

**ACTUARIAL VALUATION OF THE  
EMPLOYEES' RETIREMENT SYSTEM  
OF THE  
STATE OF RHODE ISLAND**

**AS OF JUNE 30, 1995**

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## HIGHLIGHTS

The following table presents highlighted results.

	<u>State Employees Plan</u>	<u>Teachers Plan</u>
Employer Contribution Rate	10.83%	14.25%*
Employee Contribution Rate	8.75%	9.50%
Market Value of Assets	\$ 1,375,488,376	\$ 1,910,364,121
Actuarial Value of Assets	1,345,529,963	1,824,102,255
Unfunded Liability	\$ 442,370,600	\$762,202,100
Unfunded Liability Cost	30,505,200	51,189,200
Unfunded Liability Cost (% of payroll)	6.60%	9.61%
Employer Normal Cost as a % of payroll (net of Employee Contributions)	4.23%	4.64%
Estimated Projected Payroll	\$481,117,800	\$553,793,200
Estimated Employer Pension Contribution for Fiscal 1998 (adjusted for monthly payment)	\$ 52,090,200	\$ 78,923,900**
Estimated Employer Contribution for Postretirement Medical Benefits for Fiscal 1998	\$ 4,080,000	--

\* State portion: 6.00%

\*\* State portion: \$33,227,600

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## SECTION I - SUMMARY OF VALUATION RESULTS

### Contribution Requirements

#### Retirement Income

The contribution requirements for fiscal 1998 for the State Employees' Retirement Plan and the Teachers' Retirement Plan are set out below. For comparison the contribution requirements for the previous two fiscal years are also shown.

	<u>Fiscal 1998</u>	<u>Fiscal 1997*</u>	<u>Fiscal 1996</u>
<b>State Employees Plan:</b>			
Normal Cost	12.98%	12.69%	12.21%
Unfunded Liability Cost	<u>6.60%</u>	<u>6.11%</u>	<u>5.99%</u>
Total Cost	19.58%	18.80%	18.20%
Less Employee Contribution	<u>8.75%</u>	<u>7.75%</u>	<u>7.75%</u>
Employer Cost**	10.83%	11.05%	10.45%
<b>Teachers Plan:</b>			
Normal Cost	14.14%	14.46%	14.78%
Unfunded Liability Cost	<u>9.61%</u>	<u>9.61%</u>	<u>9.43%</u>
Total Cost	23.75%	24.07%	24.21%
Less Employee Contribution	<u>9.50%</u>	<u>8.50%</u>	<u>8.50%</u>
Employer Cost	14.25%	15.57%	15.71%

\* Results shown as presented in prior year's report prior to legislated increase in level of employee contributions of 1.0%.

\*\* The employer pension cost is calculated based on an employee contribution rate of 8.75% of salary. We have therefore assumed that the State will pay the entire cost for retiree medical benefits. Any funds contributed to a 401(h) account have been ignored in determining the contribution results shown above.

In 1993 the Retirement Board elected to compute future fiscal year costs one extra year in advance to assist the fiscal budget process. Therefore employer costs for fiscal years ending in 1996, 1997 and 1998 are based on the valuation results and data as of June 30, 1993, June 30, 1994 and June 30, 1995 respectively.

For fiscal 1998, the Teachers' Plan rate is to be paid 40% by the State and 60% by the cities and towns. The overall rate of 14.25% includes the cost of State contribution deferrals in prior fiscal years. The deferral represents 0.50% of the rate and is payable by the State. The cities' and towns' share is therefore 60% of 13.75%, or 8.25%, and the State will contribute the balance of the 14.25%, or 6.00%.

## **SECTION I - Summary of Valuation Results (cont'd)**

### **Towns which did not Participate in the 1990 Early Retirement Incentive Program**

There were a number of towns which did not participate in the 1990 early retirement incentive program. These were:

Code Number:	2003	Burillville
	2009	East Greenwich
	2018	Little Compton
	2025	North Smithfield

As a result the contribution requirement for these towns is reduced by the cost of the early retirement incentive program. The overall contribution requirement for fiscal 1998 of the group is 12.52% (i.e., 14.25% minus the cost of the 1990 early retirement incentive program of 1.73%) and, as above, the State will meet the full cost of prior fiscal year deferrals of 0.50%. The contribution for these towns is therefore 7.21% and the State contributes the balance of 5.31%.

### **Plan Experience**

The employer costs for fiscal 1998 have changed from the costs for fiscal 1997 due to a number of factors:

### **State Employees**

- Average pay increased by 0.95% for State Employees employed continuously throughout the entire year versus the assumed rate of 4.5%. This caused costs to decrease by approximately 0.7% of payroll.
- The actuarial value of assets (utilized to calculate the employer contribution) returned 10.2% for the year compared with an expected return of 8% - this leads to a reduction in the employer cost for State Employees of approximately 0.7% of payroll.

## **SECTION I - Summary of Valuation Results (cont'd)**

- Demographic experience caused the employer cost to increase by approximately 1.7% of payroll. This experience included fewer retirements and less staff turnover than expected, and increases in average age and service.
- Total payroll increased less than expected. Since the unfunded liability cost increases each year by the expected rate of increase in payroll, the smaller than expected payroll caused an increase of approximately 0.5% in the unfunded liability cost as a percentage of actual payroll.
- An increase in the employee contribution rate from 7.75% to 8.75% decreased the employer cost by 1.0%.
- In conclusion, the net effect of the plan experience caused the employer cost to decrease by approximately 0.2% from 11.05% to 10.83% of payroll.

### **Teachers**

- Average pay increased by 3.1% for Teachers employed continuously throughout the entire year, versus the assumed rate of 4.5%. This factor leads to a decrease in cost of approximately 0.4% of payroll.
- The actuarial value of assets returned 10.2% for the year compared with an expected return of 8% - this leads to a reduction in the employer cost for Teachers of approximately 0.8% of payroll.
- Changes to the participant group caused the employer cost to increase by approximately 0.9% of payroll. These changes included fewer retirements and pensioner deaths than expected, and more rehires than usual.
- An increase in the employee contribution rate from 8.5% to 9.5% decreased the employer cost by 1.0% of payroll.
- In conclusion, the net effect of the plan experience for Teachers caused the employer cost to decrease by approximately 1.3% from 15.57% to 14.25% of payroll.

When assessing the relative impact of the above factors, it is appropriate to compare year to year changes in the total cost of benefits including employee contributions. When looked at in this manner, the change from year to year is a smaller proportion of the total cost than the change in the employer cost net of employee contributions. Due to the fact that employee contributions are a constant percentage of payroll, any gains or losses are passed on to the employer's share of the cost.

## SECTION I - Summary of Valuation Results (cont'd)

### Funded Status of the System

There are several measures commonly used to describe the funded status of the plan. The following tables summarize two measures which are described below.

### Projected Benefits/Actuarial Asset Value

The ratio of assets to the projected benefit liability (under the Entry Age Normal Actuarial Funding Method) compares the actuarial value of assets to the value of accrued benefits with projected salary increases to retirement.

The projected benefit ratio increased between 1994 and 1995. This is mainly attributable to contributions and investment return in excess of the value of benefits attributable to the prior year with projected salary increases to retirement.

	<u>Ratio of Assets to Liabilities</u>		
	<u>June 30, 1995</u>	<u>June 30, 1994</u>	<u>June 30, 1993</u>
State Employees	68.52%	64.85%	64.38%
Teachers	65.04%	61.15%	58.73%

### Vested Benefits/Market Value of Assets

The ratio of assets to the vested benefit liability compares the value of vested benefits to the market value of assets. Vested benefits are:

- Participants with more than 10 years of service and pensioners - value of accrued benefit but not less than the value of accumulated employee contributions.
- Participants with less than 10 years of service - value of accumulated employee contributions.

