Report

of the

Actuary

EMPLOYEES' RETIREMENT SYSTEM
OF THE STATE OF RHODE ISLAND

Actuarial Valuation as of
June 30, 1983

January 23, 1984

Board of Trustees
Retirement Board of Employees'
Retirement System
State of Rhode Island
198 Dyer Street
Providence, RI 02903

Dear Members of the Board:

We are pleased to submit herewith our Actuarial Valuation of the Employees' Retirement System of the State of Rhode Island as of June 30, 1983.

Our report analyzes the actuarial status of the System, and projects the cost requirements for the Board to certify to the Legislature.

We received a great deal of help from State employees in obtaining the information which forms the basis of this report. Most important, Mr. Joseph G. Iannelli, Executive Director; Mr. John F. Sullivan, Assistant Director; and Mr. Carlo Mencucci, Principal Accountant, were available whenever needed to answer any questions and provide any information requested. Indeed, the material they provided on their own initiative anticipated many of our needs.

For convenience, this report is divided into the following sections:

Appended to this report is our actuarial certificate detailing the cost factors, assumptions, and plan of benefits used for the valuation.

We will be pleased to meet with you to discuss this report at your convenience.

Sincerely,

MARTIN E. SEGAL COMPANY, INCORPORATED

By Sherman G. Sass
Senior Vice President

By Joseph C. Demty
Joseph C. Demty, A.S.A., M.A.A.A
Actuary

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I. SUMMARY

Benefit Provisions

The Employees' Retirement System of the State of Rhode Island covers most State employees. Legislators and elected officials may become members on an optional basis. State college teachers may elect coverage under the T.I.A.A. program. State employees contribute 6* per cent of their annual earnings and Teachers contribute 7* per cent.

The System provides unreduced benefits of 1.7 per cent of earnings for the first ten years of service; 1.9 per cent for the next ten years; and 2.4 per cent per year of service over 20 years up to a maximum of 80 per cent of earnings for all years of service. Such benefits are available to members at least age 55 with 30 years of service or age 60 with 10 years of service, or after 35 years at any age. State correctional officers may retire at age 50 if they have 20 years of service, at 2 per cent for each year of service. Benefits are based on the average of the highest three consecutive years' earnings. After the third anniversary of retirement, "cost-of-living increases" amounting to 3 per cent per year of the original award are provided, independent of actual changes in the Consumer Price Index. Beginning January 1, 1981, the cost-of-living increases are computed at the rate of 3 per cent compounded annually.

The Plan also provides non-service-connected disability and vested benefits after five and ten years of service, respectively; service-connected disability pensions with no minimum service requirement; widow's benefits for service-connected death; and certain lump sum death benefits.

More detail can be found in the actuarial certificate following this report.

*These rates are scheduled to increase by 0.5 per cent on July 1, 1985.

Employee Data

We received data on 15,748 active State Employees and 9,971 Teachers as of June 30, 1983 who were participating in the System. On the average, the State Employees were age 44 and had 9 1/2 years of service; Teachers were age 41 1/2 with 14 years of service.

Retiree Data

We received data on 4,941 State Employee pensioners and 351 beneficiaries as of June 30, 1983. The pensioners' average monthly benefit was $415. There were 1,967 retired Teachers and 104 beneficiaries; the average monthly benefit was $825 for the pensioners. The benefit amounts include an adjustment for the cost-of-living provision. Of all the pensioners on the rolls, 6 per cent had retired in the year ended June 30, 1983.

Retirement Fund

As of June 30, 1983, the assets of the Retirement Fund, including Teachers Survivors Reserves, amounted to $637 million. These assets are available as an offset to the actuarial liabilities for future benefits.

Actuarial Valuation

Our valuation was prepared as of June 30, 1983. Our calculations were based on reasonable assumptions as to expected future experience and are the same as those used in our previous actuarial valuation. We used the "entry age normal cost" method, which spreads the cost of each employee's projected pension as a level percentage of his earnings from date of hire to assumed retirement.

The employer normal cost* for State Employees is $12.9 million. This represents 5.0 per cent of the reported payroll of participating State Employees as of June 30, 1983. The employer normal cost for Teachers is $10.3 million or 4.1 per cent of reported participating payroll.

For State Employees, the actuarial accrued liability* (representing the cost of the benefits allocated to years before July 1, 1983) is $742 million, of which $283 million represents the liability to those already receiving pensions. The unfunded actuarial accrued liability at the end of the year is $415 million. For Teachers, the actuarial accrued liability is $951 million, of which $307 million is for those receiving pensions. The unfunded actuarial accrued liability stands at $668 million.

The value of the System's vested benefits is $1.34 billion. Thus, the assets are short of this amount by $735 million (excluding assets of the Teachers Survivors program).

For the fiscal year 1984-85, the State's statutory funding schedule, as amended effective July 1, 1979, calls for a contribution of 100 per cent of the State's normal cost and 95 per cent of the interest on the unfunded actuarial accrued liability. This amounts to 14.2 per cent of the projected 1984-85 payroll of $275 million for State Employees and 18.7 per cent of projected payroll of $276 million for Teachers. (Half of the cost for Teachers is paid for by the municipalities.) According to the statute as amended, the percentages of normal cost and interest on the unfunded liability required to be contributed are scheduled to increase until fiscal 1985-86 and then in later years the full normal cost and amortization of unfunded liabilities will be required.

*Please refer to the "Actuarial Assumptions and Methods" section of the report for definitions of these terms.

II. EMPLOYEE DATA

We received data on 15,748 State Employees and 9,971 Teachers participating in the System on June 30, 1983. The data included age, service, sex, and salary for each participant. The average salary of the participants was $16,400 for State Employees (see Note below), and $25,300 for Teachers. The data included 276 Correctional Officers and 144 Legislators.

Tables 1A and 1B give detailed age, service and average salary data on State Employees and Teachers, respectively. In preparing these tables, we assumed an annual salary of $10,000 for the State Employees for whom earnings were missing, and a $15,000 annual salary was imputed for Teachers with unknown compensation.

Tables 2A and 2B summarize certain basic statistics on active State Employees and Teachers and compare them to those of the previous year. During the year, average salary for State Employees increased by 5.3 per cent while Teachers' average salary increased by 10.9 per cent (see Note below). Aggregate payroll increased by 5.4 per cent for State Employees and by 7.7 per cent for Teachers.

