial value are available to retirees.

Special Benefits

Veterans

Service Retirement

Eligible if member on January 2, 1955, attains age 60, completes 20 years of service. Benefit equals 54.5% of final contributory compensation (veteran members after January 2, 1955 must attain age 55 with 25 years of service or age 60 with 20 years of service).

Chap 220 Benefit

Eligible if age 55 and completes 35 years of service. Benefit equals 1/55th of the compensation for the 12-month period of membership that provides the largest possible benefit multiplied by the member’s total years of service.

Law Enforcement

Service Retirement

Eligible at age 55 after 20 years of service. Benefit equals a member annuity plus an employer pension which, together, equal 2% of final contributory compensation for each of the first 25 years of service plus 1% of such compensation for non-contributory service or service over 25 years plus 1-2/3% for non-law enforcement service.

Chapter 4, P.L. 2001
Special Retirement

After completion of 25 years of service, an additional retirement benefit equal to 5% of final contributory pay is added to the above service related retirement benefit. There is a maximum total benefit of 70% of final contributory pay.

Ordinary Disability

Eligible after 5 years of service. Benefit is the same as for regular members.

Death After Retirement

Eligible upon death after an accidental disability retirement. Benefit is the same as for a regular member with a $5,000 minimum.

Legislators

Service Retirement

Eligible at age 60 and termination of all public service. Benefit is equal to a member annuity plus an employer pension which, together, equal 3% of final contributory compensation for each year of service to a maximum of 2/3 of final compensation.

Vested Retirement

Eligible after 8 years of legislative service. Benefit is a service retirement benefit deferred to age 60 or, alternatively, a lump sum equal to his accumulated deductions.

Prosecutors Part (Chapter 366, P.L. 2001)

Service Retirement

Eligibility means age 55 or 20 years of credited service. Mandatory retirement at age 70. Benefit is an annual retirement allowance equal to a member annuity plus an employer pension, which together equals the greater of:

i. $1/60^{th}$ of FC for each year service; or

ii. 2% of FC multiplied by years of service up to 30 plus 1% of FC multiplied by years of service over 30; or

iii. 50% of final contributory compensation if the member has 20 or more years of service.

Chapter 366 also requires that, in addition to the 50% of final contributory compensation benefit, any member as of January 7, 2002 who will have 20 or more years of service and is required to retire upon attaining age 70, shall receive an additional benefit equal to 3% of final contributory compensation for each year of service over 20 years but not over 25 years.
Special Retirement

After completion of 25 years of service. The annual retirement benefit is equal to a member annuity plus an employer pension which together equal 65% of final contributory compensation plus 1% of final contributory compensation for each year of service over 25. There is a maximum benefit of 70% of final contributory compensation.

Vested Termination

Eligible upon termination of service prior to age 55 and after 10 years of Service (but less than 20 years). The benefit is a deferred retirement benefit, commencing at age 55, equal to a member annuity plus an employer pension which together provide a retirement allowance equal to 2% of final contributory compensation multiplied by service up to 30 plus 1% of final contributory compensation multiplied by years of service in excess of 30.

Death Benefits

Ordinary Death Benefit – Lump Sum

After retirement but prior to age 55, the benefit is as follows:

i. For death while a Disabled Retiree the benefit is equal to 1 ½ times Compensation.

ii. For death while a Deferred Retiree the benefit is equal to his Accumulated Deductions.

iii. For death while a Retiree who has completed 20 years of Service, the benefit is equal to ½ times final contributory compensation.

After retirement and after age 55, the benefit payable is equal to ½ times final contributory compensation.

Chapter 1, P.L. 2010 closes the Prosecutors Part of the System to new members enrolled on or after May 22, 2010.

Workers Compensation
Judges Part (Chapter 259, P.L. 2001)

Service Retirement

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

i. Age 70 and 10 years of service as a judge of compensation;

ii. Age 65 and 15 years of service as a judge of compensation; or

iii. Age 60 and 20 years of as of judge of compensation service.

Benefit is an annual retirement allowance equal to the greater of 75% of final salary or the regular service retirement benefit above.

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

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

Benefit is an annual retirement allowance equal to the greater of 50% of final salary or the regular service retirement benefit above.

