

# Public Employees' Retirement System of New Jersey

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

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March 21, 2017

Director of the Division of Pension and Benefits  
Division of Pension and Benefits  
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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. 67. This Statement is an amendment of Statements No. 25, Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans, and No. 50, Pension Disclosures, effective for the fiscal years ending June 30, 2014 and later.

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. 67 as of June 30, 2016.

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

Use of this report for any other purpose or by anyone other than the Board of Trustees or the staff of the Division of Pensions and Benefits may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. No one may make any representations or warranties based on any statements or conclusions contained in this report without Conduent's prior written consent.

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



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

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

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

Respectfully submitted,

A handwritten signature in black ink that reads "Aaron Shapiro". The signature is written in a cursive, flowing style.

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

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## Section I – GASB 67 Information

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

#### Summary of Significant Accounting Policies

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

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

#### Plan Description

*Plan administration.* The State of New Jersey Division of Pensions and Benefits administers the 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.

*Plan membership.* Pension plan membership consisted of the following:

	<u>June 30, 2014</u>	<u>June 30, 2015</u>
Inactive Plan members or beneficiaries currently receiving	160,716	166,637
Inactive Plan members entitled to but not yet receiving	730	703
Active Plan members	<u>266,526</u>	<u>259,161</u>
	<u>427,972</u>	<u>426,501</u>

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

*Contributions.* The Board establishes contributions based on an actuarially determined contribution recommended by an independent actuary and a contribution for the Non-Contributory Group Insurance Premium Fund (NCGIPF). The actuarially determined contribution is the estimated amount necessary to finance the costs of benefits earned by Plan members during the year, with an additional amount to finance a portion of any unfunded accrued liability. For the year ended June 30, 2016, the State and Local Employers contributed \$1,273,425,342 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.

## Investments

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

<u>June 30, 2015</u>	<u>June 30, 2016</u>
4.08%	(1.15%)

## Receivables

*Short term contributions due as of the end of the reporting period.* The statutorily required Local employers' receivable pension contributions due by the end of the reporting period: The Local employers' statutorily required contribution is calculated as of the July 1 preceding the fiscal year in which contributions are made. The fiscal year ended June 30, 2015 Plan Fiduciary Net Position includes the statutorily required contribution of \$816,039,804 which was determined by the July 1, 2014 actuarial valuation and is payable by June 30, 2016 and a contribution of \$43,692,000 for the NCGIPF. The fiscal year ended June 30, 2016 Plan Fiduciary Net Position includes the statutorily required contribution of \$846,155,142 which was determined by the July 1, 2015 actuarial valuation and is payable by June 30, 2017 and a contribution of \$42,230,572 for the NCGIPF.

*Contributions that are payable to the pension plan more than one year after the end of the reporting period.* The present value as of the end of the Plan's reporting period of statutorily required contributions to the Plan by certain Local employers who participated in Chapter 19, P.L. 2009 and/or incurred additional liabilities due to adoption of prior early retirement incentive programs. Please see Section III of the report for a summary of Plan provisions.

The Plan Fiduciary Net Pension includes the following Local employers' receivables which are contributions that are payable to the pension plan more than one year after the end of the reporting period:

	<u>Present Value as of Fiscal Year Ended</u>	
	<u>June 30, 2015</u>	<u>June 30, 2016</u>
Chapter 19, P.L. 2009 Early Retirement Incentive Programs	\$ 47,843,029	\$ 43,876,228
Total	<u>66,308,533</u>	<u>59,453,835</u>
	\$ 114,151,562	\$ 103,330,063

### Net Pension Liability

The components of the net pension liability were as follows:

	<u>June 30, 2015</u>	<u>June 30, 2016</u>
Total pension liability	\$ 74,723,698,562	\$ 85,769,888,074
Plan fiduciary net position	<u>(28,553,566,906)</u>	<u>(26,762,070,610)</u>
Plan's net pension liability	\$ 46,170,131,656	\$ 59,007,817,464
Plan fiduciary net position as a percentage of the total pension liability	38.21%	31.20%

### Actuarial assumptions

The total pension liability as of June 30, 2016 was determined by rolling forward the Plan's total pension liability as of July 1, 2015 to June 30, 2016 using the following actuarial assumptions, applied to all periods included in the measurement. In addition, an amount of \$778,753 has been added to the total pension liability as of June 30, 2016 equal to the amount in the June 30, 2016 Plan Fiduciary Net Position for transfers from other systems. All other methods and assumptions used to determine the total pension liability are set forth in Section II and are consistent with the assumptions used for the July 1, 2015 actuarial valuation.

