Gabriel Roeder Smith & Company
Consultants & Actuaries

SOUTH CAROLINA RETIREMENT SYSTEM (SCRS)

ACTUARIAL VALUATION REPORT
AS OF JULY 1, 2011

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June 11, 2012

State Budget and Control Board
South Carolina Retirement System
P.O. Box 11960
Columbia, SC 29211-1960

Dear Members of the Board:

Subject: Actuarial Valuation as of July 1, 2011

This report describes the current actuarial condition of the South Carolina Retirement System (SCRS), determines the calculated employer contribution rate, and analyzes changes in this contribution rate. In addition, the report provides information required by SCRS in connection with Governmental Accounting Standards Board Statement No. 25 (GASB 25), and it provides various summaries of the data. 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 SCRS plan year. This report was prepared at the request of the State Budget and Control Board (Board) and is intended for use by the SCRS staff and those designated or approved by the Board.

Under SCRS statutes, the Board must certify employer contribution rate annually. This rate is determined actuarially, based on the Board's funding policy, although, the Board may choose not to reduce the current rate if the current contribution rate is greater than the actuarially calculated rate. 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, 2011 actuarial valuation will be used by the Board when certifying the employer contribution rates for the year beginning July 1, 2013 and ending June 30, 2014. If new legislation is enacted between the valuation date and the date the contribution rate become effective, the Board may adjust the calculated rate before certifying them, in order to reflect this new legislation. Such adjustments are based on information supplied by the actuary.

Financing Objectives and Funding Policy

The principle objectives in the funding policy that is maintained by the Board include:

- Establish a contribution rate that remains relatively level over time.
- To set rates so that the measures of the System's funding progress which include the unfunded actuarial accrued liability, funded ratio, and funding period will be maintained or improved.

- To set a contribution rate that will result in the unfunded actuarial accrued liability (UAAL) to be amortized over a period from the current valuation date that does not exceed 30 years.

To accomplish this, the Board's funding policy requires that the employer contribution rate be at least equal to the sum of the employer normal cost rate (which pays the current year's cost) and an amortization rate which results in the UAAL to be funded over a period that does not exceed 30 years in installments that increase at the assumed rate of growth in payroll for SCRS.

PROGRESS TOWARD REALIZATION OF FINANCING OBJECTIVES

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

The funded ratio of the System decreased from 65.5% to 64.0%. This decrease was primarily due to the continual recognition of the extraordinary investment loss that occurred in 2008. Absent favorable experience, we expect the funded ratio will continue to decrease for the next several years as the rest of the 2008 investment loss is recognized in the development of the actuarial value of assets.

If market value of assets had been used in the calculation instead of actuarial (smoothed) value of assets, the funded ratio for the System would have been 56.0%, compared to 50.8% in the prior year. The increase in funded ratio on a market value basis is due to favorable experience in the assets during the last fiscal year. In particular, the investment return during FY 2011 on a market value basis was 18.6%, which provided $2.1 billion more in market value than was expected.

ASSUMPTIONS AND METHODS

The Board, in consultation with the actuary, sets the actuarial assumptions and methods used in the valuation. Current Board policy is to have the actuary perform an experience study every five years. An experience analysis was carried out in calendar year 2011, and as a result, we recommended, and the Board adopted a number of changes in the actuarial assumptions to be used for calculating the actuarial valuation as of July 1, 2011.

It is our opinion that the recommended assumptions are internally consistent and reasonably reflect the anticipated future experience of the System. The actuarial assumptions and methods used in this report comply with the parameters for disclosure that appear in GASB 25.

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, 2011. The automatic portion of the COLA, provided to annuitants, was decreased from 2.00% to 1.00% as a result of the change in the investment return assumption. There have been no other material changes in plan provisions since the preceding actuarial valuation.

DATA

Member data for retired, active and inactive members was supplied as of July 1, 2011, by the SCRS staff. The staff also supplied asset information as of July 1, 2011. 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 SCRS.

CERTIFICATION

We certify that the information presented herein is accurate and fairly portrays the actuarial position of SCRS as of July 1, 2011.

All of our work conforms with generally accepted actuarial principles and practices and 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

TABLE OF CONTENTS

SECTION A

EXECUTIVE SUMMARY

Executive Summary

(Dollar amounts expressed in thousands)

Valuation Date:	July 1, 2011	July 1, 2010
Membership		
• Number of		
- Active Members	187,611	190,239
- TERI Members	5,254	5,164
- Retirees and Beneficiaries	110,296	106,230
- Inactive Members	158,086	156,871
- Total	461,247	458,504
• Projected payroll of active members	$7,687,558	$7,769,820
• Projected payroll for all members, including members in ORP, TERI, and working retirees	$9,379,634	$9,641,717
Contribution Rates		
• Employer contribution rate[1]	12.23%	10.60%
• Member	6.50%	6.50%
Assets		
• Market value	$22,395,029	$19,681,137
• Actuarial value	25,604,823	25,400,331
• Return on market value	18.6%	14.6%
• Return on actuarial value	4.3%	3.3%
• Ratio of actuarial to market value of assets	114.3%	129.1%
• External cash flow %	-4.1%	-3.9%
Actuarial Information		
• Normal cost %	10.68%	10.01%
• Actuarial accrued liability (AAL)	$40,015,772	$38,774,029
• Unfunded actuarial accrued liability (UAAL)	14,410,949	13,373,698
• Funded ratio	64.0%	65.5%
• Funding period (years)	30	30
Reconciliation of UAAL		
• Beginning of Year UAAL	$13,373,698	$11,967,253
- Interest on UAAL	999,625	957,380
- Amortization payment with interest	(618,048)	(662,414)
- Assumption/method changes[2]	(45,359)	0
- Asset experience	802,448	1,212,929
- COLA	154,945	0
- Salary experience	(477,773)	(344,630)
- Other liability experience	221,413	168,477
- Incidental death benefit	0	74,703
• End of Year UAAL	$14,410,949	$13,373,698

[1] The contribution rate determined by the July 1, 2011 actuarial valuation is subject to approval and adoption by Budget and Control Board before becoming effective for the fiscal year beginning July 1, 2013.

[2] Includes the change in liability due to the change in automatic COLA provisions.

EXECUTIVE SUMMARY (CONTINUED)

The unfunded actuarial accrued liability increased by $1.0 billion since the prior year's valuation to $14.4 billion. The single largest source of this increase is due to the continual recognition of the extraordinary investment loss that occurred in 2008 (i.e. $0.8 billion was recognized in the July 1, 2011 valuation). There is still $3.2 billion in deferred investment losses as of the valuation date. Absent favorable investment experience, those deferred losses will gradually be reflected in the actuarial value of assets over the next few years.

