Strength

PSRS/PEERS also has a positive impact on quality of Missouri schools. The guaranteed retirement income provided by PSRS/PEERS helps attract and retain talented education professionals to Missouri's public schools and the communities they serve.

ACTUARIAL SECTION

Actuarial Section

Certification of Actuarial Results

pwc

December 22, 2014

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

Re: Certification of Actuarial Results

Dear Members of the Board:

At your request, we have performed actuarial valuations of the Public School Retirement System of Missouri (PSRS) and the Public Education Employee Retirement System of Missouri (PEERS) as of June 30, 2014. An actuarial valuation of each System is performed annually.

The actuarial valuation is based upon:

a. *Benefit Provisions* - Benefit provisions in effect on the valuation date under Missouri Revised Statutes Chapter 169 were reflected in the valuations.

b. *Data Relative to the Members of the Systems* - Data for all members of each System was provided by the staff. The data was tested for reasonableness but was used unaudited.

c. *Assets of the Fund* - The values of the trust fund assets as of the valuation date for each System are provided by the staff. An actuarial value of assets, with gains and losses recognized over five years, is used in the development of the contribution rates.

d. *Actuarial Cost Method* - The actuarial cost method utilized by each System for accounting purposes is the Entry Age Normal Cost Method, as required by GASB Statement No. 67. The system has elected to use the same cost method in the determination of the contribution rates for pre-funding the benefits. The objective of this method is to allocate the cost of benefits as a level percentage of pay over the entire career of each member. On a funding basis, any Unfunded Actuarial Accrued Liability (UAAL) is separately financed as a level percentage of payroll over a fixed 30-year period, where a new 30-year base is established for the gain or loss that occurred during the year.

e. *Actuarial Assumptions* - The June 30, 2014 valuations were based on the same actuarial assumptions used for the June 30, 2013 valuations. The basis of the assumptions was an experience study was completed for each System as of June 30, 2011. Based on those studies, the Board adopted several assumption changes effective for the actuarial valuations as of June 30, 2011. Minor updates were made for the June 30, 2012 valuations. For the June 30 2013 valuations, the retirement rates were updated to reflect the permanent extension of the Special Early Retirement (25-and-out) benefit in PSRS and PEERS and for the one year extension of the enhanced Normal Retirement (2.55% Benefit factor) benefit in PSRS. There were no further assumption changes for the June 30, 2014 valuations.

PricewaterhouseCoopers LLP, One North Wacker Drive Chicago, IL,60606
T: (312)298 2000, F: (312) 298 2001, www.pwc.com/us

Certification of Actuarial Results, continued

For accounting purposes, the actuarial assumptions and methods used in this valuation were selected and approved by the Board and are in accordance with our understanding of GASB Statement No. 67. For funding purposes, the actuarial assumption and methods are consistent with the funding policy adopted by the PSRS/PEERS Board of Trustees and summarized below. In general, the methods provide orderly funding of all benefits being accrued, as well as any Unfunded Actuarial Accrued Liability, over a period of thirty years. 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 assumptions and methods are reasonable for purposes of the actuarial valuations.

In order to establish long-term, consistent methods for pre-funding the benefits of each System, the Board of Trustees has adopted a funding policy. The objective is to achieve a funded ratio of 100% over a closed 30-year period from fiscal year 2011 through fiscal year 2040. For this purpose, the funded ratio is defined as the Actuarial Value of Assets divided by the Actuarial Accrued Liability determined under the Entry Age Normal Cost Method with Normal Costs calculated as a percentage of payrolls.

Principles of the funding policy include:

1. Maintain adequate assets so that current plan assets plus future contributions and investment earnings should be sufficient to fund all benefits expected to be paid to members and their beneficiaries.
2. Maintain stability of contribution rates, consistent with other funding objectives.
3. Maintain public policy goals of accountability and transparency. Each policy element is clear in intent and effect, and each should allow an assessment of whether, how and when the funding requirements of the plan will be met.
4. Promote intergenerational equity. Each generation of members and employers should incur the cost of benefits for the employees who provide services to them, rather than deferring those costs to future members and employers.
5. Provide a reasonable margin for adverse experience to help offset risks.
6. Review the investment earning assumption in conjunction with the periodic asset liability study and in consideration of the Board's risk profile.
7. Review demographic and economic assumptions in conjunction with an experience study performed by an actuary.
8. Continue progress of systematic reduction of the UAAL while keeping the member and employer contribution rates at or near those paid during 2010-2011.

The actuarially determined contribution rates developed from the June 30, 2014 valuations reflect these principles.

Trend data in the Financial Section and the schedules and other data in this Actuarial Section are prepared by the staff with our guidance.

We certify these results to be true and correct.

Sincerely,

Cindy Fraterrigo

Cindy Fraterrigo, FSA, EA, MAAA
Principal

Sheldon A. Gamzon

Sheldon Gamzon, FSA, EA, MAAA
Principal

Brandon A. Robertson

Brandon Robertson, ASA, EA, MAAA
Director

Schedule of Funding Progress

Public School Retirement System of Missouri
(Dollar amounts in thousands)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL)- Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)/c)
6/30/05	$ 23,049,441	$ 27,881,513 [1]	$ 4,832,072	82.7%	$ 3,540,649	136.5%
6/30/06	24,801,644	30,037,130 [1]	5,235,486	82.6%	3,775,752	138.7%
6/30/07	27,049,004	32,396,723 [2]	5,347,719	83.5%	3,980,698	134.3%
6/30/08	28,751,241	34,490,452 [1]	5,739,211	83.4%	4,209,417	136.3%
6/30/09	28,826,075	36,060,121 [1]	7,234,046	79.9%	4,439,381	163.0%
6/30/10	28,931,331	37,233,602 [1]	8,302,271	77.7%	4,493,865	184.7%
6/30/11	29,387,486	34,383,430 [3]	4,995,944	85.5%	4,338,976	115.1%
6/30/12	29,013,002	35,588,030 [1]	6,575,028	81.5%	4,379,060	150.1%
6/30/13	29,443,147	36,758,165 [2]	7,315,018	80.1%	4,460,872	164.0%
6/30/14	31,846,599	38,483,184 [1]	6,636,585	82.8%	4,425,568	150.0%

