Gabriel Roeder Smith & Company
Consultants & Actuaries

SOUTH CAROLINA RETIREMENT SYSTEM (SCRS)

ACTUARIAL VALUATION REPORT

AS OF JULY 1, 2015

GRS
Gabriel Roeder Smith & Company
Consultants & Actuaries
5605 N. MacArthur Blvd.
Suite 870
Irving, TX 75038-2631
469.524.0000 phone
469.524.0003 fax
www.gabrielroeder.com

November 20, 2015

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

Subject: Actuarial Valuation as of July 1, 2015

Dear Members of the Board:

This report describes the current actuarial condition of the South Carolina Retirement System (SCRS), determines the calculated employer and member contribution rates, and analyzes changes in the 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 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 SCRS. 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 9-1-1085 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 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, 2015 actuarial valuation will be used by the Board when certifying the employer and member contribution rates for the year beginning July 1, 2017 and ending June 30, 2018.

Since the employer and member contribution rates that were certified by the Board as a result of the July 1, 2014 actuarial valuation are no longer sufficient to maintain a funding period that does not exceed 30 years as of this valuation date, we are recommending a contribution rate increase to decrease the funding period to 30 years. Specifically, we are recommending a 3 basis point increase (i.e. 0.03%) increase to the employer and member contribution rates effective for the fiscal year 2018.

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 2.90% differential between the employer and member contribution rates.

If new legislation is enacted between the valuation date and the date the contribution rate becomes 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 slightly decreased from 62.7% to 62.0%. Absent favorable investment or liability experience, we expect the funded ratio will slightly decrease for the next several years then begin to gradually improve.

If the market value of assets had been used in the calculation instead of the actuarial (smoothed) value of assets, the funded ratio for the System would have been 57.0%, compared to 60.0% in the prior year. The decrease in the funded ratio on a market value basis is primarily due to unfavorable investment experience during the last fiscal year. Specifically, the market value of assets earned a 1.4% return on a dollar-weighted basis for the plan year ending June 30, 2015, net of expenses. The annual return on the market value for the same time period determined in accordance with GASB 67 was 1.59%, as reported by the South Carolina PEBA in their 2015 Comprehensive Annual Financial Report.

ASSUMPTIONS AND METHODS

The actuarial assumptions used to perform this valuation remain unchanged from the prior valuation, including the use of a 7.50% investment return assumption. The investment return assumption is a prescribed assumption in Section 9-16-335 in South Carolina State Code. South Carolina State Code also requires that an experience analysis that reviews the economic and demographic assumptions be performed every five years. The next experience study will be conducted using the plan's experience for the five-year period ending June 30, 2015 and presented to the Board in early 2016.

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 rate, 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, 2015. 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, 2015, by the PEBA staff. The staff also supplied asset information as of July 1, 2015. 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 SCRS as of July 1, 2015.

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)

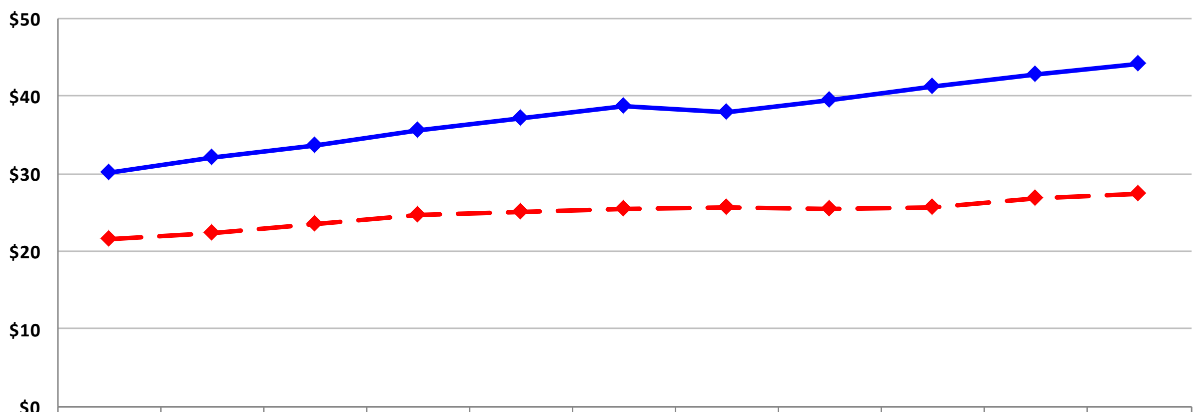
	Valuation Date:	
	July 1, 2015	July 1, 2014
Membership		
• Number of		
- Active Members	187,318	185,265
- TERI Members	8,765	8,967
- Retirees and Beneficiaries	125,875	122,543
- Inactive Members	164,509	159,908
- Total	486,467	476,683
• Projected payroll of active members	$7,765,588	$7,539,996
• Projected payroll for all members, including members in ORP, TERI, and working retirees	$10,012,960	$9,703,979
Contribution Rates[1]		
• Employer contribution rate	11.09%	11.06%
• Member	8.19%	8.16%
Assets		
• Market value	$25,131,828	$25,738,521
• Actuarial value	27,365,921	26,910,740
• Return on market value	1.4%	15.4%
• Return on actuarial value	5.4%	6.3%
• Ratio of actuarial to market value of assets	108.9%	104.6%
• External cash flow %	-3.8%	-3.9%
Actuarial Information		
• Normal cost %	9.83%	9.87%
• Actuarial accrued liability (AAL)	$44,119,176	$42,889,614
• Unfunded actuarial accrued liability (UAAL)	16,753,255	15,978,874
• Funded ratio	62.0%	62.7%
• Funding period (years)	30	30
Reconciliation of UAAL		
• Beginning of Year UAAL	$15,978,874	$15,442,994
- Interest on UAAL	1,198,416	1,158,225
- Amortization payment	(978,816)	(909,882)
- Assumption/method changes	0	0
- Asset experience	558,523	293,055
- Salary experience	(76,578)	(73,873)
- Other liability experience	72,836	68,355
- Legislative Changes	0	0
• End of Year UAAL	$16,753,255	$15,978,874

[1] The contribution rates determined by the 2015 valuation are established by Section 9-1-1085 of the South Carolina Code and become effective for the fiscal year beginning July 1, 2017. The employer contribution rates shown above include the cost of incidental death benefits.

EXECUTIVE SUMMARY (CONTINUED)

The unfunded actuarial accrued liability increased by $0.774 billion since the prior year's valuation to $16.753 billion. The largest source of this increase is the result of the continued recognition of deferred investment losses experienced in prior fiscal years in the actuarial value of assets (i.e. $0.559 billion was recognized in the July 1, 2015 valuation), followed by a $0.220 billion increase because the contributions to the plan attributable to financing the unfunded actuarial accrued liability were less than the interest cost on the unfunded liability. Below is a chart with the historical actuarial value of assets and actuarial accrued liability for SCRS. The divergence in the assets and 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 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.

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



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
AAL	30.2	32.0	33.8	35.7	37.2	38.8	38.0	39.5	41.2	42.9	44.1
AVA	21.6	22.3	23.5	24.7	25.2	25.4	25.6	25.5	25.8	26.9	27.4

The employer and member contribution rates that are certified and scheduled to be in effect for fiscal year 2016 are no longer sufficient to maintain a funding period that does not exceed 30 years (determined on an actuarial value of asset basis). Therefore, the employer and member contribution rates for fiscal year 2017 will increase by 3 basis points each (i.e. 0.03%) to decrease the funding period to 30 years.

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 $2.3 billion in deferred investment losses become recognized in the actuarial value of assets in future years. Specifically, if emerging investment and liability experience is consistent with the current assumptions, both the employer and member contribution rates are projected to increase by an additional 0.40% to 0.50%, in future years before reaching their ultimate contribution level while the funded ratio remains below 90%.

SECTION B

DISCUSSION

DISCUSSION

The results of the July 1, 2015 actuarial valuation of the South Carolina 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.