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

## Long-Term Expected Rate of Return

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

Asset Class	Index	Target Allocation*	Long-Term Expected Real Rate of Return
Cash	Citigroup 90-Day T-Bills	5.00%	0.87%
U.S. Treasuries	Barclays Long U.S. Treasury	1.50%	1.74%
Investment Grade Credit	Aggregate Bonds	8.00%	1.79%
Mortgages	Barclays Mortgage	2.00%	1.67%
High Yield Bonds	Barclays High Yield	2.00%	4.56%
Inflation-Indexed Bonds	Barclays U.S. TIPS	1.50%	3.44%
Broad US Equities	Wilshire 5000/Russell 3000	26.00%	8.53%
Developed Foreign Equities	MSCI EAFE	13.25%	6.83%
Emerging Market Equities	MSCI Emerging Markets	6.50%	9.95%
Private Equity	Cambridge Associates	9.00%	12.40%
Hedge Funds/Absolute Return	HFRI Fund of Funds	12.50%	4.68%
Real Estate (Property)	NCREIF Property Index	2.00%	6.91%
Commodities	S&P GSCI	0.50%	5.45%
Global Debt ex US	Barclays Global Aggregate ex US	5.00%	-0.25%
REIT	FTSE NAREIT	5.25%	5.63%
Assumed Inflation – Mean			3.08%
Assumed Inflation – Standard Deviation			2.59%
Portfolio Arithmetic Mean Return**			9.39%
Portfolio Standard Deviation			12.13%
<b>Long-Term Expected Rate of Return selected by State Treasurer</b>			<b>7.65%</b>

\*Based on target asset allocation for 2016.

\*\*Includes assumed inflation

The Tables presented in pages 8 through 11 illustrate the projections and calculations used to determine the discount rate as required by paragraphs 40–45 of this Statement as of June 30, 2016. A similar analysis was performed in determining the discount rate as of June 30, 2015. In determining the discount rate on Tables 1 and 2, the Fiduciary Net Plan Position at the beginning of each year does not reflect receivable contributions as those amounts are not available at the beginning of the year to pay plan benefits. The discount rate is the single rate that reflects (1) the long-term expected rate of return on Plan investments that are expected to be used to finance the payment of benefits, to the extent that the Plan's fiduciary net position is projected to be sufficient to make projected benefit payments and Plan assets are expected to be invested using a strategy to achieve that return, and (2) a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another scale), to the extent that the conditions for use of the long-term expected rate of return are not met.

*Discount rate.* The discount rate used to measure the total pension liability as of June 30, 2015 was 4.90% and as of June 30, 2016 was 3.98%. As discussed with the Division of Pensions and Benefits, the projection of cash flows used to determine the discount rate as of June 30, 2016 assumed:

- As required under Chapter 84, P.L. 1954, experience studies are performed once in every three year period. The valuation was prepared using 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. Please see Section II of the report for a summary of the revised demographic assumptions.
- The Treasurer has recommended a change in the economic assumptions to be used effective with the July 1, 2016 valuation. The rate of investment return has been revised from 7.90% per annum to 7.65% per annum. The assumed future salary increases have been reduced by 0.5% at all ages for both the select and ultimate periods. In addition, the select period was extended from the fiscal year 2021 to the fiscal year 2026. Detailed information with regard to the change in the salary increase assumption is outlined in Section II.
- It is assumed that the Locals will contribute 100.0% of their actuarially determined contribution and the NCGIPF contribution while the State will contribute 30.00% of the actuarially determined contribution and 100% of its NCGIPF contribution. The 30.00% contribution rate is the actual State contribution rate paid in fiscal year ending June 30, 2016 with respect to the actuarially determined contribution for the fiscal year ending June 30, 2016.