[1] *There were no legislative changes in fiscal years 2008, 2009, 2010, 2012 and 2014.*

[2] *The extension of the 25-and-Out and 2.55% provisions to 2014 are included in the AAL for 2013.*

[3] *There were no legislative changes in fiscal year 2011, however actuarial assumptions were revised.*

Schedule of Funding Progress

Public Education Employee Retirement System
(Dollar amounts in thousands)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL)- Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)/c)
6/30/05	$ 2,011,566	$ 2,414,494 [1]	$ 402,928	83.3%	$ 1,055,204	38.2%
6/30/06	2,218,638	2,756,833 [1]	538,195	80.5%	1,190,994	45.2%
6/30/07	2,481,562	2,982,812 [1]	501,250	83.2%	1,275,199	39.3%
6/30/08	2,703,762	3,278,602 [1]	574,840	82.5%	1,377,506	41.7%
6/30/09	2,792,182	3,458,044 [1]	665,862	80.7%	1,417,485	47.0%
6/30/10	2,892,411	3,658,713 [1]	766,302	79.1%	1,433,691	53.4%
6/30/11	3,028,757	3,549,348 [3]	520,591	85.3%	1,414,442	36.8%
6/30/12	3,090,880	3,746,347 [1]	655,467	82.5%	1,437,310	45.6%
6/30/13	3,237,200	3,967,619 [2]	730,419	81.6%	1,470,830	49.7%
6/30/14	3,584,719	4,211,489 [1]	626,770	85.1%	1,442,701	43.4%

[1] *There were no legislative changes in fiscal years 2008, 2009, 2010, 2012 and 2014.*

[2] *The extension of the 25-and-Out provision is included in the AAL for 2013.*

[3] *There were no legislative changes in fiscal year 2011, however actuarial assumptions were revised.*

Required Contribution Rate & Amortization of Unfunded Liability

Public School Retirement System of Missouri
For the fiscal year ending June 30, 2014

	Percentage of Payroll
(1) Normal cost rate	18.89%
(2) Rate needed to fund UAAL	9.53%
(3) Benchmark contribution rate - normal cost plus a rate to fund the UAAL over 26.9 years	28.42%
(4) Additional amount towards funding UAAL	0.58%
(5) Recommended rate for FY 2016	29.00%

The effective amortization period for the contribution rate of 29.0% is 24.2 years.

Required Contribution Rate & Amortization of Unfunded Liability

Public Education Employee Retirement System of Missouri
For the fiscal year ending June 30, 2014

	Percentage of Payroll
(1) Normal cost rate	10.85%
(2) Rate needed to fund UAAL	2.70%
(3) Benchmark contribution rate - normal cost plus a rate to fund the UAAL over 26.8 years	13.55%
(4) Additional amount towards funding UAAL	0.17%
(5) Recommended rate for FY 2016	13.72%

The effective amortization period for the contribution rate of 13.72% is 24.1 years.

Reconciliation of Unfunded Actuarial Accrued Liability			
Public School Retirement System of Missouri			
As of June 30, 2014			
(1)	Unfunded actuarial liability as of July 1, 2013		$ 7,315,018,539
(2)	Changes in Unfunded Actuarial Accrued Liability		-
	a. Impact of Plan Changes	-	
	b. Actuarial (Gains)/Losses		
	i. From investment	(997,611,890)	
	ii. From actuarial liabilities due to assumption changes	-	
	iii. From actuarial liabilities due to actual vs. expected COLA	-	
	iv. From actuarial liabilities due to actual vs. expected salary changes	(147,358,158)	
	v. From actuarial liabilities due to other demographic experience	373,949,974	
	vi. Total Unfunded Actuarial Accrued Liability (Gain)/Loss		(771,020,074)
	c. (Excess)/Shortfall of Contributions		(21,842,946)
	d. Total New Amortization Bases: (2)(a) + (2)(b)(vi)		(792,863,020)
	e. Net change in existing bases due to prior year contributions, net of interest		114,429,026
	f. Total changes in Unfunded Actuarial Accrued Liability		(678,433,994)
(3)	Actual unfunded actuarial liability as of June 30, 2014		$ 6,636,584,545

Reconciliation of Unfunded Actuarial Accrued Liability			
Public Education Employee Retirement System of Missouri			
As of June 30, 2014			
(1)	Unfunded actuarial liability as of July 1, 2013		$ 730,419,197
(2)	Changes in Unfunded Actuarial Accrued Liability		-
	a. Impact of Plan Changes	-	
	b. Actuarial (Gains)/Losses		
	i. From investment	(98,428,310)	
	ii. From actuarial liabilities due to assumption changes	-	
	iii. From actuarial liabilities due to actual vs. expected COLA	-	
	iv. From actuarial liabilities due to actual vs. expected salary changes	(10,411,491)	
	v. From actuarial liabilities due to other demographic experience	(3,897,385)	
	vi. Total Unfunded Actuarial Accrued Liability (Gain)/Loss		(112,737,186)
	c. (Excess)/Shortfall of Contributions		(3,586,406)
	d. Total New Amortization Bases: (2)(a) + (2)(b)(vi)		(116,323,592)
	e. Net change in existing bases due to prior year contributions, net of interest		12,673,994
	f. Total changes in Unfunded Actuarial Accrued Liability		(103,649,598)
(3)	Actual unfunded actuarial liability as of June 30, 2014		$ 626,769,599

