

MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM
OF THE STATE OF RHODE ISLAND

ACTUARIAL VALUATION AS OF JUNE 30, 1978

Martin E. Segal Company, Inc.
May, 1979

MARTIN E. SEGAL COMPANY
INCORPORATED

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May 17, 1979

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Retirement Board of the Municipal
Employees' Retirement System
State of Rhode Island
198 Dyer Street
Providence, Rhode Island 02903

Dear Members of the Board:

We are pleased to submit herewith our Actuarial Valuation of the
Municipal Employees' Retirement System as of June 30, 1978.

Our report analyzes the actuarial status of the System, and projects
the cost requirements for the Board to certify to each municipality
for the fiscal year beginning July 1, 1980.

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, Senior 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:

- I. SUMMARY
- II. EMPLOYEE DATA
- III. RETIREE DATA
- IV. RETIREMENT FUND
- V. ACTUARIAL ASSUMPTIONS AND METHODS
- VI. RESULTS OF VALUATION

Following the report, we have attached 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 yours,

MARTIN E. SEGAL COMPANY, INCORPORATED

By *Sherman B. Lieberman*
 Sherman B. Lieberman, F.S.A., M.A.A.A.
 Actuary

By *Sherman G. Sass*
 Sherman G. Sass
 Senior Vice President

SBL/kmj

I. SUMMARY

Benefit Provisions

The Municipal Employees' Retirement System of Rhode Island covers employees of the many municipalities, housing authorities and water districts which have elected to participate. There is one plan for general employees and a second optional plan for police and firemen*. General employees contribute 6 per cent of their annual earnings; those police and firemen under the optional program contribute 7 per cent.

The System generally provides unreduced benefits of 2 per cent of earnings. Such benefits are available to members at least age 58 with 10 years of service or after 30 years at any age. Police and firemen may retire at age 55 if they have 10 years of service or after 25 years at any age. Benefits are based on the average of the highest 3 consecutive years' earnings.

The plan also provides non-service-connected disability and vested benefits after 7 and 10 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.

Employee Data

We received data on 3,847 active general employees and 281 police and firemen as of June 30, 1978, who were participating in the system. The average salary was \$8,900 for general employees and \$12,800 for police and firemen. On the average, the general employees were age 47 and had 8½ years of service; police and firemen were age 39½ with 9½ years of service.

*Throughout this report "general employees" means participants under the regular program and "police and firemen" means participants under the optional program.

Retiree Data

We received data on 1,008 pensioners and 18 beneficiaries as of June 30, 1978. The pensioners' average monthly benefit was \$204. Of all the pensioners on the rolls, ten per cent had retired in the year ended June 30, 1978.

Retirement Fund

As of June 30, 1978, the Fund had assets of \$48.4 million available as an offset to the actuarial liabilities for future benefits.

Actuarial Valuation

Our valuation was prepared as of June 30, 1978. Our calculations were based on what we believe are reasonable assumptions as to expected future experience. The assumptions are the same as those used in our previous actuarial valuation. We used the "entry age normal cost" method of funding, which spreads the cost of each employee's pension as a level percentage of his earnings from date of hire to retirement.

The employer normal cost* for general employees is \$1.5 million. This is 4.4 per cent of the payroll of participating general employees. The employer normal cost for police and firemen is \$0.3 million or 8.3 per cent of payroll.

For general employees, the actuarial liability* (for benefits earned before July 1, 1978) is \$62.4 million of which \$20.1 million represents the liability to those already receiving pensions. The unfunded actuarial liability at the end of the year is \$19.6 million after accounting for assets of \$42.8 million. For police and firemen,

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

the actuarial liability is \$8.2 million of which \$2.2 million is for those receiving pensions. The unfunded actuarial liability stands at \$2.6 million after accounting for police and fire assets of \$5.6 million.

The value of the System's vested benefits is \$69 million. Thus the assets are short of this amount by \$20 million.

Based on the normal cost plus 25 year amortization of each municipality's unfunded actuarial liability, the annual employer cost as of June 30, 1978 adjusted for payment on December 31, 1978 is \$3.7 million (10.9 per cent of covered payroll) for general employees and \$0.5 million (15.0 per cent of covered payroll) for police and firemen. These amounts are in addition to the required employee contributions.

II. EMPLOYEE DATA

We received data on 3,847 general employees and 281 police and firemen participating in the System on June 30, 1978. The data included age, service, sex, and salary for each of them. The average salary of the participants was \$8,900 for general employees and \$12,800 for police and firemen.

Tables 1A and 1B give detailed age, service and average salary data on general employees and police and firemen, respectively. In preparing these tables, we assumed an annual salary of \$8,000 for the employees for whom earnings were missing.

Tables 2A and 2B summarize certain basis statistics on active general employees and police and firemen. Table 2C gives active employee statistical data separately for each participating municipality. As we continue to receive data on an automated basis, we will be able to show year by year changes in this basic employee data.

Overall, the data was usable as received. We recommend that the Board continue to pursue its program of storing all basic information on participants on computer files.

Table 1A
Number and Average Salaries of Employees in Active Service
as of June 30, 1978
By Age and By Years of Service
GENERAL EMPLOYEES

Age	Total	Years of service											35 and over	Unknown
		0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 and over	Unknown				
Total	3,847 \$8,900	1,373 \$ 8,300	1,299 \$8,600	659 \$ 9,200	221 \$10,200	154 \$10,400	75 \$11,500	22 \$11,500	33 \$11,000	11 \$10,200	1 \$10,000	3 \$10,000	1 \$10,000	11 \$10,200
Under 20	8 \$7,900	7 \$ 7,600	--	--	--	--	--	--	--	--	--	--	--	--
20 - 24	169 7,500	152 7,500	17 8,200	--	--	--	--	--	--	--	--	--	--	--
25 - 29	333 8,800	199 8,600	121 9,100	10 9,200	--	--	--	--	--	--	--	--	--	3 9,600
30 - 34	277 9,400	140 8,700	95 10,100	39 10,600	2 11,900	--	--	--	--	--	--	--	--	1 8,300
35 - 39	282 9,100	142 8,100	89 9,600	34 10,400	14 11,600	--	--	--	--	--	--	--	--	3 13,400
40 - 44	387 8,900	143 8,300	153 8,500	55 10,200	18 10,600	14 10,900	3 \$13,000	--	--	--	--	--	--	1 3,000
45 - 49	520 8,500	175 7,800	183 7,700	109 9,500	28 11,000	17 11,900	6 11,700	--	--	--	--	--	--	2 11,000
50 - 54	675 8,800	190 8,400	234 8,100	141 8,600	47 10,700	30 10,800	21 12,700	8 \$12,200	4 \$13,400	--	--	--	--	--
55 - 59	654 9,000	151 8,600	215 8,500	155 8,700	52 9,700	42 10,200	21 11,100	5 14,100	13 10,200	--	--	--	--	--
60 - 64	404 9,200	58 8,700	142 9,000	91 8,800	40 9,200	37 10,400	19 10,400	6 9,000	11 11,800	--	--	--	--	--
65 and over	116 9,200	5 8,700	44 8,700	25 9,500	20 9,500	13 8,100	5 12,100	3 10,500	1 17,000	--	--	--	--	--
Unknown	22 9,100	11 10,200	6 9,100	--	--	1 4,600	--	--	4 7,600	--	--	--	--	--