## **SECTION I - Summary of Valuation Results (cont'd)**

The vested benefit ratio has increased since the last year. For this ratio, salaries are not projected and liabilities are compared to the market value of assets. The increase in the ratio reflects the better than anticipated asset return. The market value of assets returned approximately 17.0% compared with an assumed return of 8%.

	<u>Ratio of Assets to Liabilities</u>		
	<u>June 30, 1995</u>	<u>June 30, 1994</u>	<u>June 30, 1993</u>
<b>State Employees</b>	82.51%	81.04%	83.55%
<b>Teachers</b>	82.06%	78.34%	79.32%

### **The Early Retirement Incentive Program of 1989**

The incentive program allowed participants with 25 or more years of service (or if over age 60, 10 or more years of service) to retire and receive a 10% enhancement in their benefit service. The program was only available to State employees and approximately 750 State employees took the incentive offered. The cost of the incentive is spread over 30 years, as a dollar amount which will increase in proportion with expected payroll, (see Appendix II for a description of the funding method) commencing in fiscal year 1992. The cost of the program is 0.68% of payroll.

### **The Early Retirement Incentive Program of 1990**

Unlike the 1989 program, the 1990 program was available to both State employees and Teachers. Participants with 23 or more years of service could retire and receive a 10% enhancement in their benefit service. In addition, the benefit was based on the final year's salary (rather than a three year average). Approximately 500 State employees and 800 Teachers retired under the 1990 incentive program.

For the State Employees' Plan, the cost of the incentive is spread over 30 years, as a dollar amount which will increase in proportion with expected payroll, commencing in the fiscal year 1993. The cost for the State Employees' Plan is 0.66% of payroll.



## SECTION I - Summary of Valuation (cont'd)

For the Teachers' Plan, the cost is spread over a 24 year period (see Exhibit III for a description of the funding method) commencing in the fiscal year 1993 and is equal to 1.73% of payroll.

### Assets of the Retirement System

Section III describes the assets of the retirement system, analyzes the cash flow during the previous fiscal year and shows the proportion of funds invested in each of the major investment categories.

The table below provides a plan year summary of certain key statistics of the performance and transactions of the retirement fund:

	<u>7/1/94 to 6/30/95</u>	<u>7/1/93 to 6/30/94</u>	<u>7/1/92 to 6/30/93</u>
Dollar-weighted return on market value of assets	17.0%	4.0%	11.1% <sup>(1)</sup>
Market Value of Assets at end of period	\$ 3,388,547,000	\$ 2,916,977,000	\$ 2,811,948,000
Actuarial Value of Assets at end of period	\$ 3,266,316,000	\$ 2,965,214,000	\$ 2,726,034,000
Total Contribution	\$ 223,395,000	\$ 203,025,000	\$ 183,973,000
Total Benefit Payments	\$ 224,690,000	\$ 211,050,000	\$ 203,925,000

<sup>(1)</sup> Time-weighted return as prepared by Wilshire Associates

The return achieved by the fund should be compared with the assumed return of 8%.

## **SECTION I - Summary of Valuation (cont'd)**

The actuarial value of assets recognizes one-third of the investment gains or losses in excess of the assumed return of 8% and also a one-third portion of previous gains or losses as yet unrecognized. As a result the actuarial value of assets of the fund returned approximately 10.2% during fiscal 1995. Spreading investment gains and losses over a three year period helps to reduce volatility in the plan's contribution requirements.

The contribution income was still less than the benefit outgo during fiscal 1995. However, the shortfall of contribution income against benefit outgo of \$ 1.3 million was less than in previous years. The income from investments, when accumulated with contributions received, exceeded the net outgo, see Table 4, and therefore monies were available for reinvestment.

### **Actuarial Method and Assumptions**

Exhibit III describes the actuarial method adopted to calculate the contribution requirement and also the assumptions utilized in the calculation. There were no changes in the method and assumptions as of June 30, 1995 utilized to determine plan costs.

### **Plan Benefit Structure**

The plan benefit structure is described in detail in Exhibit IV. There have been no changes to the standard benefit provisions since the June 30, 1994 valuation, other than the 1% increase in the employee contribution rates. The employee contribution rate increased from 7.75% to 8.75% for State employees, and from 8.50% to 9.50% for Teachers.

## SECTION II - EMPLOYEE DATA

### Active Employees

The pertinent information for active employees as of June 30, 1995, can be summarized as follows:

	<u>State Employees</u>		<u>Teachers</u>	
	<u>June 30, 1995</u>	<u>June 30, 1994</u>	<u>June 30, 1995</u>	<u>June 30, 1994</u>
Number of Covered Employees	13,550	14,211	12,079	11,378
Average Annual Salary	\$33,300	\$31,300	\$41,100	\$41,700
Average Age (years)	45.1	44.7	44.8	44.8
Average Service (years)	13.0	11.8	15.9	15.5
Number of Vested Employees	7,656	7,628	7,474	7,290
Number of Employees Eligible for Retirement	1,343	1,309	1,053	1,268

Please note that below we discuss the change in the average salary level for all employees. In Section I we discussed the increase in the average salary level for employees who were participants on both June 30, 1994 and June 30, 1995. The cost of benefits is directly impacted by the increase to salaries for the group of employees who were employed continuously during the plan year.

The average annual salary for State employees rose from \$31,300 to \$33,300. This represents an increase of 6.4%, and is up from the 5.0% average increase from June, 1993 to June, 1994. Average age for State employees increased by 0.4 years, and average years of service increased by 1.2 years. There were 661 fewer employee at June 30, 1995 than at June 30, 1994. The increase in average salary for the remaining employees indicates that much of the attrition affected lower paid, shorter service employees.

The average annual salary for Teachers decreased from \$41,700 to \$41,100 or 1.4%. The average age for Teachers remained at 44.8 years, and average years of service increased by 0.4 years. The decrease in the average salary for the Teachers is the result of the replacement of retiring teachers with lower paid replacements.

## **SECTION II - Employee Data (cont'd)**

Missing data was estimated by using averages for similar employees with available data. For example, a person missing a date of hire, would be given an estimated date of hire based upon his date of birth compared to other similar employees. For active employees missing salaries, employee contribution balances and prior salary history were used to calculate estimated salaries. For active State employees, there was only 1 missing salary, 4 missing dates of birth, and 10 missing dates of hire. For active Teachers, there were no missing salaries, 268 missing dates of hire and 123 missing dates of birth. The greater number of missing figures for Teachers can be attributed to the greater difficulty in obtaining their data. In our opinion, in light of the large populations we are dealing with and the reliability of our estimation techniques, the amount of missing data that required estimation does not have a material impact on the results of the valuation.

Tables 1A and 1B provide a distribution of employees by age and service for State employees and Teachers, respectively.

### **Retirees and Beneficiaries**

The data provided for analysis of retiree and beneficiary liability included dates of hire and retirement, sex, monthly benefit, type of benefit, and payment option. The more significant statistics for retirees and beneficiaries are summarized as follows:

**SECTION II - Employee Data (cont'd)**

	<u>State Employees</u>		<u>Teachers</u>	
	<u>June 30, 1995</u>	<u>June 30, 1994</u>	<u>June 30, 1995</u>	<u>June 30, 1994</u>
<b>Pensioners</b>				
Number	7,967	7,838	4,804	4,701
Average Age	71.6	71.4	69.9	69.8
Average Monthly Benefit	\$991	\$954	\$1,977	\$1,886
<b>Beneficiaries</b>				
Number	682	656	207	197
Average Age	71.9	71.5	68.8	69.1
Average Monthly Benefit	\$736	\$701	\$1,062	\$984

The number of pensioners and beneficiaries grew by 1.8% for the State Plan and by 2.3% for the Teachers Plan. Average benefits grew by 3.9% for the State Plan and by 4.8% for the Teachers' Plan. The increases in average benefits are partly attributable to the Cost of Living Adjustments and partially attributable to retirees retiring with larger benefits than in prior years.