Schedule of Active Member Valuation Data

Public School Retirement System of Missouri

Actuarial Valuation Date	Number of Employers	Number of Members	Covered Annual Payroll (000's)	Average Annual Salary	% Increase in Average Salary	Average Attained Age	Average Years of Service
6/30/05	544	73,850	$ 3,540,649	$ 47,944	3.8%	42.5	11.4
6/30/06	544	75,540	3,775,752	49,983	4.3%	42.4	11.2
6/30/07	543	77,121	3,980,698	51,616	3.3%	42.3	11.1
6/30/08	542	78,436	4,209,417	53,667	4.0%	42.2	11.1
6/30/09	540	79,335	4,439,381	55,957	4.3%	42.2	11.1
6/30/10	538	79,256	4,493,865	56,701	1.3%	42.3	11.3
6/30/11	537	77,708	4,338,976	55,837	-1.5%	42.3	11.5
6/30/12	537	77,529	4,379,060	56,483	1.2%	42.2	11.4
6/30/13	535	78,076	4,460,872	57,135	1.2%	42.1	11.4
6/30/14	535	75,168	4,425,568	58,876	3.0%	42.2	11.8

Schedule of Active Member Valuation Data

Public Education Employee Retirement System of Missouri

Actuarial Valuation Date	Number of Employers	Number of Members	Covered Annual Payroll (000's)	Average Annual Salary	% Increase in Average Salary	Average Attained Age	Average Years of Service
6/30/05	536	46,598	$ 1,055,204	$ 22,645	5.5%	46.6	7.1
6/30/06	536	48,188	1,190,994	24,716	9.1%	46.4	7.1
6/30/07	536	49,281	1,275,199	25,876	4.7%	46.6	7.2
6/30/08	536	50,865	1,377,506	27,082	4.7%	46.8	7.3
6/30/09	535	51,234	1,417,485	27,667	2.2%	47.1	7.7
6/30/10	535	50,363	1,433,691	28,467	2.9%	47.5	8.0
6/30/11	534	48,800	1,414,442	28,984	1.8%	47.9	8.3
6/30/12	534	48,605	1,437,310	29,571	2.0%	48.1	8.4
6/30/13	532	48,709	1,470,830	30,196	2.1%	48.1	8.5
6/30/14	532	45,589	1,442,701	31,646	4.8%	48.6	8.9

Solvency Test

Public School Retirement System of Missouri
(Dollar amounts in thousands)

Actuarial Valuation Date	Actuarial Accrued Liability for: Member Contributions (1)	Current Retirees & Beneficiaries (2)	Active & Inactive Members Employer Financed Portion (3)	Net Assets Available for Benefits	Percentage of Actuarial Liabilities Covered by Net Assets for: (1)	(2)	(3)
6/30/2005	$5,119,055	$ 13,976,901	$ 8,785,557	$ 23,049,441	100.00 %	100.00 %	45.00%
6/30/2006	5,453,906	15,371,279	9,211,945	24,801,644	100.00	100.00	43.20
6/30/2007	5,787,667	17,059,613	9,549,443	27,049,004	100.00	100.00	44.00
6/30/2008	6,174,718	18,548,552	9,767,182	28,751,241	100.00	100.00	41.20
6/30/2009	6,299,067	19,745,129	10,015,925	28,826,075	100.00	100.00	27.80
6/30/2010	6,506,803	20,532,011	10,194,788	28,931,331	100.00	100.00	18.60
6/30/2011	6,571,916	20,023,701	7,787,813	29,387,486	100.00	100.00	35.80
6/30/2012	6,687,358	21,191,032	7,709,641	29,013,002	100.00	100.00	14.70
6/30/2013	6,856,920	22,328,795	7,572,451	29,443,147	100.00	100.00	3.40
6/30/2014	6,985,665	23,579,998	7,917,522	31,846,599	100.00	100.00	16.20

Solvency Test

Public Education Employee Retirement System of Missouri
(Dollar amounts in thousands)

Actuarial Valuation Date	Actuarial Accrued Liability for: Member Contributions (1)	Current Retirees & Beneficiaries (2)	Active & Inactive Members Employer Financed Portion (3)	Net Assets Available for Benefits	Percentage of Actuarial Liabilities Covered by Net Assets for: (1)	(2)	(3)
6/30/2005	$ 466,259	$ 904,292	$ 1,043,943	$ 2,011,566	100.00%	100.00 %	61.4 %
6/30/2006	524,014	1,020,486	1,212,333	2,218,638	100.00	100.00	55.6
6/30/2007	580,853	1,093,650	1,308,310	2,481,562	100.00	100.00	61.7
6/30/2008	650,970	1,215,036	1,412,596	2,703,762	100.00	100.00	59.3
6/30/2009	693,962	1,305,025	1,459,057	2,792,182	100.00	100.00	54.4
6/30/2010	743,146	1,392,753	1,522,813	2,892,411	100.00	100.00	49.7
6/30/2011	783,112	1,398,620	1,367,616	3,028,757	100.00	100.00	61.9
6/30/2012	822,485	1,541,541	1,382,321	3,090,880	100.00	100.00	52.6
6/30/2013	862,035	1,653,613	1,451,971	3,237,200	100.00	100.00	49.7
6/30/2014	894,650	1,861,575	1,455,264	3,584,719	100.00	100.00	56.9

PSRS Schedule of Retirees and Beneficiaries Added to and Removed from Retirement Rolls

