

PSRS

**ACTUARIAL
VALUATION**

JUNE 30, 2012

Public School Retirement System of Missouri

Actuarial Valuation
as of June 30, 2012





October 19, 2012

Board of Trustees
Public School Retirement System of Missouri
3210 West Truman Boulevard
Jefferson City, MO 65109

Dear Members of the Board:

Pursuant to the engagement letter dated October 27, 2008, between PricewaterhouseCoopers LLP ("PwC") and the Public School Retirement System of Missouri ("PSRS"), we have completed the June 30, 2012 PSRS valuation, based upon the data supplied by PSRS and the benefit provisions currently defined by law.

This valuation provides data on the funding status of PSRS. This valuation is based on the provisions of PSRS in effect as of June 30, 2012, data on the PSRS membership, and information on the asset value of the trust fund. All member data and asset information were provided by PSRS staff. While certain checks for reasonableness were performed, the data was used unaudited. The accuracy of the results presented in this report is dependent upon the accuracy and completeness of the underlying information.

The actuarial assumptions and actuarial cost methods used in this valuation have been approved by the Board and are summarized in Appendix E.

This report is intended solely for the use and benefit of PSRS and the Board, and not for reliance by any other person, or for any other purpose. This report was not intended or written to be used, and it cannot be used, for the purpose of avoiding U.S. federal, state or local tax penalties. This includes penalties that may apply if the transaction that is the subject of this document is found to lack economic substance or fails to satisfy any other similar rule of law.

The undersigned actuaries are members of the Society of Actuaries and the American Academy of Actuaries, are Enrolled Actuaries, and meet the "General Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States" relating to pension plans. To the best of our knowledge, the individuals involved in this engagement have no relationship that may impair or appear to impair the objectivity of our work.

Respectfully submitted,

PricewaterhouseCoopers LLP

A handwritten signature in black ink that reads "Sheldon A. Gamzon".

Sheldon Gamzon, FSA, EA, MAAA
Principal

A handwritten signature in black ink that reads "Brandon A. Robertson".

Brandon Robertson, ASA, EA, MAAA
Director

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SUMMARY OF THE VALUATION

PURPOSES OF THE ACTUARIAL VALUATION

At your request, we have performed the actuarial valuation of the Public School Retirement System of Missouri (“PSRS”) as of June 30, 2012.

The purposes of an actuarial valuation are as follows:

- To determine the funding status of PSRS as of the valuation date,
- To determine the contribution rate which would provide for the normal cost of the system plus an amount which will amortize the unfunded actuarial accrued liability within 30 years, and if different, the contribution for the fiscal year ending June 30, 2014, under the statute, and
- To provide accounting and other data required by PSRS.

REPORT HIGHLIGHTS

The key results of the valuation are summarized in the following table along with comparable values from the prior valuation report:

	<u>June 30, 2011</u>	<u>June 30, 2012</u>
	<u>(\$ in Millions)</u>	
Summary of Results		
(1) Present Value of Future Benefits for:		
(a) Active Members	\$ 21,720.1	\$ 21,748.3
(b) Retired Members	20,023.7	21,191.0
(c) Inactive Members	<u>447.9</u>	<u>520.9</u>
(d) Total	\$ 42,191.7	\$ 43,460.2
(2) Present Value of Future Normal Costs	<u>7,808.3</u>	<u>7,872.2</u>
(3) Actuarial Accrued Liability: (1) – (2)	\$ 34,383.4	\$ 35,588.0
(4) Actuarial Value of Assets	<u>29,387.5</u>	<u>29,013.0</u>
(5) Unfunded Actuarial Accrued Liability: (3) – (4)	\$ 4,995.9	\$ 6,575.0
(6) Normal Cost Rate	19.16%	19.03%
(7) Unfunded Actuarial Accrued Liability Rate	<u>6.94%</u>	<u>9.17%</u>
(8) Benchmark Contribution Rate for Following Fiscal Year	26.10%	28.20%
(9) Current Contribution Rate, Member + Employer	29.00%	29.00%
(10) Recommended Contribution Rate for Fiscal Year End 2013 and 2014	29.00%	29.00%

Highlights of Report	<u>June 30, 2011</u>	<u>June 30, 2012</u>
(1) Actuarial Accrued Liability Funding Ratio:		
(a) Actuarial Value of Assets (millions)	\$ 29,387.5	\$ 29,013.0
(b) Actuarial Accrued Liability (millions)	34,383.4	35,588.0
(c) Funding Ratio: (a) / (b)	85.5%	81.5%
(2) Active Members:		
(a) Number:		
Male	17,541	17,666
Female	<u>60,167</u>	<u>59,863</u>
Total	77,708	77,529
(b) Compensation for Fiscal Year (millions):		
Male	\$ 1,080.1	\$ 1,101.9
Female	<u>3,258.9</u>	<u>3,277.2</u>
Total	\$ 4,339.0	\$ 4,379.1
(c) Average Age:		
Male	42.1	42.0
Female	42.4	42.3
Total	42.3	42.2
(d) Average Service:		
Male	11.3	11.4
Female	11.5	11.4
Total	11.5	11.4
(e) Average Compensation for Fiscal Year:		
Male	\$ 61,578	\$ 62,374
Female	\$ 54,163	\$ 54,744
Total	\$ 55,837	\$ 56,483
(f) Average Amount of Assets per Active Member (based on actuarial value):	\$ 114,754	\$ 98,870
(3) Retired Members and Beneficiaries:		
(a) Number Service Retired:		
Life Annuities	22,974	24,035
Options	<u>20,805</u>	<u>21,860</u>
Total	43,779	45,895
(b) Number Disability Retired:	763	803
(c) Number Survivors, Beneficiaries:	<u>3,523</u>	<u>3,646</u>
(d) Total Persons Receiving Benefits:	48,065	50,344
(e) Average Monthly Pension Being Paid at Valuation Date for New Service Retired, Including Options:	\$ 3,084	\$ 3,080
(f) Average Amount of Assets per Service Retired (based on actuarial value):	\$ 435,265	\$ 439,428
(g) Average Amount of Assets per New Service Retired (based on actuarial value):	\$ 503,469	\$ 500,250

MEMBERSHIP CHARACTERISTICS

Active and Inactive Membership

A total of 92,122 active and inactive members of PSRS are included in the 2012 actuarial valuation.

Active members	77,529
Inactive members	<u>14,593</u>
Total active and inactive members	92,122

Between the 2011 and 2012 actuarial valuations, the number of active employees decreased by 179, or 0.2% from 77,708 to 77,529, and the average annual salary increased by 1.16% from \$55,837 to \$56,483.

Summary of Changes in Membership

	<u>Male</u>	<u>Female</u>	<u>Total</u>
Active and Inactive Members 6/30/2011	19,646	69,642	89,288
Additions:			
New Memberships	1,257	3,888	5,145
Terminated Members Reinstated	<u>0</u>	<u>2</u>	<u>2</u>
Total Additions	1,257	3,890	5,147
Decreases:			
Service Retirements	597	2,323	2,920
Disability Retirements	12	58	70
Withdrawals	415	1,336	1,751
Deaths	17	35	52
Other Terminations	105	483	588
Reciprocity	<u>1</u>	<u>1</u>	<u>2</u>
Total Decreases	1,147	4,236	5,383
Adjustments	<u>0</u>	<u>0</u>	<u>0</u>
Active and Inactive Members 6/30/2012	19,756	69,296	89,052
Additional Members Valued ¹	<u>638</u>	<u>2,432</u>	<u>3,070</u>
Total Valuation Membership at 6/30/2012 (includes Inactive Members)	20,394	71,728	92,122

¹ Includes 145 deceased members and 2,925 terminated members whose contributions had yet to be distributed as of the valuation date.

Benefit Recipients

On June 30, 2012, PSRS was paying benefits to 50,207 retired members, beneficiaries and survivors. In addition, 137 members had benefits that were on hold due to returning to work. The headcount for current benefit recipients for valuation purposes increased 4.7% from 48,065 on June 30, 2011, to 50,344 on June 30, 2012. The June 30, 2012 headcount consists of 45,895 service retirees, 803 disability retirees, and 3,646 beneficiaries and survivors.

There are two classes of retired members – members retired because of service and members retired because of disability.

The changes among the retired group of members during the prior year were as follows:

	<u>Service Retirements</u>	<u>Disability Retirements</u>	<u>Beneficiaries</u>	<u>Total</u>
Retired Members 6/30/2011	43,718	761	3,435	47,914
Additions:				
New Retirees/Beneficiaries	2,926	70	304	3,300
Benefits Taken Off Hold	<u>20</u>	<u>0</u>	<u>6</u>	<u>26</u>
Total Additions	2,946	70	310	3,326
Decreases:				
Died During Year	810	28	138	976
Benefits Placed On Hold	<u>12</u>	<u>2</u>	<u>43</u>	<u>57</u>
Total Decreases	<u>822</u>	<u>30</u>	<u>181</u>	<u>1,033</u>
Retired Members 6/30/2012	45,842	801	3,564	50,207
Additional Members Valued ¹	<u>53</u>	<u>2</u>	<u>82</u>	<u>137</u>
Total Valuation Membership at 6/30/2012	45,895	803	3,646	50,344

¹ Includes retired members with benefits on hold that earned additional retirement benefits.