Overall, the data was in good condition. We recommend that the Board continue its practice of storing all basic participant information on computer files.

Note: The salaries reported for State Employees were as of June 30, 1983 and for Teachers as of July 1, 1983. This is consistent with the salaries used in the last valuation.

Table 1A

Number and Average Salaries of Employees in Active Service
as of June 30, 1983 by Age and by Years of Service

STATE EMPLOYEES

Age	Total	Years of service								
		0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 and over	Unknown
Total	15,748 $16,400	5,004 $14,200	4,533 $16,100	3,184 $16,700	1,455 $18,700	776 $20,600	437 $21,800	208 $22,900	121 $24,000	30 $13,100
Under 20	41 $11,400	41 $11,400	--	--	--	--	--	--	--	--
20 - 24	796 12,700	711 12,700	85 $12,900	--	--	--	--	--	--	--
25 - 29	1,926 14,200	1,062 14,200	777 14,100	86 $13,800	--	--	--	--	--	1 $11,900
30 - 34	2,180 16,200	778 15,000	908 17,000	451 16,600	43 $16,000	--	--	--	--	--
35 - 39	1,933 17,700	648 15,300	582 18,100	520 20,000	163 18,800	17 $16,800	--	--	--	1 11,700
40 - 44	1,480 17,700	441 15,300	417 17,300	325 18,100	197 21,900	89 21,200	10 $18,600	--	--	1 13,100
45 - 49	1,500 17,100	408 14,300	385 16,700	327 16,400	170 19,600	132 22,600	60 21,800	18 $19,800	--	--
50 - 54	1,833 16,900	382 14,000	495 15,900	425 16,100	210 19,300	151 21,500	106 21,500	53 20,100	8 $20,300	3 25,300
55 - 59	2,111 17,000	327 14,100	469 15,500	557 15,400	328 17,700	187 20,500	127 23,300	73 24,100	42 22,800	1 27,800
60 - 64	1,433 16,800	152 15,200	323 15,000	363 14,900	255 17,200	143 18,900	104 20,500	45 23,500	47 24,500	1 30,800
65 and over	441 17,500	8 8,800	87 15,300	128 14,400	89 18,100	56 18,800	30 22,200	19 27,500	24 26,400	--
Unknown	74 4,400	46 900	5 6,600	2 14,200	--	1 20,900	--	--	--	20 10,000

Table 19

Number and Average Salaries of Employees in Active Service
as of June 30, 1983 by Age and by Years of Service

TEACHERS

Age	Total	Years of service								
		0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 and over	Unknown
Total	9,971 $25,300	1,003 $19,900	1,717 $23,700	3,621 $26,100	1,991 $26,300	824 $27,300	303 $28,300	238 $28,800	83 $28,300	102 $20,300
Under 20	5 $20,600	--	--	--	--	--	--	--	--	5 $20,600
20 - 24	50 14,400	44 $13,600	1 $23,300	--	--	--	--	--	--	5 20,300
25 - 29	541 18,200	329 17,100	175 20,400	1 $22,300	--	--	--	--	--	36 16,800
30 - 34	2,110 24,000	222 19,000	868 23,300	979 25,700	1 $25,300	--	--	--	--	40 18,200
35 - 39	2,463 25,000	178 21,400	281 24,700	1,548 26,100	421 26,400	3 $26,800	--	--	--	32 22,600
40 - 44	1,522 26,100	116 21,600	179 24,800	424 26,300	584 26,700	203 27,700	--	--	--	16 21,600
45 - 49	1,057 27,000	50 23,100	89 25,300	238 26,500	236 26,700	330 28,000	105 $28,700	2 $28,800	--	7 24,700
50 - 54	961 27,200	26 22,700	63 23,900	217 26,400	163 26,400	181 27,300	227 28,800	70 29,100	10 $27,700	4 28,100
55 - 59	788 27,000	19 24,400	40 25,400	146 26,400	172 25,900	132 26,400	105 28,300	120 28,200	48 29,300	6 24,400
60 - 64	291 26,600	1 20,800	9 25,200	43 25,600	68 26,000	64 26,500	38 27,000	36 28,300	30 27,100	2 26,000
65 and over	55 26,900	1 20,700	2 27,400	8 27,300	11 26,200	10 27,400	8 27,200	9 26,100	5 29,000	--
Unknown	107 20,900	17 18,400	13 22,700	17 23,900	3 23,700	1 26,500	2 20,400	1 23,100	1 18,000	52 18,000

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Table 20

Statistical Data on Active State Employees
as of June 30, 1985 and 1983

	June 30, [illegible]	June 30, [illegible]
Number of covered employees	[illegible]	[illegible]
Total annual salary	[illegible]	[illegible]
Average annual salary	$ [illegible]	$ [illegible]
Average age	[illegible]	[illegible]
Average years of service	[illegible]	[illegible]
Number eligible for service retirement	[illegible]	[illegible]
Number vested but not eligible to retire	[illegible]	[illegible]

See note in text on salary data.

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Table 2B

Statistical Data on Active Teachers
on June 30, 1983 and 1982

	June 30, 1983	June 30, 1982
Number of covered employees	9,971	10,133
Total annual salary	$252,176,400	$231,043,000
Average annual salary	$ 25,300	$ 22,800
Average age	41 1/2	41
Average years of service	14	13
Number eligible for service retirement	606	599
Number vested but not eligible to retire	6,441	5,881

See note in text on salary data.

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III. RETIREE DATA

The data on retired members and beneficiaries included age, sex, monthly benefit, retirement date, option, and type of pension.

The following are significant statistics on the retired group:

	State Employees	Teachers
Pensioners:		
Number	4,961	2,987
Average age	70 1/2	72 1/2
Average monthly benefit	$615	$825
Beneficiaries:		
Number	351	106
Average age	76	76
Average monthly benefit	$387	$591

Table 3A gives distributions of the 360 new State Employee pensions in the current year by type of pension and amount. Table 4A does the same for age retirement. Tables 3B and 4B are similar for the 166 new Teacher pensions.

Tables 5A and 5B give distributions for all pensions in force at the end of the fiscal year be type and amount. Tables 6A and 6B do the same by age.