Tables 2A and 2B show distributions for pensions in payment status as of June 30, 1995 by age and pension type. These tables also indicate total monthly pension payments by age, average payments by age, and total monthly payments by type.

**Table 1A - Distribution of State Employees in Active Service**

Years of Service and Average Annual Earnings

Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40±	Total
0-19	1 \$ 20,935									1 \$ 20,935
20-24	98 \$ 22,483	11 \$ 23,877								109 \$ 22,624
25-29	359 \$ 27,771	458 \$ 27,528	5 \$ 25,264							822 \$ 27,621
30-34	330 \$ 29,863	789 \$ 29,791	269 \$ 28,928	50 \$ 27,967						1,438 \$ 29,582
35-39	312 \$ 31,338	677 \$ 30,700	444 \$ 33,730	464 \$ 31,126	83 \$ 30,146					1,980 \$ 31,557
40-44	276 \$ 31,874	579 \$ 31,594	310 \$ 34,368	593 \$ 36,310	495 \$ 33,593	55 \$ 32,010				2,308 \$ 33,650
45-49	236 \$ 31,201	517 \$ 30,827	346 \$ 34,433	501 \$ 38,747	588 \$ 42,475	264 \$ 42,552	12 \$ 33,389			2,464 \$ 37,028
50-54	145 \$ 33,025	382 \$ 30,854	282 \$ 33,171	340 \$ 36,207	302 \$ 39,380	200 \$ 42,299	47 \$ 43,816	6 \$ 37,725		1,704 \$ 35,726
55-59	76 \$ 32,595	300 \$ 28,755	217 \$ 32,293	273 \$ 35,305	262 \$ 36,095	112 \$ 39,475	46 \$ 44,295	13 \$ 36,452		1,299 \$ 33,979
60-64	42 \$ 26,468	177 \$ 28,990	164 \$ 31,844	226 \$ 32,833	162 \$ 36,267	91 \$ 37,565	20 \$ 41,596	15 \$ 51,519	6 \$ 51,144	903 \$ 33,323
65-69	14 \$ 23,529	82 \$ 31,396	72 \$ 28,826	90 \$ 32,331	70 \$ 34,491	16 \$ 43,224	17 \$ 47,681	4 \$ 67,107	6 \$ 43,231	371 \$ 33,244
70-74	3 \$ 17,971	13 \$ 34,054	27 \$ 25,128	37 \$ 36,387	9 \$ 38,691	13 \$ 32,287	5 \$ 32,047	1 \$ 31,306	2 \$ 48,641	110 \$ 32,529
75+	2 \$ 5,081	4 \$ 15,673	9 \$ 15,334	17 \$ 24,078	5 \$ 26,732		1 \$ 92,450	2 \$ 37,176	1 \$ 35,903	41 \$ 23,331
TOTAL	1,894	3,989	2,145	2,591	1,976	751	148	41	15	13,550
Average Pay	\$ 29,967	\$ 30,086	\$ 32,600	\$ 35,052	\$ 37,564	\$ 40,486	\$ 43,194	\$ 45,051	\$ 46,629	\$ 33,291

**Table 1B - Distribution of Teachers in Active Service**

Years of Service and Average Annual Earnings

Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40±	Total
0-19										0
20-24	100 \$ 20,142									100 \$ 20,142
25-29	512 \$ 24,037	238 \$ 30,836								750 \$ 26,195
30-34	219 \$ 26,923	579 \$ 34,739	51 \$ 39,846	1 \$ 48,120						850 \$ 33,046
35-39	218 \$ 27,899	479 \$ 37,702	204 \$ 42,096	137 \$ 41,706	4 \$ 38,641					1,042 \$ 37,041
40-44	291 \$ 30,639	747 \$ 39,259	228 \$ 42,013	642 \$ 42,543	454 \$ 45,243	12 \$ 41,489				2,374 \$ 40,511
45-49	211 \$ 32,481	614 \$ 41,543	187 \$ 44,218	322 \$ 45,251	1,393 \$ 45,417	1,013 \$ 44,913	7 \$ 47,423			3,747 \$ 43,847
50-54	95 \$ 35,065	276 \$ 43,181	113 \$ 44,944	170 \$ 47,153	296 \$ 46,497	787 \$ 46,081	228 \$ 47,806	1 \$ 33,407		1,966 \$ 45,425
55-59	37 \$ 38,332	119 \$ 44,066	53 \$ 45,936	106 \$ 45,815	149 \$ 46,993	187 \$ 46,836	135 \$ 50,592	31 \$ 48,640		817 \$ 46,574
60-64	10 \$ 38,369	36 \$ 45,383	19 \$ 44,690	40 \$ 48,112	57 \$ 45,902	64 \$ 47,293	19 \$ 50,040	17 \$ 49,783	5 \$ 44,033	267 \$ 46,635
65-69	2 \$ 34,312	10 \$ 40,807	6 \$ 44,201	19 \$ 43,517	23 \$ 47,552	35 \$ 45,067	11 \$ 46,240	10 \$ 47,850	11 \$ 46,299	127 \$ 45,167
70-74		1 \$ 51,421	2 \$ 48,319	6 \$ 52,368	5 \$ 48,564	13 \$ 41,790	2 \$ 48,783	1 \$ 50,180	5 \$ 49,138	35 \$ 46,908
75+			1 \$ 46,332	2 \$ 46,929					1 \$ 65,037	4 \$ 51,307
TOTAL	1,695	3,099	864	1,443	2,383	2,111	402	60	22	12,079
Average Pay	\$ 27,888	\$ 38,594	\$ 43,099	\$ 44,063	\$ 45,645	\$ 45,555	\$ 48,802	\$ 48,604	\$ 47,281	\$ 41,080

Table 2A - Distribution of Pensioners - State Employees

Number of Pensioners and Total Monthly Pensions Paid by Age

Age	Pension Type										Total by Age	Percent of Pensioners/ Average Pension
	Service Retirements	Beneficiaries	Legislator's Pension	Accidental Disabilities	Ordinary Disabilities	Disabilities	Disabilities	Disabilities	Disabilities	Disabilities		
< 30	0	2	0	1	0	0	0	0	0	0	3	.03%
30-39	\$ 0	\$ 1,546	\$ 0	\$ 1,602	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 3,148	\$ 1,049.33
40-49	0	6	0	18	6	0	0	0	0	0	30	.35%
50-54	0	4,639	0	28,810	2,672	0	0	0	0	0	36,121	\$ 1,204.03
55-59	34	33	8	25	44	0	0	0	0	0	144	1.66%
60-64	\$ 61,356	\$ 17,046	\$ 8,030	\$ 34,542	\$ 22,045	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 143,019	\$ 993.19
65-69	130	19	5	9	40	0	0	0	0	0	203	2.35%
70-74	\$ 299,929	\$ 19,768	\$ 4,761	\$ 9,879	\$ 25,698	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 360,035	\$ 1,773.57
75-79	252	32	18	9	45	0	0	0	0	0	356	4.12%
80-84	\$ 656,782	\$ 30,406	\$ 15,566	\$ 11,342	\$ 28,932	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 743,028	\$ 2,087.16
85-89	743	58	23	24	65	0	0	0	0	0	913	10.56%
90-94	\$ 1,148,273	\$ 51,835	\$ 21,728	\$ 25,454	\$ 36,187	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 1,283,477	\$ 1,405.78
95-99	1,539	95	36	24	71	0	0	0	0	0	1,765	20.41%
100+	\$ 1,591,633	\$ 76,373	\$ 34,737	\$ 19,342	\$ 35,266	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 1,757,351	\$ 995.67
Total	1,754	130	32	21	52	0	0	0	0	0	1,989	22.99%
	\$ 1,583,480	\$ 85,208	\$ 34,181	\$ 13,089	\$ 24,257	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 1,740,215	\$ 874.92
	1,341	124	26	8	63	0	0	0	0	0	1,562	18.06%
	\$ 1,044,318	\$ 86,863	\$ 29,371	\$ 5,033	\$ 23,914	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 1,189,499	\$ 761.52
	869	90	24	7	18	0	0	0	0	0	1,008	11.65%
	\$ 613,371	\$ 63,811	\$ 23,659	\$ 5,382	\$ 6,475	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 712,698	\$ 707.04
	419	68	8	1	10	0	0	0	0	0	506	5.85%
	\$ 262,206	\$ 47,777	\$ 8,980	\$ 913	\$ 3,427	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 323,303	\$ 638.94
	116	21	1	1	0	0	0	0	0	0	139	1.61%
	\$ 70,099	\$ 14,234	\$ 605	\$ 877	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 85,815	\$ 617.37
	25	4	1	0	0	0	0	0	0	0	30	.35%
	\$ 13,895	\$ 2,159	\$ 1,513	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 17,567	\$ 585.57
	1	0	0	0	0	0	0	0	0	0	1	.01%
	\$ 1,054	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 1,054	\$ 1,054.00
Total	7,223	682	182	148	414	0	0	0	0	0	8,649	100.00%
	\$ 7,346,396	\$ 501,665	\$ 183,131	\$ 156,265	\$ 208,873	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 8,396,330	\$ 970.79