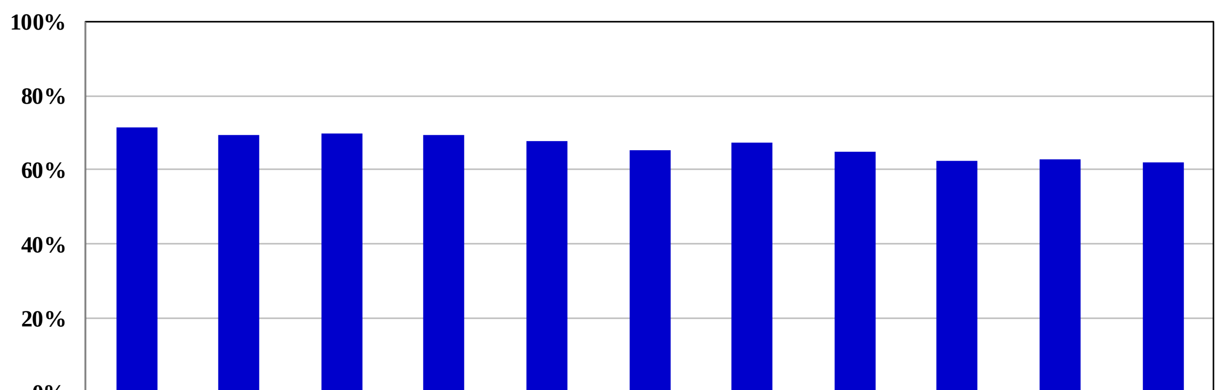
This section discusses the determination of the current funding requirements and the System's funded status, as well as changes in financial condition of the retirement system.

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 slightly decreased from 62.7% to 62.0% since the prior valuation. Chart 2, shown below provides a 10-year history of the system's funded ratio. The gradual decline in the funded ratio over the last 10 years has generally been due to a combination of: (i) investment losses that occurred in 2008 and 2009 and (ii) increases in the actuarial accrued liability due to cost of living adjustments provided to 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. Table 10, Schedule of Funding Progress, in the following section of the report provides additional detail regarding the funding progress of the Retirement System.

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



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Funded Ratio	71.6%	69.6%	69.7%	69.3%	67.8%	65.5%	67.4%	64.7%	62.5%	62.7%	62.0%

Absent future unfavorable investment or demographic experience, or legislative changes, we expect the funded ratio to remain relatively constant for the next several years, and then begin to 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 12 to 15 years before beginning to decrease.

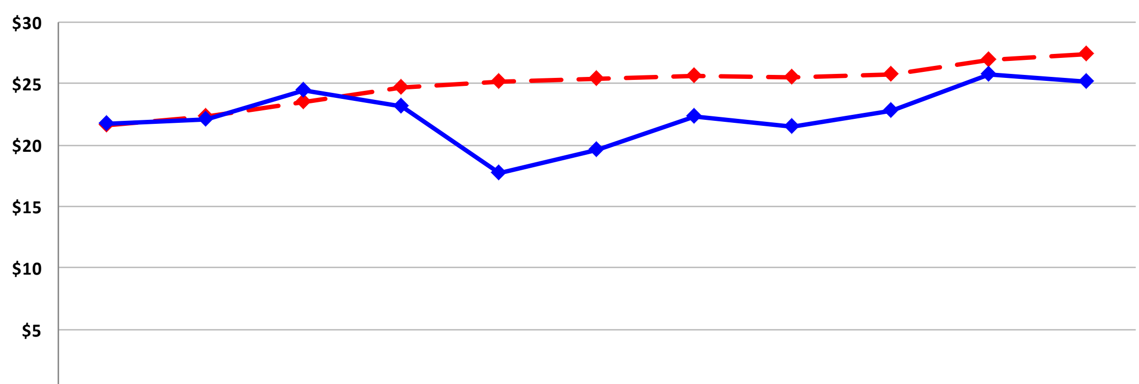
Asset Gains/ (Losses)

The actuarial value of assets ("AVA") is based on a smoothed market value of assets, using a systematic approach to phase-in actual investment return in excess of (or less than) the expected investment income. This is appropriate because it dampens the short-term volatility inherent in investment markets. The expected investment income is determined using the assumed annual investment return rate and the actuarial value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses. The actuarial value of assets increased from $26.9 billion to $27.4 billion since the prior valuation. Table 8 in the following section of the report provides the development of the actuarial value of assets.

The rate of return on the market value of assets on a dollar-weighted basis for fiscal year 2015 was 1.4%; which is less than the 7.50% expected annual return. The return on an actuarial (smoothed) asset value was 5.4%. This 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 $2.3 billion 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.

Chart 3. - History of Actuarial Value and Market Value of Assets
(Dollars in Billions)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
AVA	21.6	22.3	23.5	24.7	25.2	25.4	25.6	25.5	25.8	26.9	27.4
MVA	21.7	22.1	24.4	23.1	17.7	19.7	22.4	21.5	22.8	25.7	25.1

Assets as of July 1,

Tables 6 and 7 in the following section of this report 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 $16.0 billion in 2014 to $16.8 billion in 2015. 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	$15,978,874
- Interest on UAAL	1,198,416
- Amortization payment	(978,816)
- Assumption/method changes	0
- Asset Experience	558,523
- Salary Experience	(76,578)
- Other liability experience	72,836
- Legislative changes	0
• End of Year UAAL	$16,753,255

The System experienced a net $4 million gain in liability, due to salary and other demographic experience. This net gain is approximately 0.01% of the total actuarial accrued liability.

Based on the valuation as of July 1, 2015, 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 by 3 basis points each for fiscal year 2018 in order to comply with the 30-year funding requirement (determined on an actuarial value of asset basis). The following page provides a table reconciling the change in the funding period from the prior year's valuation based on the contribution rates that go into effect for fiscal year 2017.

Change in Funding Period (Years)
Based on the Employer and Member Contribution
Rates in Effect for Fiscal Year 2017

• Prior Year	29.7
- Expected experience	(1.0)
- Assumption and method changes	0.0
- Asset experience	1.9
- Demographic experience	(0.2)
- Legislative changes	0.0
- Total Change	0.7
• 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.

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 3.50% per year in the future (it does not assume an increase in active membership). 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 19 years. Therefore, stakeholders should expect the dollar amount of the unfunded actuarial accrued liability to gradually increase until the funding period decreases below 19 years.

Actuarial Assumptions and Methods

In determining costs and liabilities, actuaries use assumptions about the future, such as rates of salary increase, probabilities of retirement, termination, death and disability, and an annual investment return assumption. The actuarial assumptions and methods used to determine the results of the 2015 actuarial valuation are the same as those used for the prior year's valuation.

Appendix A includes a summary of the actuarial assumptions and methods used in this valuation. The investment return assumption is a prescribed assumption in Section 9-16-335 in South Carolina State Code.

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

South Carolina State Code requires that an experience analysis that reviews the economic and demographic assumptions be performed every five years. The next experience study will be conducted using the plan's experience for the five-year period ending June 30, 2015 and will be presented to the Board in 2016.

Benefit Provisions

Appendix B of this report includes a summary of the benefit provisions for SCRS. 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 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 amount is equal to 1.82% 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 a normal retirement benefit after they have (i) 28 years of credited service or (ii) attained age 65 with 5 years of earned service.
- At each July 1 after their first full year of retirement, annuitants will receive an automatic cost of living 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 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 1.82% 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 a normal retirement benefit after they have (i) attained age 65 with eight years of earned service or (ii) the combination of the member's age and years of credited service equals or exceeds 90 (i.e. the rule of 90).
- At each July 1 after their first full year of retirement, annuitants will receive an automatic cost of living 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, 2015 (1)	July 1, 2014 (2)
1.	Projected payroll of active members[1]	$ 7,765,588	$ 7,539,996
2.	Present value of future pay	$ 63,403,897	$ 61,769,396
3.	Normal cost rate		
	a. Total normal cost rate	9.83%	9.87%
	b. Less: member contribution rate	-8.19%	-8.16%
	c. Employer normal cost rate	1.64%	1.71%
4.	Actuarial accrued liability for active members		
	a. Present value of future benefits	$ 20,448,693	$ 19,890,408
	b. Less: present value of future normal costs	(5,932,209)	(5,858,386)
	c. Actuarial accrued liability	$ 14,516,484	$ 14,032,022
5.	Total actuarial accrued liability		
	a. Retirees and beneficiaries	$ 28,645,954	$ 27,942,644
	b. Inactive members	956,738	914,948
	c. Active members (Item 4c)	14,516,484	14,032,022
	d. Total	$ 44,119,176	$ 42,889,614
6.	Actuarial value of assets	$ 27,365,921	$ 26,910,740
7.	Unfunded actuarial accrued liability (UAAL) (Item 5d - Item 6)	$ 16,753,255	$ 15,978,874
8.	Annual Required Contribution Rate		
	a. Employer normal cost rate	1.64%	1.71%
	b. Employer contribution rate available to amortize the UAAL	9.45%	9.35%
	c. Total employer contribution rate	11.09%	11.06%
9.	Funding period based on the required employer contribution rate (years)	30	30
10.	Applicable statutorily required contribution rates[2]		
	a. Employer contribution rate	11.09%	11.06%
	b. Member contribution rate	8.19%	8.16%

[1] The projected payroll does not include payroll for members in ORP, TERI, and who are working retirees.