As of June 30, 2012, the average monthly benefit payable to service retirees was \$3,241 compared to \$3,178 as of June 30, 2011. These averages and the amounts shown in the tables that follow include all post-retirement benefit increases.

ACTUARIAL ASSUMPTIONS AND METHODS

An experience study was completed during 2011 in order to review and update (as needed) the actuarial assumptions and methods. As a result, some of the assumptions and methods were updated for the June 30, 2011 valuation. The only assumption changes for the June 30, 2012 valuation were a reduction in the assumed interest credited to member contributions from 2.00% to 1.00% and removal of a 0.4% liability load due to implementation of new actuarial operating factors for annuity conversion and age-reduced retirement that incorporate an assumed post-retirement COLA of 2.00% per year. These changes had a very minor impact on the liability of the system. All significant assumptions are the same as those used in the June 30, 2011 valuation.

EXPERIENCE DURING FY 2012

Overall, the system experienced a net actuarial loss of \$1,600.7 million.

The total net actuarial loss for the year ending June 30, 2012, is shown below and is broken out further in Table 22:

	<u>(\$ in millions)</u>
1. Actuarial (Gain)/Loss on Assets (at actuarial value)	\$1,962.4
2. Actuarial (Gain)/Loss on Liabilities Due to Legislative Changes	0
3. Actuarial (Gain)/Loss on Liabilities Due to Assumption Changes	0
4. Actuarial (Gain)/Loss on Unfunded Liabilities Due to Reinstated and Purchased Service	6.2
5. Actuarial (Gain)/Loss on Liabilities Due to Actual COLA in 2012 vs. expected	0
6. Actuarial (Gain)/Loss on Liabilities Due to Salary, Demographic, and Other Experience	<u>(367.9)</u>
7. Total Actuarial (Gain)/Loss (Sum 1-6)	\$ 1,600.7

For the plan year ending June 30, 2012, the funds experienced an asset loss of \$1,962.4 million; based on actuarial value of assets. The use of the five year smoothing method to determine the actuarial value of assets recognizes 20% of the total gain or loss for each of the preceding five years.

The reinstatement of forfeited service generated a loss of approximately \$7.0 million. The purchase of service other than reinstated service generated a gain of approximately \$0.8 million.

Demographic experience was a gain of \$367.9 million, primarily due to salary increases being less than assumed.

PSRS BENEFITS

A summary of the current benefit provisions appears in Appendix F. There were no changes to the benefit provisions of PSRS during the 2012 session of the Legislature which impact the results of this valuation.

ASSET INFORMATION

The market value of the assets available for benefits has decreased from \$28.1 billion at the end of FY 2011 to \$27.8 billion at the end of FY 2012. The actuarial value of assets decreased from \$29.4 billion at the end of FY 2011 to \$29.0 billion at the end of FY 2012. Actuarial value of assets exceeds the market value by \$1.2 billion.

Based on the actuarial value, the assets of the fund returned approximately 1.2% which compares to the market value return of 1.6%. The difference is due to the recognition of investment losses from prior years under the asset smoothing method used to determine the actuarial value of assets.

The detailed determinations of asset values utilized in this valuation and asset growth in the last year are set forth in Appendix B.

FUNDING STATUS

The funding status of PSRS is measured as the ratio of assets available for benefits, to a benefit liability measure for the System. While there are several such measures that could be appropriately used, the benefit liability measure that ties most closely to the funding strategy is the Actuarial Accrued Liability (“AAL”).

Using the actuarial (smoothed) value of assets, the funding ratio increased from 77.7% at June 30, 2010, to 85.5% at June 30, 2011, and then decreased to 81.5% as of June 30, 2012.

Using the market value of assets, the funding ratio increased from 63.8% at June 30, 2010, to 81.7% at June 30, 2011, and then decreased to 78.2% as of June 30, 2012.

GASB DISCLOSURE

PSRS produces its accounting statements under GASB Statement Number 25. In Table 20, you will find Required Supplemental Information mandated by that statement.

This information is presented in draft form for review by the System's auditor. Please let us know if there are any changes so that we may maintain consistency with the System's financial statements.

FUNDING PROCESS

In the 2003 session of the Legislature, the funding provisions of PSRS were amended. The following changes were adopted:

1. The limitation on the total contribution rate (22% of pay) was eliminated.
2. Contribution rates will now be established by actuarial valuation.
3. The annual increase in the total contribution rate may not exceed 1% of pay.

In the 2007 session of the Legislature, it was determined that the unfunded actuarial accrued liabilities associated with benefit changes shall be amortized over a twenty-year period.

During Fiscal 2011, the Board adopted a funding policy, which identified a number of goals and actions that the Board would take to stabilize the contribution rate and improve the funded position of the plan. The funding policy as we understand it is presented in Appendix E.

APPENDICES

APPENDIX A
MEMBERSHIP DATA

Table 1**Number, Average Age-Service-Salary, and Total Payroll
of Active Members Included in Actuarial Valuations****Male**

Item	Actuarial Valuation as of June 30				
	2008	2009	2010	2011	2012
Number	17,653	17,883	17,776	17,541	17,666
Average Age	42.1	42.0	42.1	42.1	42.0
Average Years of Service	11.1	11.0	11.2	11.3	11.4
Average Annual Salary	\$ 59,016	\$ 61,452	\$ 62,356	\$ 61,578	\$ 62,374
Total Payroll (000's)	\$ 1,041,812	\$ 1,098,939	\$ 1,108,444	\$ 1,080,134	\$ 1,101,905

Female

Item	Actuarial Valuation as of June 30				
	2008	2009	2010	2011	2012
Number	60,783	61,452	61,480	60,167	59,863
Average Age	42.3	42.2	42.4	42.4	42.3
Average Years of Service	11.0	11.1	11.3	11.5	11.4
Average Annual Salary	\$ 52,113	\$ 54,359	\$ 55,065	\$ 54,163	\$ 54,744
Total Payroll (000's)	\$ 3,167,605	\$ 3,340,442	\$ 3,385,421	\$ 3,258,842	\$ 3,277,155

Total

Item	Actuarial Valuation as of June 30				
	2008	2009	2010	2011	2012
Number	78,436	79,335	79,256	77,708	77,529
Average Age	42.2	42.2	42.3	42.3	42.2
Average Years of Service	11.1	11.1	11.3	11.5	11.4
Average Annual Salary	\$ 53,667	\$ 55,957	\$ 56,701	\$ 55,837	\$ 56,483
Total Payroll (000's)	\$ 4,209,417	\$ 4,439,381	\$ 4,493,865	\$ 4,338,976	\$ 4,379,060

Table 2

**Employee Distribution by Age and Years of Service
June 30, 2012**

Age	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30 & Over	
Under 25	1,372	0	0	0	0	0	0	1,372
25-29	6,989	2,490	0	0	0	0	0	9,479
30-34	2,926	6,983	1,949	0	0	0	0	11,858
35-39	1,849	2,895	5,334	1,359	0	0	0	11,437
40-44	1,592	2,255	2,719	4,138	900	6	0	11,610
45-49	1,089	1,667	1,880	1,859	2,495	874	7	9,871
50-54	796	1,379	1,609	1,650	1,436	2,022	632	9,524
55-59	537	880	1,286	1,540	1,330	797	756	7,126
60-64	340	559	749	908	736	443	363	4,098
65 & Over	104	188	239	217	162	123	121	1,154
Total	17,594	19,296	15,765	11,671	7,059	4,265	1,879	77,529

Table 3
Salary Distribution
Employees in Active Service
on June 30, 2012

Annual Salary	Number	Percent
Under \$20,000	1,912	2.5%
\$20,000-24,499	1,007	1.3%
\$25,000-29,999	1,080	1.4%
\$30,000-34,999	2,531	3.3%
\$35,000-39,999	6,690	8.6%
\$40,000-44,999	10,496	13.5%
\$45,000-49,999	11,301	14.6%
\$50,000-54,999	9,801	12.6%
\$55,000-59,999	7,886	10.2%
\$60,000-64,999	6,075	7.8%
\$65,000-69,999	4,691	6.1%
\$70,000-74,999	3,468	4.5%
\$75,000-79,999	2,650	3.4%
\$80,000-84,999	2,180	2.8%
\$85,000-89,999	1,786	2.3%
\$90,000-94,999	1,237	1.6%
\$95,000-99,999	806	1.0%
\$100,000 & Over	<u>1,932</u>	<u>2.5%</u>
Total	77,529	100.0%

Table 4

**Salary Increase Rates by Service Group
Employees Earning a Full Year of Service in Fiscal 2011 and 2012**

Service as of June 30, 2012	Number	Average Percent Increase In Salary	
		Expected	Actual
Under 5	15,824	7.0%	4.8%
5-9	17,073	6.4%	3.7%
10-14	14,659	5.4%	3.0%
15-19	10,170	4.9%	2.8%
20-24	6,343	4.6%	2.2%
25-29	3,480	4.3%	2.1%
30 & Over	<u>1,310</u>	<u>4.0%</u>	<u>1.7%</u>
Total	68,859	5.7%	3.3%