	Added to Rolls		Removed from Rolls		Rolls End of Year			% Increase	
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances	Average Annual Allowances	in Annual Allowance	in Average Annual Allowance
2013-2014									
Service Retirees	2,906	$ 110,291,762	848	$ 27,701,354	49,652	$ 2,007,864,810	$ 40,439	6.31 %	1.91 %
Disability Retirees	59	1,461,178	45	827,024	856	22,188,843	25,922	3.82	2.12
Beneficiaries	303	9,030,545	186	3,874,901	3,872	102,660,521	26,514	6.72	3.50
Note: 106 retirees and beneficiaries had their benefit on hold at June 30, 2014 and are not included in the payment rolls at the end of the year.									
2012-2013									
Service Retirees	2,659	$ 98,663,536	907	$ 27,431,830	47,594	$ 1,888,628,855	$ 39,682	5.92 %	2.02 %
Disability Retirees	69	1,808,376	28	627,785	842	21,372,682	25,383	7.58	2.33
Beneficiaries	376	9,380,442	185	3,088,202	3,755	96,196,708	25,618	8.55	3.02
Note: 115 retirees and beneficiaries had their benefit on hold at June 30, 2013 and are not included in the payment rolls at the end of the year.									
2011-2012									
Service Retirees	2,946	$ 108,593,761	822	$ 25,293,380	45,842	$ 1,783,144,601	$ 38,898	6.92 %	1.97 %
Disability Retirees	70	1,628,482	30	618,063	801	19,867,641	24,804	7.17	1.82
Beneficiaries	310	11,791,505	181	3,489,331	3,564	88,623,659	24,866	7.27	3.39
Note: 137 retirees and beneficiaries had their benefit on hold at June 30, 2012 and are not included in the payment rolls at the end of the year.									
2010-2011									
Service Retirees	3,145	$ 115,976,129	891	$ 25,543,283	43,718	$ 1,667,760,851	$ 38,148	5.77 %	0.31 %
Disability Retirees	76	2,095,095	36	885,453	761	18,538,146	24,360	6.98	1.36
Beneficiaries	347	7,794,495	194	3,208,289	3,435	82,616,257	24,051	5.86	1.14
Note: 151 retirees and beneficiaries had their benefit on hold at June 30, 2011 and are not included in the payment rolls at the end of the year.									
2009-2010									
Service Retirees	2,392	$ 84,290,821	825	$ 23,896,894	41,464	$ 1,576,834,116	$ 38,029	4.02 %	0.09 %
Disability Retirees	54	1,337,647	29	646,445	721	17,328,504	24,034	4.18	0.57
Beneficiaries	290	7,127,771	161	2,596,246	3,282	78,045,764	23,780	6.18	2.00
2008-2009									
Service Retirees	2,629	$ 98,725,164	777	$ 21,507,072	39,897	$ 1,515,913,812	$ 37,996	10.30 %	5.18 %
Disability Retirees	37	924,132	32	621,480	696	16,632,852	23,898	5.89	5.13
Beneficiaries	287	7,160,304	136	2,206,056	3,153	73,504,884	23,313	10.68	5.38

PEERS Schedule of Retirees and Beneficiaries Added to and Removed from Retirement Rolls

	Added to Rolls		Removed from Rolls		Rolls End of Year			% Increase	
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances	Average Annual Allowances	in Annual Allowance	in Average Annual Allowance
2013-2014									
Service Retirees	1,943	$ 20,062,595	704	$ 3,843,918	22,673	$ 180,951,822	$ 7,981	10.14 %	4.12 %
Disability Retirees	66	360,139	39	195,300	732	3,710,104	5,068	6.19	2.26
Beneficiaries	165	911,764	71	263,425	1,537	8,167,504	5,314	9.61	2.90
Note: 87 retirees and beneficiaries had their benefit on hold at June 30, 2014 and are not included in the payment rolls at the end of the year.									
2012-2013									
Service Retirees	1,674	$ 16,712,855	694	$ 4,168,985	21,434	$ 164,297,318	$ 7,665	8.23 %	3.27 %
Disability Retirees	69	408,169	29	158,081	705	3,493,840	4,956	9.21	3.01
Beneficiaries	164	1,155,936	77	357,536	1,443	7,451,611	5,164	13.14	6.32
Note: 92 retirees and beneficiaries had their benefit on hold at June 30, 2013 and are not included in the payment rolls at the end of the year.									
2011-2012									
Service Retirees	1,747	$ 17,066,211	647	$ 3,356,576	20,454	$ 151,802,237	$ 7,422	10.26 %	4.33 %
Disability Retirees	69	405,024	21	86,830	665	3,199,134	4,811	12.69	4.56
Beneficiaries	151	800,248	58	254,077	1,356	6,586,250	4,857	10.13	2.58
Note: 87 retirees and beneficiaries had their benefit on hold at June 30, 2012 and are not included in the payment rolls at the end of the year.									
2010-2011									
Service Retirees	1,675	$ 16,740,804	595	$ 2,955,819	19,354	$ 137,682,745	$ 7,114	9.86 %	3.73 %
Disability Retirees	73	411,908	31	165,052	617	2,838,986	4,601	9.53	2.06
Beneficiaries	114	672,098	73	276,872	1,263	5,980,471	4,735	7.08	3.61
Note: 94 retirees and beneficiaries had their benefit on hold at June 30, 2011 and are not included in the payment rolls at the end of the year.									
2009-2010									
Service Retirees	1,426	$ 12,130,367	613	$ 3,074,132	18,274	$ 125,327,880	$ 6,858	6.14 %	1.42 %
Disability Retirees	51	250,591	16	62,887	575	2,592,012	4,508	7.81	1.26
Beneficiaries	139	832,603	67	315,936	1,222	5,585,100	4,570	9.82	3.32
2008-2009									
Service Retirees	1,325	$ 12,276,828	560	$ 2,464,452	17,461	$ 118,079,604	$ 6,762	11.55 %	6.66 %
Disability Retirees	44	233,556	18	92,412	540	2,404,284	4,452	10.46	5.12
Beneficiaries	112	556,872	40	176,184	1,150	5,085,876	4,423	10.89	3.95

PSRS Summary Plan Description

The Public School Retirement System of Missouri (PSRS) became operative July 1, 1946. It was established by an Act of the Missouri Legislature and is governed by Chapter 169 of the Revised Statutes of Missouri. Its purpose is to provide benefits to members and their dependents at retirement or in the event of death or disability prior to retirement.

PSRS is a defined benefit plan funded on an actuarial reserve basis, which establishes the availability of funds to pay benefits as prescribed by law. The System is established as an independent trust fund and is not subject to direction by any state agency. Administrative expenses are paid entirely out of investment earnings.