Table 1B
 Number and Average Salaries of Employees in Active Service
 as of June 30, 1978
 By Age and By Years of Service
 POLICE AND FIREMEN

Age	Total	Years of service								
		0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 and over	Unknown
Total	281 \$12,800	71 \$11,100	108 \$12,500	54 \$13,500	19 \$14,000	18 \$16,400	8 \$15,700	1 \$11,400	-- --	2 \$11,300
20 - 24	14 \$11,900	11 \$11,800	3 \$12,300	--	--	--	--	--	--	--
25 - 29	48 11,700	29 11,300	18 12,500	--	--	--	--	--	--	1 \$12,400
30 - 34	53 12,400	11 11,600	31 12,400	11 \$13,200	--	--	--	--	--	--
35 - 39	53 13,000	4 10,500	26 12,800	19 13,700	4 \$12,900	--	--	--	--	--
40 - 44	33 13,600	1 8,200	12 12,600	12 12,900	5 15,000	3 \$19,500	--	--	--	--
45 - 49	22 14,100	1 8,000	5 12,500	4 13,900	5 14,000	7 16,300	--	--	--	--
50 - 54	33 14,100	4 13,700	10 12,800	6 13,600	4 13,900	3 17,600	6 \$15,500	--	--	--
55 - 59	10 13,000	1 8,900	2 11,100	1 11,400	--	4 14,400	1 18,300	1 \$11,400	--	--
60 - 64	7 12,200	2 7,500	1 9,600	1 19,700	1 14,400	1 12,300	1 14,300	--	--	--
65 & over	6 9,800	6 9,800	--	--	--	--	--	--	--	--
Unknown	2 10,700	1 11,400	--	--	--	--	--	--	--	1 10,100

RHODE ISLAND MUNICIPAL ERS

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Number of covered employees	June 30, 1978	3,847
Total annual salary		\$34,108,000
Average annual salary		8,900
Average age		47
Average years of service		8½
Number eligible for service retirement		413
Number vested but not eligible to retire		751

Table 2A
 Statistical Data on Active Employees
 On June 30, 1978
 GENERAL EMPLOYEES

Table 2B

Statistical Data on Active Employees
On June 30, 1978

POLICE AND FIREMEN

	June 30, 1978
Number of covered employees	281
Total annual salary	\$3,593,800
Average annual salary	\$ 12,800
Average age	39½
Average years of service	9½
Number eligible for service retirement	20
Number vested but not eligible to retire	80

RHODE ISLAND MUNICIPAL ERS

Table 2C
Statistical Data on Active Employees on June 30, 1978
by Municipality

Municipality	Number	Average age	Average service	Average salary
<u>General Employees</u>				
01 Barrington	167	47½	8½	\$ 8,400
02 Bristol	112	48	12	9,300
03 Bristolville	87	49	8½	7,200
07 Cranston	572	48	9½	8,400
09 E. Greenwich	114	47	7½	7,100
10 E. Providence	271	48½	11	11,000
14 ^A Hopkinton	24	46	5	7,000
15 Jamestown	32	47	10	9,000
16 Johnston	175	49	8½	8,000
21 Newport	268	44½	10½	9,700
23 N. Kingstown	149	45½	7½	9,900
24 N. Providence	140	47½	8½	7,500
25 N. Smithfield	70	50½	7½	7,400
26 Pawtucket	741	45½	8	9,200
30 Scituate	54	50	9½	7,100
31 Smithfield	105	49	6	7,700
32 S. Kingstown	151	42½	5	8,500
33 ^A Tiverton	83	46½	8	9,100
35 Warron	70	47½	8	7,600
36 Westerly	8	49½	15½	14,900
39 Woonsocket	360	48	9½	8,900
51 Cranston Housing	11	51½	8	9,800
52 E. Providence Housing	11	53½	7½	10,900
53 Pawtucket Housing	36	51	9	12,800
56 Cumberland Housing	5	44½	5½	11,000
57 Lincoln Housing	7	44	7½	10,300
59 Bristol Housing	4	44½	5	10,900
65 Bristolville Housing	2	57½	7½	9,100
66 N. Providence Housing	2	55½	5½	11,800
67 E. Smithfield Water	3	51	7½	10,100
68 Greenville Water	2	40	5½	8,200
71 Warron Housing	2	52½	4	8,200
72 Johnston Housing	3	55	10	10,100
79 Coventry Housing	5	51	5	7,400
80 S. Kingstown Housing	1	57½	½	10,300
<u>Police and Fire</u>				
50 E. Greenwich Fire	11	48	11	17,000
54 E. Greenwich Police	19	40	10	12,400
55 N. Kingstown P & F	84	40	8½	13,700
58 N. Providence P & F	13	44	6½	11,000
60 Barrington P & F	57	39	12½	12,800
62 Warron Police	18	38½	9	11,700
64 S. Kingstown P & F	33	35	8½	13,000
64 ^A Providence Volunteer Fire	6	43½	3	7,900
73 Scituate Police	13	34½	9	11,900
76 So. Smithfield Police	12	36	10½	11,200
77 Tiverton Fire	15	43½	9	11,700

III. RETIREE DATA

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

The following are significant statistics on the retired group:

Pensioners:	
Number	1,008
Average age	69
Average monthly benefit	\$204
Beneficiaries:	
Number	18
Average age	61½
Average monthly benefit	\$244

Table 3 gives distributions of the 102 pensions awarded in the current year by type of pension and amount. Table 4 does the same for age at retirement.

Table 5 gives distributions for all pensions in force at the end of the fiscal year by type and amount. Table 6 does the same by age.

Table 7 has statistical data on pensioners and beneficiaries by municipality.

The data on retirees was reasonably good for retired employees. However, it was inadequate to be certain that beneficiaries were classified correctly.

The data on terminated employees with vested rights was not adequate to calculate a cost for them.

We recommend that this information be maintained by this system so that it can be incorporated in the next review.