Below is a chart with the historical actuarial value of assets and actuarial accrued liability for SCRS.

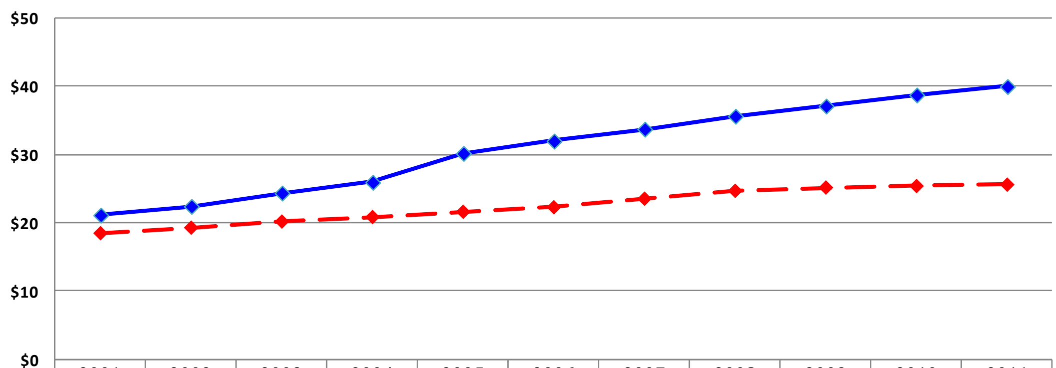


Chart 1. - History of Actuarial Assets vs. Actuarial Accrued Liability
(Dollars in Billions)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
AVA	18.5	19.3	20.2	20.9	21.6	22.3	23.5	24.7	25.2	25.4	25.6
AAL	21.2	22.4	24.4	26.0	30.2	32.0	33.8	35.7	37.2	38.8	40.0

Based on the current funding policy, we expect the unfunded actuarial liability for the System to increase for many years and the funded ratio (on an actuarial value of asset basis) to decline for the next four or five years before it gradually improves.

The recommended employer contribution rate increased from 10.60% to 12.23%. The change in the actuarial assumptions and the asset experience (on a smoothed basis) were the two largest causes for the increase in the recommended contribution rate. Absent legislative changes or significantly favorable investment experience, we expect the contribution rate to continue to increase as the $3.2 billion in deferred investment losses becomes recognized in the actuarial value of assets.

SECTION B

DISCUSSION

DISCUSSION

The results of the July 1, 2011 actuarial valuation of the South Carolina Retirement System are presented in this report. The primary purposes of the valuation report is 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 information required by SCRS in connection with Governmental Accounting Standards Board Statement No. 25 (GASB 25), and it provides various summaries of the data.

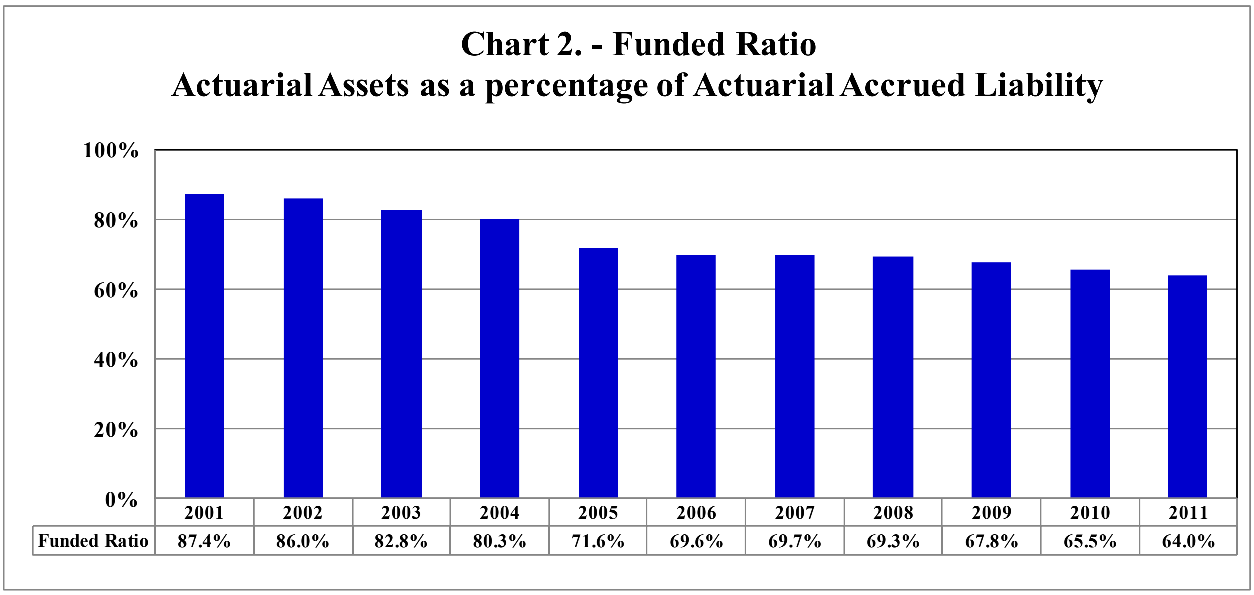
This section discusses the determination of the current funding requirements and the System's funded status, as well as changes in financial condition of the retirement system.

The valuation results for the prior year are shown in this report are for comparison purposes. These were prepared by the Retirement System's prior actuary, Cavanaugh Macdonald Consulting LLC. As part of our transition work, we replicated the results and have previously communicated the results of our replication effort to the State Budget and Control Board.

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

Funding Progress

The funded ratio decreased from 65.5% to 64.0% since the prior valuation and has generally trended downward since 2001 as shown in the graph below. This decrease in the funded status 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 and (ii) increases in the actuarial accrued liability due to the enactment of ad hoc cost of living adjustments to retirees during several of these years. Table 10, Schedule of Funding Progress, in the following section of the report provides additional detail regarding the funding progress of the Retirement System.