Table 5

**History of System's Growth
Active and Inactive Membership**

<u>June 30</u>	<u>Active Females</u>	<u>Active Males</u>	<u>Inactives</u>	<u>Total</u>
1988	37,911	16,117	3,537	57,565
1989	39,021	16,177	3,543	58,741
1990	39,802	16,086	3,773	59,661
1991	40,882	16,026	4,067	60,975
1992	41,853	15,858	4,335	62,046
1993	42,825	15,668	4,705	63,198
1994	44,714	15,881	5,009	65,604
1995	46,681	16,173	5,328	68,182
1996	48,184	16,440	5,894	70,518
1997	49,800	16,656	6,373	72,829
1998	51,706	17,003	6,799	75,508
1999	52,895	17,197	7,278	77,370
2000	54,439	17,267	7,739	79,445
2001	55,405	17,283	8,930	81,618
2002	56,320	17,353	9,376	83,049
2003	56,968	17,379	10,331	84,678
2004	56,790	17,007	11,674	85,471
2005	56,974	16,876	11,692	85,542
2006	58,371	17,169	11,753	87,293
2007	59,644	17,477	11,607	88,728
2008	60,783	17,653	11,580	90,016
2009	61,452	17,883	11,995	91,330
2010	61,480	17,776	11,616	90,872
2011	60,167	17,541	14,391	92,099
2012	59,863	17,666	14,593	92,122

Table 6**Pensions in Force on June 30, 2012
by Type and Monthly Amount**

Monthly Amount	Service	Disability	Beneficiary	Survivor	Total
Less than \$500	1,311	3	128	229	1,671
\$500 - 999	2,610	38	360	504	3,512
\$1,000 - 1,499	2,681	132	446	3	3,262
\$1,500 - 1,999	3,338	240	373	0	3,951
\$2,000 - 2,499	4,671	185	360	0	5,216
\$2,500 - 2,999	5,874	116	342	0	6,332
\$3,000 - 3,499	6,295	60	270	0	6,625
\$3,500 - 3,999	5,594	18	210	0	5,822
\$4,000 - 4,499	4,632	6	154	0	4,792
\$4,500 - 4,999	3,300	3	103	0	3,406
\$5,000 - 5,499	2,285	0	71	0	2,356
\$5,500 - 5,999	1,265	2	46	0	1,313
\$6,000 & Over	<u>2,039</u>	<u>0</u>	<u>47</u>	<u>0</u>	<u>2,086</u>
Total	45,895	803	2,910	736	50,344

Table 7

**Pensions in Force on June 30, 2012
by Type and Age**

Age	Service	Disability	Beneficiary	Survivor	Total
Under 55	961	206	204	332	1,703
55-59	5,030	160	141	35	5,366
60-64	11,532	146	253	80	12,011
65-69	10,904	128	380	75	11,487
70-74	6,884	53	398	56	7,391
75-79	4,300	37	466	50	4,853
80-84	3,125	41	474	56	3,696
85-89	1,809	19	366	26	2,220
90 & Over	<u>1,350</u>	<u>13</u>	<u>228</u>	<u>26</u>	<u>1,617</u>
Total	45,895	803	2,910	736	50,344

Table 8

**Cost of Living Increases to Retired Members
June 30, 2012**

Retirement In	Effective Date of First COLA	First COLA Percentage Increase	Total Increases Through January 2012	January 2013 Increase	Total Increases Through January 2013	Number of Retired Members at 06/30/2012¹
1986 & Earlier	Various	Various	80.00%	0.00%	80.00%	2,664
1987	Jan. 1991	4.00%	78.90%	0.62%	80.00%	527
1988	Jan. 1992	4.70%	72.01%	2.00%	75.45%	659
1989	Jan. 1993	3.10%	64.27%	2.00%	67.56%	590
1990	Jan. 1994	3.00%	59.35%	2.00%	62.54%	728
1991	Jan. 1995	2.50%	54.71%	2.00%	57.80%	794
1992	Jan. 1996	3.00%	50.93%	2.00%	53.95%	941
1993	Jan. 1997	2.80%	46.53%	2.00%	49.46%	816
1994	Jan. 1998	2.30%	42.52%	2.00%	45.37%	942
1995	Jan. 1999	1.70%	39.32%	2.00%	42.11%	1,140
1996	Jan. 2000	2.00%	36.99%	2.00%	39.73%	1,590
1997	Jan. 2001	3.70%	34.31%	2.00%	37.00%	1,536
1998	Jan. 2002	3.30%	29.52%	2.00%	32.11%	1,772
1999-2001 ²	Jan. 2003	1.10%	25.39%	2.00%	27.90%	6,388
2000-2002 ³	Jan. 2004	2.10%	24.02%	2.00%	26.50%	2,219
2003	Jan. 2005	3.30%	21.46%	2.00%	23.89%	2,293
2004	Jan. 2006	2.50%	17.60%	2.00%	19.95%	2,574
2005	Jan. 2007	4.30%	14.73%	2.00%	17.02%	2,385
2006	Jan. 2008	2.70%	10.00%	2.00%	12.20%	2,322
2007	Jan. 2009	5.00%	7.10%	2.00%	9.24%	2,476
2008	Jan. 2010	0.00%	2.00%	2.00%	4.04%	2,688
2009	Jan. 2011	0.00%	2.00%	2.00%	4.04%	2,243
2010	Jan. 2012	2.00%	2.00%	2.00%	4.04%	3,163
2011	Jan. 2013	2.00%		2.00%	2.00%	3,018
2012	Jan. 2014					<u>230</u>
Total						46,698

¹ Includes Service Retirees and Disabled Retirees as of June 30, 2012.

² Includes all retirements in 1999 and, because of legislation in 2000 and 2001, all persons retiring between July 1, 2000 and December 31, 2000, and between July 1, 2001 and December 31, 2001.

³ Includes all retirements in 2002 and, because of legislation in 2000 and 2001, all persons retiring between January 1, 2000 and June 30, 2000, and between January 1, 2001 and June 30, 2001.

Table 9

**Analysis of Retired Membership by Type of Benefit
(Dollar Amounts in Millions)
June 30, 2012**

Type of Benefit	Number	Annual Benefit	Total Liability
Service Retirees			
Options 1 & 10 (Life Only)	24,035	\$893.2	\$9,142.4
Options 2 & 21 (100% J&S with Pop-Up)	12,333	492.7	6,325.5
Option 3 & 31 (75% J&S with Pop-Up)	2,530	111.0	1,403.1
Option 4 & 41 (50% J&S with Pop-Up)	4,599	194.8	2,319.3
Option 5 (10 Years Certain & Life)	1,265	48.6	566.4
Option 6 (5 Years Certain & Life)	292	11.8	136.2
Option 20 (100% J&S)	620	23.8	208.9
Option 30 (75% J&S)	20	1.2	11.6
Option 40 (50% J&S)	<u>201</u>	<u>7.9</u>	<u>54.2</u>
Total	45,895	\$1,785.0	\$20,167.6
Disability Retirees	803	\$19.9	\$189.5
Beneficiaries	2,910	\$84.3	\$719.4
Survivors	736	\$4.7	\$39.2

Note: Excludes tax sheltered annuity amounts.

Table 10**History of System's Growth
Service Retired**

June 30	Females	Males	Total Retired	Total Monthly Pensions	Average Monthly Pension	Average New Pension Granted
1988	11,857	4,054	15,911	\$11,202,662	\$704.08	\$1,191/Mo.
1989	12,117	4,345	16,462	12,412,178	753.99	1,142
1990	12,288	4,591	16,879	13,926,237	825.06	1,338
1991	12,500	4,883	17,383	15,535,235	893.70	1,442
1992	12,695	5,208	17,903	17,748,286	991.36	1,555
1993	13,071	5,547	18,618	19,647,453	1,055.29	1,549
1994	13,166	5,797	18,963	21,564,088	1,137.17	1,673
1995	13,343	6,081	19,424	23,563,044	1,213.09	1,898
1996	13,658	6,417	20,075	27,698,314	1,379.74	2,007
1997	14,716	6,424	21,140	31,431,017	1,486.80	2,005
1998	14,805	7,364	22,169	37,876,023	1,708.51	2,300
1999	15,551	7,835	23,386	45,132,257	1,929.88	2,488
2000	16,360	8,399	24,759	51,928,849	2,097.37	2,684
2001	17,584	9,055	26,639	61,434,862	2,306.20	2,775
2002	18,598	9,530	28,128	67,894,473	2,413.77	2,835
2003	19,440	9,983	29,423	73,017,878	2,481.66	2,846
2004	20,592	10,460	31,052	80,173,849	2,581.92	2,973
2005	22,056	10,945	33,001	88,978,551	2,696.24	2,919
2006	23,302	11,329	34,631	96,626,872	2,790.18	2,946
2007	24,534	11,723	36,257	105,963,764	2,922.57	2,995
2008	25,921	12,124	38,045	114,530,602	3,010.40	2,945
2009	27,469	12,490	39,959	126,498,482	3,165.71	3,140
2010	28,749	12,780	41,529	131,593,123	3,168.70	2,944
2011	30,637	13,142	43,779	139,163,479	3,178.77	3,084
2012	32,436	13,459	45,895	148,741,132	3,240.90	3,080

Notes: Excludes retirees that have returned to teaching and tax sheltered annuity amounts. Headcounts and pension amounts shown are based on data as of June 30, 2012.