Administration – The administration of PSRS is vested in a seven-member Board of Trustees, composed of three elected PSRS members, one elected Public Education Employee Retirement System of Missouri (PEERS) member, and three appointed trustees. The four elected trustees are selected by vote of the members and retirees of both Systems. Two are elected each even-numbered calendar year to serve four-year terms. The three appointed trustees, one of whom must be a PSRS or a PEERS retiree, are named by the governor to serve four-year terms. The appointed trustees must be residents of school districts included in the System but not employees of such districts nor state employees nor state elected officials.

The Board appoints an executive director who is responsible for employment of the retirement office staff, routine operation of the System, and acts as an advisor to the Board on all matters pertaining to the System.

Member Participation – PSRS membership is automatic for certificated, full-time employees of public school districts in Missouri (except the St. Louis city and the Kansas City school districts), public two-year colleges in Missouri, PSRS and certain statewide non-profit educational associations that have previously elected to join. Non-profit educational associations are no longer allowed to join the System. Certificated, part-time employees whose services would qualify them for membership in PEERS are contributing members of PSRS unless PEERS membership is elected. The vast majority of PSRS members are not covered by Social Security. However, there are a few exceptions due to specific guidance from the Social Security Administration. Those members who are also covered by Social Security contribute to PSRS at two-thirds the rate of other members and receive two-thirds benefits.

Members working in covered employment are considered active members. Such members contribute 14.5% of total retirement salary to PSRS. The contributions are deducted and remitted by the employer and are credited by PSRS to individual member accounts. Since July 1, 1989, member contributions have been tax-deferred for federal and state income tax purposes under IRS 414(h)(2). Contributions are not considered income for such purposes until they are paid as a lump-sum refund or monthly benefits.

Interest at a rate set each year by the Board of Trustees is credited to individual member accounts each June 30 on the previous June 30 balance. The rate credited on June 30, 2014 was 1%. Since PSRS is a defined benefit plan, benefits are based upon the member's final average salary and years of service. The amount of interest credited to a member's account has no bearing on the monthly benefit amount payable at retirement.

In addition to service earned for covered employment, members may purchase service in various categories including several types of leave, out-of-state school service, other public and private employment, active U.S. military duty, and service under the federal Uniformed Services Employment and Re-Employment Rights Act of 1994 (USERRA).

Members who have contributions on deposit with PSRS but are not working in covered employment are considered inactive members.

Employer Participation – The employers served by PSRS withhold members' contributions from salary payments and contribute an amount equal to those contributions at a current rate of 14.5% of payroll. Employer contributions and investment earnings on those funds are placed by PSRS in a general reserve account to pay monthly benefits to retirees and to beneficiaries of deceased members. Employers are responsible for remitting contributions promptly and for furnishing contribution information and new membership records to PSRS. Employers also provide needed data when members apply for monthly benefits or for refunds upon termination of employment.

Survivor Benefits – The designated beneficiary of a member who dies before retirement is eligible for a lump-sum refund of the member's contributions and interest. If the beneficiary is an eligible dependent and the member dies while in covered employment with at least two years of service, or while eligible for disability retirement benefits, monthly survivor benefits based on a percentage of the member's salary for the last full year of covered service can be elected instead of a lump-sum refund. Monthly survivor benefits may also be payable to qualified dependents of an inactive member who has at least five years of service.

In lieu of a lump-sum refund or monthly survivor benefits, survivors with an insurable interest and beneficiaries of disability retirees may elect to receive monthly benefits under the Joint-and-Survivor 100% benefit plan. Such benefits are payable when the member would have been eligible for early or normal service retirement.

Refund of Contributions – Member contributions and interest are fully refundable upon termination of covered employment or death. All service and benefit rights are forfeited upon voluntary refund or automatic termination of membership.

A member may, upon returning to covered employment, reinstate the service forfeited through termination of a previous membership by repaying the money refunded plus interest.

Membership Termination – Membership is terminated by death, retirement, refund of contributions or absence from covered employment by a non-vested member for five consecutive school years.

Disability Retirement Benefits – Disability retirement benefits are payable to eligible members who have met service and eligibility requirements and who, because of permanent disability, are unable to earn a livelihood in any occupation. In most instances, the disability retirement benefit is calculated at 50% of the member's salary for the last full year of service.

Service Retirement Benefits – Service retirement benefits are payable to members who have terminated covered employment and have met certain eligibility requirements.

Benefit Formula – All service retirement benefits are based on a formula which multiplies final average salary by the applicable benefit factor, by the years of service and, in the case of early retirement, by an age-reduction factor. Final average salary is obtained by dividing the total salaries for the three highest consecutive years of service by 36 months to arrive at a monthly average; the applicable factor is determined by the type of retirement eligibility; total service is the amount accumulated at retirement for covered employment and purchased service; and the age-reduction factor, when applicable, is determined by the age at retirement.

Normal Retirement – A member may retire with benefits calculated under the standard (2.5%) benefit factor at age 60 with five years of service, at any age with 30 years of service, or when a combination of age and service equals 80 or more. Between July 1, 2001 and July 1, 2014, a member may retire with a 2.55% benefit factor with 31 or more years of service.

Early Retirement – A member may retire with benefits calculated under the standard (2.5%) formula with an age-reduction factor applied, at age 55 with five years of service or at any age with 25 years of service, as long as he or she does not qualify for Rule of 80.

A special provision allows members under age 55 with 25.0 to 29.9 years of service to retire with benefits calculated under a modified benefit factor ranging from 2.2% to 2.4% with no age-reduction factor applied.

Payment Options – A retiring member may choose to receive the maximum benefits payable under the Single Life benefit plan, or may elect to receive a reduced benefit under one of three Joint-and-Survivor benefit plans or under one of two Term-Certain benefit plans, to provide survivor benefit coverage in varying degrees after the retiree's death.

Certain benefit minimums apply to normal or early retirement with 15 or more years of service. The minimums for 15 but fewer than 25 years of service are reduced if a Joint-and-Survivor or a Term-Certain benefit plan is elected and/or if an age-reduction factor is applicable because of early retirement. The minimums for 25 or more years of service are reduced only if a Joint-and-Survivor or a Term-Certain benefit plan is selected.