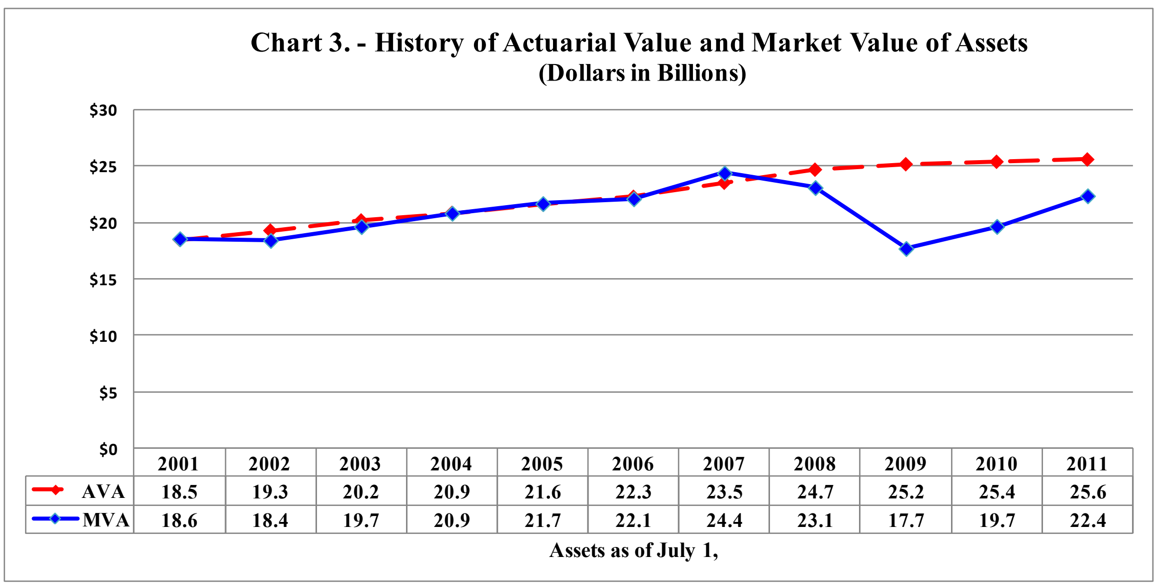


Asset Gains/ (Losses)

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 $25.400 billion to $25.605 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 mean market value of assets in 2011 was 18.6%; which is significantly above the expected annual return. However, because of the recognition of prior investment experience, the actuarial (smoothed) asset value returned only 4.3%. 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 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 and decrease the System's funded ratio over the next few years.



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
AVA	18.5	19.3	20.2	20.9	21.6	22.3	23.5	24.7	25.2	25.4	25.6
MVA	18.6	18.4	19.7	20.9	21.7	22.1	24.4	23.1	17.7	19.7	22.4

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 System experienced a net liability gain of $0.1 billion, which is a 0.3% gain when compared to a total actuarial accrued liability ("AAL") of $40.0 billion. This net gain was primarily related to the salary experience (i.e. actual increases in salaries for individual members being less than expected).

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 on average over many years. Therefore, as long as average salary increases over a number of years are reasonably close to the current assumptions, the long-term funding requirements of the System will remain relatively consistent. The demographic experience is briefly summarized in the chart below.

The unfunded actuarial accrued liability (UAAL) has increased from $13.4 billion in 2010 to $14.4 billion in 2011. 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	$13,373,698
- Interest on UAAL	999,625
- Amortization payment with interest	(618,048)
- Assumption/method changes[1]	(45,359)
- Asset Experience	802,448
- COLA	154,945
- Salary Experience	(477,773)
- Other Liability Experience	221,413
- Legislative Changes	0
• End of Year UAAL	$14,410,949

[1] Includes the change in liability as a result of the change in automatic COLA provisions.

The following tables provide additional reconciliations of the plan's experience. The first table shows the change in funding period based on a 10.60% contribution rate, which is the approved by the Board to be effective for the fiscal year beginning July 1, 2012. The second table shows the change in the 30-year contribution rate due to the System's experience.

Note, while demographic experience resulted in a net decrease in the unfunded actuarial accrued liability, it results in an increase in both the funding period and the 30-year contribution rate. This occurred because the contribution rate, which is defined as a percentage of payroll, is calculated based on the anticipation there would be an increase in the total payroll of the system, but the actual payroll slightly decreased. In order to maintain the necessary dollar amount of monies that are being contributed to orderly finance the unfunded liability, the contribution rate, as a percentage of pay must increase. This effect is magnified because SCRS has a large unfunded liability as a percentage of the covered payroll.

Change in Funding Period (Years)
Based on a 10.60% Contribution Rate

• Prior Year	30.0
- Expected Experience	(1.0)
- Assumption Change	12.2
- Asset Experience	7.2
- Demographic Experience	2.1
- Legislative Changes	0.0
- Total Change	20.5
• Current Year Valuation	50.5

Change in 30-Year Contribution Rate

• Prior Year	10.60%
- Expected Experience	0.00%
- Assumption Change	0.96%
- Asset Experience	0.54%
- Liability Experience	0.28%
- Legislative Changes	0.00%
- Reamortize at 30 years	-0.15%
- Total Change	1.63%
• Current Year Valuation	12.23%

Absent favorable investment experience, we expect that the 30-year contribution rate will continue to increase over the next four to five years as those deferred investment losses become fully recognized in the actuarial value of assets and calculation of the contribution rate.

GASB No. 25 and No. 27 Disclosures

Accounting requirements for SCRS are provided by the Governmental Accounting Standards Board Statements No. 25 ("GASB 25") and No. 27 ("GASB 27"). Table 10 shows a historical summary of the funded ratios and other information for the System. Table 11 shows other information needed in connection with the required disclosures under GASB 25. GASB 27 governs reporting by the employers of government-sponsored retirement plans.

GASB 25 requires that plans calculate an Annual Required Contribution ("ARC"), and, if actual contributions received are less than the ARC, this must be disclosed. The ARC is calculated in accordance with certain parameters. In particular, it includes a payment to amortize the UAAL. This amortization payment must be computed using a funding period no greater than thirty (30) years. For this disclosure, SCRS treats the Board-established contribution rate as the ARC, as long as this produces a funding period that does not exceed 30 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 Board adopts the actual assumptions to be used in the actuarial valuation, taking into account the actuary's recommendations. The actuarial valuation as of July 1, 2011 reflects the assumptions and methods adopted by the Board in November 2011.

The principle assumption changes were as follows:

- Decrease the investment return assumption from 8.00% to 7.50%.
- Decrease the inflation assumption from 3.00% to 2.75%.
- Modifications to the rate of salary increases.
- Decrease the payroll growth assumption from 4.00% to 3.50%.
- Modify the post-retirement mortality assumption for all groups and include an explicit assumption for future improvement in life expectancy.
- Modify the retirement rates for all groups. The changes result in an overall decrease in the rates at which active members are expected to retire.
- Modify the termination rates for all groups. The updates result in a slight increase in the rates at which active members are expected to terminate.
- Minor adjustments to the rates of disability incidence.
- The actuarial valuation of asset method was changed from one that recognized the difference between the expected and actual return on the market value of assets over a 10-year period, to a modified 5-year asset smoothing method.