Table 11

**History of System's Growth
Disability Retired**

June 30	Females	Males	Total Retired	Total Monthly Pensions	Average Monthly Pension	Average New Pension Granted
1988	400	142	542	\$339,710	\$626.77	\$1,096/Mo.
1989	394	149	543	362,423	667.45	1,088
1990	396	156	552	394,564	714.79	1,061
1991	402	153	555	420,031	756.81	1,257
1992	391	154	545	449,376	824.54	1,144
1993	400	160	560	484,265	864.76	1,178
1994	392	164	556	511,353	919.70	1,281
1995	395	163	558	533,106	955.39	1,377
1996	407	160	567	605,823	1,068.47	1,424
1997	413	153	566	626,626	1,107.11	1,366
1998	413	148	561	695,710	1,240.12	1,483
1999	424	145	569	776,500	1,364.67	1,740
2000	439	141	580	837,745	1,444.39	1,550
2001	456	140	596	929,492	1,559.55	1,728
2002	461	136	597	965,816	1,617.78	1,846
2003	466	138	604	987,727	1,635.31	1,672
2004	489	141	630	1,062,279	1,686.16	1,849
2005	517	147	664	1,151,931	1,734.84	1,690
2006	527	144	671	1,197,398	1,784.50	2,189
2007	539	144	683	1,259,273	1,843.74	1,704
2008	556	135	691	1,308,987	1,894.34	2,069
2009	565	133	698	1,388,870	1,989.78	2,147
2010	583	139	722	1,446,371	2,003.28	2,103
2011	617	146	763	1,548,152	2,029.03	2,336
2012	649	154	803	1,658,415	2,065.27	1,985

APPENDIX B
ASSET INFORMATION

Table 12

Market Value of Assets
Balance Sheet

	<u>June 30, 2011</u>	<u>June 30, 2012</u>
Assets:		
Cash	\$ 71,609,074	\$ 90,553,538
Contribution Receivable	158,732,569	162,148,530
Accrued Interest and Dividends	64,224,855	126,642,508
Investments	29,863,543,284	30,401,626,436
Trades Pending	1,927,700,680	1,573,449,536
Other Assets	825,840	241,107
Capital Assets	14,765,165	17,391,271
Due from PEERS	<u>506,898</u>	<u>348,642</u>
Total	\$ 32,101,908,365	\$ 32,372,401,568
Liabilities:		
Accounts Payable	\$ 16,164,933	\$ 13,538,434
Employer-Pay Liability	880,287	953,831
Interest Payable	1,105,026	271,912
Trades Pending	3,956,370,759	4,515,861,923
Net OPEB Obligation	453,808	573,551
Other Liabilities	26,752,053	24,429,356
Due to PEERS	<u>0</u>	<u>0</u>
Total	\$ 4,001,726,866	\$ 4,555,629,007
Net Assets	\$ 28,100,181,499	\$ 27,816,772,561

Table 13

**Statement of Revenue and Expenses
Market Value Reconciliation for Fiscal Year Ended June 30, 2012**

Operating Revenues	Amount
Contributions:	
Employers	\$ 620,214,231
Members	<u>658,935,738</u>
Total Contributions	1,279,149,969
Net Investment Income:	
Interest	187,306,483
Dividends	159,270,504
Net Income from Security Lending Activities	<u>9,884,496</u>
Total Investment Income	356,461,483
Investment Return	
Net Capital Appreciation / (Depreciation)	147,652,785
Investment Expenses	<u>(54,292,759)</u>
Total Investment Return	93,360,026
Other Income	441,034
Total Operating Revenues	1,729,412,512
Operating Expenses	
Benefit Payments	1,950,231,251
Refunds to Members	54,456,051
Administrative Expenses	8,133,833
Other Expenses	<u>314</u>
Total Operating Expenses	2,012,821,449
Excess of Revenues over Expenses	\$ (283,408,937)
Fund Balance, June 30, 2011	<u>28,100,181,499</u>
Fund Balance, June 30, 2012	\$ 27,816,772,562

Table 14
Growth of Cash Flow
(In Thousands)

Year Ending June 30	Contributions for the Year	Payments During the Year			External Cash Flow for the Year	Covered Payroll	Payments as Percent of Covered Payroll
		Benefit Payments and Refund of Contributions	Expenses	Total			
1987	\$ 264,224	\$ (150,138)	\$ (2,120)	\$ (152,258)	\$ 111,966	\$ 1,429,429	10.7%
1988	293,698	(266,431)	(2,377)	(268,808)	24,890	1,446,485	18.6
1989	309,266	(180,012)	(3,357)	(183,369)	125,897	1,556,775	11.8
1990	328,173	(215,429)	(3,850)	(219,279)	108,894	1,652,719	13.3
1991	345,827	(229,330)	(4,800)	(234,130)	111,697	1,750,191	13.4
1992	359,208	(245,365)	(5,583)	(250,948)	108,260	1,809,458	13.9
1993	370,317	(270,529)	(6,556)	(277,085)	93,232	1,867,948	14.8
1994	397,622	(290,636)	(7,623)	(298,259)	99,363	1,996,908	14.9
1995	433,990	(320,343)	(9,760)	(330,103)	103,887	2,137,134	15.4
1996	488,484	(372,954)	(12,468)	(385,422)	103,062	2,283,994	16.9
1997	516,694	(426,029)	(3,867)	(429,896)	86,798	2,427,429	17.7
1998	562,350	(471,259)	(2,827)	(474,086)	88,264	2,577,594	18.4
1999	589,882	(565,662)	(3,141)	(568,803)	21,079	2,690,007	21.1
2000	624,524	(675,079)	(3,712)	(678,791)	(54,267)	2,836,065	23.9
2001	658,801	(784,938)	(4,009)	(788,947)	(130,146)	2,982,051	26.5
2002	696,685	(892,214)	(4,486)	(896,700)	(200,015)	3,213,461	27.9
2003	734,413	(958,924)	(4,676)	(963,600)	(229,187)	3,373,058	28.6
2004	765,377	(1,060,758)	(5,274)	(1,066,032)	(300,655)	3,408,230	31.3
2005	821,916	(1,186,924)	(5,614)	(1,192,538)	(370,622)	3,540,649	33.7
2006	932,559	(1,297,233)	(6,754)	(1,303,987)	(371,428)	3,775,752	34.5
2007	986,380	(1,424,573)	(7,113)	(1,431,686)	(445,306)	3,980,698	36.0
2008	1,094,052	(1,549,275)	(8,074)	(1,557,349)	(463,297)	4,209,417	37.0
2009	1,163,037	(1,698,016)	(10,135)	(1,708,151)	(545,114)	4,439,381	38.5
2010	1,230,959	(1,777,864)	(10,430)	(1,788,294)	(557,335)	4,493,865	39.8
2011	1,233,089	(1,899,259)	(8,839)	(1,908,098)	(675,009)	4,338,976	44.0
2012	1,279,150	(2,004,687)	(8,134)	(2,012,821)	(733,671)	4,379,060	46.0

Table 15

Development of the Actuarial Value of Assets

1. Actuarial Value of Assets June 30, 2011		\$ 29,387,486,429
2. Activity for FY 2012		
a. Contributions	\$ 1,279,149,969	
b. Benefits and Expenses	<u>(2,012,821,449)</u>	
c. Net Cash Flow	(733,671,480)	
3. Expected Returns	2,321,652,055	
4. Assets Before Allocation of G/L (1+2+3)		30,975,467,004
5. Actual Returns for 2012	449,821,509	
6. Excess Returns for 2012 (5-3)	(1,871,830,546)	
7. Recognized Excess Returns		
2012	(374,366,109)	
2011	546,202,465	
2010	87,847,872	
2009	(1,515,933,789)	
2008	<u>(706,215,201)</u>	
Total		<u>(1,962,464,762)</u>
8. Actuarial Value of Assets June 30, 2012		\$ 29,013,002,242

Table 16**History of System's Reserve Funds**

June 30	Accumulated Employee Contributions¹	General Reserves Contributed by Employers	Total Funds²
1988	1,427,755,173	2,745,290,213	4,173,045,386
1989	1,605,331,167	3,164,741,308	4,770,072,475
1990	1,780,289,109	3,625,499,691	5,405,788,800
1991	1,983,630,527	4,095,234,736	6,078,865,263
1992	2,191,277,064	4,663,290,911	6,854,567,975
1993	2,384,406,117	5,378,325,303	7,762,731,420
1994	2,616,067,465	6,561,002,730	9,177,070,195
1995	2,856,389,033	7,336,694,489	10,193,083,522
1996	3,098,447,617	8,412,177,685	11,510,625,302
1997	3,312,090,156	9,787,128,615	13,099,218,771
1998	3,541,459,187	11,437,899,111	14,979,358,298
1999	3,765,853,678	13,444,016,205	17,209,869,883
2000	3,976,059,124	15,461,163,652	19,437,222,776
2001	4,129,190,609	17,017,103,699	21,146,294,308
2002	4,354,506,588	17,881,598,628	22,236,105,216
2003	4,687,227,277	15,360,754,260	20,047,981,537
2004	4,954,079,813	16,547,491,808	21,501,571,620
2005	5,119,054,776	17,930,385,726	23,049,440,502
2006	5,453,906,342	19,347,738,123	24,801,644,465
2007	5,787,676,526	21,261,327,912	27,049,004,438
2008	6,155,590,056	22,595,651,138	28,751,241,194
2009	6,299,066,807	22,527,007,920	28,826,074,727
2010	6,506,802,623	22,424,528,355	28,931,330,978
2011	6,571,916,083	22,815,570,346	29,387,486,429
2012	6,687,357,639	22,325,644,603	29,013,002,242

¹ Accumulated employee contributions for active and inactive members only.