Table 2B - Distribution of Pensioners - Teachers

Number of Pensioners and Total Monthly Pensions Paid by Age

Age	Pension Type							Percent of Pensioners/ Average Pension
	Service Retirements	Beneficiaries	Accidental Disabilities	Ordinary Disabilities	Total by Age			
< 30	0	2	0	0	2			0.04%
30-39	\$ 0	\$ 1,735	\$ 0	\$ 0	\$ 1,735		\$	867.50
	0	5	0	0	5			0.10%
40-49	\$ 0	\$ 4,260	\$ 0	\$ 0	\$ 4,260		\$	852.00
	13	11	4	24	52			1.04%
50-54	\$ 30,228	\$ 9,983	\$ 7,589	\$ 27,517	\$ 75,317		\$	1,448.40
	271	18	6	18	313			6.25%
55-59	\$ 744,844	\$ 19,724	\$ 10,728	\$ 21,422	\$ 796,718		\$	2,545.42
	527	14	3	16	560			11.18%
60-64	\$ 1,632,723	\$ 17,721	\$ 4,764	\$ 30,011	\$ 1,675,219		\$	2,991.46
	707	27	5	23	762			15.21%
65-69	\$ 1,826,095	\$ 34,839	\$ 11,448	\$ 26,116	\$ 1,898,497		\$	2,491.47
	842	26	8	24	900			17.95%
70-74	\$ 1,738,310	\$ 32,149	\$ 14,408	\$ 25,571	\$ 1,810,438		\$	2,011.60
	690	25	3	22	740			14.77%
75-79	\$ 1,168,097	\$ 28,927	\$ 3,539	\$ 20,645	\$ 1,221,208		\$	1,650.28
	599	23	1	11	634			12.65%
80-84	\$ 842,572	\$ 21,312	\$ 1,708	\$ 9,779	\$ 875,371		\$	1,380.71
	432	28	2	4	466			9.30%
85-89	\$ 590,424	\$ 30,012	\$ 2,540	\$ 2,847	\$ 625,823		\$	1,342.97
	364	15	0	3	382			7.62%
90-94	\$ 489,542	\$ 11,356	\$ 0	\$ 2,374	\$ 503,272		\$	1,317.47
	146	9	0	1	156			3.11%
95-99	\$ 181,200	\$ 5,437	\$ 0	\$ 1,202	\$ 187,839		\$	1,204.10
	29	4	0	1	34			0.68%
100+	\$ 34,463	\$ 2,278	\$ 0	\$ 692	\$ 37,433		\$	1,100.97
	5	0	0	0	5			0.10%
	\$ 6,283	\$ 0	\$ 0	\$ 0	\$ 6,283		\$	1,256.60
Total	4,625	207	32	147	5,011			100.00%
	\$ 9,284,781	\$ 219,733	\$ 56,724	\$ 158,176	\$ 9,719,414		\$	1,939.62

### SECTION III - PLAN ASSETS

#### Market Value of Assets

The Employees' Retirement Fund receives all member and employer contributions. The assets are invested by the State Investment Commission, with the income being added to the Fund and available for reinvestment. Payments from the Fund are primarily for refunds of employee contributions, lump sum death benefits, pension payments, and administrative expenses. Contribution refunds occur when an employee terminates employment before completing ten years of service and elects to take a refund, or when he dies after retirement without having received payments from the Fund equal to his total contributions.

Table 4 shows a summary of income and expenditures for the years ended June 30, 1995 and 1994. For the plan year ending June 30, 1995, the Employees' Retirement Fund showed a net income of \$296,140,627.

The total market value of assets as of June 30, 1995 was \$3,388,547,130. This is divided among the plans as follows (pro-rata based on the Book Value of assets as supplied by the State of Rhode Island Treasurer's Office).

<b>State Employees</b>	\$ 1,375,488,376	40.6%
<b>Teachers</b>	1,910,364,121	56.4%
<b>Teachers' Survivors</b>	<u>102,694,633</u>	<u>3.0%</u>
<b>Total</b>	\$ 3,388,547,130	100.0%

Table 5 shows the composition of the investments of the fund.

Table 6 shows the allocation of reserves to the State Employees' Plan, Teachers' Plan, and Teacher's Survivors Plan as of June 30, 1995 and 1994. The reserve allocations are based on the book value of assets.

### SECTION III - Plan Assets (cont'd)

#### Actuarial Value of Assets

As of the June 30, 1991 valuation, a new method to calculate the actuarial value of assets was employed. The new method allows for a three year spread of gains and losses in the Market Value. Table 3 shows the development of the actuarial value of assets. The actuarial value of assets returned approximately 10.2% compared with an 8% assumed return. The total Actuarial Value of Assets at June 30, 1995 was \$3,266,316,264 and is divided among the plans based on a prorata share of the expected actuarial value of assets as follows:

State Employees	\$ 1,345,529,963	41.2%
Teachers	1,824,102,255	55.8%
Teachers' Survivors	<u>96,684,046</u>	<u>3.0%</u>
Total	\$ 3,266,316,264	100.0%

**Table 3 - Calculation of Actuarial Asset Value at June 30, 1995**

1.	Actuarial Asset Value at June 30, 1994	\$	2,965,214,165
2.	Contributions		
	(a) Employees		81,157,696
	(b) State		88,041,577
	(c) Municipal		50,317,852
	(d) Miscellaneous		<u>3,878,170</u>
	(e) Total	\$	223,395,295
3.	Benefit Payments and Other Disbursements		
	(a) Pension Benefit	\$	170,738,411
	(b) Cost of Living Adjustments		35,748,215
	(c) Death Benefits		2,190,163
	(d) Refund of Contributions, Social Security Supplements and other Miscellaneous expenses		<u>16,013,647</u>
	(e) Total	\$	224,690,436
4.	Assumed Return at 8.00%		
	(a) On Assets	\$	237,217,133
	(b) On Contributions (assume midyear)		8,935,812
	(c) On Benefit Payments		<u>(8,987,617)</u>
	(d) Total	\$	237,165,328
5.	Tentative Actuarial Asset Value on June 30, 1995 [1. + 2.(e) - 3.(e) + 4.(d)]		3,201,084,352
6.	Market Value on June 30, 1995		3,388,547,130
7.	Excess of Market over Tentative Actuarial Asset Value		187,462,778
8.	Prior year adjustments not recognized		
	1994 \$(34,902,493) x 2		
	1993 \$ 21,567,725 x 1		(48,237,261)
9.	Current Year Experience 7. - 8.		235,700,039
10.	Current Year Adjustment to be recognized (1/3 of Experience)		78,566,680
11.	Cumulative Adjustment		
	1995 \$ 78,566,680		
	1994 (34,902,493)		
	1993 21,567,725		65,231,912
12.	Actuarial Asset Value on June 30, 1995 5. + 11.	\$	3,266,316,264