Table 3
Pensions Awarded in the Year Ended June 30, 1978
By Type and By Monthly Amount

Monthly amount	Total	Type of pension		
		Service	Ordinary Disability	Accidental Disability
Total	102	92	3	5
Under \$50	2	2	--	--
\$ 50 - \$ 99	13	12	--	1
100 - 149	23	23	--	--
150 - 199	16	16	--	--
200 - 249	7	5	1	--
250 - 299	6	5	1	--
300 - 349	10	10	--	--
350 - 399	4	3	1	--
400 - 449	1	1	--	--
450 - 499	4	3	--	1
500 - 599	5	3	--	2
600 - 699	3	2	--	1
700 - 799	3	3	--	--
800 - 899	3	2	--	1
900 - 999	1	1	--	--
1,000 - 1,099	1	1	--	--
				2

Table 4

Pensions Awarded in the Year Ended June 30, 1978
By Type and By Age on Effective Date

Age on Effective Date	Total	Type of pension			
		Service	Ordinary Disability	Accidental Disability	Beneficiary
Total	102	92	3	5	2
25 - 29	1	--	--	1	--
30 - 34	--	--	--	--	--
35 - 39	4	--	--	--	--
40 - 44	2	--	--	1	1
45 - 49	1	--	1	--	--
52	2	--	--	2	--
53	1	1	--	--	--
54	1	--	--	1	--
55	18	1	1	--	--
56	1	--	1	--	--
58	10	10	--	--	--
59	2	2	--	--	--
60	7	7	--	--	--
61	8	8	--	--	--
62	55	25	--	--	--
63	8	7	--	--	1
64	7	7	--	--	--
65	12	12	--	--	--
66	7	7	--	--	--
67	25	2	--	--	--
68	2	2	--	--	--
70	1	1	--	--	--
72	1	1	--	--	--

RHODE ISLAND MUNICIPAL ERS

Table 5

Pensions in Force on June 30, 1978
By Type and By Monthly Amount

Monthly Amount	Total	Type of pension			
		Service	Ordinary Disability	Accidental Disability	Beneficiary
Total	1,026	915	63	30	18
Under \$50	61	54	5	1	1
\$ 50 - \$ 99	189	178	10	1	--
100 - 149	228	208	17	1	2
150 - 199	172	154	16	1	1
200 - 249	111	93	9	1	8
250 - 299	59	56	2	--	1
300 - 349	62	50	2	7	3
350 - 399	33	26	1	6	--
400 - 449	26	22	--	3	1
450 - 499	30	25	1	3	1
500 - 599	25	21	--	4	--
600 - 699	13	12	--	1	--
700 - 799	7	7	--	--	--
800 - 899	5	4	--	1	--
900 - 999	3	3	--	--	--
1,000 - 1,099	2	2	--	--	--

RHODE ISLAND MUNICIPAL ERS

Table 6

Pensions in Force on June 30, 1978
By Type and By Age

Age on June 30, 1977	Total	Type of pension			
		Service	Ordinary Disability	Accidental Disability	Beneficiary
Total	1,026	915	63	30	18
25 - 29	1	--	--	1	--
30 - 34	2	--	1	1	--
35 - 39	4	--	2	1	1
40 - 44	6	--	2	3	1
45 - 49	16	3	9	3	1
50 - 54	16	4	3	5	4
55 - 59	39	25	10	3	1
60 - 64	175	152	16	5	2
65 - 69	297	282	11	3	1
70 - 74	240	227	6	4	3
75 - 79	159	152	2	1	4
80 - 84	53	52	1	--	--
85 - 89	15	15	--	--	--
90 - 94	3	3	--	--	--

RHODE ISLAND MUNICIPAL ERS

Table 7
Pensioner and Beneficiary Statistical Data as of June 30, 1978
by Municipality

Municipality	Number	Average Age	Average Monthly Benefit
<u>General Employees</u>			
01 Barrington	47	66	\$233
02 Bristol	21	71	166
03 Burrillville	3	59½	121
07 Cranston	175	70½	173
09 E. Greenwich	10	63½	258
10 E. Providence	106	68	218
14* Hopkinton	6	73	217
15 Jamestown	7	72	124
16 Johnston	10	67	176
21 Newport	82	67½	271
23 N. Kingstown	34	69½	154
24 N. Providence	36	68½	166
25 N. Smithfield	13	71	101
26 Pawtucket	212	70	189
30 Scituate	21	71½	217
31 Smithfield	21	66	223
32 S. Kingstown	24	68	165
33* Tiverton	16	71½	165
34 Warren	20	69	198
36 Westerly	4	64½	505
39 Woonsocket	101	69	174
51 Cranston Housing	--	--	--
52 E. Providence Housing	1	67	185
53 Pawtucket Housing	9	71	189
56 Cumberland Housing	--	--	--
57 Lincoln Housing	--	--	--
59 Bristol Housing	--	--	--
65 Burrillville Housing	--	--	--
66 N. Providence Housing	--	--	--
67 E. Smithfield Water	1	63	206
68 Greenville Water	1	59	261
71 Warren Housing	--	--	--
72 Johnston Housing	--	--	--
79 Coventry Housing	--	--	--
80 S. Kingston Housing	--	--	--
<u>Police and Fire</u>			
50 E. Greenwich Fire	--	--	--
54 E. Greenwich Police	6	63	280
55 N. Kingstown P & F	13	61½	438
58 N. Providence P & F	5	57	336
60 Barrington P & F	9	56	465
62 Warren Police	6	57	456
63 S. Kingstown P & F	4	57½	363
64 Primrose Volunteer Fire	--	--	--
73 Scituate Police	--	--	--
76 N. Smithfield Police	--	--	--
77 Tiverton Fire	2	67	565

*1 2/3% Plan"

RHODE ISLAND MUNICIPAL ERS

IV. RETIREMENT FUND

The State maintains the Municipal Employees' Retirement Fund. The Retirement Board provided us with financial statements as of June 30, 1978.

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 out of 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 8 gives a summary of income and expenditures for the year ended June 30, 1978.

At June 30, 1978, assets totalled \$48.4 million. Table 9 gives a breakdown of the assets. About 73 per cent of the fund was invested in fixed income securities such as bonds and notes.

The financial statements indicate that 88 per cent of the assets relate to general employees, and 12 per cent are for police and firemen. There is also a small unallocated reserve for unclaimed benefits. Table 10 shows the allocation of assets in detail.

