Gabriel Roeder Smith & Company
Consultants & Actuaries

POLICE OFFICERS RETIREMENT SYSTEM (PORS)

ACTUARIAL VALUATION REPORT

AS OF JULY 1, 2016

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Public Employee Benefit Authority
South Carolina Retirement System
P.O. Box 11960
Columbia, SC 29211-1960

Subject: Actuarial Valuation as of July 1, 2016

Dear Members of the Board:

This report describes the current actuarial condition of the Police Officers Retirement System (PORS), determines the calculated employer and member contribution rates, and analyzes changes in this system's financial condition. In addition, the report provides various summaries of the data. A separate report is issued with regard to valuation results determined in accordance with Governmental Accounting Standards Board (GASB) Statements No. 67 and 68. Results of this report should not be used for any other purpose without consultation with the undersigned. Valuations are prepared annually as of July 1, the first day of the plan year for PORS. This report was prepared at the request of the Board of Directors of the South Carolina Public Employee Benefit Authority (Board) and is intended for use by the Public Employee Benefit Authority (PEBA) staff and those designated or approved by the Board.

FINANCING OBJECTIVES AND FUNDING POLICY

The employer and member contribution rate is determined in accordance with Section 9-11-225 of the South Carolina Code. As specified by the Code, in the event the scheduled employer and member contribution rate is insufficient to maintain a thirty-year amortization period for financing the unfunded liability of the System, the Board shall increase the employer and member contribution rates in equal amounts, as necessary, to maintain a funding period that does not exceed thirty years. The Statute also allows the Board to increase the member and employer contribution rate by up to 50 basis points in a year, even if the funding period is less than 30 years. The contribution rate determined by a given actuarial valuation becomes effective twenty-four months after the valuation date. In other words, the contribution rate determined by this July 1, 2016 actuarial valuation will be used by the Board when certifying the employer and member contribution rates for the year beginning July 1, 2018 and ending June 30, 2019.

Since the employer and member contribution rates that are in effect as of July 1, 2016 are no longer sufficient to maintain a funding period that does not exceed 30 years as of this valuation date, there is a required contribution rate increase to 14.28% of pay for the employer and 9.28% of pay for the members to decrease the funding period to 30 years. The Board may also wish to consider a larger increase in the contribution rates, as permitted by State Statute, to further improve in the financial security of the system.

According to State code, the Board is not permitted to decrease the employer and member contribution rates until the funded ratio of the plan is at least 90%. Also, any change in the rates must maintain the 5.00% differential between the employer and member contribution rates.

If new legislation is enacted between the valuation date and the date the contribution rate become effective, the Board may adjust the calculated rate before certifying them, in order to reflect this new legislation. Such adjustments are based on information supplied by the actuary.

Progress Toward Realization of Financing Objectives

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) is a standard measure of a plan's funded status. In the absence of benefit improvements, it should increase over time, until it reaches at least 100%.

The funded ratio of the System decreased from 69.2% to 66.3%. Absent favorable experience, we expect the funded ratio will remain relatively constant for the next several years then begin to gradually improve.

If the market value of assets had been used in the calculation instead of actuarial (smoothed) value of assets, the funded ratio for the System would have been 59.0%, compared to 64.5% in the prior year. The decrease in the funded ratio on a market value basis is primarily due to the use of updated actuarial assumptions and unfavorable investment experience during the last fiscal year. Specifically, the market value of assets earned a -0.47% return determined using the method specified by GASB 67 and reported in the financial statement of the South Carolina Retirement Systems for the year ending June 30, 2016. The -0.7% return documented in this report was determined on a dollar-weighted basis and is net of expenses and assumed mid-year cash flows.

Assumptions and Methods

South Carolina State Code also requires that an experience analysis that reviews the economic and demographic assumptions be performed at least every five years. An experience study was conducted for the five-year period ending June 30, 2015. The following is a summary of the assumptions that were adopted by the Board and used in preparing this actuarial valuation:

- Decrease the price inflation assumption from 2.75% to 2.25%.
- Decrease in the assumed rate of salary increases for individual members.
- Decrease the payroll growth assumption from 3.50% to 3.00%.
- Adopt new post-retirement mortality tables specific to South Carolina retiree experience. Mortality for retirees is assumed to improve based on generational projection Scale AA.
- Minor adjustments to the pre-retirement mortality assumption.
- Modify the rates of retirement and disability.

- Modify the asset method such that each year's investment gain or loss (determined on a market value of asset basis) is recognized over a closed five-year period at the rate of 20% per year.

The investment return assumption is a prescribed assumption in Section 9-16-335 in South Carolina State Code and remains at 7.50% investment return assumption.

It is our opinion that the current assumptions are internally consistent and reasonably reflect the anticipated future experience of the System.

The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates and funding periods. The actuarial calculations are intended to provide information for rational decision making.

BENEFIT PROVISIONS

The benefit provisions reflected in this valuation are those which were in effect on July 1, 2016. There were no legislative changes enacted since the previous valuation that had a measurable effect on the current valuation.

DATA

Member data for retired, active and inactive members was supplied as of July 1, 2016, by the PEBA staff. The staff also supplied asset information as of July 1, 2016. We did not audit this data, but we did apply a number of tests to the data, and we concluded that it was reasonable and consistent with the prior year's data. GRS is not responsible for the accuracy or completeness of the information provided to us by PEBA.

CERTIFICATION

We certify that the information presented herein is accurate and fairly portrays the actuarial position of PORS as of July 1, 2016.

All of our work conforms with generally accepted actuarial principles and practices, and is in conformity with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of South Carolina Code of Laws and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board.

The undersigned are independent actuaries and consultants. Mr. Newton and Mr. White are Enrolled Actuaries and Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries. Both are experienced in performing valuations for large public retirement systems.

Sincerely,

Gabriel, Roeder, Smith & Co.

Joseph P. Newton, FSA, MAAA, EA
Senior Consultant

Daniel J. White, FSA, MAAA, EA
Senior Consultant

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SECTION A

EXECUTIVE SUMMARY

Executive Summary

(Dollar amounts expressed in thousands)

	Valuation Date:	
	July 1, 2016	July 1, 2015
Membership		
• Number of		
- Active members	26,651	26,575
- Retirees and beneficiaries	17,288	16,709
- Inactive members	15,001	14,149
- Total	58,940	57,433
• Projected payroll of active members	$1,187,195	$1,105,703
• Projected payroll for all active members, including working retirees	$1,312,199	$1,232,695
Miniumum Required Contribution Rates[1,2]		
• Employer contribution rate	14.28%	13.74%
• Member	9.28%	8.74%
Assets		
• Market value	$3,876,036	$3,971,825
• Actuarial value	4,354,853	4,266,794
• Return on market value	-0.7%	1.4%
• Return on actuarial value	3.7%	5.7%
• Ratio - actuarial value to market value	112.4%	107.4%
• External cash flow %	-1.8%	-1.8%
Actuarial Information		
• Normal cost %	14.02%	14.16%
• Actuarial accrued liability (AAL)	$6,567,397	$6,162,095
• Unfunded actuarial accrued liability (UAAL)	2,212,544	1,895,301
• Funded ratio	66.3%	69.2%
• Funding period (years)	30	27
Reconciliation of UAAL		
• Beginning of Year UAAL	$1,895,301	$1,800,520
- Interest on UAAL	142,148	135,039
- Amortization payment	(123,814)	(113,446)
- Assumption/method changes	120,909	0
- Asset experience	160,261	73,742
- Salary experience	17,265	1,883
- Other liability experience	474	(2,437)
- Legislative Changes	0	0
• End of Year UAAL	$2,212,544	$1,895,301

[1] The contribution rates determined by the 2016 valuation are established by Section 9-11-225 of the South Carolina Code and become effective for the fiscal year beginning July 1, 2018. The employer contribution rates shown above include the cost for both the accidental and incidental death benefits.

[2] The rates shown for the 2015 and 2016 valuation are the minimum required contribution rates. State Statutes permit the Board to increase the contribution rates above the amounts shown, subject to certain limits. Effective July 1, 2016, the Board elected to increase the employer and member contribution rate to 14.24% and 9.24%, respectively.

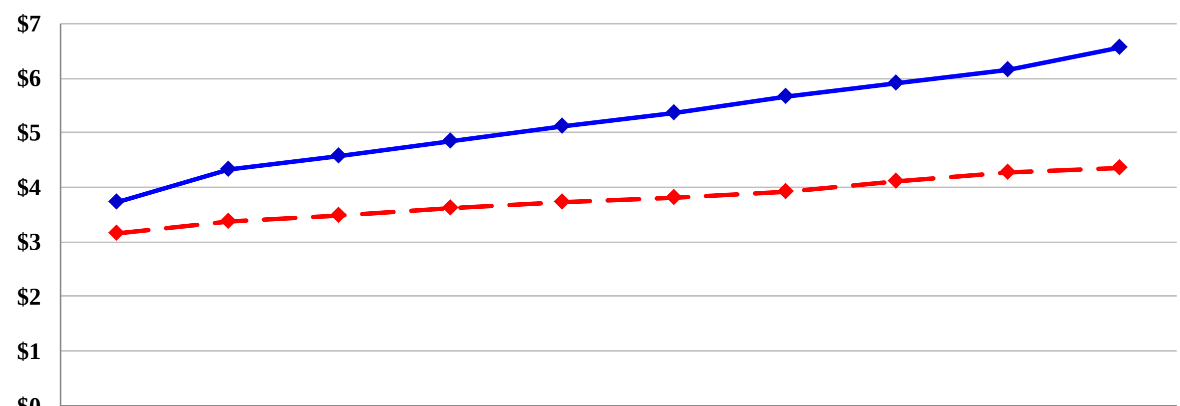
EXECUTIVE SUMMARY (CONTINUED)

The unfunded actuarial accrued liability increased by $0.317 billion since the prior year's valuation to $2.212 billion. The largest source of this increase is the $0.158 billion increase due to the recognition of investment losses that occurred in the prior fiscal years in the actuarial value of assets, followed by a $0.121 billion increase due to new assumptions adopted by the Board and used in preparing this actuarial valuation.