Based on these assumptions, the pension Plan's fiduciary net position was projected to be available to make projected future benefit payments of current Plan members until fiscal year 2034. Municipal bond rates of 3.80% as of June 30, 2015 and 2.85% as of June 30, 2016 were used in the development of the blended GASB discount rate after that point. As selected by the State Treasurer, the rates are based on the Bond Buyer Go 20-Bond Municipal Bond Index. Based on the long-term rate of return of 7.90% and the municipal bond rate of 3.80% as of June 30, 2015 and the long-term rate of return of 7.65% and the municipal bond rate of 2.85% as of June 30, 2016, the blended GASB discount rates are 4.90% as of June 30, 2015 and 3.98% as of June 30, 2016. 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. Should contributions to the Plan be different from those outlined above, the results shown in Tables 1 and 2 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.

*Sensitivity of the net pension liability to changes in the discount rate.* The following presents the net pension liability, calculated using the discount rate of 3.98%, as well as what the Plan's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (2.98%) or 1-percentage-point higher (4.98%) than the current rate:

	<b>1% Decrease (2.98%)</b>	<b>Current Discount Rate (3.98%)</b>	<b>1% Increase (4.98%)</b>
Net Pension Liability	\$ 70,715,189,252	\$ 59,007,817,464	\$ 49,352,744,647

## Schedules of Required Supplementary Information

### Schedule of Changes in the Net Pension Liability and Related Ratios

Changes in Net Pension Liability	Increase (Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Balances as of June 30, 2015	\$ 74,723,698,562	\$ 28,553,566,906	\$ 46,170,131,656
Changes for the year:			
Service cost	1,628,065,678		1,628,065,678
Interest on total pension liability	3,653,373,426		3,653,373,426
Effect of plan changes			
Effect of economic/demographic (gains) or losses	600,806,505		600,806,505
Effect of assumptions changes or inputs	8,792,817,065		8,792,817,065
Benefit payments	(3,629,651,915)	(3,629,651,915)	
Administrative expenses		(23,285,920)	23,285,920
Member contributions		821,305,787	(821,305,787)
Net investment income		(237,215,643)	237,215,643
Employer contributions		1,273,425,342	(1,273,425,342)
Transfers from other system	778,753	778,753	
Employer contribution - Delayed Enrollments		532,612	(532,612)
Employer contribution - Delayed Appropriations		1,721,199	(1,721,199)
Employer contribution - Retroactive		687,225	(687,225)
Employer contribution - Additional		257,850	(257,850)
Other - NCGIPF adjustment		(51,586)	51,586
Balances as of June 30, 2016	\$ 85,769,888,074	\$ 26,762,070,610	\$ 59,007,817,464
Plan fiduciary net position as a percentage of the total pension liability			31.20%
Covered-employee payroll as of the July 1, 2015 actuarial valuation			\$ 11,320,198,747
Net pension liability as a percentage of covered-employee payroll			521.26%

## Notes to Schedule:

*Benefit changes.* None.

Changes of assumptions. The discount rate changed from 4.90% as of June 30, 2015 to 3.98% as of June 30, 2016 in accordance with Paragraph 44 of the GASB Statement No. 67. In addition, the Total Pension Liability as of June 30, 2016 was prepared using demographic assumptions recommended on the basis of the July 1, 2011 – June 30, 2014 Experience Study and adopted by the Board of Trustees on October 14, 2015 and the change in salary increase assumption recommended by the Treasurer. The assumptions are highlighted in Section II – Actuarial Assumptions and Methods.

*Employer Contributions.* Includes the State's actual contributions of \$355,968,696, Local employers' receivable contributions of \$846,155,142, and contributions to the NCGIPF of \$71,301,504.

## Schedule of Contributions

	<u>2015</u>	<u>2016</u>
Actuarially determined contribution	\$ 1,935,315,246 <sup>1</sup>	\$ 2,097,570,117 <sup>2</sup>
Contributions related to the actuarially determined contribution	<u>1,067,584,583<sup>3</sup></u>	<u>1,265,246,226<sup>3</sup></u>
Contribution deficiency (excess)	\$ (867,730,663)	\$ (832,323,891)

1. The above actuarially determined contributions are based on the assumption and methods in effect as of July 1, 2013.
2. The above actuarially determined contributions are based on the assumption and methods in effect as of July 1, 2014.
3. The amount represents the actual employer contributions made during fiscal year ending June 30, 2015 and June 30, 2016 respectively.