Overall, the data on retirees was quite good. A minor problem, which has no impact on cost, is that some beneficiaries may not be classified as such and therefore they would be treated as pensioners.

The data on terminated employees with vested rights to a deferred benefit did not include enough information to calculate the total cost for them. We did, however, again this year, include a cost equal to their accumulated employee contributions. We again recommend that information regarding terminated vested employees be maintained by the System so that it can be incorporated in future valuations and reflected in the costs.

Table 3A

Pensions Awarded in the Year Ended June 30, 1983
by Type and by Monthly Amount

STATE EMPLOYEES

Monthly amount	Total	Type of pension				
		Service	Ordinary Disability	Accidental Disability	Legislator	Beneficiary
Total	360	309	32	3	8	8
$ 50 - 99	10	8	1	1	--	--
100 - 149	16	14	2	--	--	--
150 - 199	52	39	11	1	--	1
200 - 249	34	32	1	--	--	1
250 - 299	33	24	5	--	2	2
300 - 349	26	22	2	--	1	1
350 - 399	22	20	2	--	--	--
400 - 449	17	16	--	--	1	--
450 - 499	24	21	3	--	--	--
500 - 599	24	17	2	1	4	--
600 - 699	16	13	3	--	--	--
700 - 799	8	8	--	--	--	--
800 - 899	13	11	--	--	--	2
900 - 999	5	5	--	--	--	--
1,000 - 1,099	9	8	--	--	--	1
1,100 - 1,199	7	7	--	--	--	--
1,200 - 1,299	8	8	--	--	--	--
1,300 - 1,399	9	9	--	--	--	--
1,400 - 1,499	2	2	--	--	--	--
1,500 - 1,999	15	15	--	--	--	--
2,000 - 2,499	6	6	--	--	--	--
2,500 - 2,999	3	3	--	--	--	--
3,000 - 3,499	1	1	--	--	--	--

Table 3B

Pensions Awarded in the Year Ended June 30, 1983
by Type and by Monthly Amount

TEACHERS

Monthly amount	Total	Type of pension		
		Service	Ordinary Disability	Beneficiary
Total	166	151	8	7
$ 100 - 149	1	1	--	--
150 - 199	3	2	1	--
250 - 299	2	1	1	--
300 - 349	1	--	--	1
350 - 399	5	4	--	1
400 - 449	9	8	--	1
450 - 499	6	6	--	--
500 - 599	13	12	1	--
600 - 699	10	9	1	--
700 - 799	12	10	1	1
800 - 899	17	16	1	--
900 - 999	12	12	--	--
1,000 - 1,099	21	18	2	1
1,100 - 1,199	13	13	--	--
1,200 - 1,299	9	8	--	1
1,300 - 1,399	13	13	--	--
1,400 - 1,499	6	6	--	--
1,500 - 1,999	11	10	--	1
2,000 - 2,499	2	2	--	--

Table 4A

Pensions Awarded in the Year Ended June 30, 1983
by Type and by Age on Effective Date

STATE EMPLOYEES

Age on effective date	Total		Type of pension				
			Service	Ordinary Disability	Accidental Disability	Legislator	Beneficiary
Total		360	309	32	3	8	8
30 - 34		1	--	--	1	--	--
35 - 39		3	--	1	--	--	2
45 - 49		2	--	1	--	1	--
51		4	--	2	--	1	1
52	11	2	1	1	--	--	--
53		2	1	1	--	--	--
54		3	--	3	--	--	--
55		13	4	4	--	5	--
56		10	7	2	--	--	1
57	41	4	--	4	--	--	--
58		8	4	2	1	--	1
59		6	1	4	--	--	1
60		44	44	--	--	--	--
61		25	22	2	--	--	1
62	170	60	57	1	1	--	1
63		21	20	1	--	--	--
64		20	20	--	--	--	--
65		46	45	1	--	--	--
66		26	24	1	--	1	--
67	105	13	12	1	--	--	--
68		13	13	--	--	--	--
69		7	7	--	--	--	--
70 and over		27	27	--	--	--	--

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Table 4B

Pensions Awarded in the Year Ended June 30, 1983
by Type and by Age on Effective Date

TEACHERS

Age on effective date	Total		Type of pension		
			Service	Ordinary Disability	Beneficiary
Total		166	151	8	7
35 - 39		1	--	1	--
40 - 44		1	--	1	--
45 - 49		2	--	1	1
50		2	--	1	1
52		1	--	1	--
53	14	1	1	--	--
55		10	8	1	1
56		4	4	--	--
57		9	6	2	1
58	23	3	2	--	1
59		7	7	--	--
60		36	36	--	--
61		14	14	--	--
62	90	21	21	--	--
63		10	10	--	--
64		9	9	--	--
65		13	13	--	--
66		3	3	--	--
67	32	7	6	--	1
68		5	5	--	--
69		4	4	--	--
70 and over		3	2	--	1

RHODE ISLAND ERS

Table 5A

Pensions in Payment Status on June 30, 1983
by Type and by Monthly Amount

STATE EMPLOYEES

Monthly amount	Total	Type of pension				
		Service	Ordinary Disability	Accidental Disability	Legislator	Beneficiary
Total	5,292	4,315	401	95	130	351
Under $50	40	30	--	6	--	4
$ 50 - 99	308	251	22	12	--	23
100 - 149	671	585	43	8	--	35
150 - 199	711	582	92	6	--	31
200 - 249	600	444	89	9	19	39
250 - 299	464	360	41	3	23	37
300 - 349	361	277	28	4	23	29
350 - 399	283	230	21	4	9	19
400 - 449	239	190	12	4	9	24
450 - 499	244	192	12	10	11	19
500 - 599	327	237	13	10	36	31
600 - 699	236	196	15	8	--	17
700 - 799	171	151	6	4	--	10
800 - 899	128	107	3	5	--	13
900 - 999	82	77	1	--	--	4
1,000 - 1,099	81	75	1	1	--	4
1,100 - 1,199	74	70	1	--	--	3
1,200 - 1,299	61	55	--	--	--	6
1,300 - 1,399	51	47	1	1	--	2
1,400 - 1,499	33	32	--	--	--	1
1,500 - 1,999	90	90	--	--	--	--
2,000 - 2,499	24	24	--	--	--	--
2,500 - 2,999	10	10	--	--	--	--
3,000 - 3,499	3	3	--	--	--	--

