

Public School Retirement System of Missouri

Actuarial Valuation
as of June 30, 2013





October 22, 2013

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, 2013 PSRS valuation.

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, 2013, 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

TABLE OF CONTENTS

Page	
	<i>Summary of the Valuation</i>
1	Purposes of the Actuarial Valuation
1	Report Highlights
3	Membership Characteristics
5	Actuarial Assumptions and Methods
5	Experience During FY 2013
6	PSRS Benefits
6	Asset Information
6	Funding Status
7	GASB Disclosure
7	Funding Process
	<i>Appendix A Membership Data</i>
8	Table 1 – Number, Average Age-Service-Salary, and Total Payroll of Active Members
9	Table 2 – Employee Distribution by Age and Years of Service
10	Table 3 – Salary Distribution, Employees in Active Service
11	Table 4 – Salary Increase Rates by Service Group
12	Table 5 – History of System’s Growth, Active and Inactive Membership
13	Table 6 – Pensions in Force on June 30, 2013 by Type and Monthly Amount
14	Table 7 – Pensions in Force on June 30, 2013 by Type and Age
15	Table 8 – Cost of Living Increases to Retired Members
16	Table 9 – Analysis of Retired Membership by Type of Benefit
17	Table 10 – History of System’s Growth, Service Retired
18	Table 11 – History of System’s Growth, Disability Retired
	<i>Appendix B Asset Information</i>
19	Table 12 – Market Value of Assets, Balance Sheet
20	Table 13 – Statement of Revenue and Expenses, Market Value Reconciliation
21	Table 14 – Growth of Cash Flow
22	Table 15 – Development of the Actuarial Value of Assets
23	Table 16 – History of System’s Reserve Funds
	<i>Appendix C Actuarial Determinations</i>
24	Table 17 – Ten Year Historical Summary
25	Table 18 – Determination of Normal Cost
26	Table 19 – Determination of the Unfunded Actuarial Accrued Liability
27	Table 20 – GASB 25 Exhibits
28	Table 21 – Unfunded Actuarial Accrued Liability and Required Contribution Rate
29	Table 22 – Analysis of Actuarial Gains/Losses
	<i>Appendix D Additional Membership Data</i>
30	Table 23 – Schedule of Active Member Valuation Data
31	Table 24 – Solvency Test
32	Table 25 – Schedule of Retirees and Beneficiaries Added and Removed
33	Table 26 – Schedule of Retirees by Type and Average New Retiree Statistics
34	<i>Appendix E Actuarial Assumptions and Methods</i>
42	<i>Appendix F Summary of PSRS Benefit Provisions</i>

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, 2013.

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 for fiscal year ending June 30, 2015, which would provide for the normal cost of the system plus an amount that will amortize the unfunded actuarial accrued liability in accordance with the Board’s funding policy, 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, 2012</u>	<u>June 30, 2013</u>
	<u>(\$ in Millions)</u>	
Summary of Results		
(1) Present Value of Future Benefits for:		
(a) Active Members	\$ 21,748.3	\$ 21,822.2
(b) Retired Members	21,191.0	22,328.8
(c) Inactive Members	520.9	556.4
(d) Total	\$ 43,460.2	\$ 44,707.4
(2) Present Value of Future Normal Costs	7,872.2	7,949.2
(3) Actuarial Accrued Liability: (1) – (2)	\$ 35,588.0	\$ 36,758.2
(4) Actuarial Value of Assets	29,013.0	29,443.2
(5) Unfunded Actuarial Accrued Liability: (3) – (4)	\$ 6,575.0	\$ 7,315.0
(6) Normal Cost Rate	19.03%	19.05%
(7) Unfunded Actuarial Accrued Liability Rate	9.17%	10.16%
(8) Benchmark Contribution Rate for Following Fiscal Year ¹	28.20%	29.21%
(9) Current Contribution Rate, Member + Employer	29.00%	29.00%
(10) Recommended Contribution Rate for Fiscal Year End 2014 and 2015	29.00%	29.00%

Since the effective UAAL amortization period for the current contribution rate (29.4 years at 29.00%) is within three years of the effective amortization period of the Benchmark Contribution Rate (28.2 years at 29.21%), we recommend no change in the contribution rate for fiscal 2015. This is consistent with the Board’s funding policy for maintaining contribution rate stability.

¹ Weighted average of 29.27% for members who receive full credit for each year of service and 19.51% for members who are covered by Social Security and earn two-thirds credit.