## Notes to Schedule

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

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

## Schedule of Investment Returns

	<u>2015</u>	<u>2016</u>
Annual money-weighted rate of return, net of investment expenses	<b>4.08%</b>	<b>(1.15%)</b>

Table 1

## Projection of Fiduciary Net Position

(000's omitted)

Fiscal Year June 30	Beginning Fiduciary Net Plan Position	Member Contributions	Employer Contributions	Benefit Payments	Administrative Expenses	Projected Investment Earnings	Ending Fiduciary Net Plan Position
2016	\$ 27,562,338	\$ 821,306	\$ 1,253,178	\$ 3,629,652	\$ 23,286	\$ (233,112)	\$ 25,750,772
2017	25,750,772	785,955	1,318,828	3,921,291	23,946	1,870,209	25,780,527
2018	25,780,527	775,059	1,372,028	4,070,649	24,665	1,867,016	25,699,316
2019	25,699,316	754,273	1,431,098	4,221,108	25,405	1,855,054	25,493,228
2020	25,493,228	718,061	1,489,750	4,368,099	26,167	1,832,980	25,139,753
2021	25,139,753	684,931	1,548,526	4,515,237	26,952	1,799,727	24,630,748
2022	24,630,748	646,891	1,615,871	4,654,886	27,760	1,754,800	23,965,664
2023	23,965,664	613,656	1,688,886	4,790,865	28,574	1,698,571	23,147,338
2024	23,147,338	577,369	1,755,218	4,917,834	29,331	1,630,316	22,163,076
2025	22,163,076	543,810	1,818,527	5,038,521	30,053	1,549,604	21,006,443
2026	21,006,443	509,450	1,884,344	5,151,649	30,731	1,455,942	19,673,799
2027	19,673,799	481,161	1,932,942	5,251,698	31,328	1,349,254	18,154,130
2028	18,154,130	450,360	1,959,423	5,342,221	31,869	1,228,657	16,418,480
2029	16,418,480	422,118	1,983,267	5,419,026	32,326	1,092,093	14,464,606
2030	14,464,606	395,990	2,007,684	5,480,466	32,687	939,511	12,294,638
2031	12,294,638	369,714	2,031,116	5,532,153	32,988	770,743	9,901,070
2032	9,901,070	344,686	2,030,349	5,571,088	33,208	585,187	7,256,996
2033	7,256,996	319,906	2,033,748	5,597,600	33,352	381,006	4,360,704
2034	4,360,704	297,423	2,048,307	5,609,579	33,402	158,340	1,221,793
2035	0	0	0	5,608,950	33,375	0	0
2036	0	0	0	5,595,070	33,265	0	0
2037	0	0	0	5,566,734	33,065	0	0
2038	0	0	0	5,523,140	32,773	0	0
2039	0	0	0	5,463,857	32,387	0	0
2040	0	0	0	5,391,141	31,923	0	0
2041	0	0	0	5,306,619	31,390	0	0
2042	0	0	0	5,203,992	30,751	0	0
2043	0	0	0	5,089,533	30,039	0	0
2044	0	0	0	4,967,781	29,285	0	0
2045	0	0	0	4,842,019	28,507	0	0
2046	0	0	0	4,720,964	27,759	0	0
2047	0	0	0	4,593,556	26,975	0	0
2048	0	0	0	4,462,638	26,174	0	0
2049	0	0	0	4,326,547	25,343	0	0
2050	0	0	0	4,185,016	24,483	0	0
2051	0	0	0	4,039,619	23,604	0	0
2052	0	0	0	3,889,131	22,698	0	0
2053	0	0	0	3,735,418	21,777	0	0
2054	0	0	0	3,576,944	20,831	0	0
2055	0	0	0	3,414,844	19,868	0	0
2056	0	0	0	3,249,885	18,892	0	0
2057	0	0	0	3,082,476	17,905	0	0
2058	0	0	0	2,913,883	16,912	0	0
2059	0	0	0	2,745,563	15,922	0	0
2060	0	0	0	2,579,523	14,947	0	0
2061	0	0	0	2,416,119	13,989	0	0
2062	0	0	0	2,256,441	13,054	0	0
2063	0	0	0	2,100,952	12,144	0	0
2064	0	0	0	1,950,726	11,266	0	0
2065	0	0	0	1,806,878	10,426	0	0

Table 1  
(continued)  
Projection of Fiduciary Net Position  
(000's omitted)