It is our opinion that the recommended assumptions are internally consistent and are reasonably based on past and anticipated future experience of the System. The actuarial assumptions and methods used in this report comply with the parameters for disclosure that appear in GASB 25.

Benefit Provisions

Appendix B of this report includes a summary of the benefit provisions for SCRS. The automatic cost-of-living adjustment was decreased from 2.00% to 1.00% when the valuation interest rate was decreased to 7.50%. There have been no other material changes in the benefit provisions since the prior valuation.

Summary of Retirement Provisions

- 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 the 1.82% of the member's AFC times the member's credited service (years).

- Members are eligible for retirement 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 based on the actual increase in inflation (CPI-W) up to 1.00% per year. Subject to certain financial criteria described in the State Statute, the Board may grant an ad hoc increase that is above the automatic benefit adjustment.

SECTION C

ACTUARIAL TABLES

ACTUARIAL TABLES

Summary of Cost Items

(Dollar amounts expressed in thousands)

		July 1, 2011 (1)	July 1, 2010 (2)
1.	Projected payroll of active members[1]	$ 7,687,558	$7,769,820
2.	Present value of future pay[2]	$ 54,544,085	N/A
3.	Normal cost rate		
	a. Total normal cost rate	10.68%	10.01%
	b. Less: member contribution rate	-6.50%	-6.50%
	c. Employer normal cost rate	4.18%	3.51%
4.	Actuarial accrued liability for active members		
	a. Present value of future benefits	$ 21,765,547	$ 20,986,309
	b. Less: present value of future normal costs	(5,756,775)	(5,591,904)
	c. Actuarial accrued liability	$ 16,008,772	$ 15,394,405
5.	Total actuarial accrued liability for:		
	a. Retirees and beneficiaries	$ 23,160,658	$ 22,585,243
	b. Inactive members	846,342	794,381
	c. Active members (Item 4c)	16,008,772	15,394,405
	d. Total	$ 40,015,772	$ 38,774,029
6.	Actuarial value of assets	$ 25,604,823	$ 25,400,331
7.	Unfunded actuarial accrued liability (UAAL) (Item 5d - Item 6)	$ 14,410,949	$ 13,373,698
8.	GASB No. 25 Annual Required Contribution Rate		
	a. Employer normal cost rate	4.18%	3.51%
	b. Employer contribution rate available to amortize the UAAL	6.42%	6.17%
	c. Total employer contribution rate	10.60%	9.68%
9.	Funding period based on the current employer contribution rate (years)	51	38
10.	Recommended 30-year contribution rate	12.23%	10.60%

[1] The projected payroll for fiscal year 2012 for all members, including the ORP, TERI, and working retirees is $9,379,634.

[2] The present value of future pay was not disclosed in the prior actuary's report.

Actuarial Present Value of Future Benefits

(Dollar amounts expressed in thousands)

		July 1, 2011 (1)	July 1, 2010 (2)
1.	Active members		
	a. Service retirement	$ 18,527,626	$ 17,679,370
	b. Deferred termination benefits and refunds	1,133,656	1,458,780
	c. Survivor benefits	523,482	305,892
	d. Disability benefits	1,580,783	1,393,803
	e. Incidental death benefits[1]	N/A	148,464
	f. Total	$ 21,765,547	$ 20,986,309
2.	Retired members		
	a. Service retirement	$ 20,645,566	$ 20,167,246
	b. Disability retirement	1,550,283	1,505,445
	c. Beneficiaries	828,468	803,177
	d. Incidental death benefits	136,341	109,375
	e. Total	$ 23,160,658	$ 22,585,243
3.	Inactive members		
	a. Vested terminations	$ 648,938	$ 606,597
	b. Nonvested terminations	197,404	187,784
	c. Total	$ 846,342	$ 794,381
4.	Total actuarial present value of future benefits	$ 45,772,547	$ 44,365,933

[1] The value of the incidental death benefit is included in the other reported benefits amounts for 2011.

Analysis of Normal Cost

		June 30, 2011	June 30, 2010
		(1)	(2)
1.	Total normal cost rate		
	a. Service retirement	7.25%	6.49%
	b. Deferred termination benefits and refunds	1.99%	2.37%
	c. Survivor benefits	0.35%	0.16%
	d. Disability benefits	1.09%	0.89%
	e. Incidental death benefit[1]	N/A	0.10%
	f. Total	10.68%	10.01%
2.	Less: member contribution rate	6.50%	6.50%
3.	Net employer normal cost rate	4.18%	3.51%

[1] The cost of the incidental death benefit is included in the other reported benefits amounts for 2011.

Results of July 1, 2011 Valuation

(Dollar amounts expressed in thousands)

		July 1, 2011
		(1)
1.	Actuarial Present Value of Future Benefits	
	a. Present retired members and beneficiaries	$ 23,160,658
	b. Present active and inactive members	22,611,889
	c. Total actuarial present value	$ 45,772,547
2.	Present Value of Future Normal Contributions	
	a. Employee	$ 3,545,366
	b. Employer	2,211,409
	c. Total future normal contributions	$ 5,756,775
3.	Actuarial Liability	$ 40,015,772
4.	Current Actuarial Value of Assets	$ 25,604,823
5.	Unfunded Actuarial Liability	$ 14,410,949
6.	UAAL Amortization Rates based on an employer contribution rate of 12.23%	
	a. Active members	4.18%
	b. TERI members (including employee contributions)	17.18%
	c. ORP members	7.23%
	d. Re-employed members (including employee contributions)	17.18%
7.	Unfunded Actuarial Liability Liquidation Period	30 years

Actuarial Balance Sheet

(Dollar amounts expressed in thousands)

	July 1, 2011 (1)	July 1, 2010 (2)
1. Assets		
a. Current assets (actuarial value)		
i. Employee annuity savings fund	$ 6,472,646	$ 6,222,854
ii. Employer annuity accumulation fund	19,132,177	19,177,477
iii. Total current assets	$ 25,604,823	$ 25,400,331
b. Present value of future member contributions	$ 3,545,366	$ 3,709,689
c. Present value of future employer contributions		
i. Normal contributions	$ 2,278,533	$ 1,882,216
ii. Accrued liability contributions	14,343,825	13,373,698
iii. Total future employer contributions	$ 16,622,358	$ 15,255,914
d. Total assets	$ 45,772,547	$ 44,365,934
2. Liabilities		
a. Employee annuity savings fund		
i. Past member contributions	$ 6,472,646	$ 6,222,854
ii. Present value of future member contributions	3,545,366	3,709,689
iii. Total contributions to employee annuity savings fund	$ 10,018,012	$ 9,932,543
b. Employer annuity accumulation fund		
i. Benefits currently in payment (including TERI)	$ 23,160,658	$ 22,475,868
ii. Benefits to be provided to other members	12,593,877	11,957,523
iii. Total benefits payable from employer annuity accumulation fund	$ 35,754,535	$ 34,433,391
c. Total liabilities	$ 45,772,547	$ 44,365,934