RHODE ISLAND ERS

Table 5B

Pensions in Payment Status on June 30, 1983
by Type and by Monthly Amount

TEACHERS

Monthly amount	Total	Type of pension			
		Service	Ordinary Disability	Accidental Disability	Beneficiary
Total	3,071	2,859	95	13	104
Under $50	1	1	--	--	--
$ 50 - 99	7	7	--	--	--
100 - 149	19	17	--	--	2
150 - 199	41	35	2	--	4
200 - 249	56	52	2	--	2
250 - 299	70	62	6	--	2
300 - 349	96	72	10	--	14
350 - 399	101	88	6	--	7
400 - 449	118	99	13	--	6
450 - 499	97	78	6	--	13
500 - 599	235	206	13	1	15
600 - 699	267	246	13	--	8
700 - 799	422	404	9	--	9
800 - 899	342	330	5	1	6
900 - 999	329	318	5	1	5
1,000 - 1,099	291	277	5	6	3
1,100 - 1,199	201	197	--	2	2
1,200 - 1,299	117	111	--	2	4
1,300 - 1,399	112	112	--	--	--
1,400 - 1,499	55	54	--	--	1
1,500 - 1,999	80	79	--	--	1
2,000 - 2,499	10	10	--	--	--
2,500 - 2,999	3	3	--	--	--
3,000 - 3,499	1	1	--	--	--

RHODE ISLAND ERS

Table 6A

Pensions in Payment Status on June 30, 1983
by Type and by Age

STATE EMPLOYEES

Age on June 30, 1983	Total	Type of pension				
		Service	Ordinary Disability	Accidental Disability	Legislator	Beneficiary
Total	5,292	4,315	401	95	130	351
25 - 29	1	--	--	1	--	--
30 - 34	7	--	4	2	--	1
35 - 39	13	1	6	3	--	3
40 - 44	12	--	7	5	--	--
45 - 49	26	--	15	6	3	2
50 - 54	67	8	39	10	3	7
55 - 59	197	71	73	20	19	14
60 - 64	762	582	105	17	26	32
65 - 69	1,452	1,275	86	11	23	57
70 - 74	1,317	1,159	47	16	23	72
75 - 79	796	702	16	3	14	61
80 - 84	429	360	3	1	11	54
85 - 89	149	115	--	--	6	28
90 - 94	53	35	--	--	2	16
95 - 99	8	4	--	--	--	4
100 - 104	3	3	--	--	--	--

RHODE ISLAND ERS

Table 6B

Pensions in Payment Status On June 30, 1983
by Type and by Age

TEACHERS

Age on June 30, 1983	Total	Type of pension			
		Service	Ordinary Disability	Accidental Disability	Beneficiary
Total	3,071	2,859	95	13	104
35 - 39	3	--	2	--	1
40 - 44	6	1	3	1	1
45 - 49	8	1	4	1	2
50 - 54	16	2	9	1	4
55 - 59	95	65	18	3	9
60 - 64	421	389	21	3	8
65 - 69	597	569	15	4	9
70 - 74	729	707	9	--	13
75 - 79	645	613	6	--	26
80 - 84	304	288	3	--	13
85 - 89	171	158	4	--	9
90 - 94	61	53	1	--	7
95 - 99	12	11	--	--	1
100 - 104	2	1	--	--	1
105 - 109	1	1	--	--	--

RHODE ISLAND ERS

IV. RETIREMENT FUND

The State maintains the Employees' Retirement Fund. The Retirement Board provided us with financial statements as of June 30, 1983.

The 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, and pension payments. Contribution refunds occur when an employee terminates employment 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 7 gives a summary of income and expenditures for the years ended June 30, 1983 and 1982.

At June 30, 1983 assets totalled approximately $637 million. Table 8 shows the composition of the assets and compares them to those of the previous year. About 71 per cent of the Fund was invested in fixed income securities such as bonds and notes.

The financial statements indicate that 51 per cent of the assets relate to State Employees, 44 per cent are for Teachers, and 4 per cent relate to Teachers Survivors benefits. There is also a small unallocated reserve for unclaimed benefits. Table 9 shows the allocation of assets in detail for 1983 and 1982.

Table 7

Summary Statement of Income and Expenses
For the Years Ended June 30, 1983 and 1982

	1983			1982		
Employer contributions	$64,413,364			$57,216,108		
Member contributions	33,996,997			29,071,481		
Total contributions	$98,410,361			$86,287,588		
Less: Administration expenses	8			5		
Net contribution income		$98,410,353			$86,287,583	
Net miscellaneous items		206,390			145,699	
Investment income:						
Dividends	$10,130,940			$ 8,108,168		
Interest	42,859,978			39,935,687		
Capital gains and losses	1,553,250			442,649		
Net investment income		54,544,169			48,486,504	
Total income available for benefit payments			$153,160,911			$134,919,787
Benefits payments:						
Pension benefits		$54,498,222			$49,850,309	
Death benefits		1,045,785			1,138,648	
Contribution refunds		3,548,835			4,235,260	
Total benefit payments			59,092,842			55,224,217
Excess of income over expenses			$94,068,070			$79,695,570

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

RHODE ISLAND ERS

Table 8

Assets as of June 30, 1983 and 1982

	1983		1982	
Cash		$(2,844,161)		$ 1,261,336
Accrued interest receivable		9,565,690		8,758,967
Investments				
Government bonds	$245,255,816		$195,827,588	
Corporate bonds	117,401,000		128,448,333	
Common and preferred stocks	177,985,612		139,923,147	
Certificates of deposit and repurchase agreements	46,335,203		31,948,553	
Commercial paper	49,041,958		42,894,516	
Miscellaneous	150,000		--	
(Less) Unamortized premiums and discounts	(5,805,946)	630,565,463	(5,843,515)	533,198,620
Total assets		$637,286,992		$543,218,922

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

RHODE ISLAND ERS

Table 9

Allocation of Assets by Plan
as of June 30, 1983 and 1982

	1983		1982	
State Employees:				
Employer reserves	$234,614,495		$199,973,353	
Member reserves	92,361,077		82,628,251	
Total State Employees reserves		$326,975,572		$282,601,604
Teachers:				
Employer reserves	$155,152,471		$122,238,642	
Member reserves	127,472,311		113,536,024	
Total Teacher reserves		282,624,782		235,774,666
Teachers Survivors:				
Employer reserves	$ 20,894,248		$ 18,466,478	
Member reserves	6,686,410		6,287,524	
Total Teachers Survivors reserves		27,580,658		24,754,002
Unallocated:				
Unclaimed benefit reserve		105,980		88,630
Total assets		$637,286,992		$543,218,922

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

RHODE ISLAND ERS

V. ACTUARIAL ASSUMPTIONS AND COST METHOD

The actual cost of a pension plan consists of the benefit payments and administrative expenses less any investment earnings. An actuarial cost method aims to budget this cost so as to establish a reasonable relationship between employer pension contributions and the employee services that give rise to the pension obligation. The result is an employer contribution which anticipates future payments. A fund accumulates which earns investment income, thus reducing the ultimate cost.

