EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2007



June 11, 2008

Retirement Board 40 Fountain Street, First Floor Providence, RI 02903-1854

Dear Members of the Board:

Subject: Actuarial Valuation of ERSRI as of June 30, 2007

This is the June 30, 2007 actuarial valuation of the Employees' Retirement System of Rhode Island (ERSRI), which covers state employees and teachers. This report describes the current actuarial condition of ERSRI, determines recommended employer contribution rates, and analyzes changes in these contribution rates. Valuations are prepared annually, as of June 30, the last day of the ERSRI plan year. Not covered in this report are the Municipal Employees' Retirement System, the State Police Retirement Benefits Trust, the Judicial Retirement Benefits Trust, and the Teachers Survivors Plan, even though assets for ERSRI and these other programs are commingled for investment purposes.

Under Rhode Island General Laws, the employer contribution rates for state employees and for teachers are certified annually by the State of Rhode Island Retirement Board. These rates are determined actuarially, based on the plan provisions in effect as of the valuation date, the actuarial assumptions adopted by the Board, and the methodology set forth in the statutes. The Board's current policy is that the contribution rates determined by a given actuarial valuation become effective two years after the valuation date. For example, the rates determined by this June 30, 2007 actuarial valuation will be applicable for the year beginning July 1, 2009 and ending June 30, 2010.

Financing objectives

The actuarial cost method and the amortization periods are set by statute. Contribution rates and liabilities are computed using the Entry Age actuarial cost method. The employer contribution rate is the sum of two pieces: the employer normal cost rate and the amortization rate. The normal cost rate is determined as a percent of pay. The employer normal cost is the difference between this and the member contribution rate. The amortization rate is determined as a level percent of pay. It is the amount required to amortize the unfunded actuarial accrued liability over a closed period (30 years as of June 30, 1999, 22 years from June 30, 2007). The amortization rate is adjusted for the two-year deferral in contribution rates. Separate employer contribution rates are determined for state employees and for teachers.

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Benefit provisions

The benefit provisions reflected in this valuation are those which were in effect on June 30, 2007. No material changes in the benefit provisions were made since the preceding valuation. The benefit provisions are summarized in Appendix B.

Progress toward realization of financing objectives

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) is a standard measure of a plan's funded status. In the absence of benefit improvements, it should increase over time, until it reaches 100%. For the state employees, the funded ratio is 57.5% (increased from 54.6% last year), while for teachers the ratio is 55.4% (increased from 52.7% last year).

For the June 30, 2007 valuation, the employer contribution rate decreased for state employees, from 21.13% to 20.69%, and for teachers, from 25.03% to 23.88%. For both state employees and teachers, the changes were principally due to the recognition of deferred asset gains from prior valuations.

In addition to the contributions determined as a percentage of member payroll, Rhode Island General Laws Section 36-10-2(g) requires the Governor to include in the annual budget an additional contribution equal to 20% of the savings due to the decrease in the contribution rate since the prior year. For Teachers, this is based only on the State's share of the employer contribution rate. The Governor will be required to include amounts of \$631,259 for State Employees and \$959,240 for Teachers in the budget for the fiscal year ending June 30, 2010. This will be applied against the unfunded actuarial accrued liability.

An analysis of the changes in the employer contribution rates appears on Table 10A. An analysis of the changes in the unfunded actuarial accrued liability appears on Table 10C.

Assumptions and methods

All assumptions and methods are described in Appendix A and are unchanged from the last valuation. The actuarial assumptions were last changed as a result of the experience study approved by the Board on June 13, 2007. We believe the assumptions are internally consistent and are reasonable, based on the actual experience of ERSRI.

The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities and the calculated contribution rates.

The actuarial assumptions and methods used in this report comply with the parameters for disclosure that appear in GASB 25.

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Data

The System's staff supplied data for retired, active and inactive members as of June 30, 2007. We did not audit this data, but we did apply a number of tests to the data, and we concluded that it was reasonable and consistent with the prior year's data. The System's staff also supplied asset data as of June 30, 2007.

Certification

All of our work conforms with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of Rhode Island state law and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board.

The undersigned are independent actuaries. Both are Enrolled Actuaries, Members of the Society of Actuaries and Members of the American Academy of Actuaries. They both meet the Qualification Standards of the American Academy of Actuaries, and they are experienced in performing valuations for large public retirement systems.

Sincerely,

Gabriel, Roeder, Smith & Company

Joseph P. Newton, FSA, MAAA

Consultant

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Senior Consultant

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Executive Summary (State Employees)

	Valuati	on Date:
Item	June 30, 2007	June 30, 2006
Membership • Number of: - Active members - Retirees and beneficiaries - Inactive members - Total • Payroll supplied by ERSRI	12,572 10,163 <u>2,405</u> 25,140 \$ 626,192,680	12,817 10,041 2,424 25,282 \$ 611,698,223
Contribution rates	8.75% 20.69%	8.75% 21.13%
Assets Market value Actuarial value Return on market value Return on actuarial value Employer contribution Ratio of actuarial value to market value	\$2,791,619,718 2,493,428,522 18.2% 13.0% \$ 118,389,603 89.3%	\$2,409,378,699 2,256,979,077 11.6% 7.4% \$ 91,254,063 93.7%
Actuarial Information	1.64% \$1,839,460,296 19.05% 22 years 57.5%	1.61% \$1,874,178,524 19.52% 23 years 54.6%
Projected employer contribution • Fiscal year ending June 30, • Projected payroll (millions) • Projected employer contribution (millions)	\$ 2010 \$ 717.3 148.4	2009 \$ 701.0 148.1



Executive Summary (Teachers)

	Valuation Date:		
Item	June 30, 2007	June 30, 2006	
Membership • Number of: - Active members - Retirees and beneficiaries - Inactive members - Total • Payroll supplied by ERSRI	14,146 9,118 2,257 25,521 \$ 902,193,640	14,343 8,873 2,165 25,381 \$ 859,367,272	
Contribution rates	9.50% 23.88% 9.71% 14.17%	9.50% 25.03% 10.17% 14.86%	
Assets Market value Actuarial value Return on market value Return on actuarial value Employer contribution (state & local) Ratio of actuarial value to market value	\$4,185,381,396 3,737,981,686 18.2% 13.0% \$ 179,916,390 89.3%	\$3,623,938,636 3,394,086,565 11.6% 7.4% \$ 138,332,998 93.7%	
Actuarial Information	2.33% \$3,012,143,550 21.55% 22 years 55.4%	2.32% \$3,050,607,101 22.71% 23 years 52.7%	
Projected employer contribution • Fiscal year ending June 30, • Projected payroll (millions) • Projected employer contribution (millions) • State share (millions) • Local employer share (millions)	2010 \$ 1,042.7 249.0 101.2 147.8	2009 \$ 994.4 248.9 101.1 147.8	



Contribution Rates

The employer contribution rates for ERSRI are determined actuarially. Separate rates are determined for State Employees and for Teachers. The rates determined in this valuation become effective two years after the valuation date, i.e., as of July 1, 2009.

The rate consists of two pieces: the normal cost rate and the amortization rate. The normal cost rate is the employer's Entry Age normal cost, expressed as a percent of pay. The amortization rate is the contribution required to amortize the unfunded actuarial liability over 22 years as a level percent of pay.

For the Teachers, the State of Rhode Island pays 40% of the rate, adjusted so that the State pays the entire amortization charge for the 1990/91 and 1991/92 deferrals, and the town or city employing the teacher pays the balance.

	Local	State	Total
Amortization for FY 91 and 92 deferrals	0.00%	0.26%	0.26%
Normal cost and all other amortizations	<u>14.17%</u>	9.45%	23.62%
Total	14.17%	9.71%	23.88%

Five towns or cities—Burrillville, East Greenwich, Little Compton, New Shoreham, and North Smithfield—did not participate in the 1990 early retirement window for teachers, and an adjusted contribution rate is charged for these:

	Local	State	Total
Amortization for FY 91 and 92 deferrals	0.00%	0.26%	0.26%
Normal cost and all other amortizations	<u>13.53%</u>	9.02%	22.55%
Total	13.53%	9.28%	22.81%

Impact of Decrease in Contribution Rates

Under Rhode Island General Laws (RIGL) §36-10-2(g), if the State's actuarially determined contribution rate for state employees or for teachers for a fiscal year will be less than in the preceding fiscal year, the Governor is required to include an appropriation to ERSRI in the fiscal year budget equal to 20% of the reduction. Because the contribution rates for FY 2010 are less



than the rates for 2009 for both state employees and teachers, this section will come into play for the first time since it was enacted. The following table shows the calculation of the amounts to be included in the budget, in accordance with §36-10-2(g):

Calculation of Budget Appropriation Under RIGL Section 36-10-2(g)

	Item	State Employees	Teachers
	100111	Employees	Touchers
A.	Prior valuation date	June 30, 2006	June 30, 2006
B.1. B.2.	Total employer contribution rate (prior valuation) State share for Teachers	21.13%	25.03% 10.17%
C.	Current valuation date	June 30, 2007	June 30, 2007
D.1. D.2.	Total employer contribution rate (current valuation) State share for Teachers	20.69%	23.88% 9.71%
E.	Contribution for fiscal year ending	June 30, 2010	June 30, 2010
F.	Pay projected for this fiscal year	\$717,340,241	\$1,042,652,395
G.	Decrease in State's contribution rate	0.44%	0.46%
H.	Decrease in State's contribution	\$3,156,297	\$4,796,201
I.	20% of decrease to be appropriated	\$631,259	\$959,240



Financial Data and Experience

Assets for ERSRI are held in trust and are commingled with those of several other plans and programs for investment purposes. The State Treasurer is responsible for setting the asset allocation policy and for investing the funds. The ERSRI assets are then allocated by the system's staff among State Employees, Teachers, and the Teachers' Survivor Benefits Plan.