² Prior to 1994, book value. After 1993, five-year smoothing of actual returns less expected returns on the prior year actuarial value of assets.

APPENDIX C
ACTUARIAL DETERMINATIONS

Table 17**Ten Year Historical Summary
(All Dollar Figures in Thousands)**

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Active Members	74,347	73,797	73,850	75,540	77,121	78,436	79,335	79,256	77,708	77,529
Retired Members	32,249	34,230	36,321	38,110	39,828	41,738	43,902	45,632	48,065	50,344
Actuarial Assets	\$20,047,982	\$21,501,572	\$23,049,441	\$24,801,644	\$27,049,004	\$28,751,241	\$28,826,075	\$28,931,331	\$29,387,486	\$29,013,002
UAAL	\$4,671,468	\$4,723,688	\$4,832,072	\$5,235,486	\$5,347,718	\$5,739,211	\$7,234,046	\$8,302,271	\$4,995,944	\$6,575,028
Benefit Payments and Refunds	\$(958,924)	\$(1,060,758)	\$(1,186,924)	\$(1,297,233)	\$(1,424,573)	\$(1,549,275)	\$(1,698,016)	\$(1,777,864)	\$(1,899,259)	\$(2,004,687)
Accumulated Members' Contributions	\$4,687,227	\$4,954,080	\$5,119,055	\$5,453,906	\$5,787,667	\$6,155,590	\$6,299,067	\$6,506,803	\$6,571,916	\$6,687,358
APV of Retirees' Benefits	\$11,387,543	\$12,625,925	\$13,976,901	\$15,371,279	\$17,059,613	\$18,548,552	\$19,745,129	\$20,532,011	\$20,023,701	\$21,191,032

Table 18

**Determination of Normal Cost
for the 2012 - 2013 Plan Year**

	Dollar (mid-year)¹	Rate²
Active Members		
Retirement Benefits	\$ 732,209,285	16.72%
Termination Benefits	77,238,863	1.76%
Death Benefits	12,874,916	0.30%
Disability Benefits	<u>10,822,622</u>	<u>0.25%</u>
Total Normal Cost	\$ 833,145,686	19.03%
Estimated Employee Payroll	\$4,379,059,546	
Employee Contribution Rate	14.50%	
Estimated Employee Contributions	<u>634,963,634</u>	
Employer Normal Cost (mid-year) (Total Normal Cost less Employee Contributions)	\$ 198,182,052	

¹ Normal cost amounts include a 2.00% load for anticipated losses on service purchases and reinstatements.

² Normal cost rate determined mid-year using an expected payroll of \$4,379,059,546.

Table 19

**Determination of the Unfunded Actuarial Accrued Liability
June 30, 2012**

Actives Members:

Service Retirement	\$ 13,947,572,550
Death Benefits	133,116,363
Disability Benefits	75,627,766
Termination Benefits	(291,620,881)
State Members	11,398,812
Inactives	<u>520,903,729</u>
Total for Active and Inactives Members	\$ 14,396,998,339

Pay Status Members:

Service Retirees	\$ 20,167,561,766
Disability Retirees	189,519,113
Beneficiaries and Survivors	758,656,924
Tax-sheltered Annuitants	564,439
Death Benefit	<u>74,730,058</u>
Total for Pay Status Members	\$ 21,191,032,300

Total Actuarial Accrued Liability \$ 35,588,030,639

Actuarial Value of Assets 29,013,002,242

Total Unfunded Actuarial Accrued Liability \$ 6,575,028,397

Table 20

GASB 25 Exhibits

Schedule of Funding Progress
(\$ in Thousands)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a)/c)
6/30/2003	20,047,982	24,719,450	4,671,468	81.1%	3,373,058	138.5%
6/30/2004	21,501,572	26,225,259	4,723,687	82.0%	3,408,230	138.6%
6/30/2005	23,049,441	27,881,513	4,832,072	82.7%	3,540,649	136.5%
6/30/2006	24,801,644	30,037,130	5,235,486	82.6%	3,775,752	138.7%
6/30/2007	27,049,004	32,396,723	5,347,719	83.5%	3,980,698	134.3%
6/30/2008	28,751,241	34,490,452	5,739,211	83.4%	4,209,417	136.3%
6/30/2009	28,826,075	36,060,121	7,234,046	79.9%	4,439,381	162.9%
6/30/2010	28,931,331	37,233,602	8,302,271	77.7%	4,493,865	184.7%
6/30/2011	29,387,486	34,383,430	4,995,944	85.5%	4,338,976	115.1%
6/30/2012	29,013,002	35,588,030	6,575,028	81.5%	4,379,060	150.1%

Schedule of Employer Contributions

Fiscal Year Ending	Annual Required Contribution	Employer Contribution	Percentage Contributed
6/30/2003	376,659,713	355,979,027	94.5%
6/30/2004	475,400,520	359,762,556	75.7%
6/30/2005	593,328,374	389,415,997	65.6%
6/30/2006	608,134,319	429,578,911	70.6%
6/30/2007	644,969,214	472,216,630	73.2%
6/30/2008	656,347,298	521,241,501	79.4%
6/30/2009	669,643,988	563,454,487	84.1%
6/30/2010	737,381,187	594,326,122	80.6%
6/30/2011	684,366,766	594,732,137	86.9%
6/30/2012 ¹	670,259,103	620,214,231	92.5%

¹ Annual Required Contribution determined by applying the benchmark contribution rate (31.34%), net of the employee contribution rate (14.50%), to the estimated payroll (3,980,160,944) on which contributions were made.

Notes in Trend Data

Information:

Valuation Date
Actuarial Cost Method
Amortization Method

Asset Valuation Method

Data

6/30/2012
Entry Age Normal
Level Percent for 30 Years, Open Prior to June 30, 2011,
Closed Beginning June 30, 2011
5-Year Smoothing of Actual Returns
Less Expected Returns on Actuarial Value,
Marked to Market as of June 30, 2003

Actuarial

Investment rate of return
Projected salary increases
Cost-of-living adjustments

8.00%
4.00% - 10.00%
2.00%

Table 21

**Unfunded Actuarial Accrued Liability
June 30, 2012**

	<u>Amount</u>
(1) Present Value of Future Benefits for:	
Active Members	\$ 21,736,301,320
State Members	11,959,220
Service Retirees	20,167,561,766
Disability Retirees	189,519,113
Tax-sheltered Annuitants	564,439
Beneficiaries and Survivors	758,656,924
Death Benefits	74,730,058
Inactive Members	<u>520,903,729</u>
Total	\$ 43,460,196,569
(2) Present Value of Future Normal Costs	<u>7,872,165,930</u>
(3) Actuarial Accrued Liability ((1)-(2))	\$ 35,588,030,639
(4) Actuarial Value of Assets	<u>29,013,002,242</u>
(5) Unfunded Actuarial Accrued Liability ((3)-(4))	\$ 6,575,028,397

**Required Contribution Rate and Amortization of Unfunded Liability
for the Fiscal Year Ending 2014**

	<u>Percentage of Payroll</u>
(1) Normal Cost Rate ¹	19.03%
(2) Unfunded Actuarial Accrued Liability Rate	<u>9.17%</u>
(3) Benchmark Contribution Rate - Normal Cost Plus a Rate to fund UAAL over 30 Years ² [(1)+(2)]	28.20%
(4) Total Contribution Rate, Member + Employer, for Fiscal Year 2013	29.00%
(5) Recommended Total Contribution Rate, Member + Employer, for Fiscal Year 2014	29.00%

¹ Normal cost rate was determined at mid-year using an expected payroll of \$4,379,059,546.

² Contribution rate to amortize the UAAL was determined using expected payroll of \$4,379,059,546. The benchmark contribution shown here reflects a 20-year amortization of additional liabilities resulting from changes in the benefit provisions, as amended in the 2007 legislative session. This resulted in an increase in UAAL of \$32,833,000 as of June 30, 2007.

Table 22

Analysis of Actuarial Gains and Losses
(\$ in 000's)

	<u>Amount</u>
1. Unfunded Actuarial Liability as of June 30, 2011	\$ 4,995,944
2. Normal Cost for 2012 Plan Year (Mid-year)	831,201
3. Contribution Expected to be Received During Year (Benchmark Rate)	(1,132,473)
4. Interest to Year End @ 8.00% on 1., 2., and 3.	<u>387,625</u>
5. Expected Unfunded Actuarial Liability as of June 30, 2012	\$ 5,082,297
6. Contribution (Excess)/Shortfall	(107,956)
7. Actuarial (Gain)/Loss During the Year	
a. From Investment	1,962,465
b. From Actuarial Liabilities Due to Legislative Changes	0
c. From Actuarial Liabilities Due to Assumption Changes	0
d. From Unfunded Actuarial Liabilities Due to Reinstated Service	7,003
e. From Unfunded Actuarial Liabilities Due to Other Purchased Service	(845)
f. From Actuarial Liabilities Due to Actual vs. Expected COLA	0
g. From Actuarial Liabilities Due to Actual vs. Expected Salary Changes	(295,375)
h. From Actuarial Liabilities Due to Demographic Experience	<u>(72,561)</u>
i. Total	1,600,687
8. Actual Unfunded Actuarial Liability as of June 30, 2012	\$ 6,575,028