Calculating the appropriate contribution requires that projections, and therefore assumptions, be made as to future experience. Some items, such as mortality rates, can be predicted fairly accurately. Others, such as future salary increases are, of course, subject to considerable variation. It will be useful to identify the assumptions used, particularly since broad questions of fiscal policy are implicit in certain of the assumptions. These assumptions are the same as those used in the June 30, 1982 study.

Mortality Rates

We assumed that mortality rates would conform with the 1971 Group Annuity Mortality Table. This is the most commonly used table of pension plan mortality, and we believe it is a reasonable basis for estimating experience under the System. Table 10 gives some life expectancies determined from this table.

Salary Projections

The System provides benefits that are based on the three highest consecutive years' salary for each employee. To assume that each employee's salary will be the same in the three years before retirement as it is today would seriously understate the System's cost. Accordingly, we use a salary projection to anticipate future increases in earnings.

Additionally, it is appropriate to compute pension normal costs which are level as a percentage of payroll rather than level as a dollar amount, and a salary projection is also used for this purpose. If the cost were calculated as a level dollar amount for an individual, the cost might be a high per cent of his pay when he is young and a lower per cent of his higher salary at a later age. By the use of a salary projection, the contribution for an individual, all other things remaining the same, tends to stay at the same percentage over the years.

How to project future salaries is a major policy question. To what extent should one seek to anticipate, through present contributions, the full impact on pension costs of future salary changes?

For purposes of our cost determination, we have made a moderate allowance for general salary increases in the future. We also reflect salary increases as the result of longevity and promotions. The scale has relatively greater increases at the younger ages to correspond with the State's salary schedules. The salary scale factors are:

Age	Present Salary as a % of Age 65 Salary	Annual Increases (Rate %)
20	17.45	4.84
25	22.07	4.75
30	27.76	4.59
35	34.62	4.39
40	42.68	4.08
45	51.76	3.72
50	61.77	3.45
55	72.98	3.33
60	86.08	3.16

As will appear, the problem of salary projection has a parallel in the question of choosing an assumption as to future investment yield and the two are somewhat interrelated.

Termination Rates

In any employee group, many employees will terminate and receive less than full benefits. Employees terminating with less than ten years of active service, for example, receive only a refund of their contributions. The termination assumption anticipates the release of State and Town funds that may have been accumulated for such people, thus resulting in a reduced ongoing cost.

We assumed that terminations each year from all causes would be as follows:

State Employees (Rate %)

Age	Death*	Disability	Withdrawal	Total*
20	.05	.06	21.20	21.31
25	.06	.09	15.80	15.95
30	.08	.11	11.60	11.79
35	.11	.15	8.40	8.66
40	.16	.22	6.20	6.58
45	.29	.36	4.20	4.85
50	.53	.61	2.60	3.73
55	.85	1.01	--	1.86
60	1.31	--	--	1.31

15% of the above disability rates are service-connected.

Teachers (Rate %)

Age	Death*	Disability	Withdrawal	Total*
20	.05	.06	12.39	12.50
25	.06	.09	9.70	9.85
30	.08	.11	7.50	7.69
35	.11	.15	5.66	5.92
40	.16	.22	4.14	4.52
45	.29	.36	2.75	3.41
50	.53	.61	1.35	2.49
55	.85	1.01	--	1.86
60	1.31	--	--	1.31

15% of the above disability rates are service-connected.

*Rates shown are for men; rates for women are slightly lower.

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

Retirement Ages

The System provides unreduced benefits as early as age 55 for general employees and age 50 for State Correctional Officers. We have assumed State Employees will retire at age 64, or upon the completion of ten years of service if later. Teacher retirements are assumed to occur when the teacher has attained age 63 and has completed ten or more years of service. In any case where the employee already meets these assumed conditions of age and service, it is assumed that he or she will retire immediately.

Post-Retirement Increases

Following the third anniversary of retirement, cost-of-living increases are regularly provided to pensioners. Our calculations assumed 3 per cent annual benefit increases as provided by Statute. Cost-of-living increases are now "compounded" from year to year. With this valuation we took into account the adjustment effective January 1, 1984.

Investment Return

Investment return has a major effect on the ultimate cost of a retirement system. In general, if a system is actuarially funded (so that it has a reserve which is earning substantial investment income, a yield of 6 per cent - in contrast to a 5 per cent yield - could reduce annual costs by 16-20 per cent.

An assumption must be made concerning future yields. It must be a rate that will be valid for the long-run, that is, not only for money invested today or next year, but also for money invested 40 or more years from now.

We select an investment return assumption of 6 1/2 per cent per year for our calculation. This assumption takes account of probable moderate long-term inflation but is not tied directly to the higher rates currently available.

Actuarial Cost Method

We have used the "entry age normal" actuarial cost method. This method spreads the cost of the benefits to be provided to an individual as a level percentage of his pay from his date of employment to his assumed date of retirement. The normal cost for the entire system is equal to the sum of the normal costs for all participants. In a rough sense, it can be visualized as the cost of benefits earned during the current year.

The accrued actuarial liability represents the amount by which the future normal costs fall short of meeting the cost of future benefit payments. It can also be viewed, roughly, as the value of benefits accrued for service prior to the valuation date.

Overall Actuarial Basis

We believe that our assumptions, taken as a whole, are reasonable. To the extent that actual experience is better or worse than assumed, actuarial gains or losses will develop, with corresponding decreases or increases in future costs.