Highlights of Report	<u>June 30, 2012</u>	<u>June 30, 2013</u>
(1) Actuarial Accrued Liability Funding Ratio:		
(a) Actuarial Value of Assets (millions)	\$ 29,013.0	\$ 29,443.2
(b) Actuarial Accrued Liability (millions)	35,588.0	36,758.2
(c) Funding Ratio: (a) / (b)	81.5%	80.1%
(2) Active Members:		
(a) Number:		
Male	17,666	17,842
Female	<u>59,863</u>	<u>60,234</u>
Total	77,529	78,076
(b) Compensation for Fiscal Year (millions):		
Male	\$ 1,101.9	\$ 1,127.3
Female	<u>3,277.2</u>	<u>3,333.6</u>
Total	\$ 4,379.1	\$ 4,460.9
(c) Average Age:		
Male	42.0	42.0
Female	42.3	42.1
Total	42.2	42.1
(d) Average Service:		
Male	11.4	11.4
Female	11.4	11.4
Total	11.4	11.4
(e) Average Compensation for Fiscal Year:		
Male	\$ 62,374	\$ 63,181
Female	\$ 54,744	\$ 55,344
Total	\$ 56,483	\$ 57,135
(f) Average Amount of Assets per Active Member (based on actuarial value):	\$ 98,870	\$ 84,917
(3) Retired Members and Beneficiaries:		
(a) Number Service Retired:		
Life Annuities	24,035	24,903
Options	<u>21,860</u>	<u>22,743</u>
Total	45,895	47,646
(b) Number Disability Retired:	803	843
(c) Number Survivors, Beneficiaries:	<u>3,646</u>	<u>3,817</u>
(d) Total Persons Receiving Benefits:	50,344	52,306
(e) Average Monthly Pension Being Paid at Valuation Date for New Service Retired, Including Options:	\$ 3,080	\$ 3,114
(f) Average Amount of Assets per Service Retired (based on actuarial value):	\$ 439,428	\$ 445,640
(g) Average Amount of Assets per New Service Retired (based on actuarial value):	\$ 500,250	\$ 505,906

MEMBERSHIP CHARACTERISTICS

Active and Inactive Membership

A total of 89,725 active and inactive members of PSRS are included in the 2013 actuarial valuation.

Active members	78,076
Inactive members	11,649
Additional Non-Members Valued	<u>3,336</u>
Total active and inactive members	93,061

Between the 2012 and 2013 actuarial valuations, the number of active employees increased by 547, or 0.7% from 77,529 to 78,076, and the average annual salary increased by 1.15% from \$56,483 to \$57,135.

Summary of Changes in Membership

	<u>Male</u>	<u>Female</u>	<u>Total</u>
Active and Inactive Members 6/30/2012	19,756	69,296	89,052
Additions:			
New Memberships	1,354	4,339	5,693
Terminated Members Reinstated	<u>0</u>	<u>0</u>	<u>0</u>
Total Additions	1,354	4,339	5,693
Decreases:			
Service Retirements	547	2,085	2,632
Disability Retirements	10	58	68
Withdrawals	459	1,291	1,750
Deaths	21	29	50
Other Terminations	82	436	518
Reciprocity	<u>0</u>	<u>0</u>	<u>0</u>
Total Decreases	1,119	3,899	5,018
Adjustments ¹	<u>2</u>	<u>0</u>	<u>2</u>
Active and Inactive Members 6/30/2013	19,989	69,736	89,725
Additional Non-Members Valued ²	<u>692</u>	<u>2,644</u>	<u>3,336</u>
Total Valuation Membership at 6/30/2013 (includes Inactive Members)	20,681	72,380	93,061

¹ Includes 2 voided memberships.

² Includes terminated and deceased former members whose contributions had yet to be distributed as of the valuation date.

Benefit Recipients

On June 30, 2013, PSRS was paying benefits to 52,191 retired members, beneficiaries and survivors. In addition, 115 members had benefits that were on hold and to be re-started at a future date. The headcount for current benefit recipients for valuation purposes increased 3.9% from 50,344 on June 30, 2012, to 52,306 on June 30, 2013. The June 30, 2013 headcount consists of 47,646 service retirees, 843 disability retirees, and 3,817 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 and Survivors</u>	<u>Total</u>
Retired Members 6/30/2012	45,842	801	3,564	50,207
Additions:				
New Retirees/Beneficiaries	2,642	68	332	3,042
Benefits Taken Off Hold	17	1	38	56
Total Additions	2,659	69	370	3,098
Decreases:				
Died During Year	891	26	120	1,037
Benefits Placed On Hold	16	2	59	77
Total Decreases	907	28	179	1,114
Retired Members 6/30/2013	47,594	842	3,755	52,191
Additional Members Valued ¹	52	1	62	115
Total Valuation Membership at 6/30/2013	47,646	843	3,817	52,306

As of June 30, 2013, the average monthly benefit payable to service retirees was \$3,306 compared to \$3,241 as of June 30, 2012. These averages and the amounts shown in the tables that follow include all post-retirement benefit increases.