Table 5 shows the net plan assets for ERSRI in total, and it shows the breakdown between State Employees, Teachers and the Teachers' Survivor Benefit Plan. Table 6 shows a reconciliation of the assets for State Employees and Teachers between the previous valuation and this valuation. Table 8 shows the distribution of investments by category—72% of assets are held in equities, including real estate and private equity—and Table 9 shows a historical summary of the return rates. As can be seen, the net market value rate of return was 18.2% for the year ended June 30, 2007, and the return on an actuarial asset value basis was 13.0%.

The average annual return based on the market value of assets over the last ten years (July 1, 1997 – June 30, 2007) was 7.37%. This is less than the current 8.25% annual investment return assumption. The average annual return based on the actuarial value of assets over the same period was 6.59%.

All returns above are net of both investment and administrative expenses, so may differ from other information provided by the General Treasurer's office or the investment managers and advisors.

The System's staff provided all of the financial information used in this report.



Member Data

The ERSRI staff supplied member data as of June 30, 2007. While we did not audit this data, we did perform various tests to ensure that it was internally consistent, consistent with the prior year's data, and was reasonable overall. Information provided for active members includes: name, an identification number, sex, a code indicating whether the member was active or inactive, a code indicating employee type (state employee or teacher), date of birth, service, salary, date of last contribution, and accumulated member contributions without interest. For retired members, data includes: name, an identification number, sex, date of birth, date of retirement, amount of benefit, the amount of adjustment after age 62 for anyone electing the Social Security option, a code indicating the option elected and the type of retiree (service retiree, disabled retiree, beneficiary), and if applicable, the joint pensioner's date of birth and sex.

Tables 11A and 11B show the number of members by category (active, inactive, retired, etc.). Table 12 shows a historical summary of active member statistics, and Tables 13A and 13B show the distribution of active members by age and service.

The total payroll shown on the statistical tables is the amount that was supplied by ERSRI. For the cost calculations, the pays were adjusted in accordance with the actuarial assumptions to reflect one year's salary increase.

Benefit Provisions

Appendix B includes a summary of the benefit provisions for ERSRI. There were no material changes in the benefit provisions since the preceding valuation.

There are no ancillary benefits—e.g., cost of living benefits—that are currently provided by a source independent of ERSRI but that might be deemed an ERSRI liability if continued beyond the availability of funding by the current funding source.



Actuarial Methods and Assumptions

Appendix A includes a summary of the actuarial assumptions and methods used in this valuation. Costs are determined using the Entry Age actuarial cost method. This method was adopted effective June 30, 1999.

The method used to determine the actuarial value of assets is the five-year smoothed market method. This technique is further described in Section III of Appendix A. The development of the actuarial value of assets utilizing this method is shown on Tables 7A and 7B.

All assumptions and methods are described in Appendix A and are unchanged from the last valuation. The actuarial assumptions were approved by the Board on June 13, 2007. We believe the assumptions are internally consistent and are reasonable, based on the actual experience of ERSRI.

GASB 25 and Funding Progress

Accounting requirements for ERSRI are set by Governmental Accounting Standards Board Statement No. 25 (GASB 25). Table 3 shows a historical summary of the funded ratios and other information for ERSRI. Table 4 shows other information needed in connection with disclosure under GASB 25.

GASB 25 requires that plans calculate an Annual Required Contribution (ARC), and, if actual contributions received are less than the ARC, this must be disclosed. The ARC must be calculated in accordance with certain parameters. In particular, it must include a payment to amortize the UAAL. This amortization payment must be computed using a funding period no greater than 30 years. Further, the amortization payment included in the ARC may be computed as a level amount, or it may be computed as an amount that increases with payroll. However, if payments are computed on a level-percent of payroll approach, the payroll growth assumption may not anticipate future membership growth.

For ERSRI, the calculated contribution rates from Tables 1A and 1B are the ARCs for State Employees and Teachers, respectively. The amortization period was established as 30 years as of June 30, 1999, and there are 22 years remaining as of June 30, 2007. The period and amortization method comply with the requirements of GASB 25. The payroll growth rate used in the amortization calculations does not include any allowance for membership growth.



Development of Contribution Rate (State Employees)

		June 30, 2007	June 30, 2006
		(1)	(2)
1.	Compensation		
1.	(a) Supplied by ERSRI	\$ 626,192,680	\$611,698,223
	(b) Adjusted for one-year's pay increase	660,044,273	644,980,127
2.	Actuarial accrued liability	4,332,888,818	4,131,157,601
3.	Actuarial value of assets	2,493,428,522	2,256,979,077
4.	Unfunded actuarial accrued liability (UAAL) (2 - 3)	1,839,460,296	1,874,178,524
5.	Remaining amortization period at valuation date	22	23
6.	Contribution effective for fiscal year ending:	June 30, 2010	June 30, 2009
7.	Payroll projected for two-year delay	717,340,241	700,968,433
8.	Amortization of UAAL	136,637,617	136,858,112
9.	Normal cost		
	(a) Total normal cost rate	10.39%	10.36%
	(b) Employee contribution rate	8.75%	8.75%
	(c) Employer normal cost rate (a - b)	1.64%	1.61%
10.	Employer contribution rate as percent of payroll		
	(a) Employer normal cost rate	1.64%	1.61%
	(b) Amortization payments (8/7)	19.05%	19.52%
	(c) Total (a + b)	20.69%	21.13%
11.	Estimated employer contribution amount (7 * 10(c))	\$ 148,417,696	\$148,114,630



Development of Contribution Rate (Teachers)

		June 30, 2007	June 30, 2006
		(1)	(2)
1			
1.	Compensation (a) Supplied by ERSRI	\$ 902,193,640	\$859,367,272
	(b) Adjusted for one-year's pay increase	959,372,837	914,985,746
2.	Actuarial accrued liability	6,750,125,236	6,444,693,666
3.	Actuarial value of assets	3,737,981,686	3,394,086,565
3.	Actualian value of assets	3,737,981,000	3,394,000,303
4.	Unfunded actuarial accrued liability (UAAL) (2 - 3)	3,012,143,550	3,050,607,101
5.	Remaining amortization period at valuation date	22	23
6.	Contribution effective for fiscal year ending:	June 30, 2010	June 30, 2009
0.	continuity energy of install year ename.	0 m 0 0 0, 20 10	7 and 20, 2 003
7.	Payroll projected for two-year delay	1,042,652,395	994,412,228
0	A C. C. CIIAAI	224 (54 455	225 704 167
8.	Amortization of UAAL	224,654,455	225,794,167
9.	Normal cost		
	(a) Total normal cost rate	11.83%	11.82%
	(b) Employee contribution rate	9.50%	9.50%
	(c) Employer normal cost rate (a - b)	2.33%	2.32%
10	Employer contribution rate as percent of payrell		
10.	Employer contribution rate as percent of payroll (a) Employer normal cost rate	2.33%	2.32%
	(b) Amortization payments (8/7)	21.55%	22.71%
	(c) Total (a + b)	23.88%	25.03%
	(c) Total (a + b)	25.00 /0	25.05 /0
11.	Estimated employer contribution amount (7 * 10(c))	\$ 248,985,392	\$248,901,381



Actuarial Present Value of Future Benefits (State Employees)

	(1)	(2)
		\$2,307,939,313
	· ·	58,695,880
. Refunds	19,582,286	19,623,562
. Pre-retirement death benefits	58,325,800	57,132,981
. Disability retirement benefits	73,199,829	71,956,486
. Total	\$ 2,591,310,130	\$2,515,348,222
	\$ 1,944,024,865	\$1,819,296,915
. Disability retirements	121,844,021	115,352,910
. Beneficiaries	135,729,411	130,527,229
. Post-retirement death benefit	15,156,000	14,976,000
. Total	\$ 2,216,754,297	\$2,080,153,054
nactive members	\$ 60,351,947	\$63,662,440
Cotal actuarial present value of future benefits	\$ 4,868,416,374	\$4,659,163,716
•	.	A. (70.4 (A. T.)
_		\$4,659,163,716
-		(528,006,115)
. Actuarial accrued liability (a + b)	\$ 4,332,888,818	\$4,131,157,601
	c. Disability retirement benefits c. Total Retired members a. Service retirements b. Disability retirements c. Beneficiaries d. Post-retirement death benefit	Active members a. Service retirement benefits b. Deferred termination benefits c. Refunds d. Pre-retirement death benefits e. Disability retirement benefits 73,199,829 74,100,800 74,100,800 74,100,800 74,100,800 74,100,800 74,100,800 74,100,800 74,100,800 74,100,800 74,100,800 74,100,800 74,100,800 74,100,800 74,100,800 74,100,800 74,100,800 74,100,800