Fiscal Year June 30	Beginning Fiduciary Net Plan Position	Member Contributions	Employer Contributions	Benefit Payments	Administrative Expenses	Projected Investment Earnings	Ending Fiduciary Net Plan Position
2066	\$ 0	\$ 0	\$ 0	\$ 1,669,621	\$ 9,626	\$ 0	\$ 0
2067	0	0	0	1,538,842	8,865	0	0
2068	0	0	0	1,414,470	8,142	0	0
2069	0	0	0	1,296,427	7,458	0	0
2070	0	0	0	1,184,507	6,810	0	0
2071	0	0	0	1,078,527	6,199	0	0
2072	0	0	0	978,339	5,621	0	0
2073	0	0	0	883,815	5,077	0	0
2074	0	0	0	794,870	4,566	0	0
2075	0	0	0	711,453	4,087	0	0
2076	0	0	0	633,529	3,640	0	0
2077	0	0	0	561,063	3,225	0	0
2078	0	0	0	494,017	2,841	0	0
2079	0	0	0	432,333	2,487	0	0
2080	0	0	0	375,932	2,164	0	0
2081	0	0	0	324,698	1,870	0	0
2082	0	0	0	278,486	1,605	0	0
2083	0	0	0	237,105	1,368	0	0
2084	0	0	0	200,334	1,157	0	0
2085	0	0	0	167,916	971	0	0
2086	0	0	0	139,571	808	0	0
2087	0	0	0	115,001	666	0	0
2088	0	0	0	93,895	545	0	0
2089	0	0	0	75,936	441	0	0
2090	0	0	0	60,808	354	0	0
2091	0	0	0	48,195	281	0	0
2092	0	0	0	37,791	221	0	0
2093	0	0	0	29,302	171	0	0
2094	0	0	0	22,454	132	0	0
2095	0	0	0	16,992	100	0	0
2096	0	0	0	12,691	75	0	0
2097	0	0	0	9,347	55	0	0
2098	0	0	0	6,784	40	0	0
2099	0	0	0	4,849	29	0	0
2100	0	0	0	3,411	20	0	0
2101	0	0	0	2,361	14	0	0
2102	0	0	0	1,607	10	0	0
2103	0	0	0	1,076	6	0	0
2104	0	0	0	710	4	0	0
2105	0	0	0	462	3	0	0
2106	0	0	0	297	2	0	0
2107	0	0	0	190	1	0	0
2108	0	0	0	121	1	0	0
2109	0	0	0	77	0	0	0
2110	0	0	0	50	0	0	0
2111	0	0	0	32	0	0	0
2112	0	0	0	22	0	0	0
2113	0	0	0	3	0	0	0
2114	0	0	0	1	0	0	0
2115	0	0	0	0	0	0	0

Table 2

Actuarial Present Values of Projected Benefit Payments  
(000's omitted)