Table 8

Summary Statement of Income and Expenses
For Year Ended June 30, 1978

Employer contributions	\$4,464,316	
Member contributions	<u>2,289,678</u>	
Total contributions	\$6,753,994	
Less: Administration expenses	<u>33</u>	
Net contribution income		\$6,753,961
Net miscellaneous items		329
Investment income:		
Dividends	\$ 633,828	
Interest	2,380,524	
Sale of Options	42,859	
Capital gains and losses	<u>13,670</u>	
Net investment income		<u>3,070,881</u>
Total income available for benefit payments		\$9,825,171
Benefit payments:		
Pension benefits	\$2,540,152	
Death benefits	98,200	
Contribution refunds	<u>725,802</u>	
Total benefit payments		<u>3,364,154</u>
Excess of income over expenses		<u>\$6,461,017</u>

RHODE ISLAND MUNICIPAL ERS

Table 9
Assets as of June 30, 1978

Cash		\$	313,407
Accrued interest receivable			619,237
Investments	\$ 9,924,500		
Government bonds	18,747,200		
Corporate bonds	13,651,609		
Common and preferred stocks	4,650,000		
Certificates of deposit	2,000,000		
Commercial Paper			
(Less) Unamortized premiums and discounts	<u>(279,880)</u>		<u>48,693,429</u>
Total assets			\$49,626,073
Refund payable on account of withdrawal of Police from North Providence, Burrillville, and Tiverton			<u>1,181,882</u>
Net assets			<u>\$48,444,191</u>

RHODE ISLAND MUNICIPAL ERS

Table 10
Allocation of Assets by Plan
as of June 30, 1978

General Employees:*			
Retirement reserves	\$29,488,354		
Employer reserves	2,287,682		
Member reserves	<u>11,038,292</u>		
Total General Employees reserves			\$42,814,328
Police and Fire:**			
Retirement reserves	\$ 3,667,358		
Employer reserves	422,870		
Member reserves	<u>1,537,180</u>		
Total Police and Fire reserves			5,627,408
Unallocated:			
Unclaimed benefit reserve			<u>2,454</u>
Net assets			<u>\$48,444,191</u>

Note: Detail figures may not add to totals due to rounding.

*Adjusted for withdrawal of Police from Burrillville and Tiverton.

**Adjusted for withdrawal of Police from North Providence.

RHODE ISLAND MUNICIPAL ERS

V. ACTUARIAL ASSUMPTIONS AND METHODS

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 obligations. The result is an employer contribution which anticipates future costs. 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 our previous actuarial valuation.

Mortality Rates

We assumed that mortality rates would conform with the 1971 Group Annuity Mortality Table. This is a recently published table of pension plan mortality, and we believe it will be a reasonable basis for experience under the System. It is one of the tables in general use in valuing pension plans in the United States. Table 11 gives some life expectancies after retirement.

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 costs were calculated as a level dollar amount for an individual, the cost might be a high per cent of his pay when he was young and a lower per cent of his higher salary at a later age. By 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 salary schedules. The salary scale factors are:

<u>Age</u>	<u>Present Salary as a % of Age 65 Salary</u>	<u>Annual Increases (Rate %)</u>
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 municipal 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 except retirement would be as follows:

Age	Death*	General Employees (Rate %)		Total*
		Disability	Withdrawal	
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.

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

NOTE: Detail figures may not add to totals shown due to rounding.

Age	Death*	Optional Police and Fire (Rate %)		Total*
		Disability	Withdrawal	
20	.05	.12	--	.17
25	.06	.17	--	.23
30	.08	.22	--	.30
35	.11	.29	--	.41
40	.16	.44	--	.60
45	.29	.72	--	1.01
50	.53	--	--	.53
55	.85	--	--	.85

50% 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 due to rounding.

Retirement Ages

The System provides unreduced benefits as early as age 58 for general employees and 55 for police and firemen. Long service employees may get unreduced or reduced benefits at even younger ages. In the absence of experience data, we have assumed general employees will retire at age 65, or completion of 10 years of service if later. Police and firemen retirements are assumed to occur when the officer is both age 60 and has 10 years of service. In any case where the employee already meets these assumed conditions of age and service, it is projected that he or she will retire immediately.

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 substantial reserve which is earning an investment yield), a yield of 6 per cent - in contrast to a 5 per cent yield - will reduce 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 10 and 20 years from now.

We selected 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.

Funding Method

We have used the "entry age normal cost method of funding." 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 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, gains or losses will develop, with appropriate decreases or increases in future costs.

Missing Data

It was also necessary to make certain "non-actuarial" 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 service were assumed to have the same service distribution as male members age 37 with known service).

Table 11
Expected Number of Years of Life
Remaining at Specified Ages

Age	Male	Female
55	22.7	28.0
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	18.0	22.6
62	17.3	21.8
63	16.5	20.9
64	15.8	20.1
65	15.1	19.2
66	14.4	18.4
67	13.8	17.6
68	13.1	16.8
69	12.5	16.0
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.

VI. RESULTS OF VALUATION

General Employees

The costs for general employees as of June 30, 1978, developed as follows:

<u>Item</u>	<u>Amount</u>	<u>% of Payroll</u>
(1) Participating payroll	\$34,108,000	--
(2) Employer normal cost	1,506,200	4.4%
(3) Unfunded actuarial liability	19,627,000	--
(4) Amortization of unfunded actuarial liability	2,107,900	6.2
(5) Total annual cost if paid July 1, 1978 = (2) + (4)	3,614,100	10.6
(6) Total annual cost if paid in December = (5) plus ½ year interest	3,731,600	10.9

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

Police and Firemen

The costs for police and firemen as of June 30, 1978, developed as follows:

<u>Item</u>	<u>Amount</u>	<u>% of Payroll</u>
(1) Participating payroll	\$3,593,800	--
(2) Employer normal cost	298,200	8.3%
(3) Unfunded actuarial liability	2,611,000	--
(4) Amortization of unfunded actuarial liability	225,100	6.3
(5) Total annual cost if paid July 1, 1978 = (2) + (4)	523,300	14.6
(6) Total annual cost if paid in December + (5) plus ½ year interest	540,300	15.0

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

Comments on Results

The costs reported above are for the System as a whole. The principal cost factors for each municipality, calculated on current data and the new actuarial assumptions, are shown in Table 12. (The total of the unfunded actuarial liabilities on Table 12 exceeds the total shown above because some municipalities have assets in excess of their actuarial liabilities -- that is, they are "overfunded." Table 12 shows zero balances for these municipalities, but for the System as a whole the overfunding of these municipalities reduces the unfunded actuarial liability.)

The amortization shown on line 4 is the total of the amortization requirements for the individual municipalities over a period of 25 years from the date the municipality joined the System. The earliest membership date is 1957; those original groups have four years remaining on their amortization program. Other groups have more years left. On a dollar-weighted basis, the remaining amortization period is about 13 years for general employees and 20 years for police and firemen. That is, the total amortization payment reported above would pay off the total unfunded actuarial liability over that period of time.

Looking at the total cost figures compared to the previous year, it can be seen that for general employees, costs dropped by 1.5 per cent of payroll (from 12.1 per cent to 10.6 per cent). Although the normal cost percentage did not decline substantially (from 4.6 per cent to 4.4 per cent), there was a marked decrease in the amortization payment when

expressed as a per cent of payroll (from 7.5 per cent to 6.2 per cent). There are two primary reasons for this change: First, since the amortization payments are calculated as level dollar payments, they will tend to decrease as a percentage of a rising payroll from year to year. Second, the dollar-weighted aggregate amortization period increased by three years as a result of changes in liabilities affecting municipalities on longer amortization schedules differently than those on shorter schedules, as well as the addition of new groups and the withdrawal of participating groups.