Actuarial Present Value of Future Benefits (Teachers)

		June 30, 2007		June 30, 2006
			(1)	(2)
1.	Active members a. Service retirement benefits	\$	2 520 212 606	¢2 405 240 022
	a. Service retirement benefitsb. Deferred termination benefits	Ф	3,539,213,606 85,229,558	\$3,405,340,932 81,660,549
	c. Refunds		22,919,322	23,402,659
	d. Pre-retirement death benefits		45,861,909	43,941,757
	e. Disability retirement benefits		53,790,913	51,031,928
	f. Total	\$	3,747,015,308	\$3,605,377,825
2.	Retired members			
	a. Service retirements	\$	3,906,079,399	\$3,703,024,694
	b. Disability retirements		65,046,344	58,978,230
	c. Beneficiaries		78,584,340	78,284,361
	d. Post-retirement death benefit		10,392,000	10,047,000
	e. Total	\$	4,060,102,083	\$3,850,334,285
3.	Inactive members	\$	59,101,698	\$56,850,283
4.	Total actuarial present value of future benefits	\$	7,866,219,089	\$7,512,562,393
5.	Determination of actuarial accrued liability			
	a. Total actuarial present value of future benefits	\$	7,866,219,089	\$7,512,562,393
	b. Less present value of future normal costs		(1,116,093,853)	(1,067,868,727)
	c. Actuarial accrued liability (a + b)	\$	6,750,125,236	\$6,444,693,666



Schedule of Funding Progress (As required by GASB #25)

Unfunded Actuarial
Accrued Liability

			Accrued Liability			
Valuation	Actuarial Value of	Actuarial Accrued	(UAAL)	Funded Ratio	Annual Covered	UAAL as % of
Date	Assets (AVA)	Liability	(3)-(2)	(2)/(3)	Payroll	Payroll (4)/(6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
State Employees						
June 30, 2000	2,345,319,663	2,874,905,547	529,585,884	81.6%	517,632,152	102.3%
June 30, 2001	2,406,278,029	3,089,247,738	682,969,709	77.9%	539,015,218	126.7%
June 30, 2002	2,353,855,871	3,284,126,961	930,271,090	71.7%	586,888,745	158.5%
June 30, 2003	2,267,673,016	3,461,708,161	1,194,035,145	65.5%	606,102,182	197.0%
June 30, 2003 ¹	2,267,673,016	3,517,352,031	1,249,679,015	64.5%	606,102,182	206.2%
June 30, 2004	2,202,900,345	3,694,787,818	1,491,887,473	59.6%	606,087,585	246.2%
June 30, 2005	2,163,391,323	3,843,518,875	1,680,127,552	56.3%	606,474,789	277.0%
June 30, 2006	2,256,979,077	4,131,157,601	1,874,178,524	54.6%	644,980,127	290.6%
June 30, 2007	2,493,428,522	4,332,888,818	1,839,460,296	57.5%	660,044,273	278.7%
Teachers						
June 30, 2000	3,514,399,312	4,359,881,262	845,481,950	80.6%	703,201,056	120.2%
June 30, 2001	3,619,863,426	4,679,288,010	1,059,424,584	77.4%	748,460,527	141.5%
June 30, 2002	3,553,823,995	4,857,003,061	1,303,179,066	73.2%	792,015,577	164.5%
June 30, 2003	3,427,685,554	5,284,933,149	1,857,247,595	64.9%	834,642,391	222.5%
June 30, 2003 ¹	3,427,685,554	5,341,627,416	1,913,941,862	64.2%	834,642,391	229.3%
June 30, 2004	3,340,527,073	5,634,195,435	2,293,668,362	59.3%	866,532,598	264.7%
June 30, 2005	3,280,977,321	5,919,156,211	2,638,178,890	55.4%	898,051,154	293.8%
June 30, 2006	3,394,086,565	6,444,693,666	3,050,607,101	52.7%	914,985,746	333.4%
June 30, 2007	3,737,981,686	6,750,125,236	3,012,143,550	55.4%	959,372,837	314.0%

¹Restated June 30, 2003 actuarial value after adopting the amendment of Article 7, Substitute A



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

Item	State Employees	Teachers
(1)	(2)	(3)
Valuation date	June 30, 2007	June 30, 2007
Actuarial cost method	Entw. A as Normal	Entw. A co Normal
Actuariai cost method	Entry Age Normal	Entry Age Normal
Amortization method	Level percentage, closed	Level percentage, closed
Remaining amortization period	22 years	22 years
Asset valuation method	5-Yr Smoothed Market	5-Yr Smoothed Market
Actuarial assumptions:		
Investment rate of return *	8.25%	8.25%
Projected salary increase *	4.50% to 9.00%	4.50% to 13.25%
* Includes inflation at:	3.00%	3.00%
Cost of living adjustment - Schedule A	3.00%	3.00%
Cost of living adjustment - Schedule B	2.50%	2.50%



Plan Net Assets (Assets at Market or Fair Value)

Item			June 30, 2007		June 30, 2006		
	(1)		(2)		(3)		
٨	. Total ERSRI assets						
A.	1 Otal ERSKI assets						
	1. Cash and cash equivalents	\$	8,743,879	\$	20,712,778		
	2. Receivables:						
	a. Transfers receivable	\$	-	\$	234,326		
	b. Member and employer contributions		24,922,323		12,271,741		
	c. Due from state for teachers		29,259,187		12,567,666		
	d. Net investment income and other		3,640,135		1,819,001		
	e. Total receivables	\$	57,821,645	\$	26,892,734		
	3. Investments						
	a. Short-term investment fund	\$	8,008,962	\$	18,198,822		
	b. Pooled trust		7,160,044,761		6,166,733,865		
	c. Plan specific investments		0		20,485,512		
	d. Invested securities lending collateral		1,130,045,027		1,195,023,630		
	e. Total	\$	8,298,098,750	\$	7,400,441,829		
	4. Total property and equipment	\$	8,292,139	\$	9,878,640		
	5. Total assets	\$	8,372,956,413	\$	7,457,925,981		
	6. Liabilities						
	a. Transfers payable	\$	-	\$	53,295		
	b. Accounts and vouchers payable		6,058,368		5,727,831		
	c. Securities lending liability		1,130,045,027		1,195,023,630		
	d. Total liabilities	\$	1,136,103,395	\$	1,200,804,756		
	7. Total market value of assets available for benefits (Item 5 - Item 6)	\$	7,236,853,018	\$	6,257,121,225		
R	Breakdown						
.							
	1. State employees	\$	2,791,619,718	\$	2,409,378,699		
	2. Teachers		4,185,381,396		3,623,938,636		
	3. Teachers' survivors benefits		259,851,904		223,803,890		
	4. Total	\$	7,236,853,018	\$	6,257,121,225		



Reconciliation of Plan Net Assets

		Year Ending June 30, 2007				
Item	S	tate Employees		Teachers		
(1)		(2)	'	(3)		
1. Market value of assets at beginning	g of year \$	2,409,378,699	\$	3,623,938,636		
Current year prior period adjustme	ents	0		0		
Adjusted market value of assets at	BOY \$	2,409,378,699	\$	3,623,938,636		
2. Contributions						
a. Members	\$	56,486,467	\$	90,141,287		
b. State		118,389,603		70,531,472		
c. Local employers		0		109,384,918		
d. Reimbursement of Supplement	tal Pensions	174,229		948,047		
e. Service purchases		1,782,763		7,373,785		
f. Total	\$	176,833,062	\$	278,379,509		
3. Investment earnings, net of investr	nent					
and administrative expenses	\$	434,762,795	\$	651,826,552		
4. Expenditures for the year						
a. Benefit payments	\$	(165,967,402)	\$	(275,802,189)		
b. Cost-of-living adjustments		(47,366,813)		(69,935,703)		
c. Death benefits		(1,675,800)		(868,000)		
d. Social security supplements		(9,313,636)		(17,790,551)		
e. Supplemental pensions		(157,344)		(948,280)		
f. Refunds		(4,873,843)		(3,418,578)		
g. Total expenditures	\$	(229,354,838)	\$	(368,763,301)		
5. Transfers and other adjustments	\$	0	\$	0		
6. Market value of assets at end of year	ear \$	2,791,619,718	\$	4,185,381,396		



Development of Actuarial Value of Assets (State Employees)