¹ Includes members with benefits on hold that will be re-started at a future date.

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. Additional minor assumption changes were made for the June 30, 2012 valuation.

For the June 30, 2013 valuation, the retirement assumption was updated to reflect the permanent extension of the Special Early Retirement (“25-and-out”) benefit and one year extension of the enhanced Normal Retirement (“2.55% formula factor”) benefit for members who retire with 31 or more years of service. Also, a new assumption was made concerning the future service accruals by members currently employed in positions covered by Social Security. It is assumed that members who are currently employed in positions covered by Social Security and who have earned three or more years of service in such positions as of the valuation date, will continue to be employed in Social Security covered positions for the remainder of their PSRS tenure. All others are assumed to immediately switch to a position that is not covered by Social Security and receive full PSRS membership credit for future service.

All other actuarial assumptions are unchanged.

EXPERIENCE DURING FY 2013

Overall, the system experienced a net actuarial loss of \$661.3 million.

The total net actuarial loss for the year ending June 30, 2013, is shown below and is broken out further in Table 22:

	<u>(\$ in millions)</u>
1. Actuarial (Gain)/Loss on Assets (at actuarial value)	\$1,038.2
2. Actuarial (Gain)/Loss on Liabilities Due to Legislative Changes	(62.0)
3. Actuarial (Gain)/Loss on Liabilities Due to Assumption Changes	0
4. Actuarial (Gain)/Loss on Liabilities Due to Actual COLA in 2013 vs. expected	0
5. Actuarial (Gain)/Loss on Liabilities Due to Salary, Demographic, and Other Experience	<u>(314.9)</u>
6. Total Actuarial (Gain)/Loss (Sum 1-5)	\$661.3

For the plan year ending June 30, 2013, the actuarial value of assets experienced a loss of \$1,038.2 million. 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. Fiscal 2013 is the final year in which the asset losses of 2009 will be recognized, which is the primary reason for the loss since the return on market value exceeded the 8% return assumption.

Demographic experience was a gain of \$314.9 million, primarily due to salary increases being less than assumed.

PSRS BENEFITS

A summary of the current benefit provisions appears in Appendix F. During the 2013 session of the Legislature, the benefits were amended to make permanent the Special Early Retirement (“25-and-out”) benefit and extend the enhanced Normal Retirement (“2.55% formula factor”) benefit for members who retire with 31 or more years of service for one additional year. These changes in benefit provisions resulted in a small decrease in the Actuarial Accrued Liability and Benchmark Contribution Rate.

ASSET INFORMATION

The market value of the assets available for benefits has increased from \$27.8 billion at the end of FY 2012 to \$30.4 billion at the end of FY 2013. The actuarial value of assets increased from \$29.0 billion at the end of FY 2012 to \$29.4 billion at the end of FY 2013. The actuarial value of assets is less than the market value by \$0.9 billion.

Based on the actuarial value, the assets of the fund returned approximately 4.4% which compares to the market value return of 12.3%. 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 decreased from 81.5% at June 30, 2012 to 80.1% as of June 30, 2013.

Using the market value of assets, the funding ratio increased from 78.2% at June 30, 2012 to 82.6% as of June 30, 2013. On a market value of assets basis, the ARC Rate would be 27.92% and would amortize the unfunded liability over 28.2 years.

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

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 within the context of the applicable statutes of the State of Missouri. 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				
	2009	2010	2011	2012	2013
Number	17,883	17,776	17,541	17,666	17,842
Average Age	42.0	42.1	42.1	42.0	42.0
Average Years of Service	11.0	11.2	11.3	11.4	11.4
Average Annual Salary	\$ 61,452	\$ 62,356	\$ 61,578	\$ 62,374	\$ 63,181
Total Payroll (000's)	\$ 1,098,939	\$ 1,108,444	\$ 1,080,134	\$ 1,101,905	\$ 1,127,284

Female

Item	Actuarial Valuation as of June 30				
	2009	2010	2011	2012	2013
Number	61,452	61,480	60,167	59,863	60,234
Average Age	42.2	42.4	42.4	42.3	42.1
Average Years of Service	11.1	11.3	11.5	11.4	11.4
Average Annual Salary	\$ 54,359	\$ 55,065	\$ 54,163	\$ 54,744	\$ 55,344
Total Payroll (000's)	\$ 3,340,442	\$ 3,385,421	\$ 3,258,842	\$ 3,277,155	\$ 3,333,588