Table 4 - Summary Statement of Income and Expenses

	1995	1994
Employer contributions	\$ 142,237,599	\$ 126,459,796
Member contributions	<u>81,157,696</u>	<u>76,564,970</u>
Total contributions	\$ 223,395,295	\$ 203,024,766
Investment income:		
Dividends	\$ 34,903,463	\$ 32,992,473
Interest	95,771,483	94,979,148
Capital gains (and losses)	146,806,107	79,120,726
Other	19,954,715	10,440,906
Expenses	<u>0*</u>	<u>(7,162,837)</u>
Net investment income	297,435,768	210,370,416
Total income available for benefit payments	\$ 520,831,063	\$ 413,395,182
Benefit payments:		
Pension benefits	\$ 206,486,626	\$ 195,344,691
Death benefits	2,190,163	2,719,208
Contribution refunds and other payments	<u>16,013,647</u>	<u>12,986,228</u>
Total benefit payments	224,690,436	211,050,127
Excess of income over expenses	<u>\$ 296,140,627</u>	<u>\$ 202,345,055</u>

Note: Detail figures may not add to totals shown because of rounding.

\* No expenses reported, but investment income is net of expenses.

**Table 5 - Composition of Assets as of June 30, 1995**

	<u>Market Value</u>	<u>Percent of Holdings</u>
Cash/Short Term Investments Short Term Investment Fund Money Market Instruments	\$ 340,554,291	10.0%
Equities - Domestic	1,520,060,636	44.9%
Equities - International	290,981,763	8.6%
Fixed Income - Government	1,023,344,655	30.2%
Foreign Bonds	4,968,407	0.1%
Fixed Income - Corporate	82,740,059	2.4%
Repurchase Agreements	3,800,000	0.1%
Real Estate and Venture Capital	122,097,319	3.6%
<b>Total Fund Investments</b>	<b>\$3,388,547,130</b>	<b>100.0%</b>

**Table 6 - Allocation of Book Value Assets by Plan - Reserve Values**

	1995	1994
State Employees:		
Employer reserves	\$ 862,550,308	\$788,590,130
Member reserves	<u>283,595,004</u>	<u>256,820,694</u>
Total State Employees reserves	\$1,146,145,312	\$1,045,410,824
Teachers:		
Employer reserves	\$1,191,249,294	\$1,024,922,092
Member reserves	<u>400,588,864</u>	<u>365,961,557</u>
Total Teacher reserves	1,591,838,158	1,390,883,649
Teachers Survivors:		
Employer reserves	\$ 73,954,259	\$ 63,819,760
Member reserves	<u>11,617,508</u>	<u>11,172,813</u>
Total Teachers Survivors reserves	85,571,767	74,992,573
Unallocated:		
Unreserved Balance	N/A	<u>49,571,572</u>
Total Book Value of Assets	<u>\$2,823,555,238</u>	<u>\$2,560,858,618</u>

Note: Detail figures may not add to totals shown because of rounding.

**SECTION IV - RESULTS OF THE VALUATION**

The funding statute calls for the contribution requirement to be calculated as the normal cost of the plan plus the total of the amortization payment for each unfunded cost element. The table below shows the development of the contribution requirement for the State Employees' Plan and the Teachers' Plan.

	<u>State Employees' Plan</u>	<u>Teachers' Plan</u>
<b>Normal Cost</b>	12.98%	14.14%
<b>Less Employee Contributions</b>	<u>8.75%</u>	<u>9.50%</u>
<b>Employer Normal Cost</b>	4.23%	4.64%
<b>Unfunded Cost due to:</b>		
<b>Original Unfunded</b>	6.94%	9.69%
<b>1989 Assumption Changes</b>	(0.70%)	0.00%*
<b>1989 Early Retirement Incentive</b>	0.68%	None
<b>1990 Early Retirement Incentive</b>	0.66%	1.73%
<b>1991 Assumption and Method Changes</b>	(1.65%)	(2.31%)
<b>Fiscal 1990-91 Deferral</b>	0.36%	0.22%
<b>Fiscal 1991-92 Deferral</b>	<u>0.31%</u>	<u>0.28%</u>
<b>Total Unfunded</b>	6.60%	9.61%
<b>Total Cost as a percentage of payroll</b>	10.83%	14.25%

\* The effect of the 1989 assumption changes in the Teachers' Plan was less than the minimum threshold for setting up a separate base. Thus, the effect was aggregated with the existing unfunded. See Exhibit III for a description of the amortization method.

The contributions are assumed to be made on a monthly basis. The amounts of the unfunded liabilities in respect of each of the above cost elements, together with the remaining amortization period, are shown in detail in Exhibit I, parts A3 and B3.

The Teachers' Plan cost is paid 60% by the cities and towns and 40% by the State. However, the State will pay the total cost of 0.50% for the contribution deferrals. This results in a contribution requirement for cities and towns of 8.25% and a contribution requirement for the State of 6.00%.

As described in Section I, certain towns elected not to participate in the 1990 early retirement incentive program. The contribution requirement for these towns is 7.21% and for the State is 5.31%.



#### **SECTION IV - Results of the Valuation (cont'd)**

The State Employee's Plan fiscal 1998 contribution requirement of 10.83% compares to the fiscal 1997 contribution requirement of 11.05%. The decrease in the contribution requirement is discussed in Section I, and a complete development of the fiscal 1998 contribution is presented in Exhibit I, parts A1, A2 and A3.

The Teachers' Plan fiscal 1998 contribution requirement of 14.25% compares to the fiscal 1997 contribution requirement of 15.57%. The decrease in the contribution requirement is discussed in Section I, and a complete development of the contribution for Teachers for fiscal 1998 is presented in Exhibit I, parts B1, B2 and B3.

**EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND**

**CERTIFICATE OF ACTUARIAL VALUATION**

This is to certify that we have prepared an actuarial valuation of the plan as of June 30, 1995.

This certificate contains the following attached exhibits:

EXHIBIT I - Actuarial Cost Development of Fiscal Year 1997-98 Contribution Percentage

A. State Employees

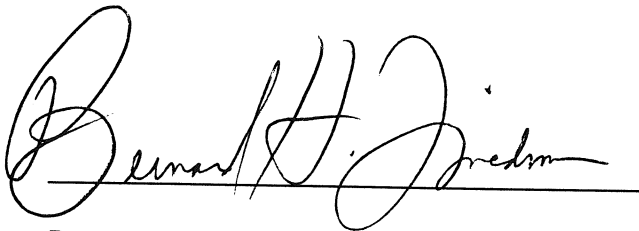
B. Teachers

EXHIBIT II - Pension Benefit Obligation, Vested Benefit Liability

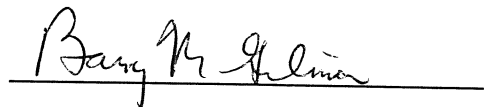
EXHIBIT III - Actuarial Method and Assumptions

EXHIBIT IV - Summary of Plan Provisions

To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate and in our opinion each individual assumption used (a) is reasonably related to the experience of the plan and to reasonable expectations and (b) represents our best estimate of anticipated experience under the plan.