For police and firemen costs dropped by 1.3 per cent of payroll (from 15.9 per cent to 14.6 per cent). There was no change in the normal cost percentage and the amortization payment as a per cent of payroll declined by 1.3 per cent (from 7.6 per cent to 6.3 per cent). The same primary reasons for this change as indicated above apply to the police and fire group. The dollar-weighted aggregate amortization period also increased by three years for this group.

Table 13 shows the recommended rates for each participating municipality. These rates are to be effective for the year beginning July 1, 1980. The total rates are broken down into normal cost and past service amortization components. For comparison, the 1979 and 1978 recommended total rates are also shown. In addition, the recommended remaining amortization periods for each municipality are presented. The four new entering groups (Coventry Housing, South Kingstown Housing, North Smithfield Police, and Tiverton Fire) were placed on a 25-year amortization schedule beginning on their date of entry (July 1, 1977).

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 pension expense charge, 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 System is not covered by this Opinion, a brief discussion of this subject may be helpful.

The "value of vested benefits" represents the single premium 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, vested former employees, and 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, since that is all such employees would receive if they had no further employment.

For the Municipal Employees' Retirement System, the value of vested benefits is as follows:

	<u>General Employees</u>	<u>Police and Firemen</u>
Active members	\$42,350,800	\$4,062,000
Retired members	<u>20,090,800</u>	<u>2,223,200</u>
Total value of vested benefits	\$62,441,600	\$6,285,200
Assets	<u>42,814,300</u>	<u>5,627,400</u>
Unfunded value of vested benefits	<u>\$19,627,300</u>	<u>\$ 657,800</u>

Table 12 includes the unfunded vested benefits for each municipality.

Overall Status of System

Although the costs for some municipalities differ substantially from those reported last year, annual valuations will tend to minimize the magnitude of experience fluctuations from year to year. We recommended the continuation of this practice and look forward to working with the Retirement Board in this effort.

Table 12
Actuarial Cost Factors as of June 30, 1978
by Municipality

Municipality	Year Joined	Employer Normal Cost	Unfunded Actuarial Liability	Unfunded Vested Benefits
<u>General Employees</u>				
	1957	\$ 64,600	\$ 954,600	\$1,000,700
01 Barrington	1957	44,500	238,800	351,400
02 Bristol	1968	32,300	374,900	391,100
03 Burrillville	1963	217,300	2,910,900	3,203,600
07 Cranston	1957	38,400	55,600	34,200
09 E. Greenwich	1961	121,000	1,698,300	1,633,600
10 E. Providence	1969	6,400	81,800	58,800
14* Hopkinton	1964	12,600	77,800	45,400
15 Jamestown	1968	73,600	287,500	--
16 Johnston	1966	84,600	2,578,900	2,901,100
21 Newport	1957	64,000	82,200	--
23 N. Kingstown	1961	50,400	669,700	692,700
24 N. Providence	1964	30,800	19,500	--
25 N. Smithfield	1962	285,100	5,793,000	5,875,100
26 Pawtucket	1967	19,200	455,200	406,800
30 Scituate	1959	45,800	368,900	387,700
31 Smithfield	1957	60,300	--	--
32 S. Kingstown	1964	23,300	507,000	501,800
33* Tiverton	1957	26,300	227,000	174,300
34 Warren	1976	3,200	446,900	491,000
36 Westerly	1962	146,400	1,741,700	1,845,300
39 Woonsocket	1968	5,800	--	--
51 Cranston Housing	1968	9,000	50,900	32,200
52 E. Providence Housing	1968	22,000	104,700	64,300
53 Pawtucket Housing	1969	2,400	1,600	--
56 Cumberland Housing	1969	3,100	14,200	--
57 Lincoln Housing	1970	2,100	--	--
59 Bristol Housing	1972	1,500	7,900	9,000
65 Burrillville Housing	1973	1,900	3,000	--
66 N. Providence Housing	1973	1,600	37,800	59,400
67 E. Smithfield Water	1973	600	28,700	26,900
68 Greenville Water	1975	900	--	--
71 Warren Housing	1976	2,100	46,200	35,900
72 Johnston Housing	1977	2,400	28,400	19,500
79 Coventry Housing	1977	700	--	--
80 S. Kingstown Housing	1977	700	--	--
<u>Police and Fire</u>				
50 E. Greenwich Fire	1967	20,300	144,900	46,900
54 E. Greenwich Police	1968	20,000	232,400	84,000
55 N. Kingstown P & F	1968	92,600	725,600	120,200
58 N. Providence P & F	1968	16,400	201,900	123,300
60 Barrington P & F	1970	56,400	543,600	92,600
62 Warren Police	1970	16,800	344,900	249,700
63 S. Kingstown P & F	1971	31,400	237,000	--
64 Primrose Volunteer Fire	1972	5,100	--	--
73 Scituate Police	1976	11,800	7,300	--
76 N. Smithfield Police	1977	10,100	43,800	--
77 Tiverton Fire	1977	17,300	151,500	75,000

*"1 2/3% Plan"

RHODE ISLAND MUNICIPAL ERS

Table 13
Rhode Island Municipal Employees Retirement System
Recommended Contribution Rates