Total

Item	Actuarial Valuation as of June 30				
	2009	2010	2011	2012	2013
Number	79,335	79,256	77,708	77,529	78,076
Average Age	42.2	42.3	42.3	42.2	42.1
Average Years of Service	11.1	11.3	11.5	11.4	11.4
Average Annual Salary	\$ 55,957	\$ 56,701	\$ 55,837	\$ 56,483	\$ 57,135
Total Payroll (000's)	\$ 4,439,381	\$ 4,493,865	\$ 4,338,976	\$ 4,379,060	\$ 4,460,872

Table 2

**Employee Distribution by Age and Years of Service
June 30, 2013**

Age	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30 & Over	
Under 25	1,482	0	0	0	0	0	0	1,482
25-29	7,105	2,353	0	0	0	0	0	9,458
30-34	2,916	7,286	1,831	0	0	0	0	12,033
35-39	1,890	3,011	5,411	1,437	0	0	0	11,749
40-44	1,513	2,325	2,586	4,365	986	8	0	11,783
45-49	1,052	1,709	1,809	1,995	2,600	868	7	10,040
50-54	782	1,395	1,552	1,643	1,471	2,083	553	9,479
55-59	478	884	1,170	1,529	1,333	783	670	6,847
60-64	281	596	701	884	723	435	337	3,957
65 & Over	103	195	227	268	188	129	138	1,248
Total	17,602	19,754	15,287	12,121	7,301	4,306	1,705	78,076

Table 3
Salary Distribution
Employees in Active Service
on June 30, 2013

Annual Salary	Number	Percent
Under \$20,000	1,966	2.5%
\$20,000-24,499	986	1.3%
\$25,000-29,999	1,175	1.5%
\$30,000-34,999	2,273	2.9%
\$35,000-39,999	6,135	7.9%
\$40,000-44,999	10,212	13.1%
\$45,000-49,999	11,171	14.3%
\$50,000-54,999	9,914	12.7%
\$55,000-59,999	8,153	10.5%
\$60,000-64,999	6,254	8.0%
\$65,000-69,999	4,942	6.3%
\$70,000-74,999	3,700	4.7%
\$75,000-79,999	2,746	3.5%
\$80,000-84,999	2,281	2.9%
\$85,000-89,999	1,674	2.2%
\$90,000-94,999	1,507	1.9%
\$95,000-99,999	879	1.1%
\$100,000 & Over	<u>2,108</u>	<u>2.7%</u>
Total	78,076	100.0%

Table 4

**Salary Increase Rates by Service Group
Employees Earning a Full Year of Service in Fiscal 2012 and 2013**

Service as of June 30, 2013	Number	Average Percent Increase In Salary	
		Expected	Actual
Under 5	14,102	7.0%	5.3%
5-9	17,401	6.4%	3.7%
10-14	14,757	5.4%	3.3%
15-19	11,097	4.9%	3.0%
20-24	6,551	4.6%	2.6%
25-29	3,542	4.3%	2.1%
30 & Over	<u>1,288</u>	<u>4.0%</u>	<u>1.9%</u>
Total	68,738	5.6%	3.5%

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>
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
2013	60,234	17,842	14,985	93,061

Table 6

**Pensions in Force on June 30, 2013
by Type and Monthly Amount**

Monthly Amount	Service	Disability	Beneficiary	Survivor	Total
Less than \$500	1,329	2	143	229	1,703
\$500 - 999	2,718	34	355	499	3,606
\$1,000 - 1,499	2,749	124	443	2	3,318
\$1,500 - 1,999	3,264	248	402	0	3,914
\$2,000 - 2,499	4,578	204	377	0	5,159
\$2,500 - 2,999	5,892	125	362	0	6,379
\$3,000 - 3,499	6,380	72	296	0	6,748
\$3,500 - 3,999	5,819	22	217	0	6,058
\$4,000 - 4,499	4,857	5	185	0	5,047
\$4,500 - 4,999	3,657	5	104	0	3,766
\$5,000 - 5,499	2,529	0	91	0	2,620
\$5,500 - 5,999	1,498	2	48	0	1,548
\$6,000 & Over	<u>2,376</u>	<u>0</u>	<u>64</u>	<u>0</u>	<u>2,440</u>
Total	47,646	843	3,087	730	52,306