Missing Data

It was necessary to make certain "nonactuarial" assumptions where data was missing or incomplete. In all cases, we assumed such individuals had the same characteristics as other participants, taking into account the known characteristics (e.g. male members age 37 with unknown services were assumed to have the same service distribution as male members age 37 with known service).

Table 16

Expected Number of Years of Life Remaining at Specified Ages

Age	Male	Female
55	22.9	[illegible]
56	21.9	27.1
57	21.1	26.2
58	20.3	25.3
59	19.5	24.4
60	18.8	23.5
61	18.1	22.6
62	17.3	21.8
63	16.5	20.9
64	15.8	20.1
65	15.1	19.3
66	14.4	18.4
67	13.8	17.6
68	13.1	16.8
69	12.5	16.1
70	11.9	15.3
71	11.3	14.5
72	10.8	13.8
73	10.3	13.1
74	9.7	12.4
75	9.2	11.7

1971 Group Annuity Mortality Table.

RHODE ISLAND ERS

VI. RESULTS OF VALUATION

State Employees

The costs for State Employees as of June 30, 1983 developed as follows:

	Item	Amount	% of Payroll
(1)	Participating payroll	$258,062,900	--
(2)	Employer normal cost	12,884,300	5.0%
(3)	Unfunded actuarial liability	415,265,300	--
(4)	Interest on unfunded actuarial liability	25,344,900	9.8
(5)	Total annual cost payable July 1, 1983--Interest only = (2) + (4)	38,229,200	14.8
(6)	Total annual cost payable monthly = (5) plus 1/2 year interest -- Interest only	39,471,600	15.3

The funding statute calls for the State to contribute 100 per cent of the projected normal cost plus 95 per cent of the interest on the unfunded actuarial accrued liability (as of June 30, 1983) for the 1984-85 fiscal year. Based on this requirement and a projected participating payroll of $275,400,000, the 1984-85 employer contribution "rate per cent" for State Employees is 14.2 per cent of payroll, developed below.

	Item	Amount	% of Projected Payroll
(7)	Projected 1984-85 participating payroll	$275,400,000	--
(8)	1984-85 employer normal cost = 5.0% x (7)	13,770,000	5.0%
(9)	Required contribution payable July 1, 1984 = 1.00 x (8) + .95 x (4)	37,847,700	13.7
(10)	Required contribution payable monthly = (9) plus interest adjustment	39,077,800	14.2

The calculations as completed determine the employer contribution to be paid into the retirement fund at the beginning of each year with interest earnings starting from that date. In fact, the money is deposited monthly. Thus, about half a year's interest is lost, and the contribution must be increased to reflect this. Line 6 and 10, on the previous page include this adjustment.

The "full cost" of the System's benefits (Line 6) is 15.3 per cent of payroll, exactly the same as for the previous year.

Teachers

The cost for Teachers as of June 30, 1983 developed as follows:

	Item	Amount	% of Payroll
(1)	Participating payroll	$252,176,400	--
(2)	Employer normal cost	10,275,000	4.1%
(3)	Unfunded actuarial liability	668,059,500	--
(4)	Interest on unfunded actuarial liability	40,773,700	16.2
(5)	Total annual cost payable July 1, 1983--Interest only = (2) + (4)	51,048,700	20.2
(6)	Total annual cost payable monthly = (5) plus 1/2 year interest -- Interest only	52,707,800	20.9

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

Applying the funding statute to the Teachers' costs and a projected participating payroll of $276,000,000 gives a contribution "rate per cent" requirement for fiscal 1984-85 of 18.7 per cent. Half of this rate (9.35%), is payable by the State and half by the municipalities. The "rate per cent" is developed below:

	Item	Amount	% of Participating Payroll
(7)	Projected 1984-85 participating payroll	$276,000,000	--
(8)	1984-85 employer normal cost = 4.0745% x (7)	11,245,600	4.1%
(9)	Required contribution payable July 1, 1984 = 1.00 x (8) + .95 x (4)	49,980,600	18.1
(10)	Required contribution payable monthly = (9) plus interest adjustment	51,605,000	18.7

The calculations as completed assume that the employer contributions will be paid into the retirement fund at the beginning of each fiscal year and will start to earn interest from that date. In fact, the money will be deposited monthly. Thus, about a half a year's interest is lost, and the contribution must be increased to reflect this. Lines 6 and 10, above, include this adjustment.

The "full cost", measured by line 6 above, is 20.9 per cent of payroll. This compares to 20.6 per cent for the previous year.

We believe that the funding program as 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, [illegible]. In the interim, the assets are projected to be sufficient at all times to meet the cash requirements for projected benefit payments.

Teacher Survivors

Because data on dependents of teachers is not available, it is not possible to do a complete analysis of the Teachers Survivor program. However, through the use of assumed data for members and their spouses and children, we were able to determine that the current assets of $27 million together with the future income should be sufficient to cover the actuarial liabilities of this program. Currently the employer and the employee each contribute one per cent of salary up to $9,600 for a maximum contribution of $192 annually. Last year, the contributions [illegible] of the approximate 5,300 members [illegible] payments were somewhat [illegible].

Value of Vested Benefits

In private pension plans, it is customary for the actuary to provide the "value of vested benefits". This figure is used by accountants in preparing financial statements, both as a disclosure item and as a factor in determining the provision for pension expense, in accordance with Opinion No. 8 of the Accounting Principles Board of the American Institute of Certified Public Accountants, "Accounting for the Cost of Pension Plans". While we recognize that the State may not be covered by this Opinion, a brief discussion of this subject may be helpful.

The "value of vested benefits" represents the single sum value under the plan's investment income and mortality assumptions of all benefits to present and former employees which do not have future employment by the employee as a required condition for their receipt. Thus, it includes the present value of an immediate or deferred pension for all pensioners, beneficiaries, and active participants with at least ten years of service. For active employees with less than ten years of service and inactive vested employees, only the accumulated employee contributions are included.