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

Item (1)	July 1, 2011 (2)	July 1, 2010 (3)
1. Cash and cash equivalents (operating cash)	$ 2,571,401	$ 3,473,930
2. Receivables	872,711	1,139,302
3. Investments		
a. Short-term securities	$ 10,113	$ 495
b. Domestic fixed income	3,309,873	3,384,091
c. Global fixed income	2,780,555	2,467,288
d. Domestic equities	1,808,944	1,407,616
e. Global equities	1,075,869	255
f. Alternative investments	11,713,707	9,101,529
g. Total investments	$ 20,699,061	$ 16,361,274
4. Securities lending cash collateral invested	$ 198,711	$ 282,044
5. Prepaid administrative expenses	924	838
6. Capital assets, net of accumulated depreciation	2,795	2,902
7. Total assets	$ 24,345,603	$ 21,260,290
8. Liabilities		
a. Due to other systems	$ 458	$ 196
b. Accounts payable	1,161,046	803,024
c. Investment fees payable	16,059	14,861
d. Obligations under securities lending	198,711	282,044
e. Deferred retirement benefits	363,373	322,350
f. Due to employee insurance program	41,389	37,599
g. Benefit payable	3,743	4,553
h. Other liabilities	165,795	114,526
i. Total liabilities	$ 1,950,574	$ 1,579,153
9. Total market value of assets available for benefits (Item 7 - Item 8.i.)	$ 22,395,029	$ 19,681,137
10. Asset allocation (investments)		
a. Net invested cash	7.6%	16.9%
b. Domestic fixed income	14.8%	17.2%
c. Global fixed income	12.4%	12.5%
d. Domestic equities	8.1%	7.2%
e. Global equities	4.8%	0.0%
f. Alternative investments	52.3%	46.2%
g. Total investments	100.0%	100.0%

Reconciliation of System Net Assets

(Dollar amounts expressed in thousands)

	Year Ending July 1, 2011 (1)	Year Ending July 1, 2010 (2)
1. Value of assets at beginning of year	$ 19,681,137	$ 17,817,479
2. Revenue for the year		
a. Contributions		
i. Member contributions	$ 562,170	$ 561,261
ii. Employer contributions	809,175	819,480
v. Total	$ 1,371,345	$ 1,380,741
b. Income		
i. Interest, dividends, and other income	$ 212,677	$ 234,011
ii. Investment expenses	(61,618)	(44,462)
iii. Net	$ 151,059	$ 189,549
c. Net realized and unrealized gains (losses)	3,447,010	2,423,114
d. Total revenue	$ 4,969,414	$ 3,993,404
3. Expenditures for the year		
a. Disbursements		
i. Refunds	$ 84,591	$ 75,814
ii. Regular annuity benefits[1]	2,133,199	2,013,461
iii. Other benefit payments	17,317	20,878
iv. Transfers to other systems	1,862	1,416
iv. Total	$ 2,236,969	$ 2,111,569
b. Administrative expenses and depreciation	18,553	18,177
c. Total expenditures	$ 2,255,522	$ 2,129,746
4. Increase in net assets (Item 2. - Item 3.)	$ 2,713,892	$ 1,863,658
5. Value of assets at end of year (Item 1. + Item 4.)	$ 22,395,029	$ 19,681,137
6. Net external cash flow		
a. Dollar amount	$ (865,624)	$ (730,828)
a. Percentage of market value	-4.1%	-3.9%

[1] Includes deferred retirement benefit payments.

Development of Actuarial Value of Assets

(Dollar amounts expressed in thousands)

			July 1, 2011
			(1)
1.	Actuarial value of assets at the prior valuation date	$	25,400,331
2.	Market value of assets at the prior valuation date	$	19,681,137
3.	Net external cash flow during the year		
	a. Contributions	$	1,371,345
	b. Disbursements		(2,236,969)
	c. Subtotal	$	(865,624)
4.	Expected net investment income at 7.50% earned on		
	a. Actuarial value of assets at the prior valuation date	$	1,905,025
	b. Contributions		51,425
	c. Disbursements		(83,886)
	d. Subtotal	$	1,872,564
5.	Expected actuarial value of assets, end of year (Item 1. + Item 3.c. + Item 4.d.)	$	26,407,271
6.	Market value of assets as of the current valuation date	$	22,395,029
7.	Difference between expected actuarial assets and market value of assets (Item 6. - Item 5.)	$	(4,012,242)
8.	Excess/(shortfall) recognized (20% of Item 7.)	$	(802,448)
9.	Actuarial value of plan assets, end of year (Item 5. + Item 8.)	$	25,604,823
10.	Asset gain (loss) for year (Item 9. - Item 5.)	$	(802,448)
11.	Asset gain (loss) as % of the actuarial value of assets		(3.13%)
12.	Ratio of AVA to MVA		114.3%

Estimation of Yields

(Dollar amounts expressed in thousands)

		Year Ending	
		July 1, 2011	July 1, 2010
		(1)	(2)
1.	Market value yield		
	a. Beginning of year market assets	$ 19,681,137	$ 17,817,479
	b. Contributions to fund during the year	1,371,345	1,380,741
	c. Disbursements	(2,236,969)	(2,111,569)
	d. Investment income (net of investment and administrative expenses)	3,579,516	2,594,486
	e. End of year market assets	$ 22,395,029	$ 19,681,137
	f. Estimated dollar weighted market value yield	18.6%	14.9%
2.	Actuarial value yield		
	a. Beginning of year actuarial assets	$ 25,400,331	$ 25,183,062
	b. Contributions to fund during the year	1,371,345	1,380,741
	c. Disbursements	(2,236,969)	(2,111,569)
	d. Investment income (net of investment and administrative expenses)	1,070,116	948,097
	e. End of year actuarial assets	$ 25,604,823	$ 25,400,331
	f. Estimated actuarial value yield	4.3%	3.3%

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	40,015,772	14,410,949	64.0%	7,687,558	187.5%

[1] Covered payroll does not include payroll attributable to members in ORP, TERI, or working retirees.