Fiscal Year Ending June 30	Beginning Fiduciary Net Plan Position	Benefit Payments	Benefit Payments		Present Value of Benefit Payments		
			Funded Portion	Unfunded Portion	Funded Portion at 7.65%	Unfunded Portion at 2.85%	Using Single Discount Rate of 3.98%
2016	\$ 27,562,338	\$ 3,629,652	\$ 3,629,652	\$ 0	\$ 3,498,307	\$ 0	\$ 3,559,482
2017	25,750,772	3,921,291	3,921,291	0	3,510,816	0	3,698,235
2018	25,780,527	4,070,649	4,070,649	0	3,385,545	0	3,692,093
2019	25,699,316	4,221,108	4,221,108	0	3,261,200	0	3,681,960
2020	25,493,228	4,368,099	4,368,099	0	3,134,941	0	3,664,280
2021	25,139,753	4,515,237	4,515,237	0	3,010,256	0	3,642,674
2022	24,630,748	4,654,886	4,654,886	0	2,882,822	0	3,611,540
2023	23,965,664	4,790,865	4,790,865	0	2,756,187	0	3,574,710
2024	23,147,338	4,917,834	4,917,834	0	2,628,177	0	3,528,940
2025	22,163,076	5,038,521	5,038,521	0	2,501,323	0	3,477,099
2026	21,006,443	5,151,649	5,151,649	0	2,375,740	0	3,419,038
2027	19,673,799	5,251,698	5,251,698	0	2,249,771	0	3,351,977
2028	18,154,130	5,342,221	5,342,221	0	2,125,917	0	3,279,190
2029	16,418,480	5,419,026	5,419,026	0	2,003,234	0	3,198,966
2030	14,464,606	5,480,466	5,480,466	0	1,881,976	0	3,111,354
2031	12,294,638	5,532,153	5,532,153	0	1,764,723	0	3,020,437
2032	9,901,070	5,571,088	5,571,088	0	1,650,853	0	2,925,224
2033	7,256,996	5,597,600	5,597,600	0	1,540,835	0	2,826,601
2034	4,360,704	5,609,579	4,360,702	1,248,877	1,115,056	742,575	2,724,185
2035	0	5,608,950	0	5,608,950	0	3,242,633	2,619,579
2036	0	5,595,070	0	5,595,070	0	3,144,977	2,513,038
2037	0	5,566,734	0	5,566,734	0	3,042,342	2,404,570
2038	0	5,523,140	0	5,523,140	0	2,934,873	2,294,387
2039	0	5,463,857	0	5,463,857	0	2,822,919	2,182,848
2040	0	5,391,141	0	5,391,141	0	2,708,167	2,071,326
2041	0	5,306,619	0	5,306,619	0	2,591,841	1,960,782
2042	0	5,203,992	0	5,203,992	0	2,471,284	1,849,233
2043	0	5,089,533	0	5,089,533	0	2,349,956	1,739,308
2044	0	4,967,781	0	4,967,781	0	2,230,181	1,632,693
2045	0	4,842,019	0	4,842,019	0	2,113,488	1,530,426
2046	0	4,720,964	0	4,720,964	0	2,003,548	1,435,027
2047	0	4,593,556	0	4,593,556	0	1,895,456	1,342,833
2048	0	4,462,638	0	4,462,638	0	1,790,408	1,254,608
2049	0	4,326,547	0	4,326,547	0	1,687,709	1,169,773
2050	0	4,185,016	0	4,185,016	0	1,587,263	1,088,180
2051	0	4,039,619	0	4,039,619	0	1,489,663	1,010,154
2052	0	3,889,131	0	3,889,131	0	1,394,427	935,284
2053	0	3,735,418	0	3,735,418	0	1,302,201	863,920
2054	0	3,576,944	0	3,576,944	0	1,212,402	795,592
2055	0	3,414,844	0	3,414,844	0	1,125,385	730,453
2056	0	3,249,885	0	3,249,885	0	1,041,343	668,549
2057	0	3,082,476	0	3,082,476	0	960,332	609,829
2058	0	2,913,883	0	2,913,883	0	882,652	554,402
2059	0	2,745,563	0	2,745,563	0	808,620	502,374
2060	0	2,579,523	0	2,579,523	0	738,666	453,919
2061	0	2,416,119	0	2,416,119	0	672,702	408,885
2062	0	2,256,441	0	2,256,441	0	610,835	367,241
2063	0	2,100,952	0	2,100,952	0	552,983	328,841
2064	0	1,950,726	0	1,950,726	0	499,215	293,636
2065	0	1,806,878	0	1,806,878	0	449,590	261,569

Table 2  
(continued)  
Actuarial Present Values of Projected Benefit Payments  
(000's omitted)