[2] The applicable employer and member contribution rates are determined in accordance with Section 9-1-1085 of the South Carolina Code. The contribution rates determined by the July 1, 2015 valuation become effective for the fiscal year beginning July 1, 2017. The contribution rate includes the cost of incidental death benefits.

Actuarial Present Value of Future Benefits

(Dollar amounts expressed in thousands)

		July 1, 2015 (1)	July 1, 2014 (2)
1.	Active members		
	a. Service retirement	$ 17,477,781	$ 16,956,637
	b. Deferred termination benefits and refunds	906,488	924,108
	c. Survivor benefits	786,544	761,544
	d. Disability benefits	1,277,880	1,248,119
	e. Total	$ 20,448,693	$ 19,890,408
2.	Retired members		
	a. Service retirement	$ 25,821,386	$ 25,127,015
	b. Disability retirement	1,679,069	1,718,675
	c. Beneficiaries	986,873	943,726
	d. Incidental death benefits	158,626	153,228
	e. Total	$ 28,645,954	$ 27,942,644
3.	Inactive members		
	a. Vested terminations	$ 747,289	$ 715,023
	b. Nonvested terminations	209,449	199,925
	c. Total	$ 956,738	$ 914,948
4.	Total actuarial present value of future benefits	$ 50,051,385	$ 48,748,000

Analysis of Normal Cost

		July 1, 2015 (1)	July 1, 2014 (2)
1.	Total normal cost rate		
	a. Service retirement	6.67%	6.71%
	b. Deferred termination benefits and refunds	2.01%	2.00%
	c. Survivor benefits	0.45%	0.45%
	d. Disability benefits	0.70%	0.71%
	e. Total	9.83%	9.87%
2.	Less: member contribution rate	8.19%	8.16%
3.	Net employer normal cost rate	1.64%	1.71%

Note: The normal cost includes the cost for incidental death benefits.

Results of July 1, 2015 Valuation
(Dollar amounts expressed in thousands)

			July 1, 2015 (1)
1.	Actuarial Present Value of Future Benefits		
	a. Present retired members and beneficiaries	$	28,645,954
	b. Present active and inactive members		21,405,431
	c. Total actuarial present value	$	50,051,385
2.	Present Value of Future Normal Contributions		
	a. Employee	$	5,192,778
	b. Employer		739,431
	c. Total future normal contributions	$	5,932,209
3.	Actuarial Liability	$	44,119,176
4.	Current Actuarial Value of Assets	$	27,365,921
5.	Unfunded Actuarial Liability	$	16,753,255
6.	UAAL Amortization Rates based on an employer contribution rate of 11.09%		
	a. Active members		9.45%
	b. TERI members (including employee contributions)		19.28%
	c. ORP members		6.09%
	d. Re-employed retirees (including employee contributions)		19.28%
7.	Unfunded Actuarial Liability Liquidation Period		30 years

Note: The employer contribution rate includes the cost for incidental death benefits.

Actuarial Balance Sheet

(Dollar amounts expressed in thousands)

	July 1, 2015 (1)	July 1, 2014 (2)
1. Assets		
a. Current assets (actuarial value)		
i. Employee annuity savings fund	$ 7,054,277	$ 6,717,327
ii. Employer annuity accumulation fund	20,311,644	20,193,413
iii. Total current assets	$ 27,365,921	$ 26,910,740
b. Present value of future member contributions	$ 5,192,778	$ 5,040,382
c. Present value of future employer contributions		
i. Normal contributions	$ 739,431	$ 818,004
ii. Accrued liability contributions	16,753,255	15,978,874
iii. Total future employer contributions	$ 17,492,686	$ 16,796,878
d. Total assets	$ 50,051,385	$ 48,748,000
2. Liabilities		
a. Employee annuity savings fund		
i. Past member contributions	$ 7,054,277	$ 6,717,327
ii. Present value of future member contributions	5,192,778	5,040,382
iii. Total contributions to employee annuity savings fund	$ 12,247,055	$ 11,757,709
b. Employer annuity accumulation fund		
i. Benefits currently in payment	$ 28,645,954	$ 27,942,644
ii. Benefits to be provided to other members	9,158,376	9,047,647
iii. Total benefits payable from employer annuity accumulation fund	$ 37,804,330	$ 36,990,291
c. Total liabilities	$ 50,051,385	$ 48,748,000

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

Item	July 1, 2015	July 1, 2014
(1)	(2)	(3)
1. Cash and cash equivalents (operating cash)	$ 2,473,892	$ 2,552,961
2. Receivables	628,977	940,252
3. Investments		
a. Short-term securities	$ 657,551	$ 719,307
b. Domestic fixed income	5,246,660	4,926,250
c. International fixed income	1,607,359	2,133,683
d. Domestic equities	1,729,331	2,176,128
e. International equities	4,399,301	3,279,266
f. Global tactical asset allocation	1,909,410	1,823,710
g. Alternative investments	7,703,664	7,965,557
h. Total investments	$ 23,253,276	$ 23,023,901
4. Securities lending cash collateral invested	$ 60,229	$ 62,515
5. Prepaid administrative expenses	2,641	2,018
6. Capital assets, net of accumulated depreciation	2,693	2,617
7. Total assets	$ 26,421,708	$ 26,584,264
8. Liabilities		
a. Due to other systems	$ 173	$ 948
b. Accounts payable	1,028,515	612,415
c. Investment fees payable	7,270	8,003
d. Obligations under securities lending	60,229	62,515
e. Deferred retirement benefits	68,104	56,902
f. Due to employee insurance program	58,868	53,220
g. Benefit payable	3,608	3,520
h. Other liabilities	63,113	48,220
i. Total liabilities	$ 1,289,880	$ 845,743
9. Total market value of assets available for benefits (Item 7 - Item 8.i.)	$ 25,131,828	$ 25,738,521
10. Asset allocation (investments)[1]		
a. Short-term securities	10.1%	13.3%
b. Domestic fixed income	20.9%	19.1%
c. International fixed income	6.4%	8.3%
d. Domestic equities	6.9%	8.5%
e. International equities	17.5%	12.7%
f. Global tactical asset allocation	7.6%	7.1%
g. Alternative investments	30.6%	31.0%
h. 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, 2015 (1)	Year Ending July 1, 2014 (2)
1. Value of assets at beginning of year	$ 25,738,521	$ 23,191,052
2. Revenue for the year		
a. Contributions		
i. Member contributions	$ 716,107	$ 652,631
ii. Employer contributions	1,022,985	963,385
iii. Total	$ 1,739,092	$ 1,616,016
b. Income		
i. Interest, dividends, and other income	$ 293,319	$ 301,750
ii. Investment expenses	(41,219)	(44,275)
iii. Net	$ 252,100	$ 257,475
c. Net realized and unrealized gains (losses)	122,052	3,259,849
d. Total revenue	$ 2,113,244	$ 5,133,340
3. Expenditures for the year		
a. Disbursements		
i. Refunds	$ 95,104	$ 90,250
ii. Regular annuity benefits	2,590,299	2,461,556
iii. Other benefit payments	20,651	19,830
iv. Transfers to other systems	1,329	2,470
v. Total	$ 2,707,383	$ 2,574,106
b. Administrative expenses and depreciation	12,554	11,765
c. Total expenditures	$ 2,719,937	$ 2,585,871
4. Increase in net assets (Item 2. - Item 3.)	$ (606,693)	$ 2,547,469
5. Value of assets at end of year (Item 1. + Item 4.)	$ 25,131,828	$ 25,738,521
6. Net external cash flow		
a. Dollar amount	$ (968,291)	$ (958,090)
b. Percentage of market value	-3.8%	-3.9%

Development of Actuarial Value of Assets

(Dollar amounts expressed in thousands)