Table 7

Pensions in Force on June 30, 2013
by Type and Age

Age	Service	Disability	Beneficiary	Survivor	Total
Under 55	943	214	212	322	1,691
55-59	4,725	169	121	43	5,058
60-64	11,428	162	273	75	11,938
65-69	11,900	134	406	80	12,520
70-74	7,685	52	417	46	8,200
75-79	4,550	41	505	62	5,158
80-84	3,222	40	493	50	3,805
85-89	1,895	19	411	29	2,354
90 & Over	<u>1,298</u>	<u>12</u>	<u>249</u>	<u>23</u>	<u>1,582</u>
Total	47,646	843	3087	730	52,306

Table 8

**Cost of Living Increases to Retired Members
June 30, 2013**

Retirement In	Effective Date of First COLA	First COLA Percentage Increase	Total Increases Through January 2013	January 2014 Increase	Total Increases Through January 2014	Number of Retired Members at 06/30/2013¹
1987 & Earlier	Various	Various	80.00%	0.00%	80.00%	2,803
1988	Jan. 1992	4.70%	75.45%	2.00%	78.96%	620
1989	Jan. 1993	3.10%	67.56%	2.00%	70.91%	558
1990	Jan. 1994	3.00%	62.54%	2.00%	65.79%	690
1991	Jan. 1995	2.50%	57.80%	2.00%	60.96%	757
1992	Jan. 1996	3.00%	53.95%	2.00%	57.03%	907
1993	Jan. 1997	2.80%	49.46%	2.00%	52.45%	790
1994	Jan. 1998	2.30%	45.37%	2.00%	48.28%	921
1995	Jan. 1999	1.70%	42.11%	2.00%	44.95%	1,115
1996	Jan. 2000	2.00%	39.73%	2.00%	42.52%	1,565
1997	Jan. 2001	3.70%	37.00%	2.00%	39.74%	1,520
1998	Jan. 2002	3.30%	32.11%	2.00%	34.75%	1,743
1999-2001 ²	Jan. 2003	1.10%	27.90%	2.00%	30.46%	6,328
2000-2002 ³	Jan. 2004	2.10%	26.50%	2.00%	29.03%	2,200
2003	Jan. 2005	3.30%	23.89%	2.00%	26.37%	2,281
2004	Jan. 2006	2.50%	19.95%	2.00%	22.35%	2,555
2005	Jan. 2007	4.30%	17.02%	2.00%	19.36%	2,373
2006	Jan. 2008	2.70%	12.20%	2.00%	14.44%	2,318
2007	Jan. 2009	5.00%	9.24%	2.00%	11.42%	2,470
2008	Jan. 2010	0.00%	4.04%	2.00%	6.12%	2,679
2009	Jan. 2011	0.00%	4.04%	2.00%	6.12%	2,232
2010	Jan. 2012	2.00%	4.04%	2.00%	6.12%	3,149
2011	Jan. 2013	2.00%	2.00%	2.00%	4.04%	3,004
2012	Jan. 2014	2.00%		2.00%	2.00%	2,711
2013	Jan. 2015					<u>200</u>
Total						48,489

¹ Includes Service Retirees and Disabled Retirees as of June 30, 2013.

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, 2013**

Type of Benefit	Number	Annual Benefit	Total Liability
Service Retirees			
Options 1 & 10 (Life Only)	24,903	\$947.1	\$9,638.8
Options 2 & 21 (100% J&S with Pop-Up)	12,843	521.0	6,646.9
Option 3 & 31 (75% J&S with Pop-Up)	2,686	119.5	1,498.5
Option 4 & 41 (50% J&S with Pop-Up)	4,791	207.0	2,453.9
Option 5 (10 Years Certain & Life)	1,338	52.0	596.7
Option 6 (5 Years Certain & Life)	308	12.7	144.7
Option 20 (100% J&S)	575	22.6	193.5
Option 30 (75% J&S)	19	1.1	10.6
Option 40 (50% J&S)	<u>183</u>	<u>7.3</u>	<u>49.4</u>
Total	47,646	\$1,890.3	\$21,233.0
Disability Retirees	843	\$21.4	\$204.8
Beneficiaries	3,087	\$91.6	\$773.0
Survivors	730	\$4.7	\$39.4

Note: Excludes \$5,000 death benefits and 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
1989	12,117	4,345	16,462	\$12,412,178	\$753.99	\$1,142/Mo.
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
2013	33,935	13,711	47,646	157,523,319	3,306.12	3,114

Note: Excludes tax sheltered annuity amounts.