Bernard H. Friedman, A.S.A., M.A.A.A.  
Associate



Barry M. Gilman, F.S.A., M.A.A.A.  
Principal

## EXHIBIT I - DEVELOPMENT OF CONTRIBUTION PERCENTAGES

### A1. State Employees - Development of Normal Cost

The valuation was made with respect to the following data supplied to us by the Retirement Board:

- 13,550 active participants (including 7,656 fully vested)
- 2,358 inactive participants
- 8,649 pensioners (including 682 beneficiaries of deceased pensioners and active employees)

The actuarial factors as of the valuation date are as follows:

1. Actuarial present value of benefits	
(a) Active employees	\$ 1,285,779,000
(b) Inactive employees	36,428,000
(c) Retirees and beneficiaries	963,165,000
(d) Total	\$ 2,285,372,000
2. Actuarial value of assets	1,345,530,000
3. Frozen Initial Liability (unfunded liability)	442,370,600
4. Present value of future employee contributions	333,964,600
5. Present value of future employer normal costs (1.(d) - 2. - 3. - 4.)	163,506,800
6. Actuarial present value of future compensation	3,816,738,000
7. Covered Payroll - Employees under Retirement Age	419,379,000
8. Employer Normal Cost, (5. x 7. ÷ 6.)	\$ 17,949,400

**EXHIBIT I - Development of Contribution Percentages (cont'd)**

**A2. State Employees - Development of Employer Cost**

1.	Total Covered Payroll for fiscal 1996	\$	440,574,000
2.	Employer Normal Cost		17,949,400
3.	Amortization of Frozen Initial Liability		30,505,200
4.	Projected 1997-98 Covered Payroll		481,117,800
5.	1997-98 Employer Normal Cost ((2. ÷ 1.) x 4.)		19,581,500
6.	Total annual cost if paid on July 1, 1997 (3. + 5.)		50,086,700
7.	Total annual cost if paid in uniform installments throughout the year (6. plus one-half year's interest)	\$	52,090,200
8.	a. Employer Normal Cost percentage		4.23%
	b. Employer Unfunded Cost percentage		6.60%
	c. Employer fiscal 1998 Cost (7. ÷ 4.)		10.83%

**EXHIBIT I - Development of Contribution Percentages (cont'd)**

**A3. State Employees - Determination of Frozen Initial Liability**

	<u>Base</u>	<u>Amortization Period</u>	<u>Payment</u>
<b>1. Bases at July 1, 1993</b>			
(a) Original	\$ 467,324,900	22	\$ 29,377,000
(b) 1989 Base	(52,704,900)	26	(2,968,800)
(c) 1989 Early Retirement Window	52,616,700	27	2,894,600
(d) New 1991 Bases			
- Assumption and Method changes	(130,014,300)	28	(6,994,400)
- 1990 Early Retirement Window	52,006,100	28	2,797,800
(e) 1990/91 Deferral	24,118,900	22	1,516,200
(f) 1991/92 Deferral	20,878,300	22	1,312,500
(g) Total	\$ 434,225,700		\$ 27,934,900
<b>2. Bases at July 1, 1994</b>			
(a) Original	\$ 472,983,700	21	\$ 30,698,800
(b) 1989 Base	(53,715,000)	25	(3,102,300)
(c) 1989 Early Retirement Window	53,699,900	26	3,024,800
(d) New 1991 Bases			
- Assumption and Method changes	(132,861,500)	27	(7,309,100)
- 1990 Early Retirement Window	53,145,000	27	2,923,600
(e) 1990/91 Deferral	24,410,900	21	1,584,400
(f) 1991/92 Deferral	21,131,100	21	1,371,500
(g) Total	\$ 438,794,100		\$ 29,191,700
<b>3. Bases at July 1, 1995</b>			
(a) Original	\$ 493,871,700	20	\$ 33,168,300
(b) 1989 Base	(54,661,700)	24	(3,241,900)
(c) 1989 Early Retirement Window	54,729,100	25	3,160,900
(d) New 1991 Bases			
- Assumption and Method changes	(135,596,600)	26	(7,637,900)
- 1990 Early Retirement Window	54,239,100	26	3,055,200
(e) 1990/91 Deferral	8,448,600	20	567,400
(f) 1991/92 Deferral	21,340,400	20	1,433,200
(g) Total	\$ 442,370,600		\$ 30,505,200

- Notes: (1) Following the funding method, if the change in unfunded liability is greater than 10% of the existing amount of unfunded liability, the change in unfunded liability is separately amortized over a 30-year period.
- (2) The contribution deferral amounts are being separately amortized over the remaining amortization period of 24 years. This is an exception to the normal funding method where the contribution deferral amounts would be added to the other 1991 bases and then amortized together. The 90/91 deferral base was reduced at July 1, 1995 in accordance with the IRS closing agreement.

## EXHIBIT I - Development of Contribution Percentages (cont'd)

### B1. Teachers - Development of Normal Cost

The valuation was made with respect to the following data supplied to us by the Retirement Board:

- 12,079 active participants (including 7,474 fully vested)
- 1,248 inactive participants
- 5,011 pensioners (including 207 beneficiaries of deceased pensioners and active employees)

The actuarial factors as of the valuation date are as follows:

1. Actuarial present value of benefits	
(a) Active employees	\$ 2,056,295,000
(b) Inactive employees	47,599,000
(c) Retirees and beneficiaries	1,145,437,000
(d) Total	\$ 3,249,331,000
2. Actuarial value of assets	1,824,102,300
3. Frozen Initial Liability (unfunded liability)	762,202,100
4. Present value of future employee contributions	446,815,400
5. Present value of future employer normal costs (1.(d) - 2. - 3. - 4.)	216,211,200
6. Actuarial present value of future compensation	4,703,320,000
7. Covered Payroll - Employees under Retirement Age	491,551,000
8. Normal Cost, (5. x 7. ÷ 6.)	\$ 22,611,300

**EXHIBIT I - Development of Contribution Percentages (cont'd)**

**B2. Teachers - Development of Employer Cost**

1.	Total Covered Payroll for fiscal 1996	\$	507,125,000
2.	Employer Normal Cost		22,611,300
3.	Amortization of Frozen Initial Liability		51,189,200
4.	Projected 1997-98 Covered Payroll		553,793,200
5.	1997-98 Employer Normal Cost ((2. ÷ 1.) x 4.)		24,699,200
6.	Total annual cost if paid on July 1, 1997 (3. + 5.)		75,888,400
7.	Total annual cost if paid in uniform installments throughout the year (6. plus one-half year's interest)	\$	78,923,900
8.	a. Employer Normal Cost percentage		4.64%
	b. Employer Unfunded Cost percentage		9.61%
	c. Employer fiscal 1998 Cost (7. ÷ 4.)		14.25%

**EXHIBIT I - Development of Contribution Percentages (cont'd)**

**B3. Teachers - Determination of Frozen Initial Liability**

	Base	Amortization Period	Payment
1. Bases at July 1, 1993			
(a) Original	\$ 746,262,100	22	\$ 46,911,600
(b) New 1991 Bases			
- Assumption and Method changes	(179,171,400)	22	(11,263,100)
- 1990 Early Retirement Window	133,995,700	22	8,423,200
(c) 1990/91 Deferral	22,972,400	22	1,444,100
(d) 1991/92 Deferral	21,639,600	22	1,360,300
(e) Total	745,698,400		46,876,100
2. Bases at July 1, 1994			
(a) Original	\$ 755,298,500	21	\$ 49,022,300
(b) New 1991 Bases			
- Assumption and Method changes	(181,341,100)	21	(11,769,900)
- 1990 Early Retirement Window	135,618,300	21	8,802,200
(c) 1990/91 Deferral	23,250,600	21	1,509,100
(d) 1991/92 Deferral	21,901,600	21	1,421,500
(e) Total	\$ 754,727,900		\$ 48,985,200
3. Bases at July 1, 1995			
(a) Original	\$ 769,022,400	20	\$ 51,647,400
(b) New 1991 Bases			
- Assumption and Method changes	(183,136,900)	20	(12,299,400)
- 1990 Early Retirement Window	136,961,400	20	9,198,300
(c) 1990/91 Deferral	17,236,000	20	1,157,600
(d) 1991/92 Deferral	22,118,500	20	1,485,500
(e) Total	\$ 762,202,100		\$ 51,189,200

- Notes: (1) If the change in the unfunded liability is less than 10% of the existing unfunded liability, the change in the unfunded liability is amortized over the remaining amortization period of the original unfunded liability.
- (2) The contribution deferral amounts are being separately amortized over the remaining amortization period of 24 years. This is an exception to the normal funding method where the contribution deferral amounts would be added to the other 1991 bases and then amortized together with the original unfunded. The 90/91 deferral base was reduced in accordance with the IRS closing agreement.