					Year Ending June 30, 2007
1.	Market value of assets at beginnin	g of year		\$	2,409,378,699
2.	Net new investments				
	a. Contributionsb. Benefits paidc. Refundsd. Subtotal			\$	176,833,062 (224,480,995) (4,873,843) (52,521,776)
3.	Market value of assets at end of ye	ear		\$	2,791,619,718
4.	Net earnings (3-1-2) (includes mis	sc revenues)		\$	434,762,795
5.	Assumed investment return rate				8.25%
6.	Expected return			\$	196,607,219
7.	Excess return (4-6)			\$	238,155,576
8.	Excess return on assets as of 06/30	0/2007:			
	Period End	Excess Return	Percent Deferred	De	eferred Amount

Period End (1)	<u>I</u>	Excess Return (2)	Percent Deferred (3)	<u>D</u>	eferred Amount (4)
June 30, 2003 June 30, 2004 June 30, 2005 June 30, 2006	\$	(100,676,641) 185,260,900 64,167,753 74,912,423	0% 20% 40% 60%	\$	0 37,052,180 25,667,101 44,947,454
June 30, 2007		238,155,576	80%	\$	190,524,461 298,191,196
9. Actuarial value of assets as o	\$	2,493,428,522			
10. Ratio of actuarial value to ma		89.3%			



Development of Actuarial Value of Assets (Teachers)

						Year Ending June 30, 2007
1.	Market value of assets at be	ginnin	g of year		\$	3,623,938,636
2.	Net new investments					
	a. Contributionsb. Benefits paidc. Refundsd. Subtotal	\$	278,379,509 (365,344,723) (3,418,578) (90,383,792)			
3.	Market value of assets at en	d of ye	ear		\$	4,185,381,396
4.	Net earnings (3-1-2) (include	\$	651,826,552			
5.	Assumed investment return		8.25%			
6.	Expected return				\$	295,246,606
7.	Excess return (4-6)				\$	356,579,946
8.	Expected return on assets as	of 06/	/30/2007:			
	Period End (1) Excess Return (2) Percent Deferred (3)				<u>De</u>	eferred Amount (4)
	June 30, 2003 June 30, 2004 June 30, 2005 June 30, 2006 June 30, 2007	\$	(151,517,413) 281,094,838 97,428,568 111,575,597 356,579,946	0% 20% 40% 60% 80%	\$	0 56,218,968 38,971,427 66,945,358 285,263,957 447,399,710
9.	Actuarial value of assets as	of June	e 30, 2007 (Item 3	3 - Item 8)	\$	3,737,981,686



10. Ratio of actuarial value to market value

89.3%

Distribution of Assets at Market Value (Percentage of Total Investments)

Item	June 30, 2007	June 30, 2006
(1)	(2)	(3)
Cash & cash equivalents	6.6%	2.3%
U.S. government & agency securities	12.5%	14.5%
Corporate bonds & notes	8.9%	8.7%
Foreign bonds	0.0%	0.5%
U.S. equity securities	41.6%	40.8%
Foreign equity securities	19.9%	22.7%
Real estate, venture capital, other	10.5%	10.5%
Total investments	100.0%	100.0%



History of Investment Return Rates

Year Ending June 30 of	Market	Actuarial
(1)	(2)	(3)
1995	17.0%	10.2%
1996	13.7%	13.7%
1997	19.1%	19.1%
1998	16.1%	16.5%
1999	10.1%	14.7%
2000	9.1%	8.8%
2001	(11.0%)	4.9%
2002	(8.4%)	0.9%
2003	2.6%	(0.8%)
2004	18.7%	0.4%
2005	11.4%	1.8%
2006	11.6%	7.4%
2007	18.2%	13.0%
Average Returns:		
Last 5 Years	12.37%	4.24%
Last 10 Years	7.37%	6.59%



Analysis of Change in Employer Cost

		State	
	Basis	Employees	Teachers
	(1)	(2)	(3)
1.	Employer contribution rates from prior valuation	21.13%	25.03%
2.	Impact of changes, gains and losses		
	a. Non-salary liability experience (gain)/loss	0.30%	0.02%
	b. Salary (gain)/loss	0.08%	0.27%
	c. Total payroll growth (gain)/loss	0.43%	(0.15%)
	d. Investment experience (gain)/loss	(1.25%)	(1.29%)
	e. Changes in assumptions	0.00%	0.00%
	f. Changes in plan provisions	0.00%	0.00%
	g. Total	(0.44%)	(1.15%)
3.	Employer contribution rates from current valuation	20.69%	23.88%



History of Employer Contribution Rates

Valuation Date as of	Fiscal Year Ending	
June 30,	June 30,	Employer Contribution Rate
(1)	(2)	(3)
State Employees		
1998	2001	7.99%
1999	2002	5.59%
2000	2003	7.68%
2001	2004	9.60%
2002	2005	11.51%
2003	2006	14.84%
2004	2007	18.40%
2005	2008	20.77%
2006	2009	21.13%
2007	2010	20.69%
Teachers		
1998	2001	12.01%
1999	2002	9.95%
2000	2003	11.97%
2001	2004	13.72%
2002	2005	14.84%
2003	2006	16.47%
2004	2007	19.64%
2005	2008	22.01%
2006	2009	25.03%
2007	2010	23.88%



Analysis of Change in UAAL

			State		
	Basis	Em	ployees	Te	eachers
	(1)		(2)		(3)
1.	UAAL as of June 30, 2006	\$	1,874	\$	3,051
2.	Impact of changes, gains and losses				
	a. Interest at 8.25% for one year		155		252
	b. Expected amortization payments		(113)		(166)
	c. Investment experience (gain)/loss		(105)		(158)
	d. Salary (gain)/loss		7		33
	e. Non-salary liability experience (gain)/loss		21		0
	f. Changes in assumptions		0		0
	g. Changes in plan provisions		0		0
	i. Total	\$	(35)	\$	(39)
3.	UAAL as of June 30, 2007	\$	1,839	\$	3,012

Note: All dollar amounts are shown in millions.



Membership Data (State Employees)

		June 30, 2007		June 30, 2006	June 30, 2005
			(1)	(2)	(3)
1.	Active members				
	a. Number		12,572	12,817	12,789
	b. Number vested		7,487	7,677	7,997
	c. Total payroll supplied by ERSRI	\$	626,192,680	\$611,698,223	\$575,746,603
	d. Average salary		49,809	47,726	45,019
	e. Average age		48.2	47.9	47.8
	f. Average service		14.7	14.4	14.5
2.	Inactive members				
	a. Number		2,405	2,424	2,343
3.	Service retirees				
	a. Number		8,362	8,265	8,120
	b. Total annual benefits	\$	198,858,810	\$185,902,200	\$173,107,820
	c. Average annual benefit		23,781	22,493	21,319
	d. Average age		72.7	72.7	72.7
4.	Disabled retirees				
	a. Number		701	690	675
	b. Total annual benefits	\$	11,899,261	\$11,207,178	\$10,442,049
	c. Average annual benefit		16,975	16,242	15,470
	d. Average age		62.7	62.5	62.4
5.	Beneficiaries and spouses				
	a. Number		1,100	1,086	1,098
	b. Total annual benefits	\$	16,093,714	\$15,212,187	\$14,950,539
	c. Average annual benefit		14,631	14,008	13,616
	d. Average age		76.7	76.3	75.6



Membership Data (Teachers)

	J	une 30, 2007	June 30, 2006	June 30, 2005
		(1)	(2)	(3)
 Active members a. Number b. Number vested c. Total payroll supplied by ERSRI d. Average salary e. Average age f. Average service 	\$	14,146 7,436 902,193,640 63,777 44.6 12.5	14,343 7,121 \$859,367,272 59,915 44.3 12.2	14,469 7,166 \$840,372,663 58,081 44.1 12.1
Inactive membersa. Number		2,257	2,165	2,015
3. Service retireesa. Numberb. Total annual benefitsc. Average annual benefitd. Average age	\$	8,479 350,529,010 41,341 67.6	8,244 \$331,004,050 40,151 67.4	7,916 \$307,367,790 38,829 67.2
 4. Disabled retirees a. Number b. Total annual benefits c. Average annual benefit d. Average age 	\$	253 6,501,706 25,698 62.8	242 \$5,973,869 24,685 63.6	245 \$5,857,336 23,907 63.3
5. Beneficiaries and spousesa. Numberb. Total annual benefitsc. Average annual benefitd. Average age	\$	386 7,766,852 20,121 71.3	387 \$7,637,146 19,734 71.0	404 \$7,750,294 19,184 69.6