Notes to Required Supplementary Information
(as required by GASB #25)

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation date:	July 1, 2011
Actuarial cost method:	Entry Age Normal
Amortization method:	Level percentage of payroll
Amortization period for GASB 25 ARC:	30-year open period[1]
Asset valuation method:	5-year smoothed market
Actuarial assumptions:	
Investment rate of return[2]	7.50%
Projected salary increases[2]	3.50% to 12.50% (varies by service)
Inflation	2.75%
Cost-of-living adjustments	1.00%

[1] The Board will maintain the prior year's contribution rate to the extent the amortization period does not exceed 30 years.

[2] Includes inflation at 2.75%

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	10,382,468	25,604,823	100.0%	82.6%	0.0%

SECTION D

MEMBERSHIP DATA

MEMBERSHIP TABLES

Summary of Membership Data

		July 1, 2011		July 1, 2010
		(1)		(2)
1. Active members				
a. Males		57,593		58,226
b. Females		130,018		132,013
c. Total members		187,611		190,239
d. Total annualized prior year pay	$	7,348,994,413	$	7,400,814,525
e. Average pay	$	39,171	$	38,896
f. Average age		45.5		45.2
g. Average service		10.5		10.2
h. Member contributions with interest	$	5,724,837,949	$	5,508,353,592
i. Average contributions with interest	$	30,514	$	28,950
2. Vested inactive members				
a. Number		19,775		18,652
b. Total annual deferred benefits	$	113,553,247	$	108,176,876
c. Average annual deferred benefit	$	5,742	$	5,800
3. Nonvested inactive members				
a. Number		138,311		139,035
b. Member contributions with interest	$	197,403,844	$	187,406,626
c. Average contributions with interest	$	1,427	$	1,348
4. Service retirees				
a. Number		94,838		91,743
b. Total annual benefits	$	1,936,478,546	$	1,842,703,158
c. Average annual benefit	$	20,419	$	20,085
d. Average age at the valuation date		68.9		68.7
5. Disabled retirees				
a. Number		12,492		11,906
b. Total annual benefits	$	142,029,844	$	153,889,301
c. Average annual benefit	$	11,370	$	12,925
d. Average age at the valuation date		61.9		61.8
6. Beneficiaries				
a. Number		8,042		7,745
b. Total annual benefits	$	89,867,788	$	84,783,174
c. Average annual benefit	$	11,175	$	10,947
d. Average age at the valuation date		67.3		67.5

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

		June 30, 2011 (1)		June 30, 2010 (2)
1. Active Members				
a. Number of state employees		51,723		53,142
Total annual compensation	$	2,232,313	$	2,367,943
b. Number of public school employees		83,075		83,935
Total annual compensation	$	3,153,646	$	3,372,435
c. Number of other agency employees		52,813		53,162
Total annual compensation	$	1,963,036	$	2,029,442
Total number of active members		187,611		190,239
Total annual compensation	$	7,348,995	$	7,769,820
2. TERI Paricipants				
a. Number of state employees		1,726		1,707
Total annual compensation	$	91,874	$	105,844
b. Number of public school employees		2,925		2,906
Total annual compensation	$	152,428	$	175,818
c. Number of other agency employees		603		551
Total annual compensation	$	27,269	$	31,222
Number of active TERI partipants		5,254		5,164
Total annual compensation	$	271,571	$	312,884
3. Rehired Retired Participants				
a. Number of state employees		3,995		4,433
Total annual compensation	$	138,265	$	169,119
b. Number of public school employees		8,041		8,788
Total annual compensation	$	246,019	$	321,783
c. Number of other agency employees		2,184		2,162
Total annual compensation	$	81,395	$	80,384
Number of rehired retired members		14,220		15,383
Total annual compensation	$	465,679	$	571,286
4. ORP Participants				
a. Number of state employees		11,560		12,474
Total annual compensation	$	656,124	$	672,131
b. Number of public school employees		7,596		8,507
Total annual compensation	$	287,524	$	315,596
Number of ORP members		19,156		20,981
Total annual compensation	$	943,648	$	987,727
5. All Groups Combined				
a. Number of state employees		69,004		71,756
Total annual compensation	$	3,118,576	$	3,315,037
b. Number of public school employees		101,637		104,136
Total annual compensation	$	3,839,617	$	4,185,632
c. Number of other agency employees		55,600		55,875
Total annual compensation	$	2,071,700	$	2,141,048
Total number members		226,241		231,767
Total annual compensation	$	9,029,893	$	9,641,717

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	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

[1] Covered payroll does not include payroll attributable to members in ORP, TERI, or working retirees.

Distribution of Active Members by Age and by Years of Service

	Years of Credited Service												
Attained Age	0 Count & Avg. Comp.	1 Count & Avg. Comp.	2 Count & Avg. Comp.	3 Count & Avg. Comp.	4 Count & Avg. Comp.	5-9 Count & Avg. Comp.	10-14 Count & Avg. Comp.	15-19 Count & Avg. Comp.	20-24 Count & Avg. Comp.	25-29 Count & Avg. Comp.	30-34 Count & Avg. Comp.	35 & Over Count & Avg. Comp.	Total Count & Avg. Comp.
Under 20	165	17	3	0	0	0	0	0	0	0	0	0	185
	$18,407	$10,119	$8,987	$0	$0	$0	$0	$0	$0	$0	$0	$0	$17,493
20-24	1,956	1,360	683	378	199	72	0	0	0	0	0	0	4,648
	$23,984	$25,171	$26,262	$23,585	$25,151	$23,358	$0	$0	$0	$0	$0	$0	$24,674
25-29	2,216	2,343	2,366	2,918	2,336	3,228	55	0	0	0	0	0	15,462
	$27,409	$30,470	$31,761	$32,573	$33,543	$35,406	$32,340	$0	$0	$0	$0	$0	$32,127
30-34	1,561	1,502	1,485	1,995	1,856	7,515	2,434	32	2	0	0	0	18,382
	$29,174	$32,797	$34,246	$33,448	$34,752	$39,018	$42,224	$27,808	$25,444	$0	$0	$0	$36,656
35-39	1,439	1,302	1,313	1,584	1,505	5,485	6,651	1,692	43	2	0	1	21,017
	$28,886	$30,223	$34,592	$34,233	$34,887	$38,183	$45,956	$49,060	$37,248	$9,254	$0	$63,456	$39,627
40-44	1,493	1,363	1,289	1,694	1,525	5,335	5,720	5,139	1,897	55	2	1	25,513
	$27,173	$31,319	$35,682	$31,905	$35,385	$37,188	$43,575	$51,573	$50,777	$41,568	$13,905	$6,951	$41,100
45-49	1,279	1,268	1,206	1,493	1,442	5,233	5,188	3,726	4,725	2,012	33	2	27,607
	$27,294	$30,144	$32,815	$32,294	$32,842	$35,896	$40,071	$46,334	$52,666	$54,209	$41,189	$34,250	$41,149
50-54	1,124	1,070	1,064	1,364	1,259	4,841	5,242	3,866	3,967	4,025	756	15	28,593
	$28,098	$29,654	$32,128	$31,790	$32,752	$34,955	$38,361	$43,924	$48,780	$56,301	$56,637	$56,530	$41,479
55-59	876	903	868	1,178	1,128	4,220	4,681	3,635	3,612	2,593	938	127	24,759
	$27,979	$29,999	$32,466	$33,016	$35,309	$36,195	$39,069	$42,972	$47,040	$54,967	$58,880	$56,941	$41,408
60-64	443	481	535	697	763	2,954	2,889	2,323	2,228	1,468	389	150	15,320
	$26,566	$28,971	$30,464	$30,537	$35,246	$36,290	$39,629	$44,356	$45,243	$53,597	$63,405	$68,919	$41,083
65 & Over	259	254	283	381	409	1,589	1,203	688	516	330	123	90	6,125
	$17,417	$19,669	$24,743	$23,698	$24,162	$27,507	$32,680	$41,429	$44,248	$55,342	$64,144	$72,638	$33,056
Total	12,811	11,863	11,095	13,682	12,422	40,472	34,063	21,101	16,990	10,485	2,241	386	187,611
	$26,980	$29,762	$32,503	$32,141	$33,773	$36,513	$41,250	$46,402	$49,080	$55,075	$58,897	$65,009	$39,171