			July 1, 2015 (1)
1.	Actuarial value of assets at the prior valuation date	$	26,910,740
2.	Market value of assets at the prior valuation date	$	25,738,521
3.	Net external cash flow during the year		
	a. Contributions	$	1,739,092
	b. Disbursements		(2,707,383)
	c. Subtotal	$	(968,291)
4.	Expected net investment income at 7.50% earned on		
	a. Actuarial value of assets at the prior valuation date	$	2,018,306
	b. Contributions		65,216
	c. Disbursements		(101,527)
	d. Subtotal	$	1,981,995
5.	Expected actuarial value of assets, end of year (Item 1. + Item 3.c. + Item 4.d.)	$	27,924,444
6.	Market value of assets as of the current valuation date	$	25,131,828
7.	Difference between expected actuarial assets and market value of assets (Item 6. - Item 5.)	$	(2,792,616)
8.	Excess/(shortfall) recognized (20% of Item 7.)	$	(558,523)
9.	Actuarial value of plan assets, end of year (Item 5. + Item 8.)	$	27,365,921
10.	Ratio of Actuarial Value of Market Value of Assets		108.9%

Estimation of Yields
(Dollar amounts expressed in thousands)

		Year Ending July 1, 2015 (1)	Year Ending July 1, 2014 (2)
1.	Market value yield		
a.	Beginning of year market assets	$ 25,738,521	$ 23,191,052
b.	Contributions to fund during the year	1,739,092	1,616,016
c.	Disbursements	(2,707,383)	(2,574,106)
d.	Investment income (net of investment and administrative expenses)	361,598	3,505,559
e.	End of year market assets	$ 25,131,828	$ 25,738,521
f.	Estimated dollar-weighted market value yield	1.4%	15.4%
2.	Actuarial value yield		
a.	Beginning of year actuarial assets	$ 26,910,740	$ 25,753,068
b.	Contributions to fund during the year	1,739,092	1,616,016
c.	Disbursements	(2,707,383)	(2,574,106)
d.	Investment income (net of investment and administrative expenses)	1,423,472	1,602,497
e.	End of year actuarial assets	$ 27,365,921	$ 26,910,740
f.	Estimated actuarial value yield	5.4%	6.3%

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)
2001	$ 18,486,773	$ 21,162,147	$ 2,675,374	87.4%	$ 6,017,537	44.5%
2002	19,298,174	22,446,574	3,148,400	86.0%	6,147,712	51.2%
2003	20,197,936	24,398,931	4,200,995	82.8%	6,240,768	67.3%
2004	20,862,659	25,977,852	5,115,193	80.3%	6,180,599	82.8%
2005	21,625,510	30,217,471	8,591,961	71.6%	6,356,489	135.2%
2006	22,293,446	32,018,519	9,725,073	69.6%	6,733,379	144.4%
2007	23,541,438	33,766,678	10,225,240	69.7%	7,093,181	144.2%
2008	24,699,678	35,663,419	10,963,741	69.3%	7,559,172	145.0%
2009	25,183,062	37,150,315	11,967,253	67.8%	7,761,808	154.2%
2010	25,400,331	38,774,029	13,373,698	65.5%	7,769,820	172.1%
2011	25,604,823	38,011,610	12,406,787	67.4%	7,687,558	161.4%
2012	25,540,749	39,457,708	13,916,959	64.7%	7,356,231	189.2%
2013	25,753,068	41,196,062	15,442,994	62.5%	7,434,820	207.7%
2014	26,910,740	42,889,614	15,978,874	62.7%	7,539,996	211.9%
2015	27,365,921	44,119,176	16,753,255	62.0%	7,765,588	215.7%

[1] Covered payroll does not include payroll attributable to members in ORP, TERI, or 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, 2015
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:	20% difference recognition method
Actuarial assumptions:	
Investment rate of return[2]	7.50%
Projected salary increases	3.50% to 12.50% (varies by service)
Inflation	2.75%
Post-retirement benefit adjustments[3]	1.00%
Mortality	RP-2000 Mortality Table (White Collar Adjustment for Educators), projected at Scale AA from the year 2000. Male rates multiplied by 100% for non-educators and 110% for educators. Female rates multiplied by 90% for non-educators and 95% for educators.

[1] The employer and member contribution rates are determined in accordance with Section 9-1-1085 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 decrease 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)
2001	$ 4,339,747	$ 10,367,913	$ 6,454,487	$ 18,486,773	100.0%	100.0%	58.6%
2002	4,512,402	11,600,395	6,333,777	19,298,174	100.0%	100.0%	50.3%
2003	4,627,360	13,240,368	6,531,203	20,197,936	100.0%	100.0%	35.7%
2004	4,750,077	14,184,765	7,043,010	20,862,659	100.0%	100.0%	27.4%
2005	4,915,423	16,891,954	8,410,094	21,625,510	100.0%	98.9%	0.0%
2006	5,229,175	17,800,254	8,989,090	22,293,446	100.0%	95.9%	0.0%
2007	5,464,756	19,084,672	9,217,250	23,541,438	100.0%	94.7%	0.0%
2008	5,708,022	20,624,862	9,329,937	24,699,678	100.0%	92.1%	0.0%
2009	5,980,022	21,381,561	9,788,732	25,183,062	100.0%	89.8%	0.0%
2010	6,222,854	22,585,243	9,965,932	25,400,331	100.0%	84.9%	0.0%
2011	6,472,646	23,160,658	8,378,306	25,604,823	100.0%	82.6%	0.0%
2012	6,459,192	24,732,406	8,266,110	25,540,749	100.0%	77.2%	0.0%
2013	6,491,895	26,548,472	8,155,695	25,753,068	100.0%	72.6%	0.0%
2014	6,717,327	27,942,644	8,229,643	26,910,740	100.0%	72.3%	0.0%
2015	7,054,277	28,645,954	8,418,945	27,365,921	100.0%	70.9%	0.0%

SECTION D

MEMBERSHIP DATA

MEMBERSHIP TABLES

Summary of Membership Data

		July 1, 2015 (1)	July 1, 2014 (2)
1.	Active members		
a.	Males	57,860	57,256
b.	Females	129,458	128,009
c.	Total members	187,318	185,265
d.	Total annualized prior year pay	$ 7,418,513,313	$ 7,202,620,848
e.	Average pay	$ 39,604	$ 38,877
f.	Average age	45.1	45.2
g.	Average service	10.2	10.2
h.	Member contributions with interest	$ 6,209,112,712	$ 5,902,809,265
i.	Average contributions with interest	$ 33,147	$ 31,861
2.	Vested inactive members		
a.	Number	20,097	19,432
b.	Total annual deferred benefits	$ 128,229,506	$ 121,844,482
c.	Average annual deferred benefit	$ 6,381	$ 6,270
3.	Nonvested inactive members		
a.	Number	144,412	140,476
b.	Member contributions with interest	$ 209,448,786	$ 199,925,242
c.	Average contributions with interest	$ 1,450	$ 1,423
4.	Service retirees		
a.	Number	112,242	109,150
b.	Total annual benefits	$ 2,391,772,188	$ 2,315,655,082
c.	Average annual benefit	$ 21,309	$ 21,215
d.	Average age at the valuation date	69.5	69.2
5.	Disabled retirees		
a.	Number	13,349	13,584
b.	Total annual benefits	$ 183,766,967	$ 185,574,607
c.	Average annual benefit	$ 13,766	$ 13,661
d.	Average age at the valuation date	63.5	62.8
6.	Beneficiaries		
a.	Number	9,049	8,776
b.	Total annual benefits	$ 108,007,534	$ 103,486,720
c.	Average annual benefit	$ 11,936	$ 11,792
d.	Average age at the valuation date	67.6	67.6