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
1989	394	149	543	\$362,423	\$667.45	\$1,088/Mo.
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
2013	690	153	843	1,783,403	2,115.54	2,187

APPENDIX B
ASSET INFORMATION

Table 12

**Market Value of Assets
Balance Sheet**

	June 30, 2012	June 30, 2013
Assets:		
Cash	\$ 90,553,538	\$ 169,902,337
Contribution Receivable	162,148,530	178,731,735
Accrued Interest and Dividends	126,642,508	61,298,852
Investments	30,401,626,436	33,276,726,643
Trades Pending	1,573,449,536	1,014,191,683
Other Assets	241,107	258,396
Capital Assets	17,391,271	21,267,894
Due from PEERS	<u>348,642</u>	<u>0</u>
Total	\$ 32,372,401,568	\$ 34,722,377,540
Liabilities:		
Accounts Payable	\$ 13,538,434	\$ 15,752,513
Employer-Pay Liability	953,831	1,098,732
Interest Payable	271,912	49,867
Trades Pending	4,515,861,923	4,329,286,136
Net OPEB Obligation	573,551	728,613
Other Liabilities	24,429,356	0
Due to PEERS	<u>0</u>	<u>44,887</u>
Total	\$ 4,555,629,007	\$ 4,346,960,748
Net Assets	\$ 27,816,772,561	\$ 30,375,416,792

Table 13

**Statement of Revenue and Expenses
Market Value Reconciliation for Fiscal Year Ended June 30, 2013**

Operating Revenues	Amount
Contributions:	
Employers	\$ 634,040,335
Members	<u>665,925,539</u>
Total Contributions	\$ 1,299,965,874
Net Investment Income:	
Interest	\$ 168,095,234
Dividends	155,854,945
Net Income from Security Lending Activities	<u>21,437,471</u>
Total Investment Income	\$ 345,387,650
Investment Return	
Net Capital Appreciation / (Depreciation)	\$ 3,369,272,377
Investment Expenses	<u>(336,128,965)</u>
Total Investment Return	\$ 3,033,143,412
Other Income	\$ 20,305
Total Operating Revenues	\$ 4,678,517,241
Operating Expenses	
Benefit Payments	\$ 2,055,763,858
Refunds to Members	55,394,344
Administrative Expenses	8,712,314
Other Expenses	<u>2,495</u>
Total Operating Expenses	\$ 2,119,873,011
Excess of Revenues over Expenses	\$ 2,558,644,230
Fund Balance, June 30, 2012	\$ 27,816,772,562
Fund Balance, June 30, 2013	<u>\$ 30,375,416,792</u>

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			
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
2013	1,299,966	(2,111,158)	(8,715)	(2,119,873)	(819,907)	4,460,872	47.5

Table 15

Development of the Actuarial Value of Assets

1. Actuarial Value of Assets June 30, 2012		\$ 29,013,002,242
2. Activity for FY 2013		
a. Contributions	\$ 1,299,965,874	
b. Benefits and Expenses	<u>(2,119,873,011)</u>	
c. Net Cash Flow	\$ (819,907,137)	
3. Expected Returns	\$ 2,288,243,894	
4. Assets Before Allocation of G/L (1+2+3)		\$ 30,481,338,999
5. Actual Returns for 2013	\$ 3,378,531,062	
6. Excess Returns for 2013 (5-3)	\$ 1,090,287,168	
7. Recognized Excess Returns		
2013	\$ 218,057,434	
2012	(374,366,109)	
2011	546,202,465	
2010	87,847,872	
2009	\$ <u>(1,515,933,789)</u>	
Total		\$ <u>(1,038,192,127)</u>
8. Actuarial Value of Assets June 30, 2013		\$ 29,443,146,872

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

June 30	Accumulated Employee Contributions¹	General Reserves Contributed by Employers	Total Funds²
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
2013	6,856,920,007	22,586,226,865	29,443,146,872

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)**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Active Members	73,797	73,850	75,540	77,121	78,436	79,335	79,256	77,708	77,529	78,076
Retired Members	34,230	36,321	38,110	39,828	41,738	43,902	45,632	48,065	50,344	52,306
Actuarial Assets	\$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	\$29,443,147
UAAL	\$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	\$7,315,019
Benefit Payments and Refunds	\$(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)	\$(2,111,158)
Accumulated Members' Contributions	\$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	\$6,856,920
APV of Retirees' Benefits	\$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	\$22,328,795

Table 18

**Determination of Normal Cost
for the 2013 - 2014 Plan Year**

	Dollar (mid-year)¹	Rate²
Active Members		
Retirement Benefits	\$ 744,220,972	16.69%
Termination Benefits	81,750,105	1.83%
Death Benefits	12,858,312	0.29%
Disability Benefits	<u>10,882,741</u>	<u>0.24%</u>
Total Normal Cost	\$ 849,712,130	19.05%
Estimated Employee Payroll	\$4,460,871,713	
Employee Contribution Rate	14.50%	
Estimated Employee Contributions	<u>646,826,398</u>	
Employer Normal Cost (Total Normal Cost less Employee Contributions)	\$ 202,885,732	

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 estimated payroll of \$4,460,871,713.