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	64,364	$	1,221,754,912	$	1,582
100% J&S	13,023		285,719,585		1,828
50% J&S	9,456		256,255,712		2,258
10 Years C&L	688		12,927,075		1,566
Level Income	7,307		159,821,262		1,823
Subtotal:	94,838	$	1,936,478,546		1,702
Disability:					
Maximum	10,272	$	137,111,076	$	1,112
100% J&S	1,233		12,719,638		860
50% J&S	799		12,685,003		1,323
10 Years C&L	188		2,374,172		1,052
Subtotal:	12,492	$	164,889,889		1,100
Beneficiaries:	8,042	$	89,867,788	$	931
Total:	115,372	$	2,191,236,223	$	1,583

Distribution of Annuitants by Monthly Benefit

Monthly Benefit Amount	Number of Annuitants	Female	Male	Average Service
(1)	(2)	(3)	(4)	(5)
Under $200	7,045	4,723	2,322	7.36
$ 200 - 399	11,158	7,985	3,173	11.30
400 - 599	10,533	7,496	3,037	14.40
600 - 799	8,786	6,285	2,501	17.34
800 - 999	7,670	5,464	2,206	19.77
1,000 - 1,199	6,947	4,955	1,992	22.27
1,200 - 1,399	6,410	4,552	1,858	23.98
1,400 - 1,599	6,108	4,326	1,782	25.44
1,600 - 1,799	5,706	4,046	1,660	26.82
1,800 - 1,999	5,731	4,019	1,712	27.71
2,000 - 2,199	6,310	4,600	1,710	28.25
2,200 - 2,399	6,535	4,846	1,689	28.64
2,400 - 2,599	6,291	4,656	1,635	28.89
2,600 - 2,799	4,758	3,301	1,457	29.36
2,800 - 2,999	3,421	2,198	1,223	29.67
3,000 - 3,199	2,426	1,348	1,078	29.92
3,200 - 3,399	1,805	926	879	30.24
3,400 - 3,599	1,471	731	740	30.26
3,600 - 3,799	1,188	526	662	30.56
3,800 - 3,999	1,020	421	599	30.45
4,000 & Over	4,053	1,145	2,908	31.63
Total	115,372	78,549	36,823	22.23

Schedule of Retirants Added to And Removed from Rolls

(Dollar amounts except average allowance expressed in thousands)

Year Ended	Added to Rolls: Number	Added to Rolls: Annual Benefits	Removed from Rolls: Number	Removed from Rolls: Annual Benefits	Rolls End of the Year: Number	Rolls End of the Year: Annual Benefits	% Increase in Annual Benefit	Average Annual Benefit
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7/1/2001	12,523	$ 284,739	2,474	$ 23,735	74,054	$ 1,085,634	31.7%	$ 14,660
7/1/2002	7,344	140,077	2,334	24,531	79,064	1,201,180	10.6%	15,193
7/1/2003	7,866	163,867	2,510	27,662	84,420	1,337,385	11.3%	15,842
7/1/2004	7,319	151,477	2,132	22,656	89,607	1,466,206	9.6%	16,363
7/1/2005	7,203	167,748	2,143	23,537	94,667	1,610,417	9.8%	17,011
7/1/2006	4,621	118,271	2,083	24,099	97,205	1,704,589	5.8%	17,536
7/1/2007	5,944	130,286	2,252	28,455	100,897	1,806,420	6.0%	17,904
7/1/2008	6,021	132,856	2,396	30,178	104,522	1,909,098	5.7%	18,265
7/1/2009	6,190	101,813	2,698	36,834	108,014	1,974,077	3.4%	18,276
7/1/2010	6,596	151,348	3,216	44,049	111,394	2,081,376	5.4%	18,685
7/1/2011	6,336	141,242	2,358	31,382	115,372	2,191,236	5.3%	18,993

Includes Teacher and Employee Retention Incentive (TERI) participants.

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.

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 differs 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	0.25%	3.75%	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 members who attain age 65 before attaining 28 years of service. The second table is based on service and is for members who attain 28 years of service before age 65.