There is $0.479 billion in deferred investment losses as of the valuation date. Absent favorable investment experience, those deferred losses will gradually be reflected in the actuarial value of assets over the next several years.

Below is a chart with the System's historical actuarial value of assets and actuarial accrued liability. The increased difference in the actuarial value of assets and the actuarial accrued liability over the last 10 years has generally been due to a combination of: (i) the actual investment experience being less than the System's expected investment return assumption, (ii) increases in the actuarial accrued liability due to cost of living adjustments provided to the retirees prior to the enactment of retirement reform legislation in 2012, and (iii) assumption changes recommended by the actuary and adopted by the Budget and Control Board in 2011 and 2016.

Chart 1. - History of Actuarial Assets and Actuarial Accrued Liability
(Dollars in Billions)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
AAL	3.7	4.3	4.6	4.9	5.1	5.4	5.7	5.9	6.2	6.6
AVA	3.2	3.4	3.5	3.6	3.7	3.8	3.9	4.1	4.3	4.4

Effective July 1, 2016, the Board elected to increase the employer and member contribution rate by 50 basis points each to 14.24% and 9.24%, respectively, to improve the financial security of the retirement system. However, these contribution rates in effect for fiscal year 2017 are no longer sufficient to maintain a funding period that does not exceed 30 years (determined on an actuarial value of asset basis). As a result, the employer and member contribution rates must increase to 14.28% and 9.28%, respectively, for fiscal year 2019 (i.e. effective July 1, 2018) to decrease the funding period to 30 years. The Board may wish to consider increasing the contribution rates, as permitted by State Statute, on July 1, 2017 to further improve in the financial security of the system.

Absent legislative changes or significantly favorable experience, we project that the employer and member contribution rates will increase within the next few years as the $0.5 billion in deferred investment losses become recognized in the actuarial value of assets over the next four years. Specifically, if emerging investment and liability experience is consistent with the current assumptions, the required employer and member contribution rates are projected to increase approximately 1.00% over the next 4 or 5 years in order to maintain a 30-year funding period.

SECTION B

DISCUSSION

Discussion

The results of the July 1, 2016 actuarial valuation of the Police Officers Retirement System are presented in this report. The primary purposes of the valuation report are to depict the current financial condition of the System, determine the annual required contribution, and analyze changes in the System's financial condition. In addition, the report provides various summaries of the data.

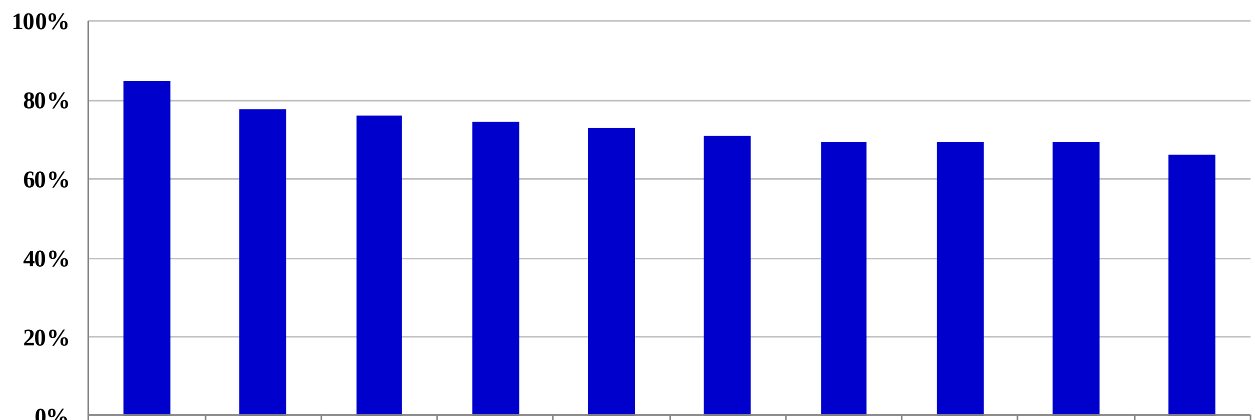
This section discusses the determination of the current funding requirements and the System's funded status, as well as changes in financial condition of the Police Officers Retirement System.

All of the actuarial and financial Tables referenced by the other sections of this Report appear in Section C. Section D provides member data and statistical information. Appendices A and B provide summaries of the principle actuarial assumptions and methods and plan provisions. Finally, Appendix C provides a glossary of technical terms that are used throughout this report.

Funding Progress

The funded ratio decreased from 69.2% to 66.3% since the prior valuation. Chart 2 shown below, provides a 10-year history of the system's funded ratio. This gradual decline in the funded ratio over the last 10 years has generally been due to a combination of: (i) the actual investment experience being less than the System's expected investment return assumption, (ii) increases in the actuarial accrued liability due to providing cost of living adjustments to the retirees prior to the enactment of retirement reform legislation in 2012, and (iii) assumption changes recommended by the actuary and adopted in 2011 and 2016. The funded status of the System is shown in Table 10, Schedule of Funding Progress.

Chart 2. - Funded Ratio
Actuarial Assets as a percentage of Actuarial Accrued Liabilities



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Funded Ratio	84.7%	77.9%	76.3%	74.5%	72.8%	71.1%	69.2%	69.5%	69.2%	66.3%

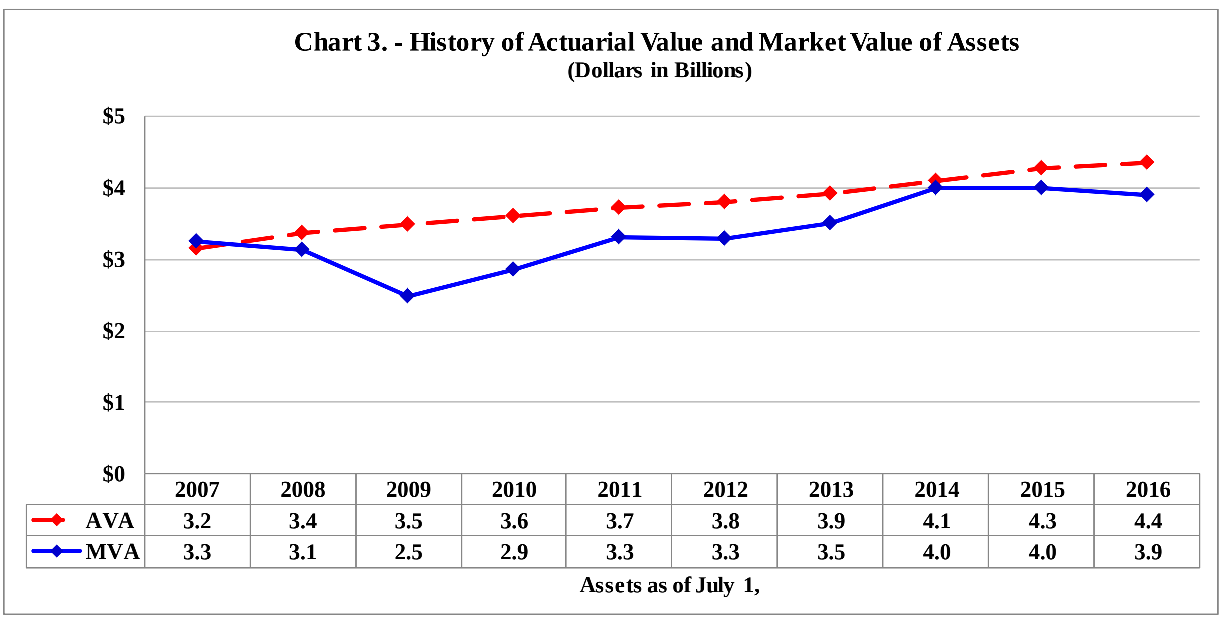
It is expected that the funded ratio (on an actuarial value of asset basis) will be relatively constant for the next three to five years then gradually improve. Also, based on the current funding policy and contribution rates, we expect the dollar amount of the unfunded actuarial accrued liability, or the difference between the actuarial accrued liability and the actuarial value of assets, to gradually increase for the next 10 to 12 years before beginning to decrease.

Asset Gains/ (Losses)

The actuarial value of assets ("AVA") is based on a smoothed market value of assets, using a systematic approach to phase-in the difference between the actual and expected investment return on a market value of asset basis (adjusted for receipts and disbursements during the year). This is appropriate because it dampens the short-term volatility inherent in investment markets. The returns are computed net of investment expenses. The actuarial value of assets increased from $4.3 billion to $4.4 billion since the prior valuation. Table 8 shows the development of the actuarial value of assets.

The rate of return on the market value of assets during the prior plan year was -0.7% on a dollar-weighted basis; the return on an actuarial (smoothed) asset value was 3.7%, which is below the 7.50% expected annual return. The difference in the estimated return on market value and actuarial value illustrates the smoothing effect of the asset valuation method.

The market value of assets is less than the actuarial value of assets, which signifies that the retirement system is in a position of deferred losses. Therefore, unless the System experiences investment returns in excess of the assumed rate of return, the future recognition of these deferred losses is expected to increase the unfunded actuarial accrued liability over the next few years.



Tables 6 and 7 provide asset information that was included in the annual financial statements of the System. Also, Table 9 shows the estimated yield on a market value basis and on the actuarial asset valuation method.

Actuarial Gains/ (Losses) and the Funding Period

The annual actuarial valuation is a snapshot analysis of the benefit liabilities, assets and funded position of the System as of the first day of the plan year. In any one fiscal year, the experience can be better or worse from that which is assumed or expected. The actuarial assumptions do not necessarily attempt to model what the experience will be for any one given fiscal year, but instead try to model the overall experience over many years. Therefore, as long as the actual experience of the retirement system is reasonably close to the current assumptions, the long-term funding requirements of the System will remain relatively consistent.

The unfunded actuarial accrued liability (UAAL) has increased from $1.9 billion in 2015 to $2.2 billion in 2016. The table below shows the source of the gains and losses and the impact of those gains and losses on the UAAL.