Municipality	YEAR BEGINNING JULY 1, 1980				TOTAL RATE YEAR BEGINNING JULY 1,	
	Normal Cost	Past Service	Total Rate	Amortization Period	1979	1978
<u>General Employees</u>						
01 Barrington	4.75%	8.07%	12.82%	12	12.28%	12.10%
02 Bristol	4.40	6.48	10.88	4	9.55	12.80
03 Burrillville	5.32	6.17	11.49	15	5.80	10.42
07 Cranston	4.65	7.16	11.81	12	12.10	12.11
09 E. Greenwich	4.93	1.94	6.87	4	11.28	12.30
10 E. Providence	4.17	9.04	13.21	8	11.55	12.71
14* Hopkinton	3.91	4.86	8.77	16	9.37	16.80
15 Jamestown	4.52	3.40	7.92	11	7.07	13.03
16 Johnston	5.45	2.13	7.58	15	7.93	11.99
21 Newport	3.36	7.99	11.35	24	11.42	11.48
23 N. Kingstown	4.47	1.57	6.04	4	8.32	10.10
24 N. Providence	4.99	5.18	10.17	24	9.89	9.68
25 N. Smithfield	6.12	.49	6.61	11	6.20	13.06
26 Pawtucket	4.34	6.91	11.25	24	10.87	10.85
30 Scituate	5.14	12.17	17.31	15	17.54	17.48
31 Smithfield	5.82	6.62	12.44	9	9.62	9.70
32 S. Kingstown	4.83	--	4.83	4	4.97	9.40
33* Tiverton	3.19	8.49	11.68	11	3.13	12.96
34 Warren	5.07	6.76	11.83	8	13.10	13.10
36 Westerly	2.78	30.36	33.14	24	29.34	24.60
39 Woonsocket	4.74	7.94	12.68	9	12.84	12.89
51 Cranston Housing	5.58	--	5.58	15	5.71	9.94
52 E. Providence Housing	7.74	4.43	12.17	15	8.55	9.52
53 Pawtucket Housing	4.94	2.36	7.30	15	8.13	20.78
56 Cumberland Housing	4.49	.40	4.89	16	3.82	6.59
57 Lincoln Housing	4.43	1.94	6.37	16	6.06	7.51
59 Bristol Housing	5.03	--	5.03	17	5.38	9.70
65 Burrillville Housing	8.47	3.55	12.02	24	12.14	8.80
66 N. Providence Housing	8.35	1.01	9.36	24	8.05	6.00
67 E. Smithfield Water	5.45	10.06	15.51	24	24.34	18.80
68 Greenville Water	3.80	13.99	17.79	24	15.19	9.60
71 Warren Housing	5.49	--	5.49	22	5.49	14.10
72 Johnston Housing	7.13	12.28	19.41	24	19.44	12.50
79 Coventry Housing	6.73	6.04	12.77	24	--	--
80 So. Kingstown Housing	6.80	--	6.80	24	--	--
<u>Police and Fire</u>						
50 E. Greenwich Fire	11.20	6.22	17.42	24	17.61	14.00
54 E. Greenwich Police	8.76	7.94	16.70	24	18.13	14.00
55 N. Kingstown P&F	8.33	5.57	13.90	20	13.97	14.00
58 N. Providence P&F	11.81	14.01	25.82	16	13.93	14.00
60 Barrington P&F	7.98	6.03	14.01	24	15.71	14.00
62 Warren Police	8.25	13.24	21.49	24	15.20	14.00
63 S. Kingstown P&F	7.56	6.97	14.53	11	13.95	14.00
64 Primrose Volunteer Fire	11.23	--	11.23	19	10.70	14.00
73 Scituate Police	7.90	.40	8.30	23	7.83	14.00
76 No. Smithfield Police	7.75	2.58	10.33	24	--	--
77 Tiverton Fire	10.15	6.95	17.10	24	--	--

*"1 2/3% Plan"

RHODE ISLAND MUNICIPAL ERS

MARTIN E. SEGAL COMPANY
INCORPORATED

607 BOYLSTON STREET - BOSTON, MASS. 02116 - (617) 262-0550

May 16, 1979

ATLANTA
CHICAGO
CLEVELAND
DALLAS
DENVER
HARTFORD
HOUSTON
LOS ANGELES
NEW ORLEANS
NEW YORK
PHOENIX
SAN FRANCISCO
WASHINGTON D.C.
TORONTO

MUNICIPAL 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, 1978.

The certificate contains the following attached exhibits:

EXHIBIT I - Actuarial Cost for Year Beginning July 1, 1978

A. General employees

B. Police and firemen

EXHIBIT II - Actuarial Assumptions and Funding 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

By: *Sherman B. Lieberman*
Sherman B. Lieberman, F.S.A., M.A.A.A.
Actuary

EXHIBIT I

ACTUARIAL COST FOR YEAR BEGINNING JULY 1, 1978

A. GENERAL EMPLOYEES

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

- a. 3,847 active participants (including 1,164 fully vested) with total annual salaries of \$34,108,000
- b. 981 pensioners (including 7 beneficiaries of deceased pensioners and active employees)

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

1. Total normal cost	\$ 3,552,500
2. Projected employee contributions	2,046,300
3. Employer normal cost	1,506,200
4. Actuarial liability - total	62,441,300
Active employees	\$42,350,500
Pensioners (including beneficiaries of deceased pensioners and active employees)	20,090,800
5. Assets	42,814,300
6. Unfunded actuarial liability	19,627,000

Liability for accrued vested benefits: \$62,441,600.

Note: Included are 33 active employees unknown as to age, service, or both. Status of beneficiaries was unclear. No data was provided on terminated vested employees, if any.

EXHIBIT I
 ACTUARIAL COST FOR YEAR BEGINNING JULY 1, 1978
 B. POLICE AND FIREMEN

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

- a. 281 active participants (including 100 fully vested) with total annual salaries of \$3,593,800
- b. 45 pensioners (including 11 beneficiaries of deceased pensioners and active employees)

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

1. Total normal cost	\$ 549,700
2. Projected employee contributions	251,500
3. Employer normal cost	298,200
4. Actuarial liability - total	8,238,400
Active employees	\$6,015,200
Pensioners (including beneficiaries of deceased pensioners and active employees)	2,223,200
5. Assets	5,627,400
6. Unfunded actuarial liability	2,611,000

Liability for accrued vested benefits: \$6,285,200

Note: Included are 3 active employees unknown as to age, service, or both. Status of beneficiaries was unclear. No data was provided on terminated vested employees, if any.

EXHIBIT II
 ACTUARIAL ASSUMPTIONS AND FUNDING METHOD

Mortality rates -- 1971 Group Annuity Mortality Table

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

Termination rates before retirement:

<u>General Employees (Rate %)</u>				
<u>Age</u>	<u>Death*</u>	<u>Disability</u>	<u>Withdrawal</u>	<u>Total*</u>
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.

<u>Optional Police and Fire (Rate %)</u>				
<u>Age</u>	<u>Death*</u>	<u>Disability</u>	<u>Withdrawal</u>	<u>Total*</u>
20	.05	.12	--	.17
25	.06	.17	--	.23
30	.08	.22	--	.30
35	.11	.29	--	.41
40	.16	.44	--	.60
45	.29	.72	--	1.01
50	.53	--	--	.53
55	.85	--	--	.85

50% 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 due to rounding.

Salary scale:

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

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 \$8,000.

Retirement age -- General Employees: 65, or completion of service requirement if later. Optional Police and Fire: 60, or completion of service requirement if later.

Percent married -- Social Security awards during 1972

Net investment return -- 6½%

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

Funding method -- Entry age normal cost

EXHIBIT III

SUMMARY OF PLAN PROVISIONS

Service pension

	General Employees		Police and Firemen	
Age requirement	58	None	55	None
	or		or	
Service requirement:	10 yrs.	30 yrs.	10 yrs.	25 yrs.

Amount: 2%* of final average salary per year of service to a maximum of 75%. Final average salary is defined as the average of compensation earned during the highest 3 consecutive years prior to termination. Retirement is mandatory at age 70. For police and firemen, mandatory retirement is at age 65.