APPENDIX D
ADDITIONAL MEMBERSHIP DATA

Table 23

Schedule of Active Member Valuation Data

Actuarial Valuation Date	Number of Members	Covered Annual Payroll (000)	Average Annual Salary	% Increase in Average Salary	Average Attained Age	Average Years of Service
6/30/1992	57,711	\$ 1,809,458	\$ 31,354	1.9%	42.2	12.2
6/30/1993	58,493	1,867,948	31,935	1.9%	42.3	12.3
6/30/1994	60,595	1,996,908	32,955	3.2%	42.5	12.3
6/30/1995	62,854	2,137,134	34,002	3.2%	42.5	12.3
6/30/1996	64,624	2,283,994	35,343	3.9%	42.6	12.3
6/30/1997	66,456	2,427,429	36,527	3.3%	42.5	12.1
6/30/1998	68,709	2,577,594	37,514	2.7%	42.5	11.9
6/30/1999	70,092	2,690,353	38,383	2.3%	42.5	11.7
6/30/2000	71,706	2,836,062	39,581	3.1%	42.5	11.6
6/30/2001	72,688	2,982,051	41,025	3.7%	42.4	11.3
6/30/2002	73,673	3,213,461	43,618	6.3%	42.3	11.2
6/30/2003	74,347	3,373,058	45,369	4.0%	42.4	11.3
6/30/2004	73,797	3,408,230	46,184	1.8%	42.5	11.4
6/30/2005	73,850	3,540,649	47,944	3.8%	42.5	11.4
6/30/2006	75,540	3,775,752	49,983	4.3%	42.4	11.2
6/30/2007	77,121	3,980,698	51,616	3.3%	42.3	11.1
6/30/2008	78,436	4,209,417	53,667	4.0%	42.2	11.1
6/30/2009	79,335	4,439,381	55,957	4.3%	42.2	11.1
6/30/2010	79,256	4,493,865	56,701	1.3%	42.3	11.3
6/30/2011	77,708	4,338,976	55,837	-1.5%	42.3	11.5
6/30/2012	77,529	4,379,060	56,483	1.2%	42.2	11.4

Table 24

**Solvency Test
(\$ in 000's)**

Actuarial Valuation Date	Actuarial Accrued Liability				Percentage of Actuarial Liabilities Covered by Net Assets for:		
	Member Contributions (1)	Current Retirees & Beneficiaries (2)	Active & Inactive Members Employer Financed Portion (3)	Net Assets Available for Benefits	(1)	(2)	(3)
6/30/1996	3,098,448	4,265,851	4,867,447	11,510,625	100.0%	100.0%	85.2%
6/30/1997	3,312,090	4,553,628	4,583,460	13,099,219	100.0%	100.0%	114.2%
6/30/1998	3,541,459	5,523,768	5,405,822	14,979,358	100.0%	100.0%	109.4%
6/30/1999	3,765,854	6,602,915	5,305,210	17,209,870	100.0%	100.0%	129.0%
6/30/2000	3,976,059	7,801,845	6,501,209	19,437,223	100.0%	100.0%	117.8%
6/30/2001	4,129,191	9,504,921	7,648,091	21,146,294	100.0%	100.0%	98.2%
6/30/2002	4,354,507	10,589,546	8,389,885	22,236,105	100.0%	100.0%	86.9%
6/30/2003	4,687,227	11,387,543	8,644,680	20,047,982	100.0%	100.0%	46.0%
6/30/2004	4,954,080	12,625,925	8,645,254	21,501,572	100.0%	100.0%	45.4%
6/30/2005	5,119,055	13,976,901	8,785,557	23,049,441	100.0%	100.0%	45.0%
6/30/2006	5,453,906	15,371,279	9,211,945	24,801,644	100.0%	100.0%	43.2%
6/30/2007	5,787,667	17,059,613	9,549,443	27,049,004	100.0%	100.0%	44.0%
6/30/2008	6,174,718	18,548,552	9,767,182	28,751,241	100.0%	100.0%	41.2%
6/30/2009	6,299,067	19,745,129	10,015,925	28,826,075	100.0%	100.0%	27.8%
6/30/2010	6,506,803	20,532,011	10,194,788	28,931,331	100.0%	100.0%	18.6%
6/30/2011	6,571,916	20,023,701	7,787,813	29,387,486	100.0%	100.0%	35.8%
6/30/2012	6,687,358	21,191,032	7,709,641	29,013,002	100.0%	100.0%	14.7%

Table 25

Schedule of Retirees and Beneficiaries Added to
and Removed From Valuation Head Count

Actuarial Valuation Date	Service Retirees			Disability Retirees			Beneficiaries		
	Added	Removed	End of Year	Added	Removed	End of Year	Added	Removed	End of Year
6/30/1992	1,119	599	17,903	33	43	545	N/A	N/A	N/A
6/30/1993	1,269	554	18,618	45	30	560	110	63	1,259
6/30/1994	1,021	676	18,963	35	39	556	130	63	1,326
6/30/1995	1,141	680	19,424	34	32	558	152	66	1,412
6/30/1996	1,344	693	20,075	44	35	567	150	72	1,490
6/30/1997	1,797	732	21,140	30	31	566	170	74	1,586
6/30/1998	1,757	728	22,169	27	32	561	187	82	1,691
6/30/1999	1,965	748	23,386	41	33	569	182	82	1,791
6/30/2000	2,136	763	24,759	43	32	580	187	79	1,899
6/30/2001	2,639	759	26,639	45	29	596	189	89	1,999
6/30/2002	2,262	773	28,128	42	41	597	248	107	2,140
6/30/2003	2,078	783	29,423	37	30	604	197	115	2,222
6/30/2004	2,458	829	31,052	54	28	630	482	156	2,548
6/30/2005	2,639	690	33,001	59	25	664	236	128	2,656
6/30/2006	2,441	811	34,631	41	34	671	279	127	2,808
6/30/2007	2,396	770	36,257	41	29	683	241	161	2,888
6/30/2008	2,596	808	38,045	45	37	691	289	175	3,002
6/30/2009	2,711	797	39,959	39	32	698	382	139	3,245
6/30/2010	2,443	873	41,529	49	25	722	297	161	3,381
6/30/2011	3,141	891	43,779	77	36	763	336	194	3,523
6/30/2012	2,926	810	45,895	70	30	803	304	181	3,646

Table 26

**Schedule of Retirees by Type
(\$ in 000's)**

Actuarial Valuation Date	Service Retirees		Disability		Beneficiaries and Survivors	
	Number	Benefits	Number	Benefits	Number	Benefits
6/30/1997	21,140	377,172	566	7,520	1,586	15,874
6/30/1998	22,169	454,512	561	8,349	1,691	20,048
6/30/1999	23,386	542,071	569	9,338	1,793	29,625
6/30/2000	24,759	623,827	580	10,088	1,899	30,843
6/30/2001	26,639	737,218	596	11,154	1,999	36,769
6/30/2002	28,128	737,218	597	11,590	2,140	40,743
6/30/2003	29,423	876,196	604	11,853	2,222	43,449
6/30/2004	31,052	962,086	630	12,747	2,548	48,846
6/30/2005	33,001	1,067,743	664	13,823	2,656	54,186
6/30/2006	34,631	1,159,522	671	14,369	2,808	58,240
6/30/2007	36,257	1,271,565	683	15,111	2,888	63,065
6/30/2008	38,045	1,374,367	691	15,708	3,002	66,325
6/30/2009	39,959	1,517,982	698	16,666	3,245	74,047
6/30/2010	41,529	1,579,117	722	17,356	3,381	78,627
6/30/2011	43,779	1,669,962	763	18,578	3,523	83,160
6/30/2012	45,895	1,784,894	803	19,901	3,646	89,041

Average New Retiree Statistics

Actuarial Valuation Date	Regular Retirement Benefit	% Increase From Previous Year	Age	Creditable Service
6/30/1997	2,005.00	(8)	56.4	N/A
6/30/1998	2,300.19	15	57.1	N/A
6/30/1999	2,488.36	8	57.0	N/A
6/30/2000	2,683.72	8	57.0	25.6
6/30/2001	2,775.17	3	56.7	26.5
6/30/2002	2,834.93	2	56.6	26.5
6/30/2003	2,845.98	0	56.8	26.0
6/30/2004	2,973.46	4	56.8	26.2
6/30/2005	2,919.10	(2)	58.0	25.7
6/30/2006	2,945.79	1	58.3	25.4
6/30/2007	2,994.71	2	58.4	25.4
6/30/2008	2,944.63	(2)	58.8	24.5
6/30/2009	3,140.34	7	59.0	25.2
6/30/2010	2,943.84	(6)	59.5	23.4
6/30/2011	3,083.84	5	59.6	23.8
6/30/2012	3,080.28	0	59.6	23.8

APPENDIX E
ACTUARIAL ASSUMPTIONS AND METHODS

STATEMENT OF FUNDING POLICY

In order to establish long-term, consistent methods in the funding of the System, the Board of Trustees has adopted a funding policy. The funding of the System shall be carried out in such a way that the burden of paying retirement costs shall be shared equitably by present and succeeding generations of members and taxpayers. To this end, the following principles shall apply:

1. The Board of Trustees shall adopt actuarial assumptions, each of which individually represents a reasonable long-term estimate of anticipated experience under the System, derived from experience studies conducted every fifth year.
2. The actuarial funding method used shall be the Entry Age Normal Method with normal costs calculated as a percentage of payroll.
3. It shall be the general objective to maintain an amortization period of 30 years or less in the funding of the Unfunded Actuarial Accrued Liability. Whenever a change is made in the System's benefit and contribution rate structures, the amortization period for the System after this change should not exceed 30 years initially. The benchmark contribution shown has been adjusted for the 20 year amortization of unfunded liabilities due to changes in benefit provisions as amended in the 2007 legislative session.
4. If an escalation in future payroll is assumed in determining the amortization payments toward the Unfunded Actuarial Accrued Liability, then the annual rate of such escalation shall not exceed the expected rate of expansion in total System payroll based upon the actuarial assumptions.
5. Assets used in the actuarial valuation shall be valued by smoothing investments gains and losses over a period of five years.
6. Annual actuarial valuations shall be made of the System's assets and liabilities. The contribution rate shall be established based on the results of these valuations.