The Partial Lump Sum Option (PLSO) is available to qualified members. This option allows qualified members to choose to have their lifetime monthly benefits actuarially reduced in exchange for the right to also receive a one-time, lump-sum payment at retirement

Cost-of-Living Adjustments – Cost-of-living adjustments (COLAs) are provided beginning the second January after retirement to service and disability retirees, and to Joint-and-Survivor and Term-Certain beneficiaries of deceased retirees. Lifetime COLAs are limited to 80% of the original retirement benefit.

The Department of Labor Consumer Price Index for Urban Consumers (CPI-U) for the previous fiscal year is used as a guideline for the annual COLA which is set by the Board. By law, if the change in CPI-U is 2% or more, the COLA must be at least 2%, but no more than 5%. If the change in CPI-U is between 0% and 2%, the Board may grant a COLA of 0% to 5%. If the change in CPI-U is less than 0%, no increase can be given. If it is more than 5%, the Board is required to give a 5% increase. Under the funding policies adopted by the Board in August 2011, a 2% COLA will be given whenever the change in CPI-U for the previous year is between 0% and 5%.

Member Handbook – A ***Member Handbook*** containing detailed information concerning the retirement program is available on our website or can be obtained from the retirement office upon request.

PEERS Summary Plan Description

The Public Education Employee Retirement System of Missouri (PEERS) was established by an Act of the Missouri Legislature to begin operations on November 1, 1965, and is governed by Chapter 169 of the Revised Statutes of Missouri. Its purpose is to provide benefits to members and their dependents at retirement or in the event of death or disability prior to retirement.

PEERS is a defined benefit plan funded on an actuarial reserve basis, which establishes the availability of funds to pay benefits as prescribed by law. The System is established as an independent trust fund and is not subject to direction by any state agency. Administrative expenses are paid entirely out of investment earnings.

Administration – The law provides that the responsibility for the operation and administration of the retirement system is vested in the Public School Retirement System of Missouri (PSRS) Board of Trustees sitting as the Board of Trustees for PEERS. The Board is comprised of three elected PSRS members, one elected PEERS member and three appointed trustees. The four elected trustees are selected by vote of the members and retirees of both Systems. Two are elected each even-numbered calendar year to serve four-year terms. The three appointed trustees, one of whom must be a PSRS or a PEERS retiree, are named by the governor to serve four-year terms. The appointed trustees must be residents of school districts included in the System but not employees of such districts nor state employees nor state elected officials.

The Board appoints an executive director who is responsible for employment of the retirement office staff, routine operation of the System, and acts as an advisor to the Board on all matters pertaining to the System.

Member Participation – PEERS membership is automatic, regardless of position, for all persons not covered by PSRS who are employed for 20 or more hours a week on a regular basis in a position that normally requires at least 600 hours during the school term by the public school districts in Missouri (except the St. Louis city and the Kansas City school districts), public two-year colleges in Missouri (except St. Louis Community College), PEERS and statewide non-profit educational associations that have elected to join.

Members working in covered employment are considered active members. Such members contribute 6.86% of their total retirement salary to PEERS. These amounts are deducted by the employing district and then forwarded to PEERS by the payroll officer and applied to the member's account in PEERS. PEERS members are also covered by Social Security.

PEERS membership can be elected by employees with Missouri educator certificates who work in any position for 17 or more hours weekly but less than full time; however, PSRS membership is automatic if a PEERS election is not made. The election to join PEERS must be filed with the Board within 90 days after entering first time, part-time employment.

Since July 1, 1989, member contributions have been tax-deferred for federal and state income tax purposes under IRC 414(h)(2). Contributions are not considered as income for federal or state income tax purposes until they are paid in a lump-sum refund or in monthly benefits.

Individual accounts are maintained for all PEERS members. Interest is credited each June 30 on the previous June 30 balance. The interest rate, set annually by the Board, was 1% on June 30, 2014. Since PEERS is a defined benefit plan, benefits are based upon the member's final average salary and years of service. The amount of interest credited to a member's account has no bearing on the monthly benefit amount payable at retirement.

In addition to service earned for covered employment, members may purchase service in various categories including several types of leave, out-of-state school service, other public and private employment, active U.S. military duty, and service under the federal Uniformed Services Employment and Re-employment Rights Act of 1994 (USERRA).

Members who have contributions on deposit with PEERS but are not currently working in covered employment are considered inactive members.

Employer Participation – The employers served by PEERS withhold members' contributions from salary payments and contribute an amount equal to employee contributions at a current rate of 6.86% of payroll. Employer contributions and investment earnings on those funds are placed in a general reserve account to pay monthly benefits to retirees and to beneficiaries of deceased members. It is the responsibility of the employers to remit contributions promptly and for furnishing contribution information and new membership records to PEERS. Employers also provide needed data when members apply for benefits or refund of contributions upon termination of employment.

Survivor Benefits – When a member dies before retirement, the designated beneficiary becomes eligible for a lump-sum refund of the employee's contributions and interest. In lieu of a lump-sum refund, survivors with an insurable interest and beneficiaries of disability retirees may elect to receive monthly benefits under the Joint-and-Survivor 100% benefit plan. Such benefits are payable when the member would have been eligible for early or normal service retirement.

Refund of Contributions – Member contributions and interest are fully refundable upon termination of covered employment or death. All service and benefit rights are forfeited upon voluntary refund or automatic termination of membership.

A member may, upon returning to covered employment, reinstate the service forfeited through termination of a previous membership by repaying the money refunded plus interest.

Membership Termination – Membership is terminated by death, retirement, refund of contributions or absence from covered employment by a non-vested member for five consecutive school years.

Disability Retirement Benefits – Disability retirement benefits are payable to members who have met service and eligibility requirements and who, because of permanent disability, are unable to earn a livelihood in any occupation. The disability retirement benefit is calculated at 90% of the normal service retirement benefit.