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

		June 30, 2015 (1)	June 30, 2014 (2)
1.	**Active Members**		
	a. Number of state employees	49,938	49,260
	Total annual compensation	$ 2,171,789	$ 2,094,856
	b. Number of public school employees	83,865	82,739
	Total annual compensation	$ 3,235,918	$ 3,157,166
	c. Number of other agency employees	53,515	53,266
	Total annual compensation	$ 2,010,806	$ 1,950,599
	Total number of active members	187,318	185,265
	Total annual compensation	$ 7,418,513	$ 7,202,621
2.	**TERI Paricipants**		
	a. Number of state employees	3,241	3,242
	Total annual compensation	$ 184,885	$ 186,530
	b. Number of public school employees	4,592	4,787
	Total annual compensation	$ 250,539	$ 263,423
	c. Number of other agency employees	932	938
	Total annual compensation	$ 47,490	$ 48,312
	Number of active TERI partipants	8,765	8,967
	Total annual compensation	$ 482,914	$ 498,265
3.	**Rehired Retired Participants**		
	a. Number of state employees	3,865	3,952
	Total annual compensation	$ 145,739	$ 138,772
	b. Number of public school employees	7,734	8,065
	Total annual compensation	$ 252,608	$ 250,823
	c. Number of other agency employees	2,639	2,822
	Total annual compensation	$ 113,722	$ 116,838
	Number of rehired retired members	14,238	14,839
	Total annual compensation	$ 512,069	$ 506,433
4.	**ORP Participants**		
	a. Number of state employees	14,157	13,384
	Total annual compensation	$ 854,020	$ 790,887
	b. Number of public school employees	9,784	9,020
	Total annual compensation	$ 377,080	$ 348,225
	Number of ORP members	23,941	22,404
	Total annual compensation	$ 1,231,100	$ 1,139,112
5.	**All Groups Combined**		
	a. Number of state employees	71,201	69,838
	Total annual compensation	$ 3,356,433	$ 3,211,045
	b. Number of public school employees	105,975	104,611
	Total annual compensation	$ 4,116,145	$ 4,019,637
	c. Number of other agency employees	57,086	57,026
	Total annual compensation	$ 2,172,018	$ 2,115,749
	Total number members	234,262	231,475
	Total annual compensation	$ 9,644,596	$ 9,346,431

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)
2001	739	191,494	2.7%	$ 6,017,537	2.3%	$ 31,424	5.15%	N/A	N/A
2002	746	189,166	-1.2%	6,147,712	2.2%	32,499	3.42%	44	10
2003	763	185,538	-1.9%	6,240,768	1.5%	33,636	3.50%	44	10
2004	763	181,827	-2.0%	6,180,599	-1.0%	33,992	1.06%	44	10
2005	768	181,022	-0.4%	6,356,489	2.8%	35,114	3.30%	44	10
2006	763	184,282	1.8%	6,733,379	5.9%	36,538	4.06%	45	10
2007	777	187,968	2.0%	7,093,181	5.3%	37,736	3.28%	45	10
2008	776	192,820	2.6%	7,559,172	6.6%	39,203	3.89%	45	10
2009	781	192,319	-0.3%	7,761,808	2.7%	40,359	2.95%	45	10
2010	800	190,239	-1.1%	7,769,820	-4.7%	40,842	1.20%	45	10
2011	803	187,611	-1.4%	7,687,558	-1.1%	40,976	0.33%	45	11
2012	806	185,748	-1.0%	7,356,231	-4.3%	39,603	-3.35%	45	10
2013	808	184,690	-0.6%	7,434,820	1.1%	40,256	1.65%	45	10
2014	810	185,265	0.3%	7,539,996	1.4%	40,698	1.10%	45	10
2015	816	187,318	1.1%	7,765,588	3.0%	41,457	1.86%	45	10

[1] Covered payroll is the annualized, projected compensation for the following year and does not include payroll attributable to members in ORP, TERI, or working retirees.

[2] Based on the number of employers that made a contribution during FY 2015. Also, each agency is considered to be separate participating employer for disclosure in this schedule.

Distribution of Active Members by Age and by Years of Service

	Years of Credited Service												
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Attained Age	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.
Under 20	234	26	4	1	0	0	0	0	0	0	0	0	265
	$4,935	$10,971	$22,776	$31,590	$0	$0	$0	$0	$0	$0	$0	$0	$5,897
20-24	2,486	1,735	739	242	92	43	0	0	0	0	0	0	5,337
	$11,020	$25,996	$27,320	$23,591	$26,962	$26,966	$0	$0	$0	$0	$0	$0	$19,119
25-29	3,198	3,167	3,014	2,577	1,773	2,643	45	0	0	0	0	0	16,417
	$14,248	$29,944	$32,798	$34,574	$36,025	$36,478	$31,836	$0	$0	$0	$0	$0	$29,851
30-34	2,167	2,224	1,968	1,765	1,409	8,075	2,227	50	0	0	0	0	19,885
	$15,594	$31,748	$34,506	$36,427	$37,972	$40,941	$44,265	$42,764	$0	$0	$0	$0	$36,280
35-39	1,897	1,861	1,528	1,363	1,057	5,655	5,667	2,119	26	0	0	0	21,173
	$15,037	$33,210	$35,719	$38,167	$40,151	$42,027	$47,892	$50,586	$40,199	$0	$0	$0	$40,461
40-44	1,774	1,671	1,448	1,389	1,067	5,140	4,486	6,077	1,687	37	0	0	24,776
	$14,691	$31,399	$34,104	$37,127	$38,330	$41,558	$46,800	$53,912	$56,880	$47,840	$0	$0	$43,158
45-49	1,607	1,546	1,344	1,192	1,035	5,100	4,079	4,712	4,537	1,681	21	0	26,854
	$15,138	$32,419	$33,257	$35,081	$36,236	$40,106	$44,006	$50,139	$57,719	$56,362	$46,731	$0	$43,806
50-54	1,375	1,345	1,181	1,022	876	4,871	4,175	4,326	3,426	3,575	412	7	26,591
	$14,525	$31,416	$34,424	$34,542	$36,010	$38,784	$41,100	$45,458	$52,456	$58,503	$59,499	$39,776	$42,892
55-59	1,113	1,072	942	958	816	4,270	3,712	4,291	3,334	2,464	529	161	23,662
	$13,700	$29,634	$33,783	$34,738	$34,734	$37,258	$40,088	$43,416	$48,640	$54,289	$63,573	$58,013	$41,145
60-64	557	566	560	635	534	3,085	2,598	2,864	2,140	1,504	286	183	15,512
	$12,256	$28,304	$31,586	$31,907	$34,210	$37,795	$42,338	$45,077	$48,509	$53,019	$68,325	$66,449	$41,903
65 & Over	369	346	321	341	366	1,732	1,269	914	551	360	140	131	6,840
	$9,130	$17,664	$24,890	$23,885	$23,723	$30,735	$37,365	$43,450	$46,535	$51,161	$59,811	$74,259	$34,623
Total	16,777	15,559	13,049	11,485	9,025	40,614	28,258	25,353	15,701	9,621	1,388	482	187,312
	$13,843	$30,296	$33,248	$34,961	$36,292	$39,440	$43,834	$48,317	$52,876	$55,877	$62,709	$65,366	$39,604

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	75,814	$	1,504,327,385	$	1,654
100% J&S	17,977		416,179,125		1,929
50% J&S	11,789		321,144,141		2,270
10 Years C&L	449		9,140,962		1,697
Level Income	6,213		140,980,575		1,891
Subtotal:	112,242	$	2,391,772,188		1,776
Disability:					
Maximum	11,033	$	154,408,667	$	1,166
100% J&S	1,332		14,225,636		890
50% J&S	845		13,358,485		1,317
10 Years C&L	139		1,774,179		1,064
Subtotal:	13,349	$	183,766,967		1,147
Beneficiaries:	9,049	$	108,007,519	$	995
Total:	134,640	$	2,683,546,674	$	1,661

Distribution of Annuitants by Monthly Benefit

Monthly Benefit Amount (1)			Number of Annuitants (2)	Female (3)	Male (4)	Average Service (5)
Under $200			7,300	4,786	2,514	7.06
$ 200	-	399	12,395	8,836	3,559	10.69
400	-	599	11,779	8,392	3,387	13.87
600	-	799	10,064	7,386	2,678	16.71
800	-	999	8,837	6,309	2,528	19.22
1,000	-	1,199	8,065	5,829	2,236	21.44
1,200	-	1,399	7,374	5,300	2,074	23.26
1,400	-	1,599	6,894	4,916	1,978	24.67
1,600	-	1,799	6,521	4,651	1,870	25.96
1,800	-	1,999	6,254	4,372	1,882	26.98
2,000	-	2,199	6,716	4,841	1,875	27.67
2,200	-	2,399	7,067	5,271	1,796	28.15
2,400	-	2,599	7,571	5,729	1,842	28.52
2,600	-	2,799	6,514	4,797	1,717	28.86
2,800	-	2,999	4,742	3,281	1,461	29.27
3,000	-	3,199	3,535	2,266	1,269	29.52
3,200	-	3,399	2,430	1,415	1,015	29.66
3,400	-	3,599	1,972	1,070	902	29.97
3,600	-	3,799	1,619	825	794	29.99
3,800	-	3,999	1,318	637	681	30.12
4,000	&	Over	5,673	1,966	3,707	31.05
Total			134,640	92,875	41,765	22.02