C. Age 60 while serving as a judge of compensation, 5 consecutive years of service as a judge of compensation and 15 years in the aggregate of public service. Benefit is an annual retirement allowance equal to the greater of 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 or the regular service retirement benefit above.

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

Early Retirement

Prior to age 60 while serving as a judge of compensation, 5 consecutive years of service as a judge of compensation 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 service as a judge of compensation 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 (Insured)

Before Retirement

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

i. Lump sum payment equal to 1-1/2 times final salary, plus
ii. Spousal life annuity of 25% of final salary plus 10% (15%) to one (two or more) surviving children payable until spouse's death or remarriage. 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. Benefit is equal to a lump sum of 25% of final salary for a member retired under normal, early retirement or vested termination. 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.

Chapter 92, P.L. 2007 closes the Workers Compensation Judges Part of the System to new members enrolled after June 8, 2007.

3. Contributions

By Members

Members enrolling in the retirement system on or after July 1, 1994 will contribute 5% of compensation. Members enrolled prior to July 1, 1994 will contribute 5% of compensation to the retirement system effective July 1, 1995 unless they previously had contributed less than 6% in which case they will contribute 4% of compensation beginning July 1, 1995 and 5% of compensation beginning July 1, 1996. Chapter 103, P.L. 2007 increases the contribution rate to 5.5% of compensation effective, generally, July 1, 2007 for State employees and July 1, 2008 for Local employees. Chapter 78, P.L. 2011 increases the contribution rate from 5.5% to 6.5% of compensation with the increase effective October 2011. Further, beginning July 2012, the member contribution rate will increase by $1/7^{th}$ of 1% each July until a 7.5% member contribution rate is reached in July 2018.
A 7.50% member contribution rate for members who are eligible to retire under the Prosecutors Part of the Retirement System as provided by Chapter 366, P.L. 2001 was used prior to July 1, 2008. Effective July 1,

2008 the member contribution rate was increased to 8.50%. Chapter 78, P.L. 2011 increases the contribution rate from 8.5% to 10.0% of compensation with the increase effective October 2011.

By Employers

Normal Contribution

The State and Local employers pay annually a normal contribution to the retirement System. This contribution is determined each year on the basis of the annual valuation and represents the value of the benefits to be earned in the year following the valuation date. The normal contributions for active members' COLA are being phased in. Chapter 78, P.L. 2011 suspended future COLAs for current and future retirees and beneficiaries until reactivated as permitted by law.

In accordance with the provisions of Chapter 79, P.L. 1960, the monies appropriated for payment of the non-contributory life insurance coverage shall be held separate from the retirement System monies.

In accordance with the provisions of Chapter 133, P.L. 2001, the Benefit Enhancement Fund (BEF) was established to fund the additional annual employer normal contribution due to the law's increased benefits. (Chapter 353, P.L. 2001 extended this coverage to this law's additional annual employer normal contribution.) If the assets in the BEF are insufficient to cover the normal contribution for the increased benefits for a valuation period, the State will pay such amount for both the State and local employers.
In accordance with the provisions of Chapter 259, P.L. 2001, the additional normal contributions for increased benefits to judges of compensation for a valuation period will be funded by transfers from the Second Injury Fund.

Chapter 19, P.L. 2009 provides that the State Treasurer will reduce for Local employers the normal contribution to 50% of the amount certified for fiscal year 2009. This unfunded liability will be paid by the Local employers in level annual payments over a period of 15 years with the first payment due in the fiscal year ending June 30, 2012. The unfunded liability will be adjusted by the rate of return on the actuarial value of assets. The legislation also provides that a Local employer may pay 100% of the recommended contribution for fiscal year 2009. Local employers who were eligible but did not elect to take advantage of Chapter 19, P.L. 2009 were permitted to elect to defer 50% of the 2010 fiscal year required contribution with the first payment due in the fiscal year ending June 30, 2012.