Service Retirement Benefits – Service retirement benefits are payable to members who have terminated covered employment and who have met certain eligibility requirements.

Benefit Formula – All service retirement benefits are based on a formula which multiplies final average salary by the applicable benefit factor, by the years of service and, in the case of early retirement, by an age-reduction factor. Final average salary is obtained by dividing the total salaries for the three highest consecutive years of service by 36 months to arrive at a monthly average; the applicable factor is determined by the type of retirement eligibility; total service is the amount accumulated at retirement for covered employment and purchased service; and the age-reduction factor, when applicable, is determined by the age at retirement.

Because of the conversion of the System from a formula integrated with Social Security to the present basis, a special “frozen benefit” is in effect for certain members for service prior to July 1, 1973.

Normal Retirement – A member may retire with benefits calculated under the standard (1.61%) formula at age 60 with five years of service, at any age with at least 30 years of service, and at the point where the member’s age plus service equals 80 or more (Rule of 80). A member may retire under the standard (1.61%) formula when the member qualifies for Rule of 80 or 30-and-Out and will receive an additional .8% multiplier until reaching minimum eligibility age for Social Security benefits (currently age 62).

Early Retirement – A member may retire with benefits calculated under the standard (1.61%) formula with an age-reduction factor applied at age 55 with five but fewer than 25 years of service, or at any age with 25 years of service, as long as he or she does not qualify for Rule of 80.

A special provision allows members under age 55 with 25.0 to 29.9 years of service to retire with benefits calculated under a modified benefit factor ranging from 1.51% to 1.59% with no age-reduction factor applied.

Payment Options – A retiring member may choose to receive the maximum benefits payable under the Single Life benefit plan, or may choose to receive a reduced benefit under one of three Joint-and-Survivor benefit plans or under one of two Term-Certain benefit plans, to provide survivor benefit coverage in varying degrees after the retiree’s death.

Another option, the Accelerated Payment Plan (APP), allows members to receive a higher PEERS benefit prior to minimum Social Security eligibility age (currently age 62). When the minimum Social Security eligibility age is attained, the member’s PEERS benefit is reduced and remains at a reduced level for the remainder of their retirement.

The Partial Lump Sum Option (PLSO) is available to qualified members. This option allows qualified members to choose to have their lifetime monthly benefits actuarially reduced in exchange for the right to also receive a one-time, lump-sum payment at retirement.

Cost-of-Living Adjustments – Cost-of-living adjustments (COLAs) are provided starting the fourth January after retirement to service and disability retirees, and to Joint-and-Survivor and Term-Certain beneficiaries of deceased retirees. Lifetime COLAs are limited to 80% of the original retirement benefit.

The Department of Labor Consumer Price Index for Urban Consumers (CPI-U) for the previous fiscal year is used as a guideline for the annual COLA which is set by the Board of Trustees. By law, if the change in CPI-U is 2% or more, the COLA must be at least 2%, but no more than 5%. If the change in CPI-U is between 0% and 2%, the Board may grant a COLA of 0% to 5%. If the change in CPI-U is less than 0%, no increase can be given. If it is more than 5%, the Board is required to give a 5% increase. Under the funding policies adopted by the Board in August 2011, a 2% COLA will be given whenever the change in CPI-U for the previous year is between 0% and 5%.

Member Handbook – A ***Member Handbook*** containing detailed information concerning the retirement program is available on our website or can be obtained from the retirement office upon request.

PSRS and PEERS Summary of Actuarial Assumptions and Methods

The Board is responsible for the adoption of the Systems' Funding Policies and assumptions. A summary of the current Funding Policy is included in the Certification of Actuarial Results.

The actuarial assumptions and methods utilized for funding and financial report purposes differ slightly. The primary difference between the two methods is the fact that financial reporting requires the recognition of investment gains at market with no smoothing.

Inflation

Inflation is assumed to be 2.50% per year (effective 6/30/11).

Payroll Growth

Total payroll growth for PSRS is assumed to be 3.50% per year, consisting of 2.50% inflation, 0.50% additional inflation due to the inclusion of healthcare costs in pension earnings, and 0.50% of real wage growth (effective 6/30/11).

PSRS – Individual Salary Growth

Service	General Inflation	Healthcare Inflation	Longevity	Total Increase
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%

Total payroll growth for PEERS is assumed to be 3.75% per year, consisting of 2.50% inflation, 0.75% additional inflation due to the inclusion of healthcare costs in pension earnings, and 0.50% of real wage growth (effective 6/30/11).

Individual Salary Growth

Salaries are assumed to increase each year between 4% and 10% depending on service and including general inflation of 2.50%, plus healthcare inflation of 0.50% for PSRS (since healthcare costs are included in pension earnings). Salaries are assumed to increase each year between 5% and 12% depending on service and including general inflation of 2.50%, plus healthcare inflation and 0.75% for PEERS (since healthcare costs are included in pension earnings (effective 6/30/11).

PEERS – Individual Salary Growth

Service	General Inflation	Healthcare Inflation	Longevity	Total Increase
0	2.50%	0.75%	8.75%	12.00%
1	2.50%	0.75%	4.00%	7.25%
2	2.50%	0.75%	3.50%	6.75%
3	2.50%	0.75%	3.25%	6.50%
4	2.50%	0.75%	3.00%	6.25%
5	2.50%	0.75%	2.90%	6.15%
6	2.50%	0.75%	2.80%	6.05%
7	2.50%	0.75%	2.70%	5.95%
8	2.50%	0.75%	2.60%	5.85%
9	2.50%	0.75%	2.50%	5.75%
10	2.50%	0.75%	2.40%	5.65%
11	2.50%	0.75%	2.30%	5.55%
12	2.50%	0.75%	2.20%	5.45%
13	2.50%	0.75%	2.10%	5.35%
14	2.50%	0.75%	2.00%	5.25%
15	2.50%	0.75%	1.95%	5.20%
16	2.50%	0.75%	1.90%	5.15%
17	2.50%	0.75%	1.85%	5.10%
18	2.50%	0.75%	1.80%	5.05%
19	2.50%	0.75%	1.75%	5.00%
20+	2.50%	0.75%	1.75%	5.00%

Investment Return

It is assumed that investments of the System will return a yield of 8.0% per year, net of System expenses (investment and administrative) (effective 1980).