Historical Summary of Active Member Data

	Active N	Members	Covered	Payroll	Average	Salary		
Valuation as of June 30,	Number	Percent Increase	Amount in \$ Millions	Percent Increase	\$ Amount	Percent Increase	Average Age	Average Service
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
State Employees								
1997	12,865	(0.9%)	426	(6.0%)	33,103	(5.1%)	45.7	14.0
1998	13,105	1.9%	458	7.6%	34,963	5.6%	46.4	14.4
1999	13,369	2.0%	476	3.9%	35,606	1.8%	46.4	14.4
2000	13,305	(0.5%)	499	4.8%	37,510	5.3%	46.7	14.4
2001	13,594	2.2%	521	4.4%	38,321	2.2%	46.9	14.5
2002	13,795	1.5%	563	8.1%	40,812	6.5%	47.4	14.3
2003	13,281	(3.7%)	576	2.3%	43,364	6.3%	47.8	14.8
2004	12,957	(2.4%)	576	(0.1%)	44,422	2.4%	47.6	14.6
2005	12,789	(1.3%)	576	0.0%	45,019	1.3%	47.8	14.5
2006	12,817	0.2%	612	6.2%	47,726	6.0%	47.9	14.4
2007	12,572	(1.9%)	626	2.4%	49,809	4.4%	48.2	14.7
Teachers								
1997	12,681	2.3%	573	5.4%	45,193	2.9%	45.1	15.1
1998	12,883	1.6%	598	4.4%	46,453	2.8%	45.0	14.9
1999	13,282	3.1%	633	5.7%	47,642	2.6%	45.0	14.6
2000	13,607	2.4%	659	4.0%	48,402	1.6%	44.7	14.0
2001	14,092	3.6%	697	5.9%	49,491	2.3%	44.4	13.3
2002	14,710	4.4%	735	5.4%	49,986	1.0%	44.4	12.5
2003	14,410	(2.0%)	782	6.3%	54,248	8.5%	44.2	12.7
2004	14,556	1.0%	810	3.6%	55,652	2.6%	43.7	12.0
2005	14,469	(0.6%)	840	3.7%	58,081	4.4%	44.1	12.1
2006	14,343	(0.9%)	859	2.3%	59,915	3.2%	44.3	12.2
2007	14,146	(1.4%)	902	5.0%	63,777	6.4%	44.6	12.5



Distribution of Active Members by Age and by Years of Service (State Employees) As of 06/30/2007

Years of Credited Service

		Tears of Credited Service											
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Attained	Count &	Count &	Count &	Count &	Count &	Count &	Count &	Count &	Count &	Count &	Count &	Count &	Count &
Age	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.
Under 25	18	25	19	7	1	0	0	0	0	0	0	0	70
	\$32,694	\$32,435	\$28,758	\$28,941	\$31,842	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$31,146
25-29	50	48	66	41	28	70	1	0	0	0	0	0	304
	\$37,948	\$38,450	\$37,160	\$40,203	\$37,357	\$37,045	\$36,997	\$0	\$0	\$0	\$0	\$0	\$37,893
30-34	300	64	56	56	37	304	28	0	0	0	0	0	845
	\$36,696	\$39,842	\$40,024	\$41,573	\$40,449	\$44,166	\$41,315	\$0	\$0	\$0	\$0	\$0	\$40,482
35-39	22	398	360	196	103	447	206	166	2	0	0	0	1,900
	\$42,945	\$39,564	\$35,986	\$40,643	\$42,537	\$45,176	\$52,516	\$47,780	\$47,830	\$0	\$0	\$0	\$42,649
40-44	41	48	35	53	35	322	237	511	164	1	0	0	1,447
	\$45,345	\$38,207	\$35,900	\$41,300	\$43,409	\$47,011	\$53,070	\$50,820	\$49,123	\$40,058	\$0	\$0	\$48,679
45-49	36	54	42	36	51	374	254	482	440	247	12	0	2,028
	\$49,457	\$34,296	\$45,029	\$32,733	\$46,572	\$47,650	\$53,456	\$52,651	\$58,285	\$52,999	\$49,375	\$0	\$51,865
50-54	34	63	43	52	38	353	240	411	342	455	262	8	2,301
	\$42,116	\$38,303	\$39,862	\$42,412	\$44,992	\$45,272	\$52,260	\$53,906	\$59,742	\$59,102	\$56,246	\$53,216	\$53,298
55-59	17	35	38	32	30	226	202	328	299	294	287	82	1,870
	\$41,276	\$42,659	\$48,109	\$38,007	\$47,091	\$45,846	\$52,283	\$51,366	\$58,139	\$60,687	\$66,573	\$58,819	\$55,388
60-64	11	16	17	12	13	124	125	243	222	198	107	73	1,161
	\$44,337	\$45,317	\$50,138	\$39,426	\$46,835	\$47,190	\$48,989	\$50,439	\$54,373	\$59,160	\$63,578	\$61,874	\$53,818
65 & Over	0	7	6	5	7	63	45	158	133	99	76	47	646
	\$0	\$47,338	\$41,182	\$76,712	\$65,473	\$42,244	\$45,736	\$46,511	\$50,993	\$51,686	\$56,961	\$68,455	\$50,981
Total	529	758	682	490	343	2,283	1,338	2,299	1,602	1,294	744	210	12,572
	\$39,131	\$39,052	\$38,101	\$40,389	\$43,848	\$45,566	\$51,908	\$51,278	\$56,470	\$57,724	\$61,246	\$61,824	\$49,809



Distribution of Active Members by Age and by Years of Service (Teachers) As of 06/30/2007

Years of Credited Service

		Years of Credited Service											
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Attained	Count &	Count &	Count &	Count &	Count &	Count &	Count &	Count &	Count &	Count &	Count &	Count &	Count &
Age	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.
Under 25	5	21	10	1	0	0	0	0	0	0	0	0	37
	\$37,908	\$34,201	\$38,865	\$37,988	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$36,065
25-29	14	81	89	88	100	255	0	0	0	0	0	0	627
	\$38,003	\$36,409	\$42,692	\$43,521	\$46,259	\$50,512	\$0	\$0	\$0	\$0	\$0	\$0	\$45,642
30-34	68	375	303	47	90	1,025	132	0	0	0	0	0	2,040
	\$51,571	\$39,928	\$43,936	\$47,007	\$47,762	\$57,050	\$69,299	\$0	\$0	\$0	\$0	\$0	\$51,924
35-39	4	35	83	376	410	1,040	798	125	0	0	0	0	2,871
	\$49,635	\$40,353	\$45,589	\$47,068	\$50,425	\$58,955	\$69,997	\$72,735	\$0	\$0	\$0	\$0	\$59,223
40-44	5	29	38	35	43	515	474	539	69	0	0	0	1,747
	\$49,459	\$41,910	\$47,357	\$50,117	\$52,318	\$61,211	\$70,511	\$72,018	\$72,380	\$0	\$0	\$0	\$66,413
45-49	5	27	35	29	41	428	335	407	260	59	0	0	1,626
	\$27,073	\$44,781	\$45,111	\$50,980	\$56,932	\$61,747	\$70,613	\$72,174	\$73,020	\$76,847	\$0	\$0	\$67,474
50-54	4	21	35	23	31	410	387	476	288	351	128	1	2,155
3031	\$61,290	\$44,760	\$56,308	\$48,806	\$53,001	\$63,099	\$71,219	\$71,957	\$73,272	\$73,857	\$74,854	\$70,425	\$69,737
55-59	0	16		8	18	233	267	449	301	259	352	106	2,027
33 37	\$0	\$57,694	\$66,864	\$54,061	\$58,631	\$65,077	\$71,557	\$72,347	\$72,922	\$74,600	\$74,798	\$77,464	\$72,116
60-64	0	8	4	8	10	93	110		147	115	79	66	816
00-04	\$0	\$62,256	\$69,295	\$55,511	\$67,132	\$66,635	\$73,251	\$73,283	\$72,267	\$76,122	\$77,111	\$75,650	\$72,923
65 & Over	0	1	0	1	2	16	23	47	38	30	14	28	200
os & Over	\$0 \$0	\$48,077	\$0 \$0	\$45,246	\$39,401	\$69,852	\$70,846	\$71,974	\$73,028	\$75,300	\$76,601	\$77,691	\$72,919
m . 1											,		
Total	105	614	615	616	745	4,015	2,526	2,219	1,103	814	573	201	14,146
	\$48,141	\$40,532	\$45,715	\$47,162	\$50,512	\$59,519	\$70,640	\$72,240	\$72,919	\$74,683	\$75,173	\$76,865	\$63,777



SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

I. Valuation Date

The valuation date is June 30th of each plan year. This is the date as of which the actuarial present value of future benefits and the actuarial value of assets are determined.

II. Actuarial Cost Method

The actuarial valuation uses the Entry Age actuarial cost method. Under this method, the employer contribution rate is the sum of (i) the employer normal cost rate, and (ii) a rate that will amortize the unfunded actuarial accrued liability (UAAL).