Accrued Liability Contributions

The State and Local employers pay contributions to cover any unfunded accrued liability. An unfunded accrued liability was established for active life COLAs. The amortization periods for funding these liabilities were set initially at 40 years. Experience gains or losses for the 10 valuation years following the March 31, 1992 valuation will increase or decrease the unfunded accrued liability. Thereafter, actuarial gains or losses will increase or decrease the amortization period unless an increase will cause it to exceed 30 years. Chapter 78, P.L. 2011 suspended future COLAs for current and future retirees and beneficiaries until reactivated as permitted by law and changed the methodology used to amortize the unfunded accrued liability. Beginning with the July 1, 2010 actuarial valuation, the accrued liability contribution shall be computed so that if the contribution is paid annually in level dollars, it will amortize the unfunded accrued liability over an open 30 year period. Beginning with the July 1, 2019 actuarial valuation, the accrued liability contribution shall be computed so that if the contribution is paid annually in level dollars it will amortize the unfunded accrued liability over a closed 30 year period (i.e., for each subsequent actuarial valuation, the amortization period shall decrease by one year). Beginning with the July 1, 2029 actuarial valuation when the remaining amortization period reaches 20 years, any increase or decrease in the unfunded accrued liability as a result of actuarial losses or gains for subsequent valuation years shall serve to increase or decrease, respectively, the amortization period for the unfunded accrued liability, unless an increase in the amortization period will cause it to exceed 20 years. If an increase in the amortization period as a result of actuarial losses for a valuation year would exceed 20 years, the accrued liability contribution shall be computed for the valuation year using a 20 year amortization period.

Chapter 366, P.L. 2001 requires the State be liable for any increase in pension costs to a county that results from the enrollment of prosecutors in the Prosecutors Part. Any increase in the unfunded accrued liability in the Retirement System arising from the benefits established for the Prosecutors Part are to be amortized over a period of 30 years in the manner provided for other such liability in the Retirement System.

In accordance with the provisions of Chapter 259, P.L. 2001, the additional accrued liability contribution for increased benefits to judges of compensation for a valuation period will be funded by transfers from the Second Injury Fund.

Chapter 19, P.L. 2009 provides that the State Treasurer will reduce for Local employers the accrued liability contribution to 50% of the amount certified for fiscal year 2009. This unfunded liability will be paid by the Local employers in level annual payments over a period of 15 years with the first payment due in the fiscal year ending June 30, 2012. The unfunded liability will be adjusted by the rate of return on the actuarial value of assets. The legislation also provides that a Local employer may pay 100% of the recommended contribution for fiscal year 2009. Local employers who were eligible but did not elect to defer 50% of the 2009 fiscal year contribution were permitted to elect to defer 50% of the 2010 fiscal year contribution with the first payment due in the fiscal year ending June 30, 2012.

Appendix A – Information on Projected Returns by Asset Class Provided by the Division of Pensions and Benefits

FY18 Long-Term Expected Rate of Return

The best estimate long-term expected rate of return for the Pension Fund is based on the targeted asset allocation, long-term capital market assumptions (including compound expected returns, volatility of returns, and correlation of returns), and the application of modern portfolio theory. Long-term capital market assumptions are determined by a survey of a wide universe of third party investment professionals and reflect nominal return expectations, as well as the analysis of the Division of Investment and its team of outside investment consultants.

Asset Class	Targeted Asset Allocation	Expected Returns (Arithmetic)
Risk Mitigation Strategies	5.00%	5.51%
Cash Equivalents	5.50%	1.00%
US Treasuries	3.00%	1.87%
Investment Grade Credit	10.00%	3.78%
High Yield	2.50%	6.82%
Global Diversified Credit	5.00%	7.10%
Credit-Oriented HFs	1.00%	6.60%
Debt-Related PE	2.00%	10.63%
Debt Related Real Estate	1.00%	6.61%
Private Real Assets	2.50%	11.83%
Equity Related Real Estate	6.25%	9.23%
US Equity	30.00%	8.19%
Non-US Dev Market Eq	11.50%	9.00%
Emerging Market Eq	6.50%	11.64%
Buyouts/Venture Cap	8.25%	13.08%
Portfolio One-Year Arithmetic Return		7.83%
Portfolio Standard Deviation		12.27%
Portfolio Long-Term Expected Return		7.14%
Long-Term Expected Rate of Return		7.00%