## EXHIBIT II - PENSION BENEFIT OBLIGATION, VESTED BENEFIT LIABILITY

### Pension Benefit Obligation

The value of the pension benefit obligation required for disclosure by Statement No. 5 of the Governmental Accounting Standards Board (GASB) is shown below as of June 30, 1995.

	<u>Pension Benefit Obligation</u>	
	<u>State</u>	
	<u>Employees</u>	<u>Teachers</u>
Participants currently receiving benefits and terminated employees not yet receiving benefits	\$ 999,593,000	\$ 1,193,036,000
Current employees		
Accumulated employee contributions	262,697,000	394,708,000
Employer-financed vested	404,843,000	740,356,000
Employer-financed nonvested	<u>64,863,000</u>	<u>116,400,000</u>
Total pension benefit obligation	\$ 1,731,996,000	\$ 2,444,500,000

The GASB has issued new statements applicable to accounting disclosures for governmental pension plans. These statements, Statement No. 25 and 26, are applicable for the fiscal year ending June 30, 1997 and are not reflected in this report.

**EXHIBIT II - Pension Benefit Obligation, Vested Benefit Liability (cont'd)**

**Vested Benefit Liability**

The value of vested benefits represents the current value of all benefits accrued by present and former employees which are not conditional on the future employment of the employee for payment. The benefits valued include benefits payable to current retirees and beneficiaries, deferred pensions and benefits accrued by active participants with at least ten years of service. For active employees with less than ten years of service, only the accumulated employee contributions are included.

The value of vested benefits as of June 30, 1995 is as follows:

	<b><u>Vested Benefit Liability</u></b>	
	<b><u>State</u></b>	
	<b><u>Employees</u></b>	<b><u>Teachers</u></b>
<b>Active participants</b>	\$ 667,540,000	\$ 1,135,064,000
<b>Inactive participants</b>	36,428,000	47,599,000
<b>Retired members</b>	<u>963,165,000</u>	<u>1,145,437,000</u>
<b>Total Value of Vested Benefits</b>	\$ 1,667,133,000	\$ 2,328,100,000
<b>Assets at Market Value</b>	\$ 1,375,488,376	\$ 1,910,364,121
<b>Vested Benefits Funding Level</b>	82.51%	82.06%

### EXHIBIT III - ACTUARIAL METHOD AND ASSUMPTIONS

a. **Actuarial Funding Method**

*Actuarial Funding Method* - Frozen initial liability method. This method is alternatively referred to as the entry age normal cost method with frozen initial liability.

*Entry Age* - The employee's age at the time he or she would have commenced participation if the plan had always been in existence.

*Frozen actuarial liability* - At the time this funding method was introduced June 30, 1985 the unfunded liability was calculated and called the Frozen Actuarial Liability. This amount was originally to be funded over a 30 year period by the sum-of-the-digits amortization method. Effective from 1989, however the outstanding balance, referred to as the Unfunded Liability, is to be amortized over the remaining amortization period using a level percent of salary funding. (ref. General Laws section 36-10-2 and 36-10-2.1). Subsequent changes to the unfunded liability due to changes to benefits or actuarial assumptions are amortized either over a new 30-year period or over the remaining initial amortization period depending on how large the total change to the unfunded liability for each fiscal year is relative to the existing unfunded liability. The following table illustrates the amortization method:

<u>Change in Unfunded Liability</u>	<u>Amortization Period</u>
Less than 1% of existing Unfunded	No new base set up (existing Unfunded not changed)
Between 1% and 10% of existing Unfunded	The change to Unfunded is amortized over current remaining period i.e., aggregated with existing Unfunded
Over 10% of existing Unfunded	A separate base equal to change in Unfunded is set up and amortized over a new 30 year period

**EXHIBIT III - Actuarial Method and Assumptions (cont'd)**

**b. Actuarial Assumptions Concerning Future Events**

*Mortality* - 1971 Group Annuity Mortality Table with Mortality for disabled persons set equal to the age 65 mortality under 1971 Group Annuity Mortality Table.

<u>Age</u>	<u>Sample Rates</u>			
	<u>Mortality</u>		<u>Expected Life</u>	
	<u>Males</u>	<u>Females</u>	<u>Males</u>	<u>Females</u>
20	.050%	.026%	55.3 yrs.	61.6 yrs.
25	.062	.035	50.4	56.7
30	.081	.047	45.6	51.8
35	.112	.065	40.8	47.0
40	.163	.094	36.1	42.1
45	.292	.140	31.4	37.4
50	.529	.215	26.9	32.6
55	.852	.326	22.8	28.0
60	1.312	.549	18.8	23.5
65	2.126	.956	15.2	19.3
70	3.611	1.648	11.9	15.3

*Investment Return* - 8.0%, compounded annually.

*Salary Increases* - Salaried will increase at a rate of 4.5%, compounded annually.

*Retirement Age* - State employees are assumed to retire at the later of age 62-1/2 or completion of the service requirements. Teachers are assumed to retire at the later of age 61 or completion of the service requirements.

*Disability* - Disability is assumed to occur in accordance with the following table with 15% of disabilities being occupational.

<u>Disability - Sample Rates</u>	
<u>Age</u>	<u>Rate of Disability</u>
20	.06%
25	.09
30	.11
35	.15
40	.22
45	.36
50	.61
55	1.01
60	1.41

**EXHIBIT III - Actuarial Method and Assumptions (cont'd)**

*Withdrawal* - Termination of service for reasons other than death, retirement, or disability will be in accordance with the following tables.

Sample Withdrawal Rates

<u>Age</u>	<u>State Employees</u>	<u>Teachers</u>
20	21.20%	12.39%
25	15.80%	9.70%
30	11.60%	7.50%
35	8.40%	5.66%
40	6.20%	4.14%
45	4.20%	2.75%
50	2.60%	1.35%
55	--	--
60	--	--

*Cost of Living Adjustments* - 3% compound annually beginning on the January 1st following a participant's third anniversary of retirement.

*Actuarial Value of Assets* - The actuarial value of assets was set equal to the market value of assets as of June 30, 1991 as reported to Mercer by the Treasury Department in December 1991. Investment gains and losses relative to the expected return on assets from this date onward will be recognized over a 3-year smoothing period.

*Estimation of Unknown Employee Characteristics* - Missing dates for participants are estimated using a band-type averaging method assigning band grouped average dates to those individuals with missing dates of birth or hire. For example, an employee missing a date of hire is given an estimated date of hire based on the average of known dates of hire for persons in his age band. For Employees who are missing salaries, salaries are estimated based on employee contributions for the year ending June 30, 1995 and with regard to employee salary history, where this information was insufficient, average salaries were used. For State Employees this is \$33,300, and for Teachers it is \$41,100 for the salary year July 1, 1994 to June 30, 1995.

**EXHIBIT IV - SUMMARY OF PLAN PROVISIONS**

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PLAN NAME Employees' Retirement System of the State of Rhode Island

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FINAL AVERAGE SALARY Final average salary is the three highest consecutive years of earned salary exclusive of overtime, bonuses, or severance pay.

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NORMAL RETIREMENT Age and Service Requirements

**General Employees and Teachers** may retire with full accrued benefits at age 60 with 10 years of service or after 28 years of service regardless of age.

**Correctional Officers** may retire with unreduced accrued benefits at age 50 with 20 years of service.

**Legislators** may retire with unreduced accrued benefits at age 55 with 8 years of service or after 20 years of service with no restriction on age.