Reconciliation of UAAL
(Dollars in thousands)

• Beginning of Year UAAL	$1,895,301
- Interest on UAAL	142,148
- Amortization payment	(123,814)
- Assumption/method changes	120,909
- Asset experience	160,261
- Salary experience	17,265
- Other liability experience	474
- Legislative changes	0
• End of Year UAAL	$2,212,544

The System experienced a net $17.7 million loss due to liability experience. This net loss is approximately 0.3% of the total actuarial accrued liability.

Based on the valuation as of July 1, 2016, the funding period based on the contribution rates in effect for fiscal year 2017 are not sufficient to satisfy the 30-year funding requirement in the State code. Therefore, the member and employer contribution rates will need to increase to 14.28% and 9.28%, respectively, for fiscal year 2019 (i.e. effective July 1, 2018) in order to comply with the 30-year funding requirement (determined on an actuarial value of asset basis). The Board may wish to consider increasing the contribution rates, as permitted by State Statute, on July 1, 2017 to further improve the financial security of the system. The following page provides a table reconciling the change in the funding period from the contribution rate determined in the prior year's valuation.

Change in Funding Period (Years)
Based on the Employer and Member Contribution
Before Reflecting Required Increase in Contribution Rate
for FY 2018

• Prior Year	27.3
- Expected experience	(1.0)
- Assumption and method changes	7.6
- Asset experience	7.6
- Demographic experience	(2.4)
- Legislative changes	0.0
- Board approved rate increase for FY 2017	(8.7)
- Total change	3.1
• Current Year Valuation	30.4

Since the current funding period is close to the maximum permitted 30 years, it is possible that any near-term adverse experience, whether investment or demographic related, will require an increase to future contribution rates. In fact, absent favorable investment experience, we expect the funding period to increase in future years as deferred investment losses become fully recognized in the actuarial value of assets and calculation of the contribution rates.

Also, note that the current funding policy utilizes a level percentage of payroll amortization, which assumes that covered payroll will increase at the rate of 3.00% per year in the future. As a result, the amortization payments will not be sufficient to cover all of the interest charges on the UAAL until the funding period decreases to approximately 20 years. Therefore, stakeholders should expect the dollar amount of the unfunded actuarial accrued liability to gradually increase until the funding period decreases below 20 years.

Actuarial Assumptions and Methods

In determining costs and liabilities, actuaries use assumptions about the future, such as probabilities of retirement, termination, death and disability, and an annual investment return assumption. South Carolina State Code also requires that an experience analysis that reviews the economic and demographic assumptions be performed at least every five years. An experience study was conducted for the five-year period ending June 30, 2015. The following is a summary of the assumptions that were adopted by the Board and used in preparing this actuarial valuation:

- Decrease the price inflation assumption from 2.75% to 2.25%.
- Decrease in the assumed rate of salary increases for individual members.
- Decrease the payroll growth assumption from 3.50% to 3.00%.
- Adopt new post-retirement mortality tables specific to South Carolina retiree experience. Mortality for retirees is assumed to improve based on generational projection Scale AA.
- Minor adjustments to the pre-retirement mortality assumption.
- Modify the rates of retirement and disability.

The investment return assumption is a prescribed assumption in Section 9-16-335 in South Carolina State Code and remains at 7.50% investment return assumption.

Appendix A includes a summary of the actuarial assumptions and methods used in this valuation. It is our opinion that the assumptions are internally consistent and are reasonable and reflect anticipated future experience of the System. The next experience study will be conducted no later than as of June 30, 2020.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan’s funded status); and changes in plan provisions or applicable law. This report does not include a more robust assessment of the risks of future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment.

An actuarial valuation assumes that all assumptions will be met in future years, including a 7.50% return on the actuarial value of assets determined as of the actuarial valuation date. Establishing the contribution rates, funding period, and other financial metrics on an actuarial value of asset basis is consistent with applicable actuarial standards of practice, industry prevalence, and applicable provisions in South Carolina State Code.

Emerging experience due to liabilities or investments that is different than assumed (including the recognition of previously deferred investment losses) may result in a change in the required contribution rate and or funding period that is different than expected based on the prior actuarial valuation. Also, separate projections provided outside of this report that may illustrate the financial effect of future gains or losses on actuarial basis in subsequent years may be useful for business making decisions, but such projections should not be misunderstood as documentation of satisfaction of a 30-year amortization requirement specified in State Code.

Benefit Provisions

Appendix B of this report includes a summary of the benefit provisions for PORS. There were no legislative changes enacted since the previous valuation that had a measurable effect on the current valuation. Below is a summary of the retirement provisions for Class Two members, members hired prior to July 1, 2012, and Class Three members, members hired after June 30, 2012.

Summary of Retirement Provisions for:

Class Two Members (members hired prior to July 1, 2012)

- Average Final Compensation (AFC) is based on the highest twelve (12) consecutive quarters of compensation. The determination of a member's AFC also includes up to 45 days of unused annual leave paid at termination. Monthly benefits are based on one-twelfth of this amount.
- The retirement benefit is equal to 2.14% of the member's AFC times the member's credited service (years). Credited service may include up to 90 days of unused sick leave.
- Members are eligible to commence their retirement benefit after they have (i) 25 years of credited service or (ii) attained age 55 with 5 years of earned service.
- At each July 1 after their first full year of retirement, annuitants will receive an automatic post-retirement benefit adjustment equal to the lesser of 1.00% of their retirement benefit or $500 per annum.

Class Three Members (members hired after June 30, 2012)

- Average Final Compensation (AFC) is based on the highest twenty (20) consecutive quarters of compensation. The determination of a member's AFC also will not include unused annual leave paid at termination. Monthly benefits are based on one-twelfth of this amount.
- The retirement benefit is equal to 2.14% of the member's AFC times the member's credited service (years). Credited service will not include unused sick leave.
- Members are eligible to commence their retirement benefit after they have (i) 27 years of credited service or (ii) attained age 55 with 8 years of earned service.
- At each July 1 after their first full year of retirement, annuitants will receive an automatic post-retirement benefit adjustment equal to the lesser of 1.00% of their retirement benefit or $500 per annum.

SECTION C

ACTUARIAL TABLES

ACTUARIAL TABLES

Summary of Cost Items

(Dollar amounts expressed in thousands)

		July 1, 2016 (1)	July 1, 2015 (2)
1.	Projected payroll of active members[1]	$ 1,187,195	$1,105,703
2.	Present value of future pay[1]	$ 8,759,337	$ 8,496,444
3.	Normal cost rate		
	a. Total normal cost rate	14.02%	14.16%
	b. Less: member contribution rate	-9.28%	-8.74%
	c. Employer normal cost rate	4.74%	5.42%
4.	Actuarial accrued liability for active members		
	a. Present value of future benefits	$ 3,710,520	$ 3,529,892
	b. Less: present value of future normal costs	1,199,236	1,156,730
	c. Actuarial accrued liability	$ 2,511,284	$ 2,373,162
5.	Total actuarial accrued liability for:		
	a. Retirees and beneficiaries	$ 3,881,514	$ 3,624,713
	b. Inactive members	174,599	164,220
	c. Active members (Item 4.c.)	2,511,284	2,373,162
	d. Total	$ 6,567,397	$ 6,162,095
6.	Actuarial value of assets	$ 4,354,853	$ 4,266,794
7.	Unfunded actuarial accrued liability (UAAL) (Item 5.d. - Item 6.)	$ 2,212,544	$ 1,895,301
8.	Annual Required Contribution Rate		
	a. Employer normal cost rate	4.74%	5.42%
	b. Employer contribution rate available to amortize the UAAL	9.54%	8.32%
	c. Total employer contribution rate	14.28%	13.74%
9.	Funding period based on the required employer contribution rate (years)	30	27
10.	Applicable statuorily required contribution rates[2]		
	a. Employer contribution rate	14.28%	13.74%
	b. Member contribution rate	9.28%	8.74%

[1] The projected payroll does not include payroll for working retirees.

[2] The applicable employer and member contribution rates are determined in accordance with Section 9-11-225 of the South Carolina Code. The contribution rate includes the cost of incidental death benefits.

Actuarial Present Value of Future Benefits

(Dollar amounts expressed in thousands)

		July 1, 2016 (1)	July 1, 2015 (2)
1.	Active members		
	a. Service retirement	$ 2,980,030	$ 2,852,329
	b. Deferred termination benefits and refunds	313,445	283,849
	c. Survivor benefits	81,413	116,423
	d. Disability benefits	335,632	277,291
	e. Total	$ 3,710,520	$ 3,529,892
2.	Retired members		
	a. Service retirement	$ 3,067,062	$ 2,878,484
	b. Disability retirement	617,664	568,241
	c. Beneficiaries	158,616	140,960
	d. Incidental and accidental death benefits	38,172	37,028
	e. Total	$ 3,881,514	$ 3,624,713
3.	Inactive members		
	a. Vested terminations	$ 143,353	$ 136,309
	b. Nonvested terminations	31,246	27,911
	c. Total	$ 174,599	$ 164,220
4.	Total actuarial present value of future benefits	$ 7,766,633	$ 7,318,825

Analysis of Normal Cost

		July 1, 2016 (1)	July 1, 2015 (2)
1.	Total normal cost rate		
	a. Service retirement	8.36%	8.34%
	b. Deferred termination benefits and refunds	3.82%	3.40%
	c. Survivor benefits	0.30%	0.49%
	d. Disability benefits	1.42%	1.93%
	e. Total	13.90%	14.16%
2.	Admin Expense	0.12%	N/A
3.	Less: member contribution rate	9.28%	8.74%
4.	Net employer normal cost rate	4.74%	5.42%

Note: The normal cost includes the cost of accidental and incidental death benefits.

Results of July 1, 2016 Valuation

(Dollar amounts expressed in thousands)

		July 1, 2016 (1)
1.	Actuarial Present Value of Future Benefits	
	a. Present retired members and beneficiaries	$ 3,881,514
	b. Present active and inactive members	3,885,119
	c. Total actuarial present value	$ 7,766,633
2.	Present Value of Future Normal Contributions	
	a. Member	$ 812,866
	b. Employer	386,370
	c. Total future normal contributions	$ 1,199,236
3.	Actuarial Liability	$ 6,567,397
4.	Current Actuarial Value of Assets	$ 4,354,853
5.	Unfunded Actuarial Liability	$ 2,212,544
6.	Unfunded Actuarial Liability Rate in Effect for FY 2018	9.54%
7.	Unfunded Actuarial Liability Liquidation Period	30 years

Note: The employer contribution rate includes the cost of accidential and incidental death benefits.