- 1. First, the actuarial present value of future benefits is determined by discounting the projected benefits for each member back to the valuation date using the assumed investment return rate as the discount rate. For active members, the projected benefits are based on the member's age, service, sex and compensation, and based on the actuarial assumptions. The calculations take into account the probability of the member's death, disability, or termination of employment prior to becoming eligible for a retirement benefit, as well as the possibility of the member will remain in service and receive a service retirement benefit. Future salary increases are anticipated. The present value of the expected benefits payable to all active members is added to the present value of the expected future payments to retired participants and beneficiaries to obtain the present value of all expected benefits. Liabilities for future members are not included.
- 2. The employer contributions required to support the benefits are determined as a level percentage of salary, and consist of a normal contribution and an amortization contribution.
- 3. The normal contribution is determined using the Entry Age Normal method. Under this method, a calculation is made to determine the rate of contribution which, if applied to the compensation of each new member during the entire period of anticipated covered service, would be required to meet the cost of all benefits payable on his behalf. The salary-weighted average of these rates is the normal cost rate. The normal cost rate is determined using the plan provisions applicable to members becoming participants after June 30, 2005, i.e., the provisions for Schedule B members.
- 4. The employer normal cost rate is equal to (i) the normal cost rate, minus (ii) the member contribution rate.
- 5. The actuarial accrued liability is equal to the present value of all benefits less the present value of future normal costs. The unfunded actuarial accrued liability



- (UAAL) is then determined as (i) the actuarial accrued liability, minus (ii) the actuarial value of assets.
- 6. The amortization contribution rate is the level percentage of payroll required to reduce the UAAL to zero over the remaining amortization period. The UAAL is being amortized over the remainder of a closed 30-year period from June 30, 1999. The employer contribution rate determined by this valuation will not be effective until two years after the valuation date. The determination of the contribution rate reflects this deferral. The unfunded actuarial accrued liability (UAAL) and covered payroll are projected forward for two years, and we then determine the amortization charge required to amortize the UAAL over the remaining amortization period from that point. In projecting the UAAL, we increase the UAAL for interest at the assumed rate and we decrease it for the amortization payments. The amortization payments for these two years are determined by subtracting the current employer normal cost from the known contribution rates for these years, based on the two prior actuarial valuations. Contributions are assumed to be made monthly throughout the year.

III. Actuarial Value of Assets

The actuarial value of assets is based on the market value of assets with a five-year phase-in of actual investment return in excess of (less than) expected investment income. Expected investment income is determined using the assumed investment return rate and the market value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses.

IV. Actuarial Assumptions

A. Economic Assumptions

1. Investment return: 8.25% per year, compounded annually, composed of an assumed 3.00% inflation rate and a 5.25% net real rate of return. This rate represents the assumed return, net of all investment and administrative expenses.



2. Salary increase rate: The sum of (i) a 4.50% wage inflation assumption (composed of a 3.00% price inflation assumption and a 1.50% additional general increase), and (ii) a service-related component as shown below:

Salary Increase Rates						
	State En	nployees	Teachers			
Service	Service- Related Component	Total Increase	Service- Related Component	Total Increase		
(1)	(2)	(3)	(4)	(5)		
0	4.50%	9.00%	8.75%	13.25%		
1	4.00%	8.50%	7.50%	12.00%		
2	3.50%	8.00%	6.25%	10.75%		
3	3.00%	7.50%	5.75%	10.25%		
4	2.75%	7.25%	5.25%	9.75%		
5	2.50%	7.00%	4.50%	9.00%		
6	2.00%	6.50%	4.00%	8.50%		
7	1.50%	6.00%	3.50%	8.00%		
8	1.25%	5.75%	3.00%	7.50%		
9	1.00%	5.50%	2.00%	6.50%		
10	0.75%	5.25%	1.25%	5.75%		
11	0.50%	5.00%	1.00%	5.50%		
12	0.50%	5.00%	0.50%	5.00%		
13	0.25%	4.75%	0.25%	4.75%		
14	0.25%	4.75%	0.00%	4.50%		
15 or more	0.00%	4.50%	0.00%	4.50%		

Salary increases are assumed to occur once a year, on July 1. Therefore the pay used for the period year following the valuation date is equal to the reported pay for the prior year, increased by the salary increase assumption. For employees with less than one year of service, the reported rate of pay is used rather than the fiscal year salary paid.

3. Payroll growth rate: In the amortization of the unfunded actuarial accrued liability, payroll is assumed to increase 4.25% per year. This increase rate is solely due to the effect of wage inflation on salaries, with no allowance for future membership growth.



4. Post-retirement Benefit Increase: For members with at least 10 years of contributory service as of June 30, 2005 (i.e., Schedule A members) and for all members receiving a disability benefit, the post-retirement benefit increases are equal to 3.00% by statute. They are not a function of the actual increases in the cost of living. For members with less than 10 years of contributory service as of June 30, 2005, i.e., Schedule B members, members receive a compound increase each year equal to the increase in the CPI, but limited to 3.00%. This limit lowers the expected increases granted in each year below the inflation assumption of 3.00%. The assumed average increase received for this group of employees is 2.50%.

B. <u>Demographic Assumptions</u>

- 1. Post-termination mortality rates (non-disabled)
 - a. Male state employees: Based on the 1994 Group Annuity Mortality Tables for males set forward one year.
 - b. Female state employees: Based on the 1994 Group Annuity Mortality Tables for females.
 - c. GRS table based on male teacher experience
 - d. 95% of rates in a GRS table based on female teacher experience.

Sample rates are shown below:

Number of Deaths per 100					
	State En	nployees	Teachers		
Age	Males	Females	Males	Females	
50	0.29	0.14	0.28	0.15	
55	0.49	0.23	0.48	0.36	
60	0.90	0.44	0.45	0.45	
65	1.62	0.86	0.57	0.41	
70	2.60	1.37	1.50	0.85	
75	4.09	2.27	2.49	1.35	
80	6.86	3.94	4.93	3.01	



- 2. Post-retirement mortality (disabled lives): One set of rates is used for both state employees and teachers
 - a. Males: 65% of the PBGC Table Va for disabled males eligible for Social Security disability benefits
 - b. Females: 100% of the PBGC Table VIa for disabled females eligible for Social Security disability benefits.

Sample rates are shown below:

Nu	Number of Deaths per 100					
Age	Males	Females				
25	3.14	2.63				
30	2.35	2.37				
35	1.81	2.14				
40	1.83	2.09				
45	2.09	2.24				
50	2.49	2.57				
55	3.13	2.95				
60	3.92	3.31				
65	4.41	3.70				
70	4.80	4.11				
75	5.47	4.92				
80	7.33	7.46				



3. Pre-retirement mortality: 65% of the post-termination mortality rates. Sample rates are shown below:

Number of Deaths per 100						
	State En	nployees	Teac	ehers		
Age	Males	Females	Males	Females		
25	0.05	0.02	0.05	0.02		
30	0.05	0.02	0.06	0.02		
35	0.06	0.03	0.06	0.03		
40	0.08	0.05	0.07	0.05		
45	0.11	0.06	0.11	0.06		
50	0.19	0.09	0.18	0.09		
55	0.32	0.15	0.31	0.23		
60	0.58	0.29	0.29	0.29		
65	1.06	0.56	0.37	0.27		
70	1.69	0.89	0.97	0.55		

4. Disability rates: Sample rates are shown below. Ordinary disability rates are not applied to members eligible for retirement.

		Number of Disabilities per 1,000						
Age	State Ordinary Males	State Accidental Males	State Ordinary Females	State Accidental Females	Teachers Ordinary Males	Teachers Accidental Males	Teachers Ordinary Females	Teachers Accidental Females
25	0.32	0.20	0.45	0.09	0.15	0.08	0.16	0.04
30	0.39	0.25	0.55	0.11	0.18	0.10	0.20	0.04
35	0.53	0.34	0.75	0.15	0.24	0.13	0.27	0.06
40	0.77	0.50	1.10	0.22	0.36	0.19	0.40	0.09
45	1.26	0.81	1.80	0.36	0.59	0.32	0.66	0.14
50	2.14	1.37	3.05	0.61	0.99	0.54	1.12	0.24
55	3.54	2.27	5.05	1.01	1.65	0.89	1.85	0.40
60	4.94	3.17	7.05	1.41	2.30	1.24	2.58	0.56
65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



5. Termination rates (for causes other than death, disability, or retirement) are a function of the member's sex and service. Termination rates are not applied to members eligible for retirement. Rates are shown below:

	State En	nployees	Teac	chers
Service	Males	Females	Males	Females
0	0.2400	0.1200	0.1700	0.1300
1	0.0882	0.1000	0.0900	0.0759
2	0.0761	0.0778	0.0562	0.0656
3	0.0656	0.0682	0.0455	0.0566
4	0.0565	0.0599	0.0364	0.0486
5	0.0487	0.0526	0.0289	0.0418
6	0.0421	0.0463	0.0229	0.0359
7	0.0366	0.0409	0.0181	0.0309
8	0.0321	0.0363	0.0145	0.0267
9	0.0285	0.0325	0.0120	0.0233
10	0.0257	0.0293	0.0104	0.0205
11	0.0235	0.0267	0.0095	0.0183
12	0.0219	0.0246	0.0094	0.0165
13	0.0208	0.0228	0.0094	0.0152
14	0.0199	0.0214	0.0094	0.0142
15	0.0194	0.0202	0.0094	0.0134
16	0.0189	0.0191	0.0094	0.0128
17	0.0185	0.0181	0.0094	0.0122
18	0.0179	0.0170	0.0094	0.0116
19	0.0172	0.0158	0.0094	0.0109
20	0.0162	0.0144	0.0094	0.0101
21	0.0147	0.0128	0.0094	0.0090
22	0.0127	0.0107	0.0094	0.0075
23	0.0101	0.0082	0.0094	0.0056
24	0.0068	0.0051	0.0094	0.0033



6. Retirement rates (unreduced):

Separate male and female rates, based on schedule, age and service. For members who reach 28 years of service before age 60, service-based rates are used. For members who reach age 60 before reaching 28 years of service, age-based rates are used instead. Legislators have the same rates as state employees shown below except 100% are assumed to retire at age 62 and completion of 10 years of service if still active. The following tables show the probabilities of retirement.