Early retirement (police and firemen only)

Age requirement: 50

Service requirement: 20 years

Amount: Regular pension accrued, reduced by 6% for each year of age less than 55.

Disability

Non-occupational:

Age requirement: None

Service requirement: 7 years

Amount: 1 2/3 % of final average salary at disability per year of service (but not less than 25%), payable immediately.

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 58

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 contributions.

*1 2/3% for Hopkinton and Tiverton

Spouse's benefit (applicable only if elected by employee):

Age requirement: 60 or 55
Service requirement: 10 yrs. or 20 yrs.

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

Police and firemen's survivor's benefit:

Age requirement: None
Service requirement: None
Amount: 30% of final average salary to the spouse plus 10% to each child under age 18

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. Police and fire also receive 10% for each child under 18 to a maximum of 66 2/3%.
(b) Refund of employee contributions.

Post-retirement death benefits

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.

Police and firemen's survivors benefit:

Same as pre-retirement

Employee contribution rate:

6% for general employees, 7% for police and firemen, until 75% benefit is accrued.

Available options:

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

Financial Statements

Comparative Financial Balance Sheet

June 30

	<u>1978</u>		<u>1977</u>
<u>Assets</u>			
Cash	\$ 313,397	\$	422,751
Cash	10		10
Cash	619,237		559,717
Accrued Interest Receivable			
Investments (At Amortized Book Value for Bonds and Cost of Stocks)	<u>48,693,429</u>		<u>42,182,578</u>
Total Assets	\$ <u>49,626,073</u>	\$	<u>43,165,056</u>
<u>Liabilities & Reserves</u>			
<u>Current Liabilities</u>			
Unclaimed Benefits	\$ 2,454	\$	4,262
<u>Reserves-General Employees</u>			
Members Contribution	11,183,636		10,112,540
Employers Accumulation	2,550,362		2,565,595
Retirement	<u>29,551,369</u>		<u>25,664,025</u>
Total Reserves-General Employees	43,285,367		38,342,160
<u>Reserves-Police & Fire</u>			
Members Contribution	1,741,089		1,545,350
Employers Accumulation	791,188		407,749
Retirement	<u>3,805,975</u>		<u>2,865,535</u>
Total Reserves-Police and Fire	6,338,252		4,818,634
Total Liabilities & Reserves	\$ <u>49,626,073</u>	\$	<u>43,165,056</u>

Analysis of Revenue & Expenditures
Fiscal Year Ended - June 30, 1978

<u>REVENUES</u>	General Employees Amount	%	Police & Fire Amount	%	Total
Members Contributions	\$2,024,355	23.31	\$ 265,323	22.69	\$2,289,678
Employers Contributions	3,924,346	45.19	539,969	46.19	4,464,315
Investment Earnings	2,707,383	31.18	363,466	31.09	3,070,849
Other	<u>28,024</u>	<u>00.32</u>	<u>384</u>	<u>00.03</u>	<u>28,408</u>
Total Revenues	\$8,684,108	100.00	\$1,169,142	100.00	\$9,853,250
<u>EXPENDITURES</u>					
Monthly Pensions	\$2,212,556	25.48	164,692	14.09	2,377,248
Survivor Benefits			32,115	02.75	32,115
Death Retirement Allowances	219,789	02.53	9,200	00.78	228,989
Refunds of Contributions	413,370	04.76	312,432	26.72	725,802
Other	<u>28,079</u>	<u>00.32</u>	<u>-0-</u>		<u>28,079</u>
Total Expenditures	\$2,873,794	33.09	\$ 518,439	44.34	\$3,392,233
Excess Revenues over Expenditures to Reserves	\$5,810,314	66.91	\$ 650,703	55.66	\$6,461,017

Distribution of Excess Revenue

<u>UNCLAIMED BENEFITS</u>	\$ - 1,807
<u>GENERAL EMPLOYEES</u>	
Members Contribution Reserve	1,071,096
Employees Accumulated Reserve	- 15,234
Retirement Reserve	3,887,345
<u>POLICE & FIRE</u>	
Member Contribution Reserve	195,738
Employers Accumulated Reserve	383,439
Retirement Reserve	<u>940,440</u>
Total Distribution	<u>\$6,461,017</u>

Analysis of Investment Income
Fiscal Year Ended - June 30, 1978

Investment Income - Interest		\$ 2,330,231	
Add:			
Accrued Interest June 30, 1978	\$ 619,237		
Accrued Interest July 1, 1977	<u>559,717</u>		
	59,520		
	<u>29,448</u>		
Discounts Amortized			<u>88,968</u>
<u>Total Additions</u>			\$ 2,419,199
Total			
Less:			
Accrued Interest Purchased	\$ 33,933		
Premiums Amortized	<u>4,742</u>		
			<u>38,675</u>
<u>Total Deductions</u>			\$ 2,380,524
Net Interest Earned			
Dividends	\$ 633,828		
Sale of Options - Net	<u>42,859</u>		
			<u>676,687</u>
Total Earned on Investments			\$ 3,057,211
Capital Gain			<u>13,670</u>
Total Investment Income			<u><u>\$ 3,070,881</u></u>

MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM
OF THE STATE OF RHODE ISLAND