Actuarial Balance Sheet
(Dollar amounts expressed in thousands)

	July 1, 2016 (1)	July 1, 2015 (2)
1. Assets		
a. Current assets (actuarial value)		
i. Employee annuity savings fund	$ 968,722	$ 905,768
ii. Employer annuity accumulation fund	3,386,131	3,361,026
iii. Total current assets	$ 4,354,853	$ 4,266,794
b. Present value of future member contributions	$ 812,866	$ 724,747
c. Present value of future employer contributions		
i. Normal contributions	$ 386,370	$ 431,983
ii. Accrued liability contributions	2,212,544	1,895,301
iii. Total future employer contributions	$ 2,598,914	$ 2,327,284
d. Total assets	$ 7,766,633	$ 7,318,825
2. Liabilities		
a. Employee annuity savings fund		
i. Past member contributions	$ 968,722	$ 905,768
ii. Present value of future member contributions	812,866	724,747
iii. Total contributions to employee annuity savings fund	$ 1,781,588	$ 1,630,515
b. Employer annuity accumulation fund		
i. Benefits currently in payment	$ 3,881,514	$ 3,624,713
ii. Benefits to be provided to other members	2,103,531	2,063,597
iii. Total benefits payable from employer annuity accumulation fund	$ 5,985,045	$ 5,688,310
c. Total liabilities	$ 7,766,633	$ 7,318,825

System Net Assets
Assets at Market or Fair Value
(Dollar amounts expressed in thousands)

Item (1)		July 1, 2016 (2)		July 1, 2015 (3)
1. Cash and cash equivalents (operating cash)	$	548,798	$	396,286
2. Receivables		130,850		90,227
3. Investments				
a. Short-term securities	$	109,002	$	103,494
b. Fixed income (global)		805,119		1,078,774
c. Public equities (global)		991,494		964,604
d. Global tactical asset allocation		270,382		300,528
e. Alternative investments		1,237,335		1,212,502
f. Total investments	$	3,413,332	$	3,659,902
4. Securities lending cash collateral invested	$	7,674	$	9,479
5. Prepaid administrative expenses		479		409
6. Capital assets, net of accumulated depreciation		261		291
7. Total assets	$	4,101,394	$	4,156,594
8. Liabilities				
a. Due to other Systems	$	0	$	0
b. Accounts payable		198,233		161,881
c. Investment fees payable		1,300		1,144
d. Obligations under securities lending		7,674		9,479
e. Deferred retirement benefits		0		0
f. Due to Employee Insurance Program		1,900		1,788
g. Benefit payable		236		344
h. Other liabilities		16,015		10,133
i. Total liabilities	$	225,358	$	184,769
9. Total market value of assets available for benefits (Item 7. - Item 8.i.)	$	3,876,036	$	3,971,825
10. Asset allocation (investments)[1]				
a. Net invested cash		14.7%		10.5%
b. Fixed income		20.8%		27.2%
c. Public equities		25.6%		24.3%
d. Global tactical asset allocation		7.0%		7.6%
e. Alternative investments		31.9%		30.4%
f. Total investments		100.0%		100.0%

[1] These asset allocations are calculated based on the dollar amounts shown in items 1. through 9. above and, due to cash flow and rebalancing timing, may be slightly different than the allocation percentages reported by the South Carolina Retirement System Investment Commission.

Reconciliation of System Net Assets
(Dollar amounts expressed in thousands)

	Year Ending July 1, 2016 (1)	Year Ending July 1, 2015 (2)
1. Value of assets at beginning of year	$ 3,971,825	$ 3,985,102
2. Revenue for the year		
a. Contributions		
i. Member contributions	$ 115,188	$ 106,854
ii. Employer contributions	175,241	166,473
iii. Total	$ 290,429	$ 273,327
b. Income		
i. Interest, dividends, and other income	$ 54,132	$ 45,879
ii. Investment expenses	(36,096)	(6,436)
iii. Net	$ 18,036	$ 39,443
c. Net realized and unrealized gains (losses)	(42,672)	19,262
d. Total revenue	$ 265,793	$ 332,032
3. Expenditures for the year		
a. Disbursements		
i. Refunds	$ 19,178	$ 17,453
ii. Regular annuity benefits	337,928	323,252
iii. Other benefit payments	3,568	3,727
iv. Transfers to other Systems	(1,147)	(1,061)
v. Total	$ 359,527	$ 343,371
b. Administrative expenses and depreciation	2,055	1,938
c. Total expenditures	$ 361,582	$ 345,309
4. Increase in net assets (Item 2.d.- Item 3.c.)	$ (95,789)	$ (13,277)
5. Value of assets at end of year (Item 1. + Item 4.)	$ 3,876,036	$ 3,971,825
6. Net External Cash Flow		
a. Dollar amount	$ (69,098)	$ (70,044)
b. Percentage of market value	-1.8%	-1.8%

Development of Actuarial Value of Assets
(Dollar amounts expressed in thousands)

			Year Ending June 30, 2016
1.	Actuarial value of assets at beginning of year	$	4,266,794
2.	Market value of assets at beginning of year	$	3,971,825
3.	Net new investments		
	a. Contributions	$	290,429
	b. Disbursements[1]		(359,527)
	c. Subtotal		(69,098)
4.	Market value of assets at end of year	$	3,876,036
5.	Net earnings (Item 4. - Item 2. - Item 3.c.)	$	(26,691)
6.	Assumed investment return rate for fiscal year		7.50%
7.	Expected return	$	295,296
8.	Excess return (Item 5. - Item 7.)	$	(321,987)

9. Excess return on assets as of June 30, 2016:

	Fiscal Year Ending June 30, (1)		Excess Return (2)	Percent Deferred (3)		Deferred Amount (4)
a.	2016	$	(321,987)	80%	$	(257,590)
b.	2015		(368,711)	60%		(221,227)
c.	2014		N/A	40%		N/A
d.	2013		N/A	20%		N/A
e.	2012		N/A	0%		N/A
f.	Total				$	(478,817)

10.	Actuarial value of assets as of June 30, 2016 (Item 4. - Item 9.f.)	$	4,354,853
11.	Expected actuarial value as of June 30, 2016	$	4,515,114
12.	Asset gain (loss) for year (Item 10. - Item 11.)	$	(160,261)
13.	Asset gain (loss) as % of the actuarial value of assets		-3.7%
14.	Ratio of actuarial value to market value		112.4%

[1] For the year ending June 30, 2016, the investment return assumption was net of administration and investment expenses. Beginning July 1, 2016, the investment return assumption is only net of investment expenses.

Estimation of Yields
(Dollar amounts expressed in thousands)

		Year Ending July 1, 2016	Year Ending July 1, 2015
		(1)	(2)
1.	Market value yield		
a.	Beginning of year market assets	$ 3,971,825	$ 3,985,102
b.	Contributions to fund during the year	290,429	273,327
c.	Disbursements	(359,527)	(343,371)
d.	Investment income (net of investment and administrative expenses)	(26,691)	56,767
e.	End of year market assets	$ 3,876,036	$ 3,971,825
f.	Estimated dollar weighted market value yield	-0.7%	1.4%
2.	Actuarial value yield		
a.	Beginning of year actuarial assets	$ 4,266,794	$ 4,105,308
b.	Contributions to fund during the year	290,429	273,327
c.	Disbursements	(359,527)	(343,371)
d.	Investment income (net of investment and administrative expenses)	157,157	231,530
e.	End of year actuarial assets	$ 4,354,853	$ 4,266,794
f.	Estimated actuarial value yield	3.7%	5.7%

Schedule of Funding Progress
(Dollar amounts expressed in thousands)

July 1,	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL) (3) - (2)	Funded Ratio (2)/(3)	Annual Covered Payroll[1]	UAAL as % of Payroll (4)/(6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2002	2,351,100	2,527,876	176,776	93.0%	757,393	23.3%
2003	2,511,369	2,744,849	233,480	91.5%	800,394	29.2%
2004	2,616,835	2,984,584	367,749	87.7%	822,448	44.7%
2005	2,774,606	3,173,930	399,324	87.4%	850,610	46.9%
2006	2,935,841	3,466,281	530,440	84.7%	931,815	56.9%
2007	3,160,240	3,730,544	570,304	84.7%	992,849	57.4%
2008	3,363,136	4,318,955	955,819	77.9%	1,060,747	90.1%
2009	3,482,220	4,564,111	1,081,891	76.3%	1,084,154	99.8%
2010	3,612,700	4,850,457	1,237,757	74.5%	1,076,467	115.0%
2011	3,728,241	5,122,501	1,394,260	72.8%	1,087,587	128.2%
2012	3,808,934	5,357,492	1,548,558	71.1%	1,019,241	151.9%
2013	3,922,041	5,663,756	1,741,715	69.2%	1,033,189	168.6%
2014	4,105,308	5,905,828	1,800,520	69.5%	1,076,885	167.2%
2015	4,266,794	6,162,095	1,895,301	69.2%	1,105,703	171.4%
2016	4,354,853	6,567,397	2,212,544	66.3%	1,187,195	186.4%

[1] Covered payroll does not include payroll attributable to working retirees.

Summary of Principle Assumptions and Methods

Below is a summary of the principle economic assumptions, cost method, and the method for financing the unfunded actuarial accrued liability:

Valuation date:	July 1, 2016
Actuarial cost method:	Entry Age Normal
Amortization method:	Level percentage of payroll
Amortization period for contribution rate:	30-year open period[1]
Asset valuation method:	5-Year Smoothing
Actuarial assumptions:	
Investment rate of return[2]	7.50%
Projected salary increases	3.50% to 9.50% (varies by service)
Inflation	2.25%
Post-retirement benefit adjustments[3]	1.00%
Retiree mortality	The 2016 Public Retirees of South Carolina Mortality Table projected at Scale AA from the year 2016. Male rates are multiplied by 125% and female rates are multiplied by 111%.