Annual Age Based Retirement Rates								
	General Employees				Teachers			
Age	Reduced		Normal		Reduced		Normal	
	Male	Female	Male	Female	Male	Female	Male	Female
55	10%	9%	0%	0%	10%	9%	0%	0%
56	9%	10%	0%	0%	11%	9%	0%	0%
57	9%	10%	0%	0%	11%	10%	0%	0%
58	9%	11%	0%	0%	11%	10%	0%	0%
59	9%	11%	0%	0%	11%	10%	0%	0%
60	9%	11%	0%	0%	11%	10%	0%	0%
61	9%	11%	0%	0%	11%	13%	0%	0%
62	22%	20%	0%	0%	22%	20%	0%	0%
63	16%	18%	0%	0%	22%	20%	0%	0%
64	16%	18%	0%	0%	22%	20%	0%	0%
65	0%	0%	30%	30%	0%	0%	25%	30%
66	0%	0%	25%	25%	0%	0%	25%	30%
67	0%	0%	20%	20%	0%	0%	25%	30%
68	0%	0%	20%	20%	0%	0%	25%	25%
69	0%	0%	20%	20%	0%	0%	25%	25%
70	0%	0%	20%	20%	0%	0%	25%	25%
71	0%	0%	20%	20%	0%	0%	25%	25%
72	0%	0%	20%	20%	0%	0%	25%	25%
73	0%	0%	20%	20%	0%	0%	25%	25%
74	0%	0%	20%	20%	0%	0%	25%	25%
75	0%	0%	100%	100%	0%	0%	100%	100%

Annual Service Based Retirement Rates				
Years of Service	General Employees		Teachers	
	Male	Female	Male	Female
28	45%	50%	50%	55%
29	30%	30%	30%	30%
30	20%	20%	30%	30%
31	18%	18%	30%	30%
32	18%	16%	30%	30%
33	18%	16%	30%	30%
34	18%	16%	30%	30%
35	18%	16%	30%	40%
36	20%	16%	30%	40%
37	20%	16%	30%	40%
38	20%	16%	30%	40%
39	20%	16%	30%	40%
40	100%	100%	100%	100%
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%

b. Members are assumed to begin purchasing service and retire as they become within 5 years of a service related eligibility condition (23 years of service, Age 55 with more than 20 years of service). 80% of purchased service is expected to be at 16% of payroll and 20% at 35% of payroll. Members are assumed to purchase service and immediately based on the following probabilities:

	Less than Age 55	Over Age 55, but less than Age 65	
Years of Service	Assumed Probability of Purchasing Unreduced Eligibility Service	Assumed Probability of Purchasing Unreduced Eligibility Service	Assumed Probability of Purchasing Reduced Eligibility Service
20		0.50%	0.50%
21		0.75%	0.75%
22		1.00%	1.00%
23	1.00%	1.00%	2.50%
24	1.00%	1.00%	3.50%
25	2.00%	2.00%	
26	3.00%	3.00%	
27	7.00%	7.00%	

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

Disability Rates				
Age	General Employees		Teachers	
	Males	Females	Males	Females
25	0.0630%	0.0580%	0.0524%	0.0572%
30	0.1260%	0.0812%	0.0786%	0.0770%
35	0.1890%	0.1624%	0.1048%	0.0770%
40	0.3150%	0.2088%	0.1965%	0.1342%
45	0.4410%	0.3016%	0.3275%	0.2750%
50	0.6300%	0.5104%	0.5240%	0.4400%
55	1.0080%	0.8120%	0.8515%	0.7150%
60	1.2600%	1.2412%	1.3100%	1.1000%
64	1.5750%	1.7284%	1.6375%	1.3750%

d. 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%

e. 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 RP-2000 Mortality Table (Public School District Employees utilize the White Collar adjustment) projected using the AA projection table with multipliers based on plan experience. 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 based on the market value of assets with five-year smoothing applied. This is accomplished by recognizing each year 20% of the difference between the market value of assets 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 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.

Unused Annual Leave

To account for the effect of unused annual leave on Annual Final Compensation, liabilities for active members are increased 2.14%.

Unused Sick Leave

To account for the effect of unused sick leave on members' final credited service, the service of active members who retire is increased 3 months.

Future Cost-of-living Increases

Benefits are assumed to increase 1.00% annually beginning on the July 1st following the receipt of 12 monthly benefit payments. It is assumed that the Board will not grant ad hoc increases in excess of the automatic adjustment based in the increase in CPI (subject to a maximum of 1.00%).

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 active employees, TERI, and return to work employees by dividing the actual member contributions received during the prior fiscal year by the member contribution rate of 6.50%, and then projecting forward at 3.50%.

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.

10. Decrement timing: Decrements of all types are assumed to occur mid-year.

11. 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.

12. Decrement relativity: Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.

13. 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.

14. Benefit Service: All members are assumed to accrue one year of eligibility service each year.

15. 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 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, bad, 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 Retirement System, organizationally aligned as a Division of the State Budget and Control Board, 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 25, it is considered to be cost-sharing multiple-employer plans.

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).

Employee Contributions: Members contribute 6.50% of earnable compensation per year. These contributions are "picked-up" under Section 414(h) of the Internal Revenue Code. Member contributions are credited with interest at the rate of 4.0% per annum.

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

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

Service Retirement (Unreduced):

a. Eligibility: A member may retire with an unreduced benefit at age 65 with five years of earned service or after 28 years of creditable service, if earlier.

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: A member 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.

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

   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: Member must have five or more years of earned service, unless the disability is due to performing his or her job duties.

b. Monthly Benefit: The net monthly disability benefit payable is equal to the gross benefit less an actuarial offset. However, a member must receive a minimum disability retirement allowance equal to at least 15% of his AFC.

   Gross benefit: 1.82% times the member's AFC times their years of creditable service as if they continued service to age 65.

   Actuarial offset: The equivalent monthly benefit that would have been attributable to employee contributions that would have been paid, and 4% interest thereof, from the date of the member's disability to age 65.

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. Members are vested after five (5) 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.

***Deferred Termination Benefit*:**

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

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

c. Payment Form: Maximum retirement allowance (Option A).

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

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

b. Option B (100% Joint & Survivor with Pop-up): A reduced annuity payable as long as either the member or his/her 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 cost of living increases 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 cost of living increases 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 an 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 with a participating employer.

b. Post Employment: The beneficiary (or estate) of a retiree, both current and future 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 to take into account changes in the cost of living (CPI-W). If the increase in CPI is no more than 1% per annum, then the benefit for each eligible retiree and beneficiary in receipt of an allowance will receive an increase equal to the percentage increase in the CPI. If inflation increases by more than 1%, then the annual increase in the benefit for each retiree and beneficiary in receipt of an allowance will increase by 1% and may be further increased by the Board beyond 1% up to the lesser of the increase of CPI and 4% to the extent certain financial conditions specified in the State Code of Law are met.

A member electing a reduced early retirement is ineligible to receive a COLA 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 average FAC 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.

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 ARC.

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 be 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 of items needed for compliance with GASB 25, such as the funded ratio and the ARC.

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 ARC.

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.

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 ARC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

Annual Required Contribution (ARC): The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under GASB 25. The ARC consists of the Employer Normal Cost and the Amortization Payment

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 it two ways. In the first sense, it is the period used in calculating the Amortization Payment as a component of the ARC. 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 25 and ***GASB 27***: Governmental Accounting Standards Board Statements No. 25 and No. 27. These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 27 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 25 sets the rules for the systems themselves.

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 which does not change over time. In other words, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to covered payroll.

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.