Table 19

**Determination of the Unfunded Actuarial Accrued Liability
June 30, 2013**

Actives Members:

Service Retirement	\$ 13,967,731,277
Death Benefits	132,031,240
Disability Benefits	75,727,809
Termination Benefits	(311,921,923)
State Members	9,455,701
Inactives	<u>556,346,418</u>
Total for Active and Inactives Members	\$ 14,429,370,522

Pay Status Members:

Service Retirees	\$ 21,232,956,326
Disability Retirees	204,788,381
Beneficiaries and Survivors	812,410,947
Tax-sheltered Annuitants	466,586
Death Benefit	<u>78,172,649</u>
Total for Pay Status Members	\$ 22,328,794,889

Total Actuarial Accrued Liability \$ 36,758,165,411

Actuarial Value of Assets 29,443,146,872

Total Unfunded Actuarial Accrued Liability \$ 7,315,018,539

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)
6/30/2004	\$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%
6/30/2013	29,443,147	36,758,165	7,315,018	80.1%	4,460,872	164.0%

Schedule of Employer Contributions

Fiscal Year Ending	Annual Required Contribution	Employer Contribution	Percentage Contributed
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	658,161,150	594,326,122	90.3%
6/30/2011	684,366,766	594,732,137	86.9%
6/30/2012	720,303,976	620,214,231	86.1%
6/30/2013 ¹	507,232,268	634,040,335	125.0%

¹ Annual Required Contribution determined by applying the benchmark contribution rate (26.10%), net of the employee contribution rate (14.50%), to the estimated payroll (4,372,691,966) on which contributions were made.

Notes in Trend Data

Information:

Valuation Date
Actuarial Cost Method
Amortization Method
Asset Valuation Method

Data

6/30/2013
Entry Age Normal – Level Percent
Closed, Level Percent for 30 Years
5-Year Smoothing of Actual Returns
Less Expected Returns on Actuarial Value

Actuarial

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

8.00% per year
4.00% - 10.00%, depending on service
2.00% per year, compound

Table 21

**Unfunded Actuarial Accrued Liability
June 30, 2013**

	<u>Amount</u>
(1) Present Value of Future Benefits for:	
Active Members	\$ 21,812,311,433
State Members	9,918,319
Service Retirees	21,232,956,326
Disability Retirees	204,788,381
Tax-sheltered Annuitants	466,586
Beneficiaries and Survivors	812,410,947
Death Benefits	78,172,649
Inactive Members	<u>556,346,418</u>
Total	\$ 44,707,371,059
(2) Present Value of Future Normal Costs	<u>7,949,205,648</u>
(3) Actuarial Accrued Liability ((1)-(2))	\$ 36,758,165,411
(4) Actuarial Value of Assets	<u>29,443,146,872</u>
(5) Unfunded Actuarial Accrued Liability ((3)-(4))	\$ 7,315,018,539

**Required Contribution Rate and Amortization of Unfunded Liability
for the Fiscal Year Ending 2015**

	<u>Percentage of Payroll</u>
(1) Normal Cost Rate ¹	19.05%
(2) Unfunded Actuarial Accrued Liability Rate ²	<u>10.16%</u>
(3) Benchmark Contribution Rate - Normal Cost Plus a Rate to fund UAAL over 30 Years ³ [(1)+(2)]	29.21%
(4) Total Contribution Rate, Member + Employer, for Fiscal Year 2014	29.00%
(5) Recommended Total Contribution Rate, Member + Employer, for Fiscal Year 2015	29.00%

Since the effective UAAL amortization period for the current contribution rate (29.4 years at 29.00%) is within three years of the effective amortization period of the Benchmark Contribution Rate (28.2 years at 29.21%), we recommend no change in the contribution rate for fiscal 2015. This is consistent with the Board's funding policy for maintaining contribution rate stability.

¹ Normal cost rate was determined at mid-year using an expected payroll of \$4,460,871,713.

² Contribution rate to amortize the UAAL was determined using expected payroll of \$4,460,871,713. 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. Since the changes made during the 2013 legislative session resulted in a decrease in the Actuarial Accrued Liability, the effect was amortized over 30 years.

³ Weighted average of 29.27% for members who receive full credit for each year of service and 19.51% for members who are covered by Social Security and earn two-thirds credit.