	State Employees Excluding Corrections – Schedule A Members						
	Males			Females			
Servic	e (00/28)	A	age (60/10)	Servic	e (00/28)	A	ge (60/10)
Service	Ret. Rate	Age	Ret. Rate	Service	Ret. Rate	Age	Ret. Rate
28	17.5%	60	10.0%	28	20.0%	60	15.0%
29	13.0%	61	5.0%	29	15.0%	61	10.0%
30	13.0%	62	17.5%	30	15.0%	62	20.0%
31	13.0%	63	15.0%	31	15.0%	63	15.0%
32	13.0%	64	15.0%	32	15.0%	64	15.0%
33	17.5%	65	20.0%	33	15.0%	65	20.0%
34	17.5%	66	17.5%	34	15.0%	66	25.0%
35	40.0%	67	17.5%	35	40.0%	67	20.0%
36	35.0%	68	17.5%	36	30.0%	68	20.0%
37	35.0%	69	17.5%	37	30.0%	69	20.0%
38	35.0%	70	17.5%	38	30.0%	70	20.0%
39	35.0%	71	17.5%	39	30.0%	71	20.0%
40	100.0%	72	17.5%	40	100.0%	72	20.0%
		73	17.5%			73	20.0%
		74	17.5%			74	20.0%
		75	100.0%			75	100.0%

Schedule B members: 60% of members are assumed to retire when first eligible, either at age 59 with 29 years of service, or at age 65 with 10 years of service. The rates in the table above are applied after first eligibility.



6. Retirement rates (continued):

	Teachers – Schedule A Members						
	Males			Females			
Servic	e (00/28)	A	ge (60/10)	Servic	ce (00/28)	A	age (60/10)
Service	Ret. Rate	Age	Ret. Rate	Service	Ret. Rate	Age	Ret. Rate
28	25.0%	60	20.0%	28	20.0%	60	20.0%
29	15.0%	61	15.0%	29	15.0%	61	15.0%
30	20.0%	62	30.0%	30	20.0%	62	25.0%
31	20.0%	63	25.0%	31	20.0%	63	20.0%
32	30.0%	64	10.0%	32	30.0%	64	20.0%
33	30.0%	65	25.0%	33	30.0%	65	35.0%
34	40.0%	66	25.0%	34	35.0%	66	25.0%
35	55.0%	67	25.0%	35	50.0%	67	25.0%
36	40.0%	68	25.0%	36	40.0%	68	25.0%
37	40.0%	69	25.0%	37	40.0%	69	25.0%
38	40.0%	70	25.0%	38	40.0%	70	25.0%
39	40.0%	71	25.0%	39	40.0%	71	25.0%
40	100.0%	72	25.0%	40	100.0%	72	25.0%
		73	25.0%			73	25.0%
		74	25.0%			74	25.0%
		75	100.0%			75	100.0%

Schedule B members: 75% of members who reach age 59 with 29 years of service before age 65 are assumed to retire when first eligible, at age 59 with 29 years of service. 75% of other members are expected to retire when first eligible, at age 65 with 10 years of service. The rates in the table above are applied after first eligibility.



6. Retirement rates (continued):

For correctional officers: A set of unisex rates, indexed by service, as shown below. All members still active are assumed to retire at age 65 with 10 years of service.

Corrections				
Service	Ret. Rate			
20	5.0%			
21	5.0%			
22	5.0%			
23	5.0%			
24	5.0%			
25	5.0%			
26	5.0%			
27	5.0%			
28	5.0%			
29	5.0%			
30	13.0%			
31	13.0%			
32	13.0%			
33	20.0%			
34	20.0%			
35	35.0%			
36	25.0%			
37	25.0%			
38	25.0%			
39	25.0%			
40	100.0%			



7. Reduced retirement for Schedule B members (state employees and teachers, males and females). Rates based on age as shown below:

Age	Ret. Rate
55	0%
56	0%
57	0%
58	0%
59	1%
60	2%
61	2%
62	2%
63	3%
64	4%

C. Other Assumptions

- 1. Percent married: 85% of employees are assumed to be married.
- 2. Age difference: Male members are assumed to be three years older than their spouses, and female members are assumed to be three years younger than their spouses.
- 3. Percent electing annuity on death (when eligible): All of the spouses of vested, married participants are assumed to elect an annuity.
- 4. Percent electing deferred termination benefit: Vested terminating members are assumed to elect a refund or a deferred benefit, whichever is more valuable at the time of termination.
- 5. Recovery from disability: None assumed.
- 6. Remarriage: It is assumed that no surviving spouse will remarry and there will be no children's benefit.
- 7. Assumed age for commencement of deferred benefits: Members electing to receive a deferred benefit are assumed to commence receipt at the first age at which unreduced benefits are available.



- 8. Investment and administrative expenses: The assumed investment return rate represents the anticipated net return after payment of all investment and administrative expenses.
- 9. Inactive members: Liabilities for inactive members are approximated as a multiple of their member contribution account balances. For nonvested inactive members, the multiple is 1.0. For vested inactive members, the multiple is 8.0 for members with 25 or more years of service, 3.0 for vested inactive members age 45 or older with less than 25 years of service, and 1.0 for other vested inactive members younger than age 45.
- 10. Decrement timing: For all state employees, decrements are assumed to occur at the middle of the year. For teachers the retirement and termination decrements are assumed to occur at the beginning of the year, while death and disability are assumed to occur at the middle of the year.

D. Participant Data

Participant data was supplied on electronic files. There are separate files for (i) active and inactive members, and (ii) members and beneficiaries receiving benefits.

The data for active members included birthdate, sex, service, salary and employee contribution account balance. For retired members and beneficiaries, the data included date of birth, sex, spouse's date of birth (where applicable), amount of monthly benefit, date of retirement, and a form of payment code.

Salary supplied for the current year was based on the earnings for the fiscal year preceding the valuation date. However, for members with less than one year of service, the current rate of salary was used. This salary was adjusted by the salary increase rate for one year.

Assumptions were made to correct for missing, bad, or inconsistent data. These had no material impact on the results presented.



Summary of Benefit Provisions

- Effective Date and Authority: The Employees' Retirement System of Rhode Island (ERSRI) became effective on July 1, 1936 for state employees and on July 1, 1949 for teachers.

 Benefits for state employees are described in Rhode Island General Laws, Title 36, Chapter 36-10, and benefits for teachers are described in Rhode Island General Laws, Title 16, Chapter 16-16.
- 2. Plan Year: A twelve-month period ending June 30th.
- 3. <u>Administration</u>: ERSRI is administered by the State of Rhode Island Retirement Board. However, the State Treasurer is responsible for the investment of the trust assets, including the establishment of the asset allocation policy.
- 4. <u>Type of Plan</u>: ERSRI is a qualified governmental defined benefit retirement plan. Separate contribution rates are determined for state employees and for teachers. For Governmental Accounting Standards Board purposes, it is a cost-sharing multiple employer plan.
- 5. Eligibility: Most Rhode Island state employees and certified public school teachers participate in ERSRI. Certain employees of the Airport Corporation, the Economic Development Corporation, and the Narragansett Bay Commission participate in the plan as though they were state employees. State police officers, state judges, and teachers and administrators in the public colleges and universities are covered by their own separate systems, and are therefore excluded. Certain elected state officials are excluded unless they make an election to join ERSRI. Superintendents, principals, business agents and other administrators participate as teachers. Non-certified public school employees, such as teacher's aides, janitors, secretaries, and bus drivers, cannot participate in ERSRI, although they may be covered by the Municipal Employees Retirement System (MERS) or a separate plan maintained by the town or city. Eligible employees become members at their date of employment.