[1] The employer and member contribution rates are determined in accordance with Section 9-11-225 of the South Carolina Code. The funding period, determined on an actuarial value of asset basis, may not exceed 30 years. Contribution rates are not permitted to decreased until the ratio of the actuarial value of assets and the actuarial accrued liability is at least 90%.

[2] This is a prescribed assumption in Section 9-16-335 of South Carolina State Code.

[3] The benefit increase is the lesser of 1.00% or $500 annually.

Solvency Test

(Dollar amounts expressed in thousands)

	Actuarial Accrued Liability				Portion of Aggregate Accrued Liabilities Covered by Assets		
July 1,	Active Member Contributions	Retirants & Beneficiaries	Active & Inactive Members (Employer Financed)	Valuation Assets	Active	Retirants	ER Financed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2002	492,178	1,136,998	898,700	2,351,100	100.0%	100.0%	80.3%
2003	516,313	1,265,173	963,363	2,511,369	100.0%	100.0%	75.8%
2004	548,699	1,415,627	1,020,258	2,616,835	100.0%	100.0%	64.0%
2005	585,701	1,530,199	1,058,030	2,774,606	100.0%	100.0%	62.0%
2006	622,008	1,668,449	1,175,824	2,935,841	100.0%	100.0%	54.9%
2007	658,023	1,818,914	1,253,607	3,160,240	100.0%	100.0%	54.5%
2008	697,423	2,183,645	1,437,887	3,363,136	100.0%	100.0%	33.5%
2009	726,214	2,348,685	1,489,212	3,482,220	100.0%	100.0%	27.4%
2010	758,695	2,577,772	1,513,990	3,612,700	100.0%	100.0%	18.2%
2011	786,724	2,784,144	1,551,633	3,728,241	100.0%	100.0%	10.1%
2012	773,710	3,118,016	1,465,766	3,808,934	100.0%	97.3%	0.0%
2013	793,414	3,385,496	1,484,846	3,922,041	100.0%	92.4%	0.0%
2014	850,383	3,490,161	1,565,284	4,105,308	100.0%	93.3%	0.0%
2015	905,768	3,624,713	1,631,614	4,266,794	100.0%	92.7%	0.0%
2016	968,722	3,881,514	1,717,161	4,354,853	100.0%	87.2%	0.0%

SECTION D

MEMBERSHIP DATA

MEMBERSHIP TABLES

Summary of Membership Data

		July 1, 2016 (1)	July 1, 2015 (2)
1.	**Active members**		
a.	Males	19,888	19,914
b.	Females	6,763	6,661
c.	Total members	26,651	26,575
d.	Total annualized prior year pay	$ 1,136,401,231	$ 1,053,009,549
e.	Average pay	$ 42,640	$ 39,624
f.	Average age	39.5	39.4
g.	Average service	9.8	9.7
h.	Member contributions with interest	$ 858,789,147	$ 801,795,864
i.	Average contributions with interest	$ 32,224	$ 30,171
2.	**Vested inactive members**		
a.	Number	2,450	2,364
b.	Total annual deferred benefits	$ 19,422,226	$ 18,916,899
c.	Average annual deferred benefit	$ 7,927	$ 8,002
3.	**Nonvested inactive members**		
a.	Number	12,551	11,785
b.	Member contributions with interest	$ 31,246,437	$ 27,911,054
c.	Average refund due	$ 2,490	$ 2,368
4.	**Service retirees**		
a.	Number	13,361	12,941
b.	Total annual benefits	$ 276,148,284	$ 265,095,859
c.	Average annual benefit	$ 20,668	$ 20,485
d.	Average age at the valuation date	64.9	64.6
5.	**Disabled retirees**		
a.	Number	2,578	2,475
b.	Total annual benefits	$ 53,142,503	$ 50,548,301
c.	Average annual benefit	$ 20,614	$ 20,424
d.	Average age at the valuation date	54.8	54.5
6.	**Beneficiaries**		
a.	Number	1,349	1,293
b.	Total annual benefits	$ 16,583,402	$ 15,684,378
c.	Average annual benefit	$ 12,293	$ 12,130
d.	Average age at the valuation date	67.7	67.5

Summary of Contributing Membership Data
(Dollar amounts expressed in thousands)

		July 1, 2016 (1)		July 1, 2015 (2)
1. Active Members				
a. Number of State Employees		9,134		9,442
Total Annual Compensation	$	361,065	$	349,087
b. Number of Public School Employees		0		0
Total Annual Compensation	$	0	$	0
c. Number of Other Agency Employees		17,517		17,133
Total Annual Compensation	$	775,337	$	703,923
Total Number of Active Members		26,651		26,575
Total Annual Compensation	$	1,136,402	$	1,053,010
2. Rehired Retired Participants				
a. Number of State Employees		765		777
Total Annual Compensation	$	27,753	$	27,017
b. Number of Public School Employees		53		53
Total Annual Compensation	$	2,202	$	2,242
c. Number of Other Agency Employees		1,941		2,032
Total Annual Compensation	$	95,048	$	93,773
Total Number of Rehired Retired Members		2,759		2,862
Total Annual Compensation	$	125,004	$	123,032

Note: Total compensation is the annualized pay for the prior year.

Summary of Historical Active Membership

		Active Members		Covered Payroll[1]		Average Annual Pay			
July 1,	Number of Employers[2]	Number	Percent Increase /(Decrease)	Amount in Thousands	Percent Increase /(Decrease)	Amount	Percent Increase /(Decrease)	Average Age	Average Service
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2002	302	23,963	-3.5%	757,393	0.0%	31,607	3.59%	N/A	N/A
2003	314	23,871	-0.4%	800,394	5.7%	33,530	6.08%	N/A	N/A
2004	314	23,734	-0.6%	822,448	2.8%	34,653	3.35%	N/A	N/A
2005	314	23,795	0.3%	850,610	3.4%	35,747	3.16%	N/A	N/A
2006	314	24,813	4.3%	931,815	9.5%	37,554	5.05%	N/A	N/A
2007	313	25,645	3.4%	992,849	6.6%	38,715	3.09%	N/A	N/A
2008	313	26,427	3.0%	1,060,747	6.8%	40,139	3.68%	N/A	N/A
2009	318	26,598	0.6%	1,084,154	2.2%	40,761	1.55%	39.6	8.4
2010	322	26,568	-0.1%	1,076,467	-0.7%	40,517	-0.60%	39.8	8.7
2011	356	26,650	0.3%	1,087,587	1.0%	40,810	0.72%	39.8	9.6
2012	325	26,179	-1.8%	1,019,241	-6.3%	38,934	-4.60%	39.6	9.5
2013	356	26,194	0.1%	1,033,189	1.4%	39,444	1.31%	39.5	9.4
2014	310	26,697	1.9%	1,076,885	4.2%	40,337	2.27%	39.5	9.5
2015	312	26,575	-0.5%	1,105,703	2.7%	41,607	3.15%	39.4	9.7
2016	313	26,651	0.3%	1,187,195	7.4%	44,546	7.06%	39.5	9.8

[1] Covered payroll does not include payroll attributable to members in working retirees.

[2] Number of employers and agencies that cover employees earning benefits in PORS and that contributed to the system during the last fiscal year.

Distribution of Active Members by Age and by Years of Service

	Years of Credited Service												
Attained Age	0 Count & Avg. Comp.	1 Count & Avg. Comp.	2 Count & Avg. Comp.	3 Count & Avg. Comp.	4 Count & Avg. Comp.	5-9 Count & Avg. Comp.	10-14 Count & Avg. Comp.	15-19 Count & Avg. Comp.	20-24 Count & Avg. Comp.	25-29 Count & Avg. Comp.	30-34 Count & Avg. Comp.	35 & Over Count & Avg. Comp.	Total Count & Avg. Comp.
Under 20	28	3	0	0	0	0	0	0	0	0	0	0	31
	$25,251	$33,111	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$26,012
20-24	850	443	235	85	35	16	0	0	0	0	0	0	1,664
	$28,431	$33,381	$35,556	$36,580	$36,059	$34,092	$0	$0	$0	$0	$0	$0	$31,386
25-29	743	725	752	663	432	917	34	0	0	0	0	0	4,266
	$29,680	$34,672	$36,753	$38,045	$39,035	$41,072	$42,673	$0	$0	$0	$0	$0	$36,575
30-34	379	324	344	319	290	1,814	726	26	0	0	0	0	4,222
	$30,024	$35,362	$38,072	$38,400	$40,933	$42,862	$44,796	$45,518	$0	$0	$0	$0	$40,623
35-39	215	195	173	201	179	1,021	1,211	533	19	0	0	0	3,747
	$30,181	$35,333	$37,058	$38,425	$39,661	$42,423	$46,498	$49,683	$50,429	$0	$0	$0	$43,148
40-44	161	150	135	130	106	682	676	1,219	490	24	0	0	3,773
	$30,406	$36,307	$38,557	$37,124	$41,960	$41,276	$45,477	$50,884	$54,586	$53,896	$0	$0	$46,059
45-49	155	127	116	119	104	543	524	729	976	318	9	0	3,720
	$30,126	$36,710	$37,341	$39,182	$40,142	$42,051	$44,990	$49,151	$55,581	$60,854	$61,889	$0	$48,090
50-54	117	84	86	68	79	430	360	401	454	375	86	4	2,544
	$33,101	$36,653	$40,155	$36,680	$39,248	$40,187	$42,302	$47,607	$49,921	$59,166	$68,928	$53,663	$46,617
55-59	51	51	40	59	58	274	245	250	232	169	85	28	1,542
	$27,577	$32,513	$40,002	$37,302	$40,097	$39,808	$42,088	$47,704	$50,073	$52,130	$62,169	$76,930	$45,526
60-64	14	27	29	42	42	174	126	127	96	83	37	30	827
	$37,144	$37,553	$37,968	$41,854	$35,416	$40,750	$43,612	$43,451	$49,110	$52,704	$58,640	$65,365	$44,987
65 & Over	11	7	9	5	12	69	48	38	44	36	17	19	315
	$36,417	$32,996	$34,512	$31,494	$36,227	$49,203	$48,113	$48,485	$48,981	$49,179	$64,781	$72,109	$49,137
Total	2,724	2,136	1,919	1,691	1,337	5,940	3,950	3,323	2,311	1,005	234	81	26,651
	$29,574	$34,860	$37,261	$38,087	$39,690	$41,908	$45,049	$49,323	$53,268	$57,500	$64,274	$70,367	$42,640