Reserve Accounts - Allocation of Fund Balances
June 30, 1978

<u>General Employees</u>	<u>Code</u>	<u>Members Reserves</u>	<u>Employers Reserves</u>	<u>Retirement Reserves</u>
Barrington	01	474,306.22	- 268,334.70	1,843,022.17
Bristol	02	372,516.02	599,635.89	708,122.27
Burrillville	03	232,446.89	275,172.38	196,962.42
Cranston	07	1,760,510.83	604,561.32	4,317,124.73
East Greenwich	09	249,576.83	353,592.12	632,422.47
East Providence	10	1,125,225.03	121,131.80	3,846,013.02
Hopkinton	14	36,652.32	10,685.47	84,692.09
Jamestown	15	95,917.76	141,875.09	163,823.38
Johnston	16	404,524.80	690,787.93	522,342.46
Newport	21	924,769.70	- 535,116.75	3,182,598.12
North Kingstown	23	523,491.26	473,524.80	1,168,376.71
North Providence	24	329,953.06	32,735.23	839,357.80
North Smithfield	25	167,816.78	226,938.02	337,676.86
Pawtucket	26	2,034,830.11	-1,419,597.17	5,383,819.34
Scituate	30	122,517.51	- 34,906.42	366,795.84
Smithfield	31	223,046.45	89,800.01	684,496.62
South Kingstown	32	299,957.01	334,304.68	948,744.74
Tiverton	33	240,016.75	201,735.14	357,858.52
Warren	34	194,434.46	147,148.54	494,922.77
Westerly	36	12,882.88	- 196,198.90	237,762.10
Woonsocket	39	1,062,381.64	188,295.96	2,815,456.89
Cranston Housing Authority	51	38,752.53	80,564.63	35,326.88
East Prov. Housing Authority	52	35,986.67	50,509.53	49,194.15
Pawtucket Housing Authority	53	143,880.50	327,088.98	235,480.24
Cumberland Housing Authority	56	14,394.15	13,798.94	7,699.63
Lincoln Housing Authority	57	24,692.94	21,658.62	11,782.64
Bristol Housing Authority	59	9,063.52	21,546.96	10,385.23
Burrillville Housing Authority	65	5,590.85	7,638.19	2,598.83
No. Prov., Housing Authority	66	6,784.44	7,877.82	2,542.70
E. Smithfield Water Dist.	67	4,755.35	- 8,942.27	26,042.48
Greenville Water District	68	3,334.72	- 27,439.51	36,004.88
Warren Housing Authority	71	2,900.99	6,842.60	990.80
Johnston Housing Authority	72	3,306.55	7,135.00	684.25
Coventry Housing Authority	79	2,080.64	3,116.00	184.25
So. Kingstown Housing Authority	80	<u>337.84</u>	<u>1,196.00</u>	<u>61.42</u>
Total		11,183,636.00	2,550,361.93	29,551,369.70
<u>Police & Fire</u>				
East Greenwich Fire District	50	74,056.86	137,613.95	60,482.94
East Greenwich Police Dept.	54	117,473.69	1,673.98	254,431.76
No. Kingstown Police Dept.	55	450,004.80	188,702.45	1,082,568.27
No. Prov. Police & Fire Dept.	58	253,034.63	167,443.88	454,021.03
Barrington Police	60	412,461.59	79,028.44	955,532.16
Smithfield Police & Fire	61	-	-	-
Warren Police Dept.	62	89,365.44	- 209,659.79	462,456.84
So. Kingstown Police & Fire	63	162,543.86	131,291.76	305,368.84
Primrose Volunteer Fire	64	15,390.67	29,142.62	9,665.14
Scituate Police	73	49,704.19	127,137.98	31,110.93
North Smithfield Police	76	58,347.06	115,472.71	29,721.51
Tiverton Fire Dept.	77	<u>58,705.81</u>	<u>23,339.68</u>	<u>160,615.29</u>
Police & Fire Total		1,741,088.60	791,187.66	3,805,974.71

MUNICIPAL EMPLOYEES' RETIREMENTS
Average Balance - Distribution of Earnings
Fiscal Year Ended - June 30, 1978

		Total all Reserves	Average	%	Distribution of Earnings
<u>General Employees</u>	<u>Code</u>				
Barrington	01	3,931,794.00	1,965,897.00	04.392	134,871.67
Bristol	02	2,999,268.85	1,499,634.43	03.351	102,904.14
Burrillville	03	1,207,895.19	603,947.59	01.349	41,425.75
Cranston	07	12,073,495.81	6,036,747.91	13.488	414,196.06
East Greenwich	09	2,223,088.13	1,111,544.06	02.484	76,279.88
East Providence	10	9,302,101.33	4,651,050.67	10.392	319,122.59
Hopkinton	14	233,048.46	116,524.23	00.260	7,984.21
Jamestown	15	715,904.26	357,952.13	00.800	24,566.79
Johnston	16	2,839,532.68	1,419,766.34	03.172	97,407.32
Newport	21	6,534,239.84	3,267,119.92	07.300	224,171.95
North Kingstown	23	3,968,181.25	1,984,090.62	04.433	136,130.72
North Providence	24	2,172,390.82	1,086,195.41	02.426	74,498.79
North Smithfield	25	1,465,630.36	732,815.18	01.637	50,269.79
Pawtucket	26	10,897,256.66	5,448,628.33	12.174	373,845.11
Scituate	30	821,665.66	410,832.83	00.918	28,190.39
Smithfield	31	1,917,815.17	958,907.59	02.143	65,808.29
South Kingstown	32	2,889,657.67	1,444,828.83	03.228	99,126.99
Tiverton	33	1,625,632.29	812,816.15	01.816	55,766.61
Warren	34	1,561,965.99	780,982.99	01.745	53,586.31
Westerly	36	92,216.45	46,108.23	00.103	3,162.97
Woonsocket	39	7,308,174.51	3,654,087.25	08.164	250,704.08
Cranston Housing Authority	51	272,483.92	136,241.96	00.304	9,335.38
E.Prov., Housing Authority	52	238,476.97	119,238.49	00.266	8,168.46
Pawtucket Housing Authority	53	1,240,218.67	620,109.33	01.386	42,561.96
Cumberland Housing Auth.	56	62,145.74	31,072.87	00.069	2,118.89
Lincoln Housing Authority	57	99,599.78	49,799.89	00.111	3,408.64
Bristol Housing Authority	59	70,224.90	35,112.45	00.079	2,425.97
Burrillville Housing Auth.	65	27,105.45	13,552.73	00.030	921.25
No. Prov., Housing Auth.	66	28,857.97	14,428.98	00.032	982.67
E. Smithfield Water Dist.	67	38,331.81	19,165.91	00.043	1,320.46
Greenville Water District	68	22,537.34	11,268.67	00.025	767.71
Warren Housing Authority	71	16,869.56	8,434.78	00.019	583.46
Johnston Housing Authority	72	15,606.95	7,803.47	00.017	522.04
Coventry Housing Authority	79	5,196.64	2,598.32	00.006	184.25
So. King., Housing Auth.	80	1,533.84	766.92	00.002	61.42
Total		78,920,144.92	39,460,072.46	88.164	2,707,382.97
<u>Police & Fire</u>					
East Greenwich Fire Dept.	50	476,164.67	238,082.34	00.532	16,336.91
East Greenwich Police Dept.	54	660,485.75	330,242.87	00.738	22,662.86
No. Kingstown Police Dept.	55	2,990,125.95	1,495,062.98	03.340	102,566.34
No. Prov., Police & Fire	58	1,505,759.89	752,879.94	01.682	51,651.67
Barrington Police Dept.	60	2,448,385.45	1,224,192.73	02.735	83,987.71
Warren Police Department	62	592,021.12	296,010.56	00.661	20,298.31
So. Kingstown Police & Fire	63	1,035,529.75	517,764.87	01.157	35,529.72
Primrose Volunteer Fire	64	94,559.48	47,279.74	00.106	3,255.10
Scituate Police Department	73	360,553.08	180,276.54	00.403	12,375.52
N. Smithfield Police Dept.	76	196,785.41	98,392.71	00.220	6,755.87
Tiverton Fire Department	77	234,615.16	117,307.58	00.262	8,045.62
Total		10,594,985.71	5,297,492.86	11.836	363,465.63
Grand Total		89,515,130.63	44,757,565.32	100.000	3,070,848.60

Investments