Fiscal Year Ending June 30	Beginning Fiduciary Net Plan Position	Benefit Payments	Benefit Payments		Present Value of Benefit Payments		
			Funded Portion	Unfunded Portion	Funded Portion at 7.65%	Unfunded Portion at 2.85%	Using Single Discount Rate of 3.98%
2066	\$ 0	\$ 1,669,621	\$ 0	\$ 1,669,621	\$ 0	\$ 403,925	\$ 232,444
2067	0	1,538,842	0	1,538,842	0	361,970	206,034
2068	0	1,414,470	0	1,414,470	0	323,495	182,130
2069	0	1,296,427	0	1,296,427	0	288,283	160,539
2070	0	1,184,507	0	1,184,507	0	256,096	141,063
2071	0	1,078,527	0	1,078,527	0	226,722	123,524
2072	0	978,339	0	978,339	0	199,962	107,759
2073	0	883,815	0	883,815	0	175,636	93,620
2074	0	794,870	0	794,870	0	153,584	80,974
2075	0	711,453	0	711,453	0	133,657	69,701
2076	0	633,529	0	633,529	0	115,719	59,690
2077	0	561,063	0	561,063	0	99,643	50,838
2078	0	494,017	0	494,017	0	85,305	43,049
2079	0	432,333	0	432,333	0	72,585	36,231
2080	0	375,932	0	375,932	0	61,367	30,298
2081	0	324,698	0	324,698	0	51,535	25,167
2082	0	278,486	0	278,486	0	42,975	20,759
2083	0	237,105	0	237,105	0	35,575	16,997
2084	0	200,334	0	200,334	0	29,225	13,811
2085	0	167,916	0	167,916	0	23,817	11,133
2086	0	139,571	0	139,571	0	19,248	8,900
2087	0	115,001	0	115,001	0	15,420	7,052
2088	0	93,895	0	93,895	0	12,241	5,537
2089	0	75,936	0	75,936	0	9,626	4,307
2090	0	60,808	0	60,808	0	7,495	3,317
2091	0	48,195	0	48,195	0	5,775	2,528
2092	0	37,791	0	37,791	0	4,403	1,906
2093	0	29,302	0	29,302	0	3,319	1,422
2094	0	22,454	0	22,454	0	2,473	1,048
2095	0	16,992	0	16,992	0	1,820	762
2096	0	12,691	0	12,691	0	1,321	548
2097	0	9,347	0	9,347	0	946	388
2098	0	6,784	0	6,784	0	668	271
2099	0	4,849	0	4,849	0	464	186
2100	0	3,411	0	3,411	0	317	126
2101	0	2,361	0	2,361	0	214	84
2102	0	1,607	0	1,607	0	141	55
2103	0	1,076	0	1,076	0	92	35
2104	0	710	0	710	0	59	22
2105	0	462	0	462	0	37	14
2106	0	297	0	297	0	23	9
2107	0	190	0	190	0	15	5
2108	0	121	0	121	0	9	3
2109	0	77	0	77	0	6	2
2110	0	50	0	50	0	3	1
2111	0	32	0	32	0	2	1
2112	0	22	0	22	0	1	1
2113	0	3	0	3	0	0	0
2114	0	1	0	1	0	0	0
2115	0	0	0	0	0	0	0

## Section II – Actuarial Assumptions and Methods

### Assumptions used to determine the Discount Rate and Total Pension Liability as of June 30, 2015

#### Interest Rate

Valuation: 7.90% per annum, compounded annually.  
 GASB: 4.90% per annum, compounded annually.

#### Employee Contribution Interest Rate

7.90% per annum.

#### COLA

No future COLA is assumed.

#### Compensation Limit Increase

401(a)(17) limit – 3.00% per annum, Social Security Wage Base – 4.00% per annum

#### Separations from Service and Salary Increases

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

#### Annual Rates of

Age	Select Withdrawal						Ultimate Withdrawal <sup>1</sup>			
	1st Year		2nd Year		3rd Year		Prior to Eligibility For Benefit		After Eligibility For Benefit	
	State	Local	State	Local	State	Local	State	Local	State	Local
25	28.90%	32.15%	13.53%	15.12%	9.52%	12.19%	4.69%	6.31%		
30	28.90	31.07	13.53	14.67	9.52	11.10	3.82	6.11		.03%
35	20.91	26.81	10.83	11.74	7.99	8.28	2.86	3.80	.05%	.04
40	17.32	25.64	8.86	10.52	6.37	7.62	1.80	2.77	.05	.06
45	16.33	24.81	8.26	10.08	5.79	7.14	1.22	2.46	.24	.19
50	16.33	22.71	7.65	9.58	5.21	6.60	.90	1.85	1.10	.75
55	16.33	22.37	7.65	9.40	5.21	6.26	.88	1.52	1.50	.90

<sup>1</sup> 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	
	State	Local	FY2016 to FY2021	FY2021 and thereafter
25			4.40%	5.40%
30			4.15	5.15
35			3.90	4.90
40			3.65	4.65
45			3.40	4.40
50			3.15	4.15
55	17.50%	11.70%	2.90	3.90
60	9.00	7.80	2.65	3.65
65	18.00	16.54	2.15	3.15
69	15.00	11.55	2.15	3.15