Schedule of Annuitants by Type of Benefit

Type of Benefit/ Form of Payment	Number		Annual Benefits Amount		Average Monthly Benefit
(1)	(2)		(3)		(4)
Service :					
Maximum & QDRO	8,208	$	166,049,625	$	1,686
100% J&S	2,574		49,958,266		1,617
50% J&S	1,668		42,149,406		2,106
Level Income	911		17,990,987		1,646
Subtotal:	13,361	$	276,148,284		1,722
Disability:					
Maximum	2,068	$	44,218,086	$	1,782
100% J&S	289		4,244,887		1,224
50% J&S	221		4,679,530		1,765
Subtotal:	2,578	$	53,142,503		1,718
Beneficiaries:	1,349	$	16,583,402	$	1,024
Total:	17,288	$	345,874,189	$	1,667

Distribution of Annuitants by Monthly Benefit

Monthly Benefit Amount			Number of Annuitants	Female	Male	Average Service
(1)			(2)	(3)	(4)	(5)
Under $200			858	390	468	2.20
$ 200	-	399	1,180	492	688	7.00
400	-	599	1,252	521	731	9.08
600	-	799	1,269	570	699	11.51
800	-	999	1,190	468	722	13.34
1,000	-	1,199	1,104	394	710	15.02
1,200	-	1,399	1,088	374	714	17.16
1,400	-	1,599	1,044	319	725	19.19
1,600	-	1,799	1,077	286	791	20.81
1,800	-	1,999	1,146	218	928	21.73
2,000	-	2,199	1,075	234	841	22.56
2,200	-	2,399	942	171	771	23.45
2,400	-	2,599	808	117	691	23.90
2,600	-	2,799	733	100	633	24.70
2,800	-	2,999	541	67	474	25.48
3,000	-	3,199	409	57	352	26.26
3,200	-	3,399	323	49	274	26.72
3,400	-	3,599	259	27	232	27.23
3,600	-	3,799	206	18	188	27.74
3,800	-	3,999	176	19	157	28.36
4,000	&	Over	608	55	553	31.04
Total			17,288	4,946	12,342	17.82

Distribution of Average Annual Benefit by Age and Employee Type

	State		Other		Total	
Current Age	Number of Annuitants	Average Annual Benefit Amount	Number of Annuitants	Average Annual Benefit Amount	Number of Annuitants	Average Annual Benefit Amount
(1)	(4)	(5)	(6)	(7)	(8)	(9)
Under 40	80	$ 12,324	183	$ 18,793	263	$ 16,825
40 - 44	82	19,189	247	22,148	329	21,411
45 - 49	238	21,883	638	24,581	876	23,848
50 - 54	647	23,284	1,215	26,578	1,862	25,433
55 - 59	1,044	20,215	1,581	23,877	2,625	22,421
60 - 64	1,484	18,769	1,734	21,613	3,218	20,302
65 - 69	1,603	17,406	1,700	19,846	3,303	18,662
70 - 74	932	15,605	1,320	18,522	2,252	17,315
75 - 79	398	14,145	888	17,127	1,286	16,204
80 - 84	109	13,317	655	16,927	764	16,412
85 - 89	12	15,229	341	15,752	353	15,735
90 And Over	2	12,054	155	15,372	157	15,329
Total	6,631	$ 18,327	10,657	$ 21,052	17,288	$ 20,007

Schedule of Retirants Added to And Removed from Rolls

(Dollar amounts except average allowance expressed in thousands)

Year Ending June 30,	Added to Rolls: Number	Added to Rolls: Annual Benefits	Removed from Rolls: Number	Removed from Rolls: Annual Benefits	Rolls End of the Year: Number	Rolls End of the Year: Annual Benefits	% Increase in Annual Benefit	Average Annual Benefit
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2002	956	17,378	220	2,639	7,706	117,134	14.4%	15,200
2003	947	18,614	226	2,733	8,427	133,015	13.6%	15,784
2004	894	16,256	265	2,923	9,056	146,348	10.0%	16,114
2005	778	12,576	173	2,147	9,661	160,756	9.8%	16,640
2006	678	16,880	205	2,691	10,134	174,945	8.8%	17,263
2007	772	16,474	205	2,745	10,701	188,674	7.8%	17,631
2008	779	17,458	194	2,691	11,286	203,441	7.8%	18,026
2009	931	17,937	267	3,879	11,950	217,499	6.9%	18,201
2010	943	21,877	327	5,000	12,566	234,376	7.8%	18,652
2011	1,042	22,580	250	2,970	13,358	253,986	8.4%	19,014
2012	1,566	34,086	271	4,143	14,653	283,929	11.8%	19,377
2013	1,278	27,584	314	5,106	15,617	306,407	7.9%	19,620
2014	818	16,881	332	5,650	16,103	317,638	3.7%	19,725
2015	968	19,767	362	6,076	16,709	331,329	4.3%	19,829
2016	928	19,940	349	5,394	17,288	345,874	4.4%	20,007

Annual benefits added to rolls includes the benefit adjustments for continuing retirees.

APPENDIX A

ACTUARIAL ASSUMPTIONS AND METHODS

Summary of Actuarial Methods and Assumptions

The following presents a summary of the actuarial assumptions and methods used in the valuation of the South Carolina Police Officers Retirement System.

Investment Rate of Return

Assumed annual rate of 7.50% net of investment and administrative expenses composed of a 2.25% inflation component and a 5.25% real rate of return, net of investment expenses.

This is a prescribed assumption in Section 9-16-335 of the South Carolina State Code.

Rates of Annual Salary Increase

Rates of annual salary increase are assumed to vary for the first 15 years of service to include anticipated merit and promotional increases. The assumed annual rate of increase is 3.50% for all members with 15 or more years of service.

The 3.50% rate of increase is composed of a 2.25% inflation component and a 1.25% real rate of wage increase (productivity) component.

Active Male & Female Salary Increase Rate		
	PORS	
Years of Service	Annual Promotional/Longevity Rates of Increase	Total Annual Rate of Increase Including 3.50% Wage Inflation
1	6.00%	9.50%
2	5.50%	9.00%
3	3.00%	6.50%
4	1.50%	5.00%
5	1.25%	4.75%
6	1.00%	4.50%
7	1.00%	4.50%
8	0.75%	4.25%
9	0.75%	4.25%
10	0.50%	4.00%
11	0.50%	4.00%
12	0.50%	4.00%
13	0.50%	4.00%
14	0.25%	3.75%
15	0.00%	3.50%
16	0.00%	3.50%
17	0.00%	3.50%
18	0.00%	3.50%
19	0.00%	3.50%
20+	0.00%	3.50%

Active Member Decrement Rates

a. Assumed rates of Service Retirement are shown in the following tables. The first table is for members who attain age 55 before attaining 25 years of service (27 years of service for Class Three Members). The second table is based on service and is for members who attain 25 years of service (27 years of service for Class Three Members) before age 55.

Annual Age Based Retirement Rates		
Age	PORS	
	Male	Female
55	20%	20%
56	20%	20%
57	20%	20%
58	10%	10%
59	10%	10%
60	10%	10%
61	25%	25%
62	25%	25%
63	25%	25%
64	25%	25%
65	25%	25%
66	25%	25%
67	25%	25%
68	25%	25%
69	25%	25%
70	100%	100%
71	100%	100%
72	100%	100%
73	100%	100%
74	100%	100%
75	100%	100%

Annual Service Based Retirement Rates			
Years of Service		PORS	
Class Two	Class Three	Male	Female
25	27	40%	40%
26	28	10%	10%
27	29	10%	10%
28	30	10%	10%
29	31	10%	10%
30	32	10%	10%
31	33	10%	10%
32	34	10%	10%
33	35	10%	10%
34	36	10%	10%
35	37	10%	10%
36	38	10%	10%
37	39	10%	10%
38	40	10%	10%
39	41	10%	10%
40	42	100%	100%

b. Assumed rates of disability are shown in the following table. 25% of disabilities are assumed to be duty-related.

Disability Rates		
Age	PORS	
	Males	Females
25	0.1740%	0.1740%
30	0.2320%	0.2320%
35	0.4350%	0.4350%
40	0.5800%	0.5800%
45	0.8700%	0.8700%
50	1.0875%	1.0875%
55	0.0000%	0.0000%
60	0.0000%	0.0000%
64	0.0000%	0.0000%

c. Active Member Mortality

Rates of active member mortality are based upon the RP-2014 Mortality Table for Employees with applicable multipliers to better reflect anticipated experience and provide margin for future improvement in mortality.

Active Mortality Rates (Multiplier Applied)		
Age	PORS	
	Males	Females
25	0.0460%	0.0164%
30	0.0429%	0.0207%
35	0.0497%	0.0272%
40	0.0597%	0.0376%
45	0.0924%	0.0624%
50	0.1602%	0.1047%
55	0.2649%	0.1589%
60	0.4454%	0.2320%
64	0.7008%	0.3220%
Multiplier	95%	95%

For purposes of determining active death benefits, 5% of active deaths for general employees are assumed to be duty related.

d. Rates of Withdrawal

Rates of withdrawal are service related. Sample rates are shown in the tables below.