- 6. <u>Employee Contributions</u>: State employees generally contribute 8.75% of their salary per year, although members of the General Assembly who elect to participate contribute 30.00% of salary per year. Teachers contribute 9.50% per year. The state "picks up" the members' contributions for its employees under the provisions of Internal Revenue Code (IRC) Section 414(h). At their option, the city or town employing a teacher may also pick up their members' contributions.
- 7. Salary: Salary includes the member's base earnings plus any payments under a regular longevity or incentive plan. Salary excludes overtime, unused sick and vacation leave, severance pay, and other extraordinary compensation. Certain amounts that are excluded from taxable wages, such as amounts sheltered under a Section 125 plan or amounts picked up by the employer under IRC Section 414(h), are not excluded from salary.
- 8. Employer Contributions: For state employees, the state contributes an actuarially determined percentage of the member's salary. For teachers, the state contributes 40% of the employer contribution rate and the city, town or other local employer contributes the remaining 60%. (This basic 40-60 split is further adjusted, since the state bears the cost of repaying certain amounts taken from the trust in the early 1990's.) Contributions determined in a given actuarial valuation go into effect two years after the actuarial valuation.
 - In fiscal years beginning after June 30, 2005, if the State's contribution on behalf of state employees decreases, the State shall appropriate an additional amount to the retirement trust. Such amount shall be equal to 20% of any decrease in expected contributions.
- 9. <u>Service</u>: Employees receive credit for service while a member. In addition, a member may purchase credit for certain periods, such as time spent teaching at a public school in another state, by making an additional contribution to purchase the additional service. Special rules and limits govern the purchase of additional service and the contribution required.
- 10. <u>Final Average Compensation (FAC)</u>: The average of the member's highest three consecutive annual salaries. Monthly benefits are based on one-twelfth of this amount.



11. Retirement

a. Eligibility:

- All members with 10 or more years of contributory service as of June 30, 2005 are eligible for retirement on or after age 60 if they have credit for 10 years of service, or at any age if they have credit for 28 years of service.
- Members with less than 10 years of contributory service as of June 30, 2005 are eligible for retirement on or after age 65 if they have credit for 10 years of service, or on or after age 59 if they have credit for 29 years of service. In addition, a member who attains age 55 with at least 20 years of service credit may retire with an actuarially reduced retirement benefit. The reduction is based on the difference between 65 and the member's age at retirement.
- Correctional officers are also eligible for retirement if they have reached age 50 and have credit for 20 years of service. Certain nurses (RNs employed by MHRH) are eligible to retire at age 50 with 25 years of service. Members of the General Assembly who elect to participate are eligible for retirement if they have reached age 55 and have credit for 8 years of service, or at any age if they have credit for 20 years of service.
- b. Monthly Benefit: For most state employees and for all teachers, the retirement benefit is a percentage of the member's monthly FAC. This percentage is a function of the member's service, determined using the following schedules:
 - For members with at least 10 years of contributory service as of June 30, 2005:

		Benefit Percentage
For Service In:	Years	Earned
The first 10 years of service	1 – 10	1.7% per year
The next 10 years of service	11 – 20	1.9% per year
The next 14 years of service	21 – 34	3.0% per year
The next 1 year of service	35	2.0% per year

The maximum benefit is 80% of FAC.



• For members with less than 10 years of contributory service as of June 30, 2005:

For Service In:	Years	Benefit Percentage Earned
The first 10 years of service	1 – 10	1.6% per year
The next 10 years of service	11 – 20	1.8% per year
The next 5 years of service	21 – 25	2.0% per year
The next 5 years of service	26 – 30	2.25% per year
The next 14 years of service	31 – 37	2.50% per year
The next 1 year of service	38	2.25% per year

The maximum benefit is 75% of FAC.

- MHRH nurses receive a benefit determined under the appropriate formula above.
- Correctional Officers receive a benefit computed under a different formula:

For Service In:	Years	Benefit Percentage Earned
The first 30 years of service	1 – 30	2.0% per year
The next 1 year of service	31	6.0% per year
The next 1 year of service	32	5.0% per year
The next 1 year of service	33	4.0% per year
The next 1 year of service	34	3.0% per year
The next 14 years of service	35	2.0% per year

The maximum benefit for correctional officers is 80% of FAC.

- Members of the General Assembly who elect to participate receive \$50 per month for each year of service, up to a maximum benefit of \$1,000 per month, i.e., a maximum of 20 years of service.
- c. Payment Form: Benefits are paid as a monthly life annuity. Optional forms of payment are available; see Item 16 below.



d. Death benefit: After retirement, death benefits are based on the form of annuity elected. If no option is elected, i.e., if payments are made as a life annuity, there is a minimum death benefit equal to the sum of the member's contributions without interest, less the sum of the monthly benefit payments made before the member's death. In addition, a lump-sum death benefit is payable upon the death of any retired member, regardless of option elected. This lump sum is equal to a percentage of the lump-sum death benefit that was available to the member at the time of retirement. The percentage is 100% in the first year of retirement, 75% in the second year, 50% in the third year, and 25% in the fourth and subsequent years of retirement. However, in no event will the lump sum death benefit be less than \$4,000.

12. <u>Disability Retirement</u>

- a. Eligibility: A member is eligible provided he/she has credit for at least five years of service or if the disability is work-related. Members are not eligible for an ordinary disability benefit if they are eligible for unreduced retirement.
- b. Ordinary Disability Benefit: The benefit payable under the retirement formula, using FAC and service at the time of disability, but not less than 10 years of service.
- c. Occupational Disability Benefit: An annual annuity equal to two-thirds of salary at the time of disability.
- d. Payment Form: The disability benefit commences immediately upon the member's retirement. Benefits cease upon recovery or reemployment. Disability benefits are payable as a monthly life annuity with a guarantee that, at the member's death, the sum of the member's contributions plus interest as of the date of retirement will be paid in a lump-sum to the member's beneficiary. All alternative forms of payment except for the Social Security Option are permitted in the case of disability retirement.

13. Deferred Termination Benefit

a. Eligibility: A member with at least ten years of service (eight years for members of the general Assembly) is vested. A vested member who does not withdraw his/her contributions from the fund is eligible for a deferred termination benefit.



- b. Monthly Benefit: The monthly benefit is based on the retirement formula described above.
 Both FAC and service are determined at the time the member leaves active employment.
 Benefits may commence when the member has met the requirements for a retirement benefit.
- c. Payment Form: The same as for Retirement above.
- d. Death Benefit before retirement: A member who dies after leaving active service but before retiring is entitled to receive a benefit as described below in item 15.
- e. Death Benefit after Retirement: The same as for Retirement above.

14. Withdrawal (Refund) Benefit

- a. Eligibility: All members leaving covered employment with less than ten years of service are eligible. Optionally, vested members (those with ten or more years of service) may withdraw their accumulated contributions in lieu of the deferred benefits otherwise due.
- b. Benefit: The member who withdraws receives a lump-sum payment equal to the sum of his/her employee contributions. No interest is credited on these contributions.

15. <u>Death Benefit of Active or Inactive Members</u>

- a. Eligibility: Death must have occurred while an active or an inactive, non-retired member.
- b. Basic Benefit: Upon the death of a nonvested member, or upon the death of an inactive, vested member, or upon the death of an active, unmarried member, a refund of the member's contributions (without interest) is paid. Upon the death of a vested, married, active member, the spouse may elect (i) the refund benefit described above, or (ii) a life annuity paid to the spouse or beneficiary. The amount of the annuity is equal to the amount which would have been paid had the member retired at the time of his death and elected the Joint and 100% Survivor option. If the member was not eligible for retirement, the annuity benefit is reduced 6% per year from the date at which the member would have been eligible had he or she remained in service.



- c. Lump-sum Benefit: \$800 per year of service, with a maximum benefit of \$16,000 and a minimum of \$4,000. This benefit is only available to active members.
- d. Accidental Duty-related Death Benefit: If a member dies as the result of an accident while in the course of his or her duties, in lieu of the above benefits the member's spouse may elect to receive (i) a refund of all contributions made (including interest), and (ii) an annual life annuity equal to 50% of the member's salary at the time of death. The annuity benefit stops when the spouse remarries or dies, although it may be continued to any children under age 18 or to any dependent parents.
- 16. Optional Forms of Payment: In addition to a life annuity, ERSRI offers members these optional forms of payment on an actuarially equivalent basis:
 - a. Option 1 (Joint and 100% Survivor) A life annuity payable while either the participant or his beneficiary is alive.
 - b. Option 2 (Joint and 50% Survivor) A life annuity payable to the member while both the member and beneficiary are alive, reducing to 50% of this amount if the member predeceases the beneficiary.
 - c. Social Security Option An annuity paid at one amount prior to age 62, and at a reduced amount after age 62, designed to provide a level total income when combined with the member's age 62 Social Security benefit. Benefits cease upon the member's death. This option is only available for members with at least 10 years of contributory service as of June 30, 2005.

Actuarial equivalence is based on tables adopted by the Employees' Retirement Board.

17. Post-retirement Benefit Increase:

a. For members with at least 10 years of contributory service as of June 30, 2005, and for all members receiving a disability retirement benefit: Members receive a 3.00% compound increase in their retirement benefit each year, beginning in January of the year in which the member reaches the third anniversary of retirement. This increase is not a function of actual increases in the cost of living.



b. For members with less than 10 years of contributory service as of June 30, 2005 (other than disability retirements): Members receive a compound increase in their retirement benefit each year equal to the increase in the CPI, effective on each anniversary date beginning on the third anniversary of retirement. This increase is limited to 3.00%.