Table 22

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

	<u>Amount</u>
1. Unfunded Actuarial Liability as of June 30, 2012	\$ 6,575,028
2. Normal Cost for 2013 Plan Year (Mid-year)	833,146
3. Contribution Expected to be Received During Year (Benchmark Rate)	(1,142,936)
4. Interest to Year End @ 8.00% on 1., 2., and 3.	<u>513,611</u>
5. Expected Unfunded Actuarial Liability as of June 30, 2013	\$ 6,778,849
6. Contribution (Excess)/Shortfall	(125,146)
7. Actuarial (Gain)/Loss During the Year	
a. From Investment	1,038,192
b. From Actuarial Liabilities Due to Legislative Changes	(62,020)
c. From Actuarial Liabilities Due to Assumption Changes	0
d. From Actuarial Liabilities Due to Actual vs. Expected COLA	0
e. From Actuarial Liabilities Due to Actual vs. Expected Salary Changes	(265,063)
f. From Actuarial Liabilities Due to Demographic Experience	<u>(49,793)</u>
g. Total	661,316
8. Actual Unfunded Actuarial Liability as of June 30, 2013	\$ 7,315,019

¹ Includes the permanent extension of the Special Early Retirement (“25-and-out”) benefit and one year extension of the enhanced Normal Retirement (“2.55% formula factor”) benefit for members who retire with 31 or more years of service.

² COLA provided at January 1, 2014 is 2.0%, as assumed.

³ Includes Actuarial Liabilities for new members and gains/losses on service purchases.

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
6/30/1993	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	4,379,976	56,483	1.2%	42.2	11.4
6/30/2013	78,076	4,460,872	57,135	1.2%	42.1	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%	
6/30/2013	6,856,920	22,328,795	7,572,451	29,443,147	100.0%	100.0%	3.4%	

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
6/30/2013	2,642	891	47,646	68	28	843	332	161	3,817

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
6/30/2013	47,646	1,890,280	843	21,401	3,817	96,388

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
6/30/2013	3,113.99	1	59.8	23.3

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 sessions.
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 when compounded, 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

Retirement Rates

Retirement is assumed in accordance with the following rates per 1,000 eligible members:

Active Member Retirements Prior to September 2015

<u>Age</u>	<u>Active Member Retirement Per 1,000 Eligible Members</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.)

Active Member Retirements After August 2015

Age	Active Member Retirement Per 1,000 Eligible Members											
	Service											
	<=20	21	22	23	24	25	26	27	28	29	30	>=31
<50	0	0	0	0	0	50	50	50	50	50	450	450
50	0	0	0	0	0	50	50	50	50	50	450	450
51	0	0	0	0	0	50	50	50	50	200	450	450
52	0	0	0	0	0	50	50	50	200	200	450	450
53	0	0	0	0	0	50	50	300	200	200	450	450
54	0	0	0	0	0	50	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

Years of Service	Rate
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, but before retirement age, 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. For the remaining 88%, 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.

Social Security Coverage

It is assumed that members who are currently employed in positions covered by Social Security and who have earned three or more years of service in such positions as of the valuation date, will continue to be employed in Social Security covered positions for the remainder of their PSRS tenure. All others are assumed to immediately switch to a position that is not covered by Social Security and receive full PSRS membership credit for future service.

Assumption Changes Since the Prior Valuation

Retirement rates have been updated to reflect 2013 legislation, which permanently extended the Special Early Retirement ("25-and-out") benefit and extended for one year the enhance Normal Retirement ("2.55% formula factor") benefit for members who retire with 31 or more years of service.

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 starting with 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.

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 and 2013 sessions 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 2013, 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. 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.

Members retiring with at least 31 years of service will receive a benefit based on a 2.55% formula factor. This benefit was extended during the 2013 legislature, but is scheduled to expire during fiscal 2015.

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. Members employed in positions that are covered by Social Security receives two-thirds credit for each year of Membership Service earned in those positions.

Prior Service

Service in a covered position prior to July 1, 1946. A year of Prior Service is the equivalent of 0.6 years of Membership Service.

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 EARLY RETIREMENT – UNDER MODIFIED FORMULA

Eligibility

Retirement 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.

CHANGES IN BENEFIT PROVISIONS

Since the prior valuation, the Special Early Retirement (“25-and-out”) benefit, which allows members to retire under a reduced formula at any age after 25 years of service, was permanently extended. Previously, the benefit was set to sunset at July 1, 2013.

The enhanced Normal Retirement (“2.55% formula factor”) benefit for members who retire with 31 or more years of service was also extended, but is still set to expire during fiscal 2015.