For the Employees' Retirement System, the value of vested benefits as of June 30, 1983 is as follows:

	State Employees	Teachers
Active members	$352,466,600	$391,769,800
Inactive members	6,169,100	5,299,400
Retired members	280,727,100	308,766,100
Total value of vested benefits	$639,362,800	$705,835,300
Assets	326,975,600	282,424,800
Unfunded value of vested benefits	$312,387,200	$423,410,500

Overall Status of System

Legislation in January, 1979 effectively returned the System to its former statutory funding schedule beginning with the 1979-80 fiscal year. (Actually, the accelerated funding provided for by the General Assembly in 1978 was never used as the basis for determining contributions as its effective date was deferred for one year to July 1, 1979, by which date the further revision of the law superseded it.)

Under the funding law as amended, the Employers will not begin to pay the full normal cost and an amortization payment until the fiscal year beginning July 1, 1986. Thus, for fiscal 1984-85, as reported earlier, the employer cost is 100 per cent of the normal cost and 95 per cent of the interest payment on the unfunded actuarial accrued liability. The scheduled percentages are:

Fiscal year beginning on July 1	Normal cost	Interest on unfunded liability
1984	100%	95%
1985 and thereafter	100%	100%

As the funding law currently exists, beginning with the fiscal year starting July 1, 1986, the statutory contribution will comprise the normal cost, amortization of the June 30, 1985 unfunded liability based on the sum-of-the-digits method over 30 years, and interest on the unfunded actuarial accrued liability.

* * * * * *

APPENDIX

MODEL FORM SUMMARY STATEMENT RE CITY AND TOWN PARTICIPATION IN TEACHERS' RETIREMENT SYSTEM FOR PURPOSES OF FINANCIAL STATEMENTS AND REPORTS, MUNICIPAL BOND REGISTRATION STATEMENTS, ETC.

The (city) (town) of ____________ provides retirement benefits to its public school teachers through its participation in the Rhode Island Retirement System, a statutory, mandatory, state-wide, multi-employer retirement system, which first covered Rhode Island teachers on July 1, 1949. This System is administered as a unified state-wide system 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 employee contributions of 7 per cent of pay increasing to 7 1/2 per cent July 1, 1985. 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 as a rate per cent of payroll, payable one half by the State of Rhode Island and one half by the (city) (town). The statute provides for increasing graduated percentages of the annual normal cost and interest on the unfunded liability until the year beginning July 1, 1986 when the full normal cost and amortization payments on a 30-year schedule are required. For the year beginning July 1, 1984, 100 per cent of the normal cost and 95 per cent of the interest on the unfunded liability are the required levels of actuarial funding.

Actuarial valuations prepared by Martin E. Segal Company, applying the entry age normal cost method, assuming 6 1/2 per cent interest return on invested assets and applying assumed rates of salary progression, allowance for post-retirement increases and other actuarial assumptions—all as set forth in the published annual reports of the Retirement Board—reveal the following comparative highlights of the last three years for the Teachers' System as a whole:

	Year Beginning July 1,		
	[illegible]	[illegible]	[illegible]
Active participants	[illegible]	[illegible]	[illegible]
Pensioners and beneficiaries	[illegible]	[illegible]	[illegible]
Inactive participants	[illegible]	[illegible]	[illegible]
Liability for accrued vested benefits	[illegible]	[illegible]	[illegible]
Net assets	[illegible]	[illegible]	[illegible]

	Year Ended June 30,		
	[illegible]	[illegible]	[illegible]
Employer contributions	[illegible]	[illegible]	[illegible]
Member contributions	[illegible]	[illegible]	[illegible]
Total contributions	[illegible]	[illegible]	[illegible]
Net actuarial interest income	[illegible]	[illegible]	[illegible]
Investment income	[illegible]	[illegible]	[illegible]
Total income available for benefit payments	[illegible]	[illegible]	[illegible]
Benefit payments	[illegible]	[illegible]	[illegible]
Excess of income over expenses	[illegible]	[illegible]	[illegible]

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 multi-employer system, are then expressed as a rate per cent of the aggregate participating payroll, and one half this rate per cent is then promulgated to each participating employer as the actuarial cost factor to be applied to its participating payroll. The remaining one half of the employer cost is contributed by the State. Employer contributions by (City, Town) of ______________ for each of the last three years (together with the amount for the current year, based on the promulgated rate per cent of [illegible] per cent) are as follows:

	Year Ending June 30		
	[illegible]	[illegible]	[illegible] (est.)
Participating employer contributions			

With respect to the Teachers Retirement System, Martin E. Segal Company, independent actuaries advising the Retirement Board have stated on January 31, [illegible]:

"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, the System will be fully funded—that is, the assets will equal the actuarial liability on June 30, [illegible]. 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 contributions required each year of the (City, Town) of ______________ and the State, will increase as the System moves toward the funding of the full annual cost. Ultimately, however, because the actuarial funding results in the accumulation of reserves that are invested, the required appropriations will be significantly less than would be required if this System were on a pay-as-you-go basis.

January 23, 1984

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, 1983.

This certificate contains the following attached exhibits:

EXHIBIT I - Actuarial Cost for Year Beginning July 1, 1983

A. State Employees

B. Teachers

EXHIBIT II - Actuarial Assumptions and Cost Method

EXHIBIT III - Summary of Plan Provisions

To the best of my knowledge, the information supplied in this actuarial valuation is complete and accurate (except as noted in Exhibit I) and in my opinion the assumptions used in the aggregate (a) are reasonably related to the experience of the plan and to reasonable expectations and (b) represent my best estimate of anticipated experience under the plan.

MARTIN E. SEGAL COMPANY, INCORPORATED

By: Joseph C. Demty

Joseph C. Demty, A.S.A., M.A.A.A.
Actuary

EXHIBIT I

ACTUARIAL COST FOR YEAR BEGINNING JULY 1, 1983

A. STATE EMPLOYEES

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

a. 15,748 active participants (including 6,181 fully vested) with total annual salaries of $258,062,900

b. 1,614 inactive participants

c. 5,292 pensioners (including 351 beneficiaries of deceased pensioners and active employees)

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

1.	Total normal cost		$ 28,368,100
2.	Projected employee contributions		15,483,800
3.	Employer normal cost		12,884,300
4.	Actuarial liability - total		742,240,900
	Active employees	$455,344,700	
	Inactive employees	4,149,100	
	Pensioners (including beneficiaries of deceased pensioners and active employees)	282,747,100	
5.	Assets		326,975,600
6.	Unfunded actuarial liability		415,265,300

Liability for accrued vested benefits: $639,362,800

Note: Included are 84 active employees unknown as to age, service, or both. Status of beneficiaries was unclear. The liability included for inactive employees is the sum of their accumulated contributions.