It is the Board's intent to maintain a contribution rate of 29.00% until the unfunded actuarial accrued liability is fully amortized to the extent the rate remains sufficient to do so.

The actuarial assumptions and methods used in this valuation were selected and approved by the Board. In general, the methods provide orderly funding of all benefits being accrued, as well as unfunded past-service benefit liabilities, over a period of thirty years. However, the smoothing method employed in determining the Actuarial Value of Assets may accelerate or lengthen the effective funding period, depending on whether gains or losses are experienced. In our opinion, the actuarial methods are reasonable for the purposes of this valuation. A summary of the actuarial assumptions and methods is provided on the following pages.

ACTUARIAL ASSUMPTIONS

Inflation

Inflation is assumed to be 2.50% per annum.

Payroll Growth

Total payroll growth is assumed to be 3.50% per annum, consisting of 2.50% inflation, 0.50% additional inflation due to the inclusion of health care costs in pension earnings, and 0.50% of real wage growth.

Individual Salary Growth

Salaries are assumed to increase each year with general inflation of 2.50%, plus health care inflation of 0.50% (since health care costs are included in pension earnings), plus a longevity adjustment that accounts for merit, promotion, and other real wage growth.

<u>Service</u>	<u>General Inflation</u>	<u>Health Care Inflation</u>	<u>Longevity</u>	<u>Total Increase</u>
0	2.50%	0.50%	7.00%	10.00%
1-4	2.50%	0.50%	4.00%	7.00%
5	2.50%	0.50%	3.80%	6.80%
6	2.50%	0.50%	3.60%	6.60%
7	2.50%	0.50%	3.40%	6.40%
8	2.50%	0.50%	3.20%	6.20%
9	2.50%	0.50%	3.00%	6.00%
10	2.50%	0.50%	2.80%	5.80%
11	2.50%	0.50%	2.60%	5.60%
12	2.50%	0.50%	2.40%	5.40%
13	2.50%	0.50%	2.20%	5.20%
14	2.50%	0.50%	2.00%	5.00%
15	2.50%	0.50%	2.00%	5.00%
16	2.50%	0.50%	1.90%	4.90%
17	2.50%	0.50%	1.90%	4.90%
18	2.50%	0.50%	1.80%	4.80%
19	2.50%	0.50%	1.80%	4.80%
20	2.50%	0.50%	1.70%	4.70%
21	2.50%	0.50%	1.70%	4.70%
22	2.50%	0.50%	1.60%	4.60%
23	2.50%	0.50%	1.60%	4.60%
24	2.50%	0.50%	1.50%	4.50%
25	2.50%	0.50%	1.50%	4.50%
26	2.50%	0.50%	1.40%	4.40%
27	2.50%	0.50%	1.30%	4.30%
28	2.50%	0.50%	1.20%	4.20%
29	2.50%	0.50%	1.10%	4.10%
30+	2.50%	0.50%	1.00%	4.00%

Investment Return

It is assumed that investments of the System will return a yield of 8.00% per annum, net of system expenses (investment and administrative).

Cost of Living Adjustments

The cost of living adjustment assumed in the valuation is 2.00% per year, based on the current policy of the Board to grant a 2.00% COLA whenever annual inflation, as measured by the CPI-U index for a fiscal year, increases between 0.00% and 5.00%.

The COLA applies to service retirements and beneficiary annuities. The COLA does not apply to the benefits for in-service death payable to spouses (where the spouse is over age 60), and does not apply to the spouse with children pre-retirement death benefit, the dependent children pre-retirement death benefit, or the dependent parent death benefit. The total lifetime COLA cannot exceed 80% of the original benefit. Future COLAs for current benefit recipients reflect actual cumulative adjustments granted at the time of valuation.

Mortality Rates

Mortality Rates for active members are based on the RP 2000 Mortality Table, set back one year for males and six years for females, then projected to 2016 using Scale AA. Illustrative rates per 1,000 members at various ages are as follows:

Active Member Mortality

<u>Age</u>	<u>Male</u>	<u>Female</u>
20	0.244	0.131
30	0.380	0.171
40	0.898	0.342
50	1.492	0.782
60	4.593	2.237
70	15.549	7.955

Mortality Rates for non-disabled retirees and beneficiaries are based on the RP 2000 Mortality Table, set back one year for both males and females, then projected to 2016 using Scale AA. Illustrative rates per 1,000 members at various ages are as follows:

Service Retiree, Beneficiary and Survivor Mortality

<u>Age</u>	<u>Male</u>	<u>Female</u>
40	0.898	0.509
50	1.492	1.178
60	4.593	4.099
70	15.549	13.715
80	49.322	37.094
90	156.083	113.562
100	324.963	227.712
110	400.000	351.544

Mortality Rates (Cont.)

Mortality Rates for disabled retirees are based on the RP 2000 Disabled Retiree Mortality Table. Illustrative rates per 1,000 members at various ages are as follows:

Disability Retiree Mortality

<u>Age</u>	<u>Male</u>	<u>Female</u>
40	22.571	7.450
50	28.975	11.535
60	42.042	21.839
70	62.583	37.635
80	109.372	72.312
90	183.408	140.049
100	344.556	237.467
110	400.000	364.617

Retirement Rates

Prior to July 1, 2013, retirement is assumed in accordance with the following rates per 1,000 eligible members:

Active Member Retirement Prior to July 1, 2013

<u>Age</u>	<u>Service</u>											
	<u><=20</u>	<u>21</u>	<u>22</u>	<u>23</u>	<u>24</u>	<u>25</u>	<u>26</u>	<u>27</u>	<u>28</u>	<u>29</u>	<u>30</u>	<u>>=31</u>
<50	0	0	0	0	0	50	50	50	50	50	200	400
50	0	0	0	0	0	50	50	50	50	50	200	400
51	0	0	0	0	0	50	50	50	50	200	200	400
52	0	0	0	0	0	50	50	50	200	200	200	400
53	0	0	0	0	0	50	50	300	200	200	200	400
54	0	0	0	0	0	50	300	200	200	200	200	400
55	50	50	50	50	50	400	200	200	200	200	200	400
56	50	50	50	50	400	200	200	200	200	200	200	400
57	50	50	50	400	200	200	200	200	200	200	200	400
58	50	50	400	200	200	200	200	200	200	200	200	400
59	50	400	200	200	200	200	200	200	200	200	200	400
60	150	150	150	150	150	200	200	200	200	200	200	400
61	150	150	150	150	150	200	200	200	200	200	200	400
62	150	150	150	150	150	200	200	200	200	200	200	400
63	150	150	150	150	150	200	200	200	200	200	200	400
64	150	150	150	150	150	200	200	200	200	200	200	400
65	250	250	250	250	250	400	400	400	400	400	400	400
66	250	250	250	250	250	300	300	300	300	300	300	400
67	250	250	250	250	250	300	300	300	300	300	300	400
68	250	250	250	250	250	300	300	300	300	300	300	400
69	250	250	250	250	250	300	300	300	300	300	300	400
>70	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

Retirement Rates (Cont.)

After June 30, 2013, retirement is assumed in accordance with the following rates per 1,000 eligible members:

Active Member Retirement After June 30, 2013

<u>Age</u>	<u>Service</u>											
	<u><=20</u>	<u>21</u>	<u>22</u>	<u>23</u>	<u>24</u>	<u>25</u>	<u>26</u>	<u>27</u>	<u>28</u>	<u>29</u>	<u>30</u>	<u>>=31</u>
<50	0	0	0	0	0	0	0	0	0	0	450	450
50	0	0	0	0	0	0	0	0	0	0	450	450
51	0	0	0	0	0	0	0	0	0	200	450	450
52	0	0	0	0	0	0	0	0	200	200	450	450
53	0	0	0	0	0	0	0	300	200	200	450	450
54	0	0	0	0	0	0	300	200	200	200	450	450
55	50	50	50	50	50	400	200	200	200	200	450	450
56	50	50	50	50	400	200	200	200	200	200	450	450
57	50	50	50	400	200	200	200	200	200	200	450	450
58	50	50	400	200	200	200	200	200	200	200	450	450
59	50	400	200	200	200	200	200	200	200	200	450	450
60	150	150	150	150	150	200	200	200	200	200	450	450
61	150	150	150	150	150	200	200	200	200	200	450	450
62	150	150	150	150	150	200	200	200	200	200	450	450
63	150	150	150	150	150	200	200	200	200	200	450	450
64	150	150	150	150	150	200	200	200	200	200	450	450
65	250	250	250	250	250	400	400	400	400	400	450	450
66	250	250	250	250	250	300	300	300	300	300	450	450
67	250	250	250	250	250	300	300	300	300	300	450	450
68	250	250	250	250	250	300	300	300	300	300	450	450
69	250	250	250	250	250	300	300	300	300	300	450	450
>70	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

Withdrawal Rates

Termination of membership prior to eligibility for retirement from all causes other than death, disability or retirement is assumed in accordance with the following illustrative rates per 1,000 members:

Active Member Withdrawal

<u>Years of Service</u>	<u>Rate</u>
0	190.0
1	105.0
2	85.0
3	73.0
4	62.0
5	52.0
10	23.0
15	12.0
20	5.0
25+	0.0

Refund of Contributions

It is assumed that 88% of those leaving after earning 5 years of service leave their contributions in the fund and receive a vested benefit. The remaining 12% are assumed to take an immediate refund of their contributions, thus forfeiting their vested retirement benefit. If the present value of the deferred benefit is less than the member account balance, the member's account balance is valued.