Annual Withdrawal Rate		
Years of Service	PORS	
	Male	Female
0	25.00%	25.00%
1	18.00%	18.00%
2	14.00%	14.00%
3	12.00%	12.00%
4	10.70%	10.70%
5	9.54%	9.54%
6	8.50%	8.50%
7	7.58%	7.58%
8	6.75%	6.75%
9	6.02%	6.02%
10	5.37%	5.37%
11	4.78%	4.78%
12	4.26%	4.26%
13	3.80%	3.80%
14	3.39%	3.39%
15	3.02%	3.02%
16	2.69%	2.69%
17	2.40%	2.40%
18	2.14%	2.14%
19	1.91%	1.91%
20	1.70%	1.70%
21	1.51%	1.51%
22	1.35%	1.35%
23	1.20%	1.20%

Post Retirement Mortality

a. Healthy retirees and beneficiaries – The 2016 Public Retirees of South Carolina Mortality Table for Males and the 2016 Public Retirees of South Carolina Mortality Table for Females. Future mortality improvements are assumed each year using Scale AA from the year 2016 and multipliers applied to the base table to appropriately fit with plan experience. The following are sample rates:

Nondisabled Annuitant Mortality Rates Before Projection (Multiplier Applied)		
Age	PORS	
	Males	Females
50	0.2548%	0.1454%
55	0.4006%	0.2465%
60	0.7329%	0.4265%
65	1.2748%	0.5924%
70	1.9648%	0.9640%
75	3.3994%	1.8534%
80	6.3116%	3.7276%
85	11.4493%	7.0538%
90	19.8803%	12.3489%
Multiplier	125%	111%

Life Expectancy for an Age 65 Retiree in Years				
	Year of Retirement			
Member	2020	2025	2030	2035
Male	18.9	19.3	19.7	20.0
Female	22.7	22.8	23.0	23.2

b. A separate table of mortality rates is used for disabled retirees based on the RP-2014 Disabled Mortality Table projected using the AA projection table from the year 2014 with multipliers applied to appropriate fit to plan experience. The following are sample rates:

Disabled Annuitant Mortality Rates (Multiplier Applied)		
Age	PORS	
	Males	Females
50	1.7336%	1.0121%
55	1.9864%	1.2307%
60	2.2613%	1.4449%
65	2.6932%	1.7731%
70	3.4294%	2.3973%
75	4.6144%	3.4888%
80	6.5124%	5.1881%
85	9.6308%	7.6857%
90	14.7054%	11.2754%
Multiplier	85%	85%

Asset Valuation Method

The actuarial value of assets is equal to the market value, adjusted for the five-year phase in of the actual investment return in excess of (or less than) the expected investment return on a market value of asset basis. This five-year phase in begins with the investment experience for the fiscal year ending June 30, 2016. The actual return is calculated net of investment expenses, and the expected investment return is equal to the assumed investment return rate multiplied by the prior year's market value of assets, adjusted for contributions, benefits paid, and refunds.

Actuarial Cost Method

The Entry Age Normal actuarial cost method allocates the System's actuarial present value of future benefits to various periods based upon service. The portion of the present value of future benefits allocated to years of service prior to the valuation date is the actuarial accrued liability, and the portion allocated to years following the valuation date is the present value of future normal costs. The normal cost is determined for each active member as the level percent of payroll necessary to fully fund the expected benefits to be earned over the career of each individual active member. The normal cost is partially funded with active member contributions with the remainder funded by employer contributions.

An unfunded accrued liability exists in the amount equal to the excess of accrued liability over valuation assets. The amortization period of the System is the number of years required to fully amortize the unfunded accrued liability, on an actuarial value of asset basis, with the expected amount of employer contributions in excess of the employers' portion of the normal cost.

Note, the principle financial measurement calculations in this actuarial valuation, which include the unfunded actuarial accrued liability, funded ratio, contributions rates, and funding period, are based on an actuarial value of assets (smoothed value) basis. The actuarial value of assets is a calculated asset value which may be greater than or less than the market value of assets and is used to dampen some of the volatility in the market value of assets. As a result, many of these measures would be different if they were determined on a market value of asset basis.

Development of the Contribution Rate and Funding Period

The calculation of the employer and member contribution rate as well as the derived funding period takes into account a couple differences in contributions paid by the various members as well as the delayed timing (if any) in the effective date of the new contribution rate. Specifically, the factors that are reflected in the calculation of the contribution rate include:

1) The anticipated difference in expected contributions received by the System from members and employers as a result of a 24-month delay in effective date of the contribution rate increase after the valuation date.

2) Member and employer contributions made on the payroll of working retirees are being used to finance the unfunded actuarial accrued liability since these members do not have a normal cost. Also, the number of working retirees is expected to decrease due to changes in working after retirement provisions enacted with Act 278.

3) For purposes of calculating the amortization cost and funding period, discrete pay increases and continuous interest was assumed, with amortization payments made at the end of each month.

Unused Annual Leave

To account for the effect of unused annual leave in Annual Final Compensation (AFC) of Class Two members, the AFC for Class Two members is increased 3.75% at their projected date of termination or retirement. Unused annual leave is not included in the calculation of the AFC for Class Three members.

Unused Sick Leave

To account for the effect of unused sick leave on credited service for Class Two members, the service of active Class Two members who retire is increased 3 months. Unused sick leave is not included in determining the credited service for Class Three members.

Future Post-Retirement Benefit Adjustments

Benefits are assumed to increase by the lesser of 1.00% annually or $500 beginning on the July 1st following the receipt of 12 monthly benefit payments. The $500 limit in the annual increase is not indexed to escalate in future years.

Payroll Growth Rate

The total annual payroll of all contributing members is assumed to increase at an annual rate of 3.00%.

Other Assumptions

1. Valuation payroll (used for determining the amortization contribution rate): Prior fiscal year payroll projected forward one year using the overall payroll growth rate. This was determined separately for active employees and return to work employees by dividing the actual member contributions received during the prior fiscal year by the applicable member contribution rate for that fiscal year, and then projecting forward at 3.00%.
2. Individual salaries used to project benefits: Actual salaries from the past fiscal year are used to determine the final average salary as of the valuation date. For future salaries, the salary from the last fiscal year is projected forward with one year's salary scale.
3. Pay increase timing: Beginning of (fiscal) year. This is equivalent to assuming that reported salaries represent amounts paid to members during the year ended on the valuation date.

4. Percent married: 100% of male and 100% of female employees are assumed to be married.
5. Age difference: Males are assumed to be four years older than their spouses.
6. Percent electing annuity on death (when eligible): All of the spouses of vested, married participants are assumed to elect an immediate life annuity.
7. Inactive Population: All non-vested members are assumed to take an immediate refund. Vested benefit are assumed to elect a refund or a deferred benefit commencing at age 65, whichever is more valuable at the valuation date
8. There will be no recoveries once disabled.
9. Decrement timing: Decrements of all types are assumed to occur mid-year.
10. Eligibility testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
11. Decrement relativity: Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
12. Incidence of contributions: Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made. For valuation purposes, the member contribution rate projected to be in effect after FY 2016 is 9.32% of pay.
13. Benefit service: All members are assumed to accrue 1 year of eligibility service each year.
14. All calculations were performed without regard to the compensation limit in IRC Section 401(a)(17) and the benefit limit under IRC Section 415.

Participant Data

Participant data was securely supplied in electronic text files. There were separate files for (i) active and inactive members, and (ii) members and beneficiaries receiving benefits.

The data for active members included birth date, gender, service with the current city and total vesting service, salary, and employee contribution account balances. For retired members and beneficiaries, the data included date of birth, gender, spouse's date of birth (where applicable), amount of monthly benefit, date of retirement, and form of payment code.

Salary supplied for the current year was based on the annualized earnings for the year preceding the valuation date.

Assumptions were made to correct for missing or inconsistent data. These had no material impact on the results presented.

APPENDIX B

BENEFIT PROVISIONS

SUMMARY OF BENEFIT PROVISIONS FOR SOUTH CAROLINA POLICE OFFICERS RETIREMENT SYSTEM (PORS)

Effective Date: July 1, 1962.

Administration: The South Carolina Retirement System, organizationally aligned as a Division of the South Carolina Public Employee Benefit Authority, is responsible for the general administrative operations and day to day management of the Plan.

Type of Plan: This is a qualified governmental defined benefit retirement plan. Under GASB No. 27 and 67, it is considered to be a cost-sharing multiple-employer plan.

Eligibility: This System covers police officers and firefighters employed by the state, and any participating political subdivision, agency, or department of the state. With the exception for magistrates and probate judges, eligible public safety employees must earn at least $2,000 per year and devote at least 1,600 hours per year, unless exempted by statute.

Employee Contributions: Members are contributing 9.24% of earnable compensation for FY 2017. In the event that these contribution rates are insufficient to maintain a 30-year amortization period, the Board shall increase the employer and member contribution rates by an equal amount (i.e. maintain at least a 5.00% differential between the employer and member rates) as necessary to maintain a 30-year funding period. The employer and member contribution rates may not decrease until the plan attains a 90% funded ratio. These contributions are "picked-up" under Section 414(h) of the Internal Revenue Code. Contributions are credited with interest at the rate of 4.0% per annum while the member is active. Members do not earn interest on their employee contribution account balance while they are inactive.

Average Final Compensation (AFC): The monthly average of the member's highest twelve (12) consecutive quarters of earnable compensation (20 consecutive quarters for Class Three members, members who are hired after June 30, 2012). Earnable compensation is the compensation that would be payable to a member if the member worked a full, normal working time, which includes gross salary, overtime, sick pay, and deferrals. The calculation of a Class Two member's AFC also includes up to 45 days pay for unused annual leave paid at termination.

Members joining the System after January 1, 1996, have their compensation limited in accordance with IRC Section 401(a)(17) for determining benefits.

Service Retirement:

a. Eligibility: A Class Two member may retire with an unreduced benefit at age 55 or after 25 years of creditable service, if earlier. The member must also have a minimum of 5 years of "earned" service to qualify for retirement. Class Three members may retire with an unreduced benefit at age 55 or after 27 years of creditable service, if earlier. Class Three members must also have a minimum of 8 years of "earned" service to qualify for retirement.

b. Monthly Benefit: 2.14% times Average Final Compensation (AFC) times years of creditable service. Class Two members will receive service credit for up to 90 days of unused sick leave where twenty days of sick leave constitutes one month of service credit.

c. Payment Form: Maximum retirement allowance (Option A) and survivor allowances under Options B and C.