Line
5 ÷ 4 44.05%

EXHIBIT I

ACTUARIAL COST FOR YEAR BEGINNING JULY 1, 1982

B. TEACHERS

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

a. 9,971 active participants (including 7,047 fully vested) with total annual salaries of $252,176,400

b. 1,435 inactive participants

c. 3,071 pensioners (including 104 beneficiaries of deceased pensioners and active employees)

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

1.	Total normal cost		$ [illegible]
2.	Projected employee contributions		[illegible]
3.	Employer normal cost		[illegible]
4.	Actuarial liability - total		[illegible]
	Active employees	$[illegible]	
	Inactive employees	[illegible]	
	Pensioners (including beneficiaries of deceased pensioners and active employees)	[illegible]	
5.	Assets		[illegible]
6.	Unfunded actuarial liability		[illegible]

Liability for accrued vested benefits $[illegible]

Note Included are [illegible] active employees unknown as to age, service, or both. Status of beneficiaries was unclear. The liability included for inactive employees is the sum of their accumulated contributions.

EXHIBIT II

ACTUARIAL ASSUMPTIONS AND COST METHOD

Mortality rates -- 1971 Group Annuity Mortality Table

Disability mortality before age 65 -- Age 65 mortality under stipulated table

Termination rates before retirement:

State Employees (Rate %)

Age	Death	Disability	Withdrawal	Total
20	.05	.06	11.20	11.31
25	.06	.09	15.80	15.95
30	.08	.11	11.60	11.79
35	.11	.15	8.40	8.66
40	.16	.22	6.10	6.48
45	.29	.36	4.20	4.85
50	.53	.61	2.60	3.73
55	.85	1.01	—	1.86
60	1.31	—	—	1.31

15% of the above disability rates are service-connected.

Teachers (Rate %)

Age	Death	Disability	Withdrawal	Total
20	.055	.066	12.199	12.30
25	.064	.094	[illegible]	[illegible]
30	.083	.114	7.350	[illegible]
35	.113	.153	[illegible]	[illegible]
40	.164	.222	4.144	[illegible]
45	.294	.366	2.275	[illegible]
50	.533	.611	1.135	[illegible]
55	.853	1.001	—	[illegible]
60	1.31	—	—	1.31

15% of the above disability rates are service-connected.

*Rates shown for men; rates for women are slightly lower.

Note: Detail rates may not add to totals shown due to rounding.

Salary scale:

Age	Present salary as a % of salary at 65	Annual increase (Rate %)
20	17.45	4.84
25	22.07	4.75
30	27.76	4.59
35	34.62	4.39
40	42.68	4.08
45	51.76	3.72
50	61.77	3.45
55	72.98	3.33
60	86.08	3.16

Includes allowance for inflation of 3% per year.

Unknown characteristics of employees: Same as those exhibited by employees with known characteristics. Unknown salary is assumed to be $10,000 for State Employees and $15,000 for Teachers.

Retirement age -- State Employees: 64, or completion of service requirement if later. Teachers: 63, or completion of service requirement if later.

Post-retirement increases -- 3% compounded annually

Percent married -- Social Security awards during 1972

Net investment return -- 6 1/2%

Valuation of assets -- At amortized book value for bonds and at cost for stocks

Actuarial cost method -- Entry age normal cost

EXHIBIT III

SUMMARY OF PLAN PROVISIONS

Service pension

	General Employees			Correctional Officers	Legislators	
Age requirement:	60	55	None	50	55	None
	or		or			or
Service requirement:	10 yrs.	30 yrs.	35 yrs.	20 yrs.	8 yrs.	20 yrs.

Amount: 1.7% of final average salary up to 10 years of service plus 1.9% per year for the next 10 years of service plus 2.4% for each additional year of service to a maximum of 80%. Final average salary is defined as the average of compensation earned during the highest 3 consecutive years prior to termination. Correctional officers receive 2% of final average salary per year of service. Legislators receive $300 per year of service to a maximum of $6,000. Retirement is mandatory at age 70 except for elected officials. For correctional officers, mandatory retirement is the later of age 55 and the completion of 20 years of service.

Early retirement

Age requirement: None
Service requirement: 30 years
Amount: Regular pension accrued, reduced by 6% for each year of age less than 55.

Disability

Non-occupational:

Age requirement: None
Service requirement: 5 years
Amount: Regular pension based on service accrued and final average salary at disability, payable immediately. The minimum retirement percentage is 17%, regardless of service.

Occupational:

Age requirement: None
Service requirement: None
Amount: 66 2/3% of final salary, payable immediately

Vesting

Age requirement: None
Service requirement: 10 years
Amount: Regular pension accrued, payable at age 60.

Pre-retirement death benefits

Lump sum benefit:

Age requirement: None
Service requirement: None
Amount: (a) $400 per year of service to a maximum of $8,000 and with a minimum of $2,000.
(b) Refund of employee contribution

Spouses' benefit (applicable only if elected by employee):

Age requirement:	60	50	Legislators: None
	or		
Service requirement:	10 yrs.	20 yrs.	8 yrs.

Amount: Benefit employee would have received had he retired the day before he died and elected the joint and survivor option.

Occupational death benefit:

Age requirement: None
Service requirement: None
Amount: (a) 50% of salary to spouse or children under age 18, less workmen's compensation
(b) Refund of employee contributions.

Post-retirement death benefit

Lump sum benefit:

(a) 100% of employee contributions, less benefits paid.
(b) Pre-retirement death benefit, reduced 25% per year of retirement, but not less than $2,000.

Employee contribution rate:

Date	State Employees	Teachers	Legislators
Prior to 7/1/79	5%	6%	10%
7/1/79 - 6/30/82	5 1/2	6 1/2	5%
7/1/82 - 6/30/85	6	7	5%
7/1/85 and later	6 1/2	7 1/2	5%

Available options:

Joint and survivor with 50% or 100% continued to the beneficiary after the death of the employee.

Post-retirement cost-of-living increases:

3% of current amount, compounded, to pensioners and beneficiaries following the third anniversary of retirement.