Cost-of-Living Adjustments

The cost-of-living adjustment (COLA) assumed in the valuation is 2.0% per year, based on the current policy of the Board to grant a 2.0% COLA whenever annual inflation, as measured by the CPI-U index for a fiscal year, increases between 0.0% and 5.0%. 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 survivor benefit, the dependent children pre-retirement survivor benefit, or the dependent parent pre-retirement survivor 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 (effective 6/30/11).

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 (effective 6/30/11):

PSRS and PEERS Active Member Mortality

Age	Male	Female
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
80	49.322	22.752
90	156.083	66.254
100	324.963	179.896
110	400.000	279.055

Mortality rates for non-disabled retirees and beneficiaries are based on the RP 2000 Mortality Table, set back one year for both male and female members of PSRS and one year for male members of PEERS, then projected to 2016 using Scale AA. Illustrative rates per 1,000 members at various ages are as follows (effective 6/30/11):

PSRS Service Retiree, Beneficiary and Survivor Mortality

Age	Male	Female
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

PEERS Service Retiree, Beneficiary and Survivor Mortality

Age	Male	Female
20	0.263	0.148
30	0.461	0.225
40	1.004	0.554
50	1.831	1.274
60	5.930	4.665
70	19.292	15.452
80	61.340	41.002
90	187.360	125.502
100	352.933	233.696
110	400.000	364.617

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 (effective 6/30/11):

PSRS and PEERS Disability Retiree Mortality

Age	Male	Female
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, 2014, retirement is assumed in accordance with the following rates per 1,000 eligible PSRS members (effective 6/30/11):

PSRS Active Member Retirement Prior to July 1, 2013

	Years of Service											
Age	<=20	21	22	23	24	25	26	27	28	29	30	>=31
<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

After June 30, 2014, retirement is assumed in accordance with the following rates per 1,000 PSRS eligible members (effective 6/30/11):

PSRS Active Member Retirement After June 30, 2013

	Years of Service											
Age	<=20	21	22	23	24	25	26	27	28	29	30	>=31
<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

PEERS retirement is assumed in accordance with the following rates per 1,000 eligible members (effective 6/30/11):

PEERS Retirement Rates

	Years of Service						
Age	<=25	25	26	27	28	29	30+
<50	0	50	50	50	50	50	150
50	0	50	50	50	50	50	250
51	0	50	50	50	50	250	150
52	0	50	50	50	250	150	150
53	0	50	50	250	150	150	150
54	0	50	250	150	150	150	150
55	30	270	170	170	170	170	170
56	30	170	170	170	170	170	170
57	30	170	170	170	170	170	170
58	30	170	170	170	170	170	170
59	30	170	170	170	170	170	170
60	160	160	160	160	160	160	160
61	100	100	100	100	100	100	100
62	240	240	240	240	240	240	240
63	200	200	200	200	200	200	200
64	140	140	140	140	140	140	140
65	260	260	260	260	260	260	260
66	200	200	200	200	200	200	200
67	200	200	200	200	200	200	200
68	200	200	200	200	200	200	200
69	200	200	200	200	200	200	200
70	200	200	200	200	200	200	200
71	200	200	200	200	200	200	200
72	200	200	200	200	200	200	200
73	200	200	200	200	200	200	200
74	200	200	200	200	200	200	200
75+	1000	1000	1000	1000	1000	1000	1000

Refund Rates

Termination of membership prior to eligibility for retirement from all causes other than death, disability or retirement, whether resulting in a refund or a deferred benefit, is assumed in accordance with the following illustrative rates per 1,000 members (2006).

PSRS

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

PEERS

Years of Service	Rate
0	300.0
1	220.0
2	150.0
3	120.0
4	100.0
5	81.0
10	48.0
15	33.0
20	18.0
25+	0.0

Refund of Contributions

It is assumed that 88% of those leaving after earning five years of service with PSRS 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 (effective 6/30/11).

It is assumed that 80% of those leaving after earning five years of service with PEERS leave their contributions in the fund and receive a vested benefit. The remaining 20% 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 (effective 6/30/11).

It is assumed that 100% of those leaving prior to earning five 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 (effective 6/30/11):

PSRS

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

PEERS

Age	Rates
30	0.080
35	0.160
40	0.320
45	0.640
50	1.040
55	1.680
	0.000

Interest on Member Accounts

1.00% per annum (6/30/10).

Service Purchases

A 2.0% load is added to the normal cost to account for anticipated losses resulting from service purchases and reinstatements (effective 6/30/11).

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 8.0% per year (effective 1980).

Dependent Assumptions

(Effective 6/30/11)

- Eighty percent 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 four years older than their beneficiary.

Joint-and-Survivor Election

To recognize the subsidy present in the Joint-and-Survivor reduction factors calculated without provision for cost-of-living adjustments, the active member costs resulting from all decrements except disability and refunds were loaded by 0.4%.

Survivor Benefits (PSRS only)

All active members under age 50 are assumed to have two 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 zero years if the member is age 50 (effective 6/30/11).

Return of Unused Member Account Balance

Under the Single Life benefit plan, 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 five-year certain benefit.

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 (effective 1947).

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 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 (effective 1994).

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.

The method for amortizing the unfunded actuarial accrued liability was changed from a rolling 30-year method to the closed 30-year method described above effective June 30, 2011.

Note: Dates reflect the effective date as adopted by the Board of Trustees. The most recent assumption analysis was performed as of June 30, 2011. The revised assumptions were used beginning with the June 30, 2011 valuation. The next review of assumptions is scheduled for 2016.