Schedule of Retirants Added to And Removed from Rolls
(Dollar amounts except average allowance expressed in thousands)

	Added to Rolls		Removed from Rolls		Rolls End of the Year		% Increase	Average
Year Ended	Number	Annual Benefits	Number	Annual Benefits	Number	Annual Benefits	in Annual Benefit	Annual Benefit
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2001	12,523	$ 284,739	2,474	$ 23,735	74,054	$ 1,085,634	31.7%	$ 14,660
2002	7,344	140,077	2,334	24,531	79,064	1,201,180	10.6%	15,193
2003	7,866	163,867	2,510	27,662	84,420	1,337,385	11.3%	15,842
2004	7,319	151,477	2,132	22,656	89,607	1,466,206	9.6%	16,363
2005	7,203	167,748	2,143	23,537	94,667	1,610,417	9.8%	17,011
2006	4,621	118,271	2,083	24,099	97,205	1,704,589	5.8%	17,536
2007	5,944	130,286	2,252	28,455	100,897	1,806,420	6.0%	17,904
2008	6,021	132,856	2,396	30,178	104,522	1,909,098	5.7%	18,265
2009	6,190	101,813	2,698	36,834	108,014	1,974,077	3.4%	18,276
2010	6,596	151,348	3,216	44,049	111,394	2,081,376	5.4%	18,685
2011	6,336	141,242	2,358	31,382	115,372	2,191,236	5.3%	18,993
2012	9,523	205,050	2,968	44,099	121,927	2,352,188	7.3%	19,292
2013	9,088	204,581	3,319	50,142	127,696	2,506,627	6.6%	19,630
2014	7,084	148,060	3,270	49,971	131,510	2,604,716	3.9%	19,806
2015	6,640	133,490	3,510	54,660	134,640	2,683,547	3.0%	19,931

Includes Teacher and Employee Retention Incentive (TERI) participants.
Annual benefits added to rolls includes the benefit adjustments provided to 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 Retirement System.

Investment Rate of Return

Assumed annual rate of 7.50% net of investment and administrative expenses composed of a 2.75% inflation component and a 4.75% real rate of return, net of investment and administration 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 19 years of service due to expected merit and promotional increases which differ by employee group. Beginning with the 20th year of service, the assumed annual rate of increase is 3.50% for both groups and for all future years of service.

The 3.50% rate of increase is composed of a 2.75% inflation component and a 0.75% real rate of wage increase (productivity) component.

Active Male & Female Salary Increase Rate				
	General Employees		Teachers	
Years of Service	Annual Promotional/Longevity Rates of Increase	Total Annual Rate of Increase Including 3.50% Wage Inflation	Annual Promotional/Longevity Rates of Increase	Total Annual Rate of Increase Including 3.50% Wage Inflation
0	2.50%	6.00%	4.00%	7.50%
1	2.50%	6.00%	9.00%	12.50%
2	2.00%	5.50%	3.00%	6.50%
3	1.50%	5.00%	2.75%	6.25%
4	1.25%	4.75%	2.50%	6.00%
5	1.00%	4.50%	2.25%	5.75%
6	0.75%	4.25%	2.00%	5.50%
7	0.50%	4.00%	1.75%	5.25%
8	0.50%	4.00%	1.75%	5.25%
9	0.25%	3.75%	1.50%	5.00%
10	0.25%	3.75%	1.50%	5.00%
11	0.25%	3.75%	1.50%	5.00%
12	0.25%	3.75%	1.25%	4.75%
13	0.25%	3.75%	1.00%	4.50%
14	0.00%	3.50%	1.00%	4.50%
15	0.00%	3.50%	1.00%	4.50%
16	0.00%	3.50%	0.75%	4.25%
17	0.00%	3.50%	0.50%	4.00%
18	0.00%	3.50%	0.25%	3.75%
19	0.00%	3.50%	0.25%	3.75%
20+	0.00%	3.50%	0.00%	3.50%

Active Member Decrement Rates

a. Assumed rate of Service Retirement or TERI entry are shown in the following tables. The first table is for Class Two members who attain age 65 before attaining 28 years of service. The second table is based on service and is for Class Two members who attain 28 years of service before age 65. The retirement rates shown in the table below for Class Two members commencing a reduced retirement are also applicable to Class Three members who are at least age 60, but have not satisfied the age and service requirements for an unreduced benefit.

Annual Age Based Retirement Rates

Members	Class Two								Class Three
	General Employees				Teachers				
Age	Reduced		Normal*		Reduced		Normal*		Rule of
	Male	Female	Male	Female	Male	Female	Male	Female	90
55	4%	4%	0%	0%	2%	2%	0%	0%	20%
56	4%	4%	0%	0%	2%	2%	0%	0%	20%
57	4%	4%	0%	0%	2%	2%	0%	0%	20%
58	4%	4%	0%	0%	2%	2%	0%	0%	20%
59	4%	4%	0%	0%	2%	2%	0%	0%	20%
60	5%	7%	0%	0%	5%	6%	0%	0%	20%
61	5%	7%	0%	0%	6%	6%	0%	0%	20%
62	14%	13%	0%	0%	12%	11%	0%	0%	20%
63	10%	13%	0%	0%	12%	10%	0%	0%	20%
64	10%	13%	0%	0%	9%	10%	0%	0%	20%
65	0%	0%	20%	22%	0%	0%	20%	25%	20%
66	0%	0%	20%	22%	0%	0%	20%	25%	20%
67	0%	0%	17%	19%	0%	0%	20%	20%	20%
68	0%	0%	17%	19%	0%	0%	20%	20%	20%
69	0%	0%	17%	19%	0%	0%	20%	20%	20%
70	0%	0%	17%	19%	0%	0%	20%	20%	20%
71	0%	0%	17%	19%	0%	0%	20%	20%	20%
72	0%	0%	17%	19%	0%	0%	20%	20%	20%
73	0%	0%	17%	19%	0%	0%	20%	20%	20%
74	0%	0%	17%	19%	0%	0%	20%	20%	20%
75	0%	0%	100%	100%	0%	0%	100%	100%	100%

* Retirement rate is 50% at the later of age 62 or when the member is first eligible for a normal retirement benefit (i.e., the first age the member is eligible to concurrently commence benefits and continue employment.)

Annual Service Based Retirement Rates*				
Class Two Members				
Years of Service	General Employees		Teachers	
	Male	Female	Male	Female
28	15%	18%	8%	5%
29	10%	10%	7%	8%
30	10%	10%	8%	9%
31	10%	10%	8%	9%
32	10%	10%	9%	10%
33	18%	20%	10%	11%
34	18%	20%	11%	12%
35	18%	20%	12%	18%
36	20%	20%	13%	18%
37	20%	20%	14%	18%
38	20%	20%	18%	18%
39	20%	20%	17%	19%
40	100%	100%	17%	20%
41	100%	100%	100%	100%
42	100%	100%	100%	100%
43	100%	100%	100%	100%
44	100%	100%	100%	100%
45	100%	100%	100%	100%
46	100%	100%	100%	100%
47	100%	100%	100%	100%
48	100%	100%	100%	100%

* Retirement rate 50% at the later of age 62 or when the member is first eligible for a normal retirement benefit (i.e., the first age the member is eligible to concurrently commence benefits and continue employment.)

b. Assumed rates of disability are shown in the following table.

Disability Rates				
Age	General Employees		Teachers	
	Males	Females	Males	Females
25	0.0504%	0.0464%	0.0419%	0.0458%
30	0.1008%	0.0650%	0.0629%	0.0616%
35	0.1512%	0.1299%	0.0838%	0.0616%
40	0.2520%	0.1670%	0.1572%	0.1074%
45	0.3528%	0.2413%	0.2620%	0.2200%
50	0.5040%	0.4083%	0.4192%	0.3520%
55	0.8064%	0.6496%	0.6812%	0.5720%
60	1.0080%	0.9930%	1.0480%	0.8800%
64	1.2600%	1.3827%	1.3100%	1.1000%

c. Active Member Mortality

Rates of active member mortality are based upon a client specific table with applicable multipliers to match the experience.