### Annual Rates of

	Ordinary Death <sup>2</sup>				Accidental Death		Ordinary Disability		Accidental Disability	
	State		Local		State	Local	State	Local	State	Local
	Men	Women	Men	Women						
25	.04%	.02%	.04%	.02%	0.001%	0.001%	.01%		0.001%	0.002%
30	.04	.02	.04	.02	0.001	0.001	.10	.07%	0.003	0.004
35	.06	.03	.06	.02	0.001	0.001	.24	.22	0.009	0.004
40	.09	.05	.10	.04	0.001	0.001	.34	.30	0.017	0.009
45	.12	.07	.13	.06	0.001	0.001	.51	.36	0.019	0.013
50	.17	.11	.19	.09	0.001	0.001	.58	.51	0.029	0.016
55	.25	.17	.26	.14	0.001	0.001	.70	.69	0.039	0.022
60	.36	.25	.40	.21	0.001	0.001	1.23	.89	0.041	0.025
65	.59	.39	.65	.33	0.001	0.001	1.49	1.10	0.061	0.027
69	.81	.54	.86	.47	0.001	0.001	1.77	1.31	0.062	0.029

<sup>2</sup> RP-2000 Employee Preretirement Mortality Table for male and female active participants. For State, mortality tables are set back 3 years for males and 5 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 2012 using a generational approach based on Projection Scale AA. Rates shown above are unadjusted for Projection Scale AA.

### 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			25 or More Years		
	State	Local	20 Years	21 to 24 Years	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. The RP-2000 Disabled Mortality Tables (set

back 3 years for males and set back 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 2012 using a generational approach based on Projection Scale AA. Illustrative rates of mortality unadjusted for Projection Scale AA are shown below:

Age	Service Retirements		Age	Disability Retirements	
	Men	Women		Men	Women
55	0.32%	0.24%	35	2.26%	0.75%
60	0.60	0.44	40	2.26	0.75
65	1.13	0.86	45	2.26	0.75
70	1.98	1.49	50	2.51	1.06
75	3.39	2.55	55	3.16	1.55
80	5.79	4.15	60	3.80	2.08
85	9.98	6.95	65	4.50	2.66

### Marriage

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

### Valuation Method

Projected Unit Credit Method. This method essentially funds the System's benefits accrued to the valuation date. Experience gains or 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 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.

### Receivable Contributions

State contributions expected to be paid the June 30<sup>th</sup> following the valuation date are discounted by the valuation interest rate of 7.90% to the valuation date.

Local contributions expected to be paid the April 1<sup>st</sup>, following the valuation are discounted by the valuation interest rate of 7.90% 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.

## Assumptions used to determine the Discount Rate and Total Pension Liability as of June 30, 2016

### Interest Rate

Valuation: 7.65% per annum, compounded annually.

GASB: 3.98% per annum, compounded annually.

### Employee Contribution Interest Rate

7.65% per annum.

### COLA

No future COLA is assumed.

### Compensation Limit Increase

401(a)(17) limit - 3.00% per annum, Social Security Wage Base – 4.00% per annum

### Separations from Service and Salary Increases

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

### Annual Rates of

Age	Select Withdrawal						Ultimate Withdrawal <sup>1</sup>			
	1st Year		2nd Year		3rd Year		Prior to Eligibility For Benefit		After Eligibility For Benefit	
	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

<sup>1</sup> 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 <sup>2</sup>				Accidental Death		Ordinary Disability		Accidental Disability	
	State		Local		State	Local	State	Local	State	Local
	Male	Female	Male	Female						
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

<sup>2</sup> 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			25 or More Years		
	State	Local	20 Years	21 to 24 Years	State	Local
40	0.00%	0.00%	2.50%	0.00%	23.10%	19.25%
45	0.00	0.00	2.50	0.00	23.10	19.25
50	0.00	0.00	3.75	0.00	23.10	19.25
55	2.59	3.06	5.00	0.00	26.22	21.85
60	2.63	3.06	5.00	0.00	34.17	28.48
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:

Age	Service Retirements		Age	Disability Retirements	
	Men	Women		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

Projected Unit Credit Method. This method essentially funds the System's benefits accrued to the valuation date. Experience gains or 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 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.

## Receivable Contributions

State contributions expected to be paid the June 30<sup>th</sup> following the valuation date are discounted by the valuation interest rate of 7.65% to the valuation date.

Local contributions expected to be paid the April 1<sup>st</sup>, following the valuation are discounted by the valuation interest rate of 7.65% 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.

## 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<sup>1</sup>

#### 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 1/55<sup>th</sup> to 1/60<sup>th</sup> 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.

<sup>1</sup> 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.  $1/60^{\text{th}}$  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<sup>th</sup> 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.