Amount of Retirement Benefits

For State Employees and Teachers:

1.7% of final average salary times service up to 10 years, plus

1.9% of final average salary times service in excess of ten years through 20 years, plus

3.0% of final average salary times service in excess of 20 years up to the 34th year of service, plus

2.0% of final average salary for the 35th year.  
Maximum benefit is 80% of final average salary.

**EXHIBIT IV - Summary of Plan Provisions (cont'd)**

For Correctional Officers:

2.0% of final average salary for the first 30 years of service, plus  
6.0% of final average salary for the 31st year, plus  
5.0% of final average salary for the 32nd year, plus  
4.0% of final average salary for the 33rd year, plus  
3.0% of final average salary for the 34th year, plus  
2.0% of final average salary for the 35th year.  
Maximum benefit is 80% of final average salary.

For Legislators:

\$600 per year of service.  
Maximum benefit is \$10,000.

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**DISABILITY BENEFIT**

Non-occupational

Service Requirement: 5 years

Amount of Benefit: Regular pension benefit based on service to disability and final average salary at time of disability. The minimum benefit is 17% of final average salary.

Occupational

There is no age or service requirements for the occupational disability benefit.

Amount of Benefit: Two thirds of final salary at time of disability, payable immediately.

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**VESTING**

Employees are vested in their retirement benefits on completion of 10 years of service.

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**EXHIBIT IV - Summary of Plan Provisions (cont'd)**

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**PRE-RETIREMENT DEATH  
BENEFITS**

Lump Sum Benefit

There are no age or service requirements for this benefit.

Amount of Benefit:

- (a) \$800 per year of service with a minimum of \$4,000 and a maximum of \$16,000, plus
- (b) Refund of employee contributions.

Joint and Survivor Benefit

Service Requirement: 10 years for General Employees and Correctional officers, 8 years for Legislators.

Amount of Benefit: In lieu of the lump sum benefit, the beneficiary may elect to receive the benefit the employee would have received had he/she retired the day before he/she died and chosen the joint and survivor option.

Occupational Death Benefit

This benefit has no age or service requirement.

Amount of benefit:

- (a) 50% of salary to spouse or children of employees under age 18, less workmen's compensation, plus
  - (b) refund of employee contributions.
-



**EXHIBIT IV - Summary of Plan Provisions (cont'd)**

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**POST-RETIREMENT  
DEATH BENEFITS**

Lump sum in the amount of:

- (a) 100% of employee contributions less benefits paid, plus
  - (b) Pre-retirement death benefit, reduced 25% per year of retirement, with a minimum of \$4,000.
- 

**EMPLOYEE CONTRIBUTIONS**

State Employees: 8.75%  
Teachers: 9.50%  
Legislators: 30.00%

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**AVAILABLE BENEFIT OPTIONS**

Joint and Survivor: Actuarially Equivalent Benefit paying either 100% or 50%, depending on option selected, of retirement benefit to surviving beneficiary.

Social Security: Pays an increased benefit until age 62 and a reduced benefit thereafter to provide a level benefit when Social Security payments are accounted for.

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**POST-RETIREMENT  
COST OF LIVING  
ADJUSTMENT**

Retirees' benefits are adjusted annually by 3%, compounded, to allow for increases in cost of living.

Cost of living adjustments begin on the January 1st following the third anniversary of an employee's retirement.

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**APPENDIX - Model Letter to Cities and Towns Participating in the  
Teacher's Retirement Plan**

The (city) (town) of \_\_\_\_\_ provides retirement benefits to its public school teachers through its participation in the Rhode Island Retirement System. The system is a statutory, mandatory, state-wide, multiple retirement system, which first covered Rhode Island teachers on July 1, 1949. It is administered by the State Retirement Board, the composition of which is set forth in the pertinent state statute. The assets are held in the custody of the State Treasurer as an undivided single fund.

The actuarial costs of the retirement benefits are partially funded by teacher contributions of 9-1/2 percent of pay effective August, 1995. The net employer actuarial costs are determined annually by the actuary and, as provided by statute, are certified by the Retirement Board to the Department of Administration. Contributions are reported as a percent of payroll, payable in part by the State of Rhode Island and in part by the (city) (town). The split between the State and Municipality is specified in the statute. For fiscal year 1997-98, by statute the State will pay 40% and the Municipality will pay 60%.

The actuarial valuation prepared by William M. Mercer, Incorporated uses the entry age normal cost method with the frozen initial liability. The valuation assumes an 8 percent interest return on assets and assumes an annual salary increase of 4.5%. In addition, other actuarial assumptions are made for post-retirement increases and other contingencies as set forth in the published annual reports of the Retirement Board. Following are comparative highlights of the last three years for the Teachers system as a whole:

	<u>1995</u>	<u>Year Beginning July 1,</u> <u>1994</u>	<u>1993</u>
Active participants	12,079	11,378	11,588
Pensioners and beneficiaries	5,011	4,898	4,921
Inactive participants	1,248	1,600	1,156
Liability for accrued vested benefits	\$2,328,100,000	\$2,062,260,000	\$1,941,452,200
Net assets at actuarial value	1,824,102,300	1,642,292,340	1,492,915,800

As shown in State's  
financial statements:

	<u>1995</u>	<u>Year Ended June 30,</u> <u>1994</u>	<u>1993</u>
Employer contributions	\$ 84,750,442	\$ 76,229,307	\$ 72,206,480
Member contributions	<u>44,742,402</u>	<u>42,411,591</u>	<u>40,405,816</u>
Total contributions	\$ 129,492,844	\$ 118,640,898	\$ 112,612,296
Net miscellaneous income	1,218,170	834,335	327,868
Investment income	<u>158,776,218</u>	<u>110,691,621</u>	<u>95,137,618</u>
Total income available for benefit payments	\$ 289,487,232	\$ 230,166,854	\$ 208,077,782
Benefit payments	<u>116,563,671</u>	<u>109,025,246</u>	<u>104,236,082</u>
Excess of income over expenses	\$ <u>172,923,561</u>	\$ <u>121,141,608</u>	\$ <u>103,841,700</u>

Note: Detail figures may not add to totals shown because of rounding.

Actuarial costs and liabilities, as shown in the summary presentation, are determined in the aggregate for the Teachers System. Accordingly, employer contributions are first determined in the aggregate for all participating employers in this multiple employer system and are then expressed as a percentage of the aggregate participating payroll. Each participating City or Town for 1998 fiscal year will apply 60% of this factor to its participating payroll (the remaining forty percent of the employer cost is contributed by the State as well as the full cost of deferred contributions by the State).

Employer contributions by the (city) (town) of \_\_\_\_\_ for each of the last 2 years (together with the amount for the current year, based on the promulgated rate percent of 8.25%\*) are as follows:

	<u>Year Ended June 30.</u>		
	<u>1993</u>	<u>1994</u>	<u>1995</u>
<b>Participating payroll</b>			
<b>Employer contributions</b>			

With respect to the Teachers Retirement System, William M. Mercer, Incorporated, independent actuaries advising the Retirement Board, have stated:

"We believe that the funding program set forth in the state statute is a reasonable basis for funding the Rhode Island Teachers Retirement System. If the statutory funding program is followed without change, the System will be fully funded - that is, the assets will equal the actuarial liability on June 30, 2022. In the interim, the assets are projected to be sufficient at all times to meet the cash requirements for projected benefit payments."

According to the statutory funding schedule, the combined contributions required each year by the (city) (town) of \_\_\_\_\_ and the State will remain relatively level as a percent of payroll as the System moves toward funding the full actuarial liability.

Ultimately, however, because the actuarial funding results in the accumulation of reserves that are invested, the required appropriation will be significantly less than would be required if this System were on a pay-as-you-go basis.

- \* The promulgated rate percent for certain towns which did not participant in the 1990 early retirement incentive program is 7.21%. These towns are listed below:

Code	2003	Burillville
	2009	East Greenwich
	2018	Little Compton
	2025	North Smithfield