It is assumed that 100% of those leaving prior to earning 5 years of service will take an immediate refund of their contributions.

Disability Rates

Retirement for disability prior to age 60 is assumed in accordance with the following illustrative rates per 1,000 eligible members:

Active Member Disability	
Age	Rates
25	0.017
30	0.080
35	0.160
40	0.320
45	0.610
50	0.960
55	1.310

Interest on Member Accounts

1.00% per annum.

Service Purchases

A 2.00% load is added to the Normal Cost to account for anticipated losses resulting from service purchases and reinstatements.

Provisions for Expenses

There is no specific provision for expenses. The implicit assumption is that administrative expenses are paid from investment income in excess of 8.00% per annum.

Dependent Assumptions

80% of male members and 70% of female members are assumed to be married.

Beneficiaries are assumed to be of the opposite sex from the member.

Male and Female members are assumed to be 4 years older than their beneficiary.

Survivor Benefits

All active members under age 50 are assumed to have 2 dependent children. Each child is assumed to receive payments of \$860 per month for 18 years if the member is under age 32, and grading down to 0 years if the member is age 50.

Return of Unused Member Account Balance

Under the single life annuity payment option, any unused balance of contributions and interest in the member account balance at the time of death is paid in a lump sum to a designated beneficiary. This benefit is approximated with a 5-year certain benefit.

Data Assumptions

Members without a date of birth provided are assumed to be 30 years old. Pensionable pay for members who did not earn service during the past year is assumed to be the greater of the current year's salary, the previous year's salary and \$10,000. Pensionable pay for other active members is assumed to be the greater of annualized pay and \$10,000.

Assumption Changes Since the Prior Valuation

The 0.4% load to recognize the subsidy present in the joint and survivor reduction factors calculated without provision for cost-of-living adjustments was removed since new operating factors incorporating the 2% COLA assumption have been implemented.

Assumed interest on member contributions has been reduced from 2.00% to 1.00%.

ACTUARIAL METHODS

Actuarial Cost Method

The actuarial cost method is Entry Age Normal - Level Percent of Payroll.

The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The actuarial accrued liability on any valuation date is the accumulated value of such normal costs from entry age to the valuation date.

Asset Valuation Method

The Actuarial Value of Assets is a smoothed value of assets. The actuarial value for a year is computed by taking the actuarial value at June 30 of the prior year, subtracting all expenses (including benefit payments), and adding contributions and expected investment return at 8% of actuarial value of assets. The difference between the actual returns at market value for the year and expected returns is determined. Twenty percent (20%) of that difference is added to the actuarial value along with corresponding amounts from each of the prior four years. The Actuarial Value of Assets was reset to market value at June 30, 2003.

Amortization of Unfunded Actuarial Accrued Liability

Gains and losses occurring from census experience different than assumed and assumption changes are amortized over a 30-year period as a level percent of payroll. A new gain or loss base is established each year based on the additional gain or loss during that year and that base is amortized over a new 30-year period. The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

Increases or decreases in the Actuarial Accrued Liability caused by changes in the benefit provisions are amortized over 20 years, as determined in the 2007 session of the Legislature.

Method Changes Since the Prior Valuation

None.

APPENDIX F
SUMMARY OF PSRS BENEFIT PROVISIONS

MEMBER CONTRIBUTIONS

Members pay half the total PSRS contribution rate. For fiscal year 2012, the current total PSRS contribution rate is 29.00% of pay.

NORMAL (UNREDUCED) RETIREMENT

Eligibility

Attainment of age 60 with at least five years of Creditable Service, or completion of 30 years of Creditable Service at any age, or age plus Creditable Service is at least 80.

Benefit

2.5% of Final Average Salary for each year of Membership Service. Members retiring before July 1, 2013 with at least 31 years of service will receive a benefit based on 2.55%. A year of Prior Service is the equivalent of 0.6 years of Membership Service. A minimum benefit applies for Members with at least 15 years of Creditable Service and varies from \$600/month at 15 years of Creditable Service to \$1,200/month at 30 years of Creditable Service. Benefits are also subject to maximum equal to 100% of the Member's final average salary at the time of retirement.

Compensation

All regular earnings as an employee of a PSRS-covered employer. Compensation or salary includes, but is not limited to, payments for extra duties, overtime payments, career ladder payments, payments for overloads (e.g. extra hours taught) and additional courses, and employer-paid medical, dental and vision insurance premiums for the member.

Final Average Salary

Average monthly salary over the Member's three highest consecutive years of service. Effective August 28, 2007, the maximum increase in the annual compensation for the final average salary shall not exceed ten percent.

Membership Service

Service while a participating member of PSRS. Service is measured each year in relation to full contract salary for that year.

Prior Service

Service in a covered position prior to July 1, 1946.

Creditable Service

Membership service plus any service rendered prior to PSRS inception.

Normal Form of Benefit

Single Life Annuity

Additional options available include joint and survivor (50%, 75%, or 100%), term certain (60 or 120 months) and life thereafter, and partial lump sum option (PLSO).

EARLY (AGE REDUCED) RETIREMENT

Eligibility

Attainment of age 55 and under age 60 with at least five years of creditable service.

Benefit

Normal retirement benefit accrued to the date of early retirement, actuarially reduced from age 60.

SPECIAL NORMAL RETIREMENT – UNDER MODIFIED FORMULA

Eligibility

Retirement on or before July 1, 2013 at an age under 55 and with at least 25 years of creditable service but not eligible for the Rule of 80.

Benefit

Based on a percentage of final average salary per year of creditable service. Percentages are as follows:

<u>Years of Service</u>	<u>Benefit Percentage</u>
25-25.9	2.20%
26-26.9	2.25
27-27.9	2.30
28-28.9	2.35
29-29.9	2.40

Post-Retirement Death Benefit

Regardless of the form of benefit selected, a lump sum benefit of \$5,000 is paid at the death of the retiree.

COLA ADJUSTMENTS

The Board has established a policy of providing a 2.00% COLA for years in which the CPI increases between 0.00% and 5.00%. If the CPI increase is greater than 5.00%, the Board will provide a COLA of 5.00%. If the CPI decreases, no COLA is provided.

For any member retiring on or after July 1, 2001 such adjustments commence in the second January after commencement of benefits. The total of such increases may not exceed 80% of the original benefit for any member.

DISABILITY BENEFITS

Definition of Disability

Incapacitation for performance of gainful employment after completion of five years of creditable service and before age 60.

Benefit

Lifetime benefit equal to 90% of accrued normal retirement benefit. This benefit level is subject to a minimum of 50% salary in the last full year of membership but not greater than the member's accrued normal retirement benefit assuming continuous employment to age 60 at current pay. COLA adjustments similar to those provided retirees are provided on this benefit.

Form of Benefit

If eligible, surviving designated spouse or dependent child or parent may elect a monthly survivor benefit.

VESTING

Eligibility

Accrual of five years of creditable service.

Benefit

Accrued normal retirement benefit payable at earliest retirement age based on service at date of termination. Benefit is based on formula in effect at commencement of benefit.

DEATH / SURVIVOR BENEFITS

Refund

Refund of accumulated member contributions with interest.

Dependent-Based Survivor Benefits

In lieu of the refund, survivors of a member with at least 2 years of service at death may elect the following survivor benefit package:

1. Spouse who was married to the deceased member for at least three years and with no dependent children – up to \$860 / month payable after spouse age 60 (immediately if spouse is disabled) and prior to remarriage.
2. Spouse with dependent children
 - a. Up to \$860 per month payable to spouse with at least one dependent child under age 18.
 - b. Up to an additional \$430 per month payable for each child under age 18. Benefits continue to the spouse after the child reaches age 18, up to age 24, if the child is a full time student.
 - c. Family maximum - \$2,160 per month.
3. If no surviving spouse, each eligible child receives up to \$720 per month payable as in 2.b. above, subject to a family maximum of \$2,160.
4. If no surviving spouse or children, a benefit of up to \$720 is payable to a dependent parent over age 65, subject to a maximum of \$1,440.

No COLA adjustments apply to this benefit.

Retirement-Based Survivor Benefits

In lieu of the benefits described above, if the member has at least 5 years of membership service at date of death, the designated spouse may receive a survivor benefit based on 100% J&S equivalent of the benefit accrued to date of death. The benefit may commence:

1. immediately if member is eligible to retire at date of death, or
2. at a future retirement date of the deceased member.

The benefit may be reduced for early commencement if the deceased member would not have been eligible for unreduced retirement at that date based on service to date of death.

COLA adjustments similar to those provided retirees are provided on these benefits.