Active Mortality Rates (Multiplier Applied)				
Age	General Employees		Teachers	
	Males	Females	Males	Females
25	0.0414%	0.0166%	0.0432%	0.0145%
30	0.0488%	0.0211%	0.0511%	0.0185%
35	0.0850%	0.0380%	0.0889%	0.0333%
40	0.1187%	0.0565%	0.1241%	0.0494%
45	0.1659%	0.0899%	0.1734%	0.0787%
50	0.2352%	0.1341%	0.2459%	0.1173%
55	0.3332%	0.2021%	0.3483%	0.1768%
60	0.5366%	0.3145%	0.5610%	0.2752%
64	0.7731%	0.4343%	0.8082%	0.3800%
Multiplier	110%	80%	115%	70%

d. Rates of Withdrawal

Rate of withdrawal for active members prior to eligibility for retirement are for each employee group and differ by gender and service. Sample rates are shown in the tables below.

Withdrawal Rates - Male General Employees															
Age	Years of Service														
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
25	0.329	0.247	0.190	0.155	0.134	0.117	0.096	0.078	0.065	0.059	0.066	0.000	0.000	0.000	0.000
30	0.294	0.221	0.173	0.142	0.124	0.109	0.095	0.082	0.070	0.060	0.053	0.047	0.044	0.042	0.039
35	0.268	0.200	0.155	0.129	0.112	0.101	0.092	0.082	0.072	0.059	0.042	0.047	0.044	0.042	0.039
40	0.246	0.180	0.138	0.114	0.100	0.092	0.086	0.079	0.069	0.055	0.033	0.042	0.042	0.042	0.039
45	0.226	0.164	0.123	0.100	0.088	0.082	0.078	0.073	0.064	0.049	0.027	0.039	0.036	0.034	0.032
50	0.208	0.150	0.111	0.089	0.077	0.072	0.068	0.063	0.055	0.042	0.022	0.029	0.029	0.029	0.029
55	0.194	0.141	0.104	0.081	0.069	0.060	0.054	0.049	0.042	0.033	0.021	0.020	0.020	0.020	0.020
60	0.183	0.135	0.100	0.077	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Age	Years of Service (Continued)														
	15	16	17	18	19	20	21	22	23	24	25	26	27	28+	
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
30	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
35	0.036	0.034	0.032	0.029	0.027	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
40	0.036	0.034	0.032	0.029	0.027	0.025	0.023	0.022	0.020	0.018	0.017	0.000	0.000	0.000	
45	0.029	0.029	0.029	0.029	0.027	0.025	0.023	0.022	0.020	0.018	0.017	0.016	0.014	0.000	
50	0.029	0.027	0.025	0.023	0.022	0.020	0.020	0.020	0.020	0.018	0.017	0.016	0.014	0.000	
55	0.020	0.020	0.020	0.020	0.020	0.020	0.018	0.017	0.016	0.014	0.000	0.000	0.000	0.000	
60	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

Withdrawal Rates - Female General Employees

Age	Years of Service														
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
25	0.298	0.246	0.206	0.177	0.156	0.138	0.125	0.116	0.109	0.103	0.094	0.000	0.000	0.000	0.000
30	0.271	0.224	0.186	0.159	0.140	0.125	0.115	0.106	0.097	0.085	0.069	0.052	0.049	0.045	0.042
35	0.251	0.202	0.166	0.141	0.124	0.113	0.104	0.096	0.086	0.071	0.051	0.052	0.049	0.045	0.042
40	0.233	0.180	0.145	0.123	0.110	0.101	0.093	0.085	0.075	0.059	0.037	0.045	0.045	0.045	0.042
45	0.217	0.162	0.127	0.108	0.097	0.089	0.082	0.075	0.064	0.049	0.028	0.042	0.039	0.036	0.033
50	0.204	0.149	0.115	0.097	0.086	0.079	0.071	0.064	0.054	0.041	0.023	0.030	0.030	0.030	0.030
55	0.195	0.143	0.109	0.089	0.078	0.069	0.061	0.053	0.044	0.035	0.024	0.020	0.020	0.020	0.020
60	0.187	0.141	0.108	0.085	0.070	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Age	Years of Service (Continued)													
	15	16	17	18	19	20	21	22	23	24	25	26	27	28+
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.039	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	0.039	0.036	0.033	0.030	0.028	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.039	0.036	0.033	0.030	0.028	0.025	0.023	0.022	0.020	0.018	0.017	0.000	0.000	0.000
45	0.030	0.030	0.030	0.030	0.028	0.025	0.023	0.022	0.020	0.018	0.017	0.016	0.015	0.000
50	0.030	0.028	0.025	0.023	0.022	0.020	0.020	0.020	0.020	0.018	0.017	0.016	0.015	0.000
55	0.020	0.020	0.020	0.020	0.020	0.020	0.018	0.017	0.016	0.015	0.000	0.000	0.000	0.000
60	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Withdrawal Rates - Male Teachers

Age	Years of Service														
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
25	0.296	0.203	0.138	0.097	0.072	0.058	0.051	0.051	0.052	0.054	0.056	0.000	0.000	0.000	0.000
30	0.272	0.192	0.136	0.099	0.078	0.066	0.061	0.058	0.054	0.048	0.039	0.027	0.026	0.025	0.025
35	0.253	0.182	0.132	0.099	0.081	0.071	0.066	0.061	0.054	0.043	0.027	0.027	0.026	0.025	0.025
40	0.237	0.173	0.127	0.098	0.082	0.073	0.068	0.062	0.053	0.039	0.020	0.025	0.025	0.025	0.025
45	0.224	0.165	0.123	0.096	0.081	0.073	0.067	0.060	0.050	0.036	0.017	0.025	0.024	0.023	0.023
50	0.214	0.159	0.119	0.094	0.079	0.070	0.063	0.055	0.046	0.034	0.017	0.022	0.022	0.022	0.022
55	0.206	0.155	0.117	0.091	0.074	0.065	0.056	0.048	0.040	0.032	0.022	0.017	0.017	0.017	0.017
60	0.200	0.152	0.114	0.087	0.067	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Age	Years of Service (Continued)													
	15	16	17	18	19	20	21	22	23	24	25	26	27	28+
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	0.024	0.023	0.023	0.022	0.021	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.024	0.023	0.023	0.022	0.021	0.020	0.019	0.018	0.017	0.015	0.014	0.000	0.000	0.000
45	0.022	0.022	0.022	0.022	0.021	0.020	0.019	0.018	0.017	0.015	0.014	0.012	0.009	0.000
50	0.022	0.021	0.020	0.019	0.018	0.017	0.017	0.017	0.017	0.015	0.014	0.012	0.009	0.000
55	0.017	0.017	0.017	0.017	0.017	0.017	0.015	0.014	0.012	0.009	0.000	0.000	0.000	0.000
60	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Withdrawal Rates - Female Teachers

Age	Years of Service														
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
25	0.230	0.161	0.121	0.101	0.089	0.084	0.083	0.080	0.073	0.066	0.060	0.000	0.000	0.000	0.000
30	0.227	0.166	0.126	0.101	0.088	0.080	0.075	0.070	0.062	0.053	0.043	0.032	0.030	0.028	0.026
35	0.217	0.160	0.121	0.097	0.083	0.075	0.068	0.062	0.054	0.043	0.030	0.032	0.030	0.028	0.026
40	0.204	0.148	0.111	0.088	0.076	0.068	0.062	0.055	0.048	0.037	0.021	0.028	0.028	0.028	0.026
45	0.193	0.136	0.100	0.080	0.068	0.062	0.056	0.050	0.044	0.033	0.016	0.026	0.024	0.023	0.021
50	0.187	0.130	0.094	0.074	0.063	0.057	0.052	0.048	0.042	0.032	0.015	0.020	0.020	0.020	0.020
55	0.188	0.131	0.094	0.073	0.063	0.054	0.051	0.047	0.042	0.033	0.019	0.013	0.013	0.013	0.013
60	0.195	0.138	0.099	0.076	0.066	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Age	Years of Service (Continued)													
	15	16	17	18	19	20	21	22	23	24	25	26	27	28+
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	0.024	0.023	0.021	0.020	0.018	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.024	0.023	0.021	0.020	0.018	0.017	0.015	0.014	0.013	0.011	0.010	0.000	0.000	0.000
45	0.020	0.020	0.020	0.020	0.018	0.017	0.015	0.014	0.013	0.011	0.010	0.009	0.008	0.000
50	0.020	0.018	0.017	0.015	0.014	0.013	0.013	0.013	0.013	0.011	0.010	0.009	0.008	0.000
55	0.013	0.013	0.013	0.013	0.013	0.013	0.011	0.010	0.009	0.008	0.000	0.000	0.000	0.000
60	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Post Retirement Mortality

a. Healthy retirees and beneficiaries – The valuation assumes fully generational mortality. The base mortality table used is the RP-2000 Mortality Table (Public School District Employees utilize the White Collar adjustment), adjusted by multipliers documented in the table below. Future mortality improvements are assumed each year using Scale AA. The following are sample rates:

Nondisabled Annuitant Mortality Rates Before Projection (Multiplier Applied)

Age	General Employees		Teachers	
	Males	Females	Males	Females
50	0.2138%	0.1508%	0.2176%	0.1510%
55	0.3624%	0.2445%	0.3632%	0.2457%
60	0.6747%	0.4550%	0.6141%	0.4443%
65	1.2737%	0.8735%	1.2167%	0.8218%
70	2.2206%	1.5068%	2.1203%	1.4426%
75	3.7834%	2.5295%	3.6997%	2.4431%
80	6.4368%	4.1291%	6.5353%	4.0926%
85	11.0757%	6.9701%	11.5132%	7.0483%
90	18.3408%	11.8514%	19.6100%	11.9843%
Multiplier	100%	90%	110%	95%

The following table provides the life expectancy for individuals retiring in future years based on the assumption with full generational projection:

Life Expectancy for an Age 65 Retiree in Years				
Employee Type	**Year of Retirement**			
	2015	**2020**	**2025**	**2030**
General Employee – Male	19.6	20.0	20.4	20.7
General Employee – Female	22.3	22.5	22.7	22.9
Teacher – Male	19.5	19.9	20.3	20.6
Teacher - Female	22.4	22.6	22.8	22.9

b. A separate table of mortality rates is used for disabled retirees based on the RP-2000 Disabled Retiree Mortality Table. The following are sample rates:

Disabled Annuitant Mortality Rates (Multiplier Applied)				
Age	**General Employees**		**Teachers**	
	Males	**Females**	**Males**	**Females**
50	2.4629%	1.2689%	2.1731%	1.2689%
55	3.0126%	1.8198%	2.6581%	1.8198%
60	3.5736%	2.4023%	3.1531%	2.4023%
65	4.2648%	3.0829%	3.7631%	3.0829%
70	5.3196%	4.1398%	4.6937%	4.1398%
75	6.9757%	5.7453%	6.1550%	5.7453%
80	9.2966%	7.9543%	8.2029%	7.9543%
85	12.0363%	11.0223%	10.6202%	11.0223%
90	15.5897%	15.4054%	13.7556%	15.4054%
Multiplier	85%	110%	75%	110%

Asset Valuation Method

The actuarial value of assets is determined as the expected value of plan assets as of the valuation date plus 20% of the difference between the market value and the expected actuarial value of assets, based upon the assumed valuation rate of return.

Expected earnings are determined using the assumed investment rate of return and the beginning of year actuarial value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses.

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.

The calculation of the amortization period takes into account scheduled increases to contribution rates applicable to future years and payroll growth. Also, the calculation of the amortization period reflects additional contributions the System receives with respect to post July 1, 2005 TERI participants, ORP participants and return to work retirees. These contributions are assumed to grow at the same payroll growth rate as for active SCRS employees. It is assumed that amortization payments are made monthly at the end of the month.

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.

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 2.14% at their date of retirement.

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.

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 active members (also applies to TERI, ORP and rehired retiree participants) is assumed to increase at an annual rate of 3.50%. This rate represents the underlying expected annual rate of wage inflation and does not anticipate increases in the number of members.

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 TERI, and return to work employees by dividing the actual member contributions received during the prior fiscal year by the member contribution rate in effect for that year, and then projecting that amount forward one year.

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 three 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. Members with a 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.

13. Benefit Service: All members are assumed to accrue one 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 RETIREMENT SYSTEM (SCRS)

Effective Date: July 1, 1945.

Administration: 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 Statements No. 27, 67, and 68, it is considered to be a cost-sharing multiple-employer plan.

Eligibility: This System covers all permanent full-time or part-time employees of a covered employer (i.e. public school, state employer, city, county, and other local public governmental entity), unless specifically exempted by Statute or participate in the State Optional Retirement Program (ORP). Also, beginning with the 2012 general election, newly elected officials of the South Carolina General Assembly are also covered by this system.

Employee Contributions: Members are contributing 8.00% and 8.16% of earnable compensation for FY 2015 and 2016, respectively. The member contribution rate after FY 2016 is projected to be 8.16% thereafter. Furthermore, 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 2.90% 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 actively employed.

Average Final Compensation (AFC): The monthly average of the member's highest 12 consecutive quarters of earnable compensation (highest 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, sick pay, and deferrals. Compensation due to overtime earned after December 31, 2012 will not be included unless that compensation is for time that is mandated by the employer.

The calculation of the AFC for Class One and Class Two members 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 (Unreduced):

a. Eligibility: Class Two members may retire with an unreduced benefit at age 65 with five years of earned service or after 28 years of creditable service, if earlier. Class Three members may retire with an unreduced benefit at age 65 with eight years of earned service or after the satisfying the rule of 90 (i.e. age plus credited service equals or exceeds 90).

b. Monthly Benefit: 1.82% times the member's AFC times their years of creditable service.

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

Service Retirement (Reduced):

a. Eligibility: Class Two members may retire with a reduced benefit upon attaining: (1) age 55 with 25 years of creditable service (minimum of 5 years of earned service), or (2) age 60 with five years of earned service. Class Three members may retire with a reduced benefit upon attaining age 60 with eight years of earned service.

b. Reduction: A Class Two member's benefit will be reduced by either an age or service based reduction factor described below, whichever results in the most favorable benefit. A Class Three member's benefit will be reduced by the age based reduction factor described below.

   Age Based: Members retiring after age 60 will have their benefit reduced at the rate of 5% per year for each year of their retirement age precedes age 65.

   Service Based: 4% per year for each year of creditable service that is less than 28.

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

Disability Retirement:

a. Eligibility: The eligibility for a disability retirement will be based upon the member's entitlement for Social Security disability benefits.

b. Monthly Benefit: The net monthly disability benefit payable is equal to the member's benefit based on their credited service and AFC at the time of their disability.

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 (5) years of earned service. Class Three members are vested after eight (8) 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 while they were actively employed. Members do not earn interest on their employee contribution account balance while they are inactive.

***Deferred Termination Benefit*:**

a. Eligibility: Member must be vested (i.e. 5 years of earned service for Class Two members and 8 years of earned service for Class Three members) 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). If the member met service eligibility requirement at their time of death, the beneficiary is eligible for a monthly survivor annuity benefit.

***Death while an Active Contributing Member*:**

a. In General: A refund of the member's accumulated contributions (with interest) is paid to the beneficiary of a deceased member.

b. Beneficiary Annuity: If the deceased member (i) attained 5 or more years of earned service and (ii) had attained the age of 60 or had accumulated 15 or more years of creditable service, 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 60 with less than 28 years of creditable service is assumed to be 60 years of age and no age reduction applies.

***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 and interest 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 spouse 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-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 incidental death benefits, active employees include those members who are receiving a retirement allowance and are actively reemployed and contributing to the system with a participating employer.

b. Post Employment: The beneficiary (or estate) of a retiree, both current and retiree, of an employer participating in the Preretirement Death Benefit Program will receive a one-time payment upon the retiree'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 28	\$4,000
28 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. The $500 limit in the annual increase is not indexed to escalate in future years.

A member electing a reduced early retirement is ineligible to receive a benefit increase until the second July 1 after the earlier of:

(1) the member attains age 60, or

(2) the member would have 28 years of creditable service had he not retired.

***Teacher and Employee Retention Incentive Program (TERI)*:**

a. Eligibility: Active member eligible for a service retirement benefit.

b. Benefits: A member electing to participate in the program agrees to continue employment for a period not to exceed five years. During this period, the member's service retirement benefit is placed in the system's trust fund on behalf of the member. No interest is paid on the member's deferred monthly benefit during the program period. Upon termination of the program, the member must receive the balance in the account.

c. Other Adjustments: After June 30, 2005, the System shall recalculate the member's final compensation to reflect compensation increases earned after participating in the program. The AFC shall also include up to 45 days of unused annual leave.

d. Death while in TERI: If a member dies during the program period, the member's designated beneficiary will receive a distribution of the balance of benefits accumulated in the member's TERI account.

e. As a result of the pension reform legislation enacted in June 2012 (Act 278), the program will be closed and no members may participate in TERI after June 30, 2018.

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.