Disability Retirement:

a. Eligibility: Member must have five or more years of earned service (8 years for Class Three members), unless the disability is due to performing his or her job duties.

b. Monthly Benefit:

   The monthly benefit is equal to the member's service retirement benefit that would have been payable based on the member's AFC determined as of the date of his disability and a projected credited service amount that assumes the member continued employment to age 55, not to exceed their current service or 25 years. However, a member must receive a disability retirement allowance equal to at least 15% of his AFC.

c. Payment Form: Maximum retirement allowance (Option A) and survivor allowances under Options B and C.

d. Death while Disabled: A disabled member is treated as a retired member for purposes of determining a death benefit.

***Vesting and Refunds*:**

a. Eligibility: All members who are not vested are eligible for a refund when they terminate service. Class Two members are vested after five years of earned service. Class Three members are vested after eight years of earned service. Vested members may also elect to receive a refund in lieu of the deferred termination benefit described below.

b. Amount: The refund benefit is the accumulated value of the member's contributions plus interest credited by the fund. Members do not earn interest on their employee contribution account balance while they are inactive.

Deferred Termination Benefit:

a. Eligibility: Member must be vested (5 years of earned service) and must elect to leave his/her contributions on deposit.

b. Monthly Benefit: Same as the unreduced or reduced service retirement benefit, based on service and AFC at termination, and commencing once the member is eligible.

c. Payment Form: Maximum retirement allowance (Option A) and survivor allowances under Options B and C.

d. Death Benefit: The beneficiary of an inactive member who dies is entitled to receive the amount of the member's accumulated contributions (with interest). In accordance with administrative policy, if the member met service eligibility requirements at their time of death, the beneficiary is eligible for a monthly survivor annuity benefit.

Death while an Active Member:

Members who die while actively employed will receive the regular death benefit described below. If the member was an employee of an employer participating in the Accidental Death Benefit Program and/or the Preretirement Death Benefit Program, then the beneficiary will receive additional death benefits.

Regular Death Benefit:

a. Refund: In the event of the death of an active member (duty or non-duty related), a refund of the member's accumulated contributions (with interest), subject to a minimum refund of $1,000, is paid to the beneficiary of a deceased member.

b. Beneficiary Annuity: If the deceased member (i) has 5 or more years of earned service and (ii) attained age 55 or accumulated 15 or more years of creditable service, the beneficiary may elect to receive, in lieu of the accumulated contributions, a monthly benefit for life of the beneficiary determined under "Option B" described under the Optional Forms of Benefit. For purposes of the benefit calculation, a member under the age of 55 is assumed to be 55 years of age.

Accidental Death Benefit Program:

The statutory beneficiary (i.e. surviving spouse, child, or parent of the member) of an active employee of an employer participating in the Accidental Death Benefit Program who dies as a result of a duty related event is entitled to the following beneficiary annuity.

a. Beneficiary Annuity: In the event a member dies as a result of a duty related event, a monthly benefit is payable for the lifetime of the member's spouse or parent (or a child until age 18) equal to 50% of the member's compensation at the time of death.

Optional Forms of Benefit: The System permits members to elect from three forms of benefit at retirement. In each case the benefit amount is adjusted to be actuarially equivalent to the "Option A" form. The optional forms are:

a. Option A (Maximum Retirement Allowance): A life annuity. Upon the member's death, any remaining member contributions will be paid to the member's designated beneficiary.

b. Option B (100% Joint & Survivor with Pop-up): A reduced annuity payable as long as either the member or his/her beneficiary is living. In the event the member's designated beneficiary predeceases the member, then the member shall receive a retirement allowance equal to the maximum retirement allowance (Option A), plus any applicable benefit adjustments that would have been granted.

c. Option C (50% Joint & Survivor with Pop-up): A reduced annuity payable during the member's life, and continues after the member's death at 50% of the rate paid to the member for the life of the member's designated beneficiary. In the event the member's designated beneficiary predeceases the member, then the member shall receive a retirement allowance equal to the maximum retirement allowance (Option A), plus any applicable benefit adjustments that would have been granted.

Incidental Death Benefit:

a. Active Employees: The beneficiary (or estate) of an active employee of an employer participating in the Preretirement Death Benefit Program who completes at least one full year of membership service, will receive a death benefit equal to the member's annual earnable compensation at the time of death.

   The one full year membership requirement is waived for members whose death is a result of an injury arising out of and in the course of performing his duties.

   For purposes of determining eligibility for incidental death benefits, active employees include those members who are actively reemployed and contributing as a working retiree with a participating employer.

b. Post Employment: The beneficiary (or estate) of a retiree, both current and future, will receive a one-time payment upon the retiree's death if the employer was participating in the Preretirement Death Benefit Program at the time of the retired member's death. The amount of the one-time payment is based on the retiree's years of credited service at retirement.

Years of Service Credit	Death Benefit
10 or more, but less than 20	$2,000
20 or more, but less than 25	$4,000
25 or more	$6,000

Postretirement Benefit Increases: Benefits paid to retired members or surviving spouses are increased annually in an amount equal to the lesser of 1.00% of the pension benefit or $500 beginning on the July 1st following the receipt of 12 monthly benefit payments. The $500 limit in the annual increase is not indexed to escalate in future years.

APPENDIX C

GLOSSARY

GLOSSARY

Actuarial Accrued Liability (AAL): That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of Future Plan Benefits which is not provided for by future Normal Costs. It is equal to the Actuarial Present Value of Future Plan Benefits minus the actuarial present value of future Normal Costs.

Actuarial Assumptions: Assumptions as to future experience under the Fund. These include assumptions about the occurrence of future events affecting costs or liabilities, such as:

- mortality, withdrawal, disablement, and retirement;
- future increases in salary;
- future rates of investment earnings and future investment and administrative expenses;
- characteristics of members not specified in the data, such as marital status;
- characteristics of future members;
- future elections made by members; and
- other relevant items.

Actuarial Cost Method or ***Funding Method:*** A procedure for allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability. These items are used to determine the ADC.

Actuarial Gain or ***Actuarial Loss:*** A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. Through the actuarial assumptions, rates of decrements, rates of salary increases, and rates of fund earnings have been forecasted. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., the Fund's assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results that produce actuarial liabilities which are larger than projected. Actuarial gains will shorten the time required for funding of the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.

Actuarially Equivalent: Of equal actuarial present value, determined as of a given date and based on a given set of Actuarial Assumptions.

Actuarial Present Value (APV): The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, each such amount or series of amounts is:

a. adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.)

b. multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned, and

c. discounted according to an assumed rate (or rates) of return to reflect the time value of money.

Actuarial Present Value of Future Plan Benefits: The Actuarial Present Value of those benefit amounts which are expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and past and anticipated future compensation and service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive, nonretired members either entitled to a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.

Actuarial Valuation: The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial valuation for a governmental retirement system typically also includes calculations that provide the financial information of the plan, such as the funded ratio, unfunded actuarial accrued liability and the ADC.

Actuarial Value of Assets or ***Valuation Assets:*** The value of the Fund's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly actuaries use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the ADC.

Actuarially Determined: Values which have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the law.

Actuarially Determined Contribution (ADC): The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation. The ADC consists of the Employer Normal Cost and the Amortization Payment.

Amortization Method: A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.

Amortization Payment: That portion of the pension plan contribution or ADC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

Closed Amortization Period: A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Funding Period and Open Amortization Period.

Decrements: Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or termination.

Defined Benefit Plan: A retirement plan that is not a Defined Contribution Plan. Typically a defined benefit plan is one in which benefits are defined by a formula applied to the member's compensation and/or years of service.

Defined Contribution Plan: A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, and the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.

Employer Normal Cost: The portion of the Normal Cost to be paid by the employers. This is equal to the Normal Cost less expected member contributions.

Experience Study: A periodic review and analysis of the actual experience of the Fund which may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.

Funded Ratio: The ratio of the actuarial value of assets (AVA) to the actuarial accrued liability (AAL). Plans sometimes calculate a market funded ratio, using the market value of assets (MVA), rather than the AVA, although GASB 25 reporting requires the use of the AVA.

Funding Period or ***Amortization Period:*** The term "Funding Period" is used two ways. In the first sense, it is the period used in calculating the Amortization Payment as a component of the ADC. This funding period is chosen by the Board of Trustees. In the second sense, it is a calculated item: the number of years in the future that will theoretically be required to amortize (i.e., pay off or eliminate) the Unfunded Actuarial Accrued Liability, based on the statutory employer contribution rate, and assuming no future actuarial gains or losses.

GASB: Governmental Accounting Standards Board.

GASB 67 and ***GASB 68***: Governmental Accounting Standards Board Statements No. 67 and No. 68. These are the governmental accounting standards that set the accounting and reporting rules for public retirement systems and the employers that sponsor, participate in, or contribute to them. Statement No. 67 sets the accounting rules for the financial reporting of the retirement systems, while Statement No. 68 sets the rules for the employers that sponsor, participate in, or contribute to public retirement systems.

Normal Cost: That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method. Any payment in respect of an Unfunded Actuarial Accrued Liability is not part of Normal Cost (see Amortization Payment). For pension plan benefits which are provided in part by employee contributions, Normal Cost refers to the total of employee contributions and employer Normal Cost unless otherwise specifically stated. Under the entry age normal cost method, the Normal Cost is intended to be the level cost (when expressed as a percentage of pay) needed to fund the benefits of a member from hire until ultimate termination, death, disability or retirement.

Open Amortization Period: An open amortization period is one which is used to determine the Amortization Payment but may not decrease by exactly one year in the subsequent year's actuarial valuation. In some instances, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In other instances, such as the case with the South Carolina Retirement System (SCRS) and Police Officers Retirement System (PORS), the amortization period denotes the expected number of years until the plan attains a 100% funded ratio (on an actuarial value of asset basis), based on the contribution rate that is in effect. In this instance, the amortization period may "float" from year to year, meaning it could increase, decrease, or remain relatively unchanged from the amortization period in the prior year's valuation.

Unfunded Actuarial Accrued Liability: The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus.

Valuation Date or Actuarial Valuation Date: The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.