

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF RHODE ISLAND
Annual Report

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William P. Robinson, Designee of <i>Director of Administration</i> William Ross, Designee of <i>Director of Budget</i>		

MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM
OF THE STATE OF RHODE ISLAND

ACTUARIAL VALUATION AS OF JUNE 30, 1977

MetLife E. Segal Company, Inc.
April 11, 1978

Joseph C. Empeoli, Executive Director

MARTIN E. SEGAL COMPANY
INCORPORATED

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

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April 12, 1978

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, 1977.

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, 1979.

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:

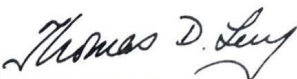
- I. SUMMARY
- II. EMPLOYEE DATA
- III. RETIREE DATA
- IV. RETIREMENT FUND
- V. ACTUARIAL ASSUMPTIONS AND METHODS
- VI. RESULTS OF VALUATION

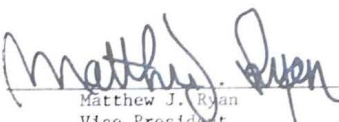
Following the report, we have attached our actuarial certificate detailing the cost factors, assumptions, and plan of benefits used for the valuation.

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

Sincerely yours,

MARTIN E. SEGAL COMPANY, INCORPORATED

By 
 Thomas D. Levy, F.S.A., M.A.A.A.
 Senior Vice President and Actuary

By 
 Matthew J. Ryan
 Vice President

TDL/kmj

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 3,907 active general employees and 296 police and firemen as of June 30, 1977, who were participating in the system. The average salary was \$8,400 for general employees and \$12,000 for police and firemen. On the average, the general employees were age 46½ and had 8 years of service; police and firemen were age 38 with 9 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 960 pensioners and 17 beneficiaries as of June 30, 1977. The pensioners' average monthly benefit was \$194. Of all the pensioners on the rolls, ten per cent had retired in the year ended June 30, 1977.

Retirement Fund

As of June 30, 1977, the Fund had assets of \$43 million available as an offset to the actuarial liabilities for future benefits.

Actuarial Valuation

Our valuation was prepared as of June 30, 1977. Our calculations were based on what we believe are reasonable assumptions as to expected future experience. The assumptions are completely revised compared to those used by the prior actuary in his 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 4.6 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, 1977) is \$56 million of which \$18 million represents the liability to those already receiving pensions. The unfunded actuarial liability at the end of the year is \$18 million after accounting for assets of \$38 million. For police and firemen, the actuarial liability is \$7.5 million of which \$1.6 million is for those receiving pensions. The unfunded actuarial liability stands at \$2.9 million after accounting for police and fire assets of \$4.6 million.

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

The value of the System's vested benefits is \$61 million. Thus the assets are short of this amount by \$18 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, 1977 is \$4.0 million (12.5 per cent of covered payroll) for general employees and \$0.6 million (16.4 per cent of covered payroll) for police and firemen. These amounts are in addition to the required employee contributions. We will be reviewing the results and making recommendations for changes in the System's funding policy shortly.

II. EMPLOYEE DATA

We received data on 3,907 general employees and 296 police and firemen participating in the System on June 30, 1977. The data included age, service, sex, and salary for each of them. The average salary of the participants was \$8,400 for general employees and \$12,000 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 basic 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, 1977
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	3,907 \$8,400	1,550 \$7,800	1,304 \$ 8,200	556 \$9,000	210 \$ 9,500	150 \$10,200	70 \$10,400	16 \$11,600	23 \$11,700	28 \$ 8,000	1 \$ 9,600	---	---	---	---
Under 20	13 \$6,800	12 \$6,600	---	---	---	---	---	---	---	---	---	---	---	---	---
20 - 24	216 7,200	198 7,200	18 \$ 7,800	---	---	---	---	---	---	---	---	---	---	---	---
25 - 29	333 8,500	203 8,300	120 8,800	6 \$9,300	---	---	---	---	---	---	---	---	---	---	4 9,200
30 - 34	267 9,000	153 8,200	83 10,100	28 9,700	3 \$ 9,800	---	---	---	---	---	---	---	---	---	---
35 - 39	271 8,300	136 7,300	81 8,800	39 10,500	11 9,700	---	---	---	---	---	---	---	---	---	4 11,600
40 - 44	428 8,200	188 7,500	157 7,900	47 9,900	18 10,800	14 \$11,200	3 \$11,000	---	---	---	---	---	---	---	1 3,000
45 - 49	557 8,000	205 7,500	201 7,300	94 8,900	29 10,800	15 10,700	6 11,300	4 \$11,800	---	---	---	---	---	---	3 5,600
50 - 54	672 8,300	221 7,700	249 7,900	104 8,400	42 10,100	28 11,100	19 11,200	3 10,300	4 \$14,900	2 9,800	---	---	---	---	2 9,800
55 - 59	659 8,600	167 8,500	218 7,900	139 8,700	51 9,000	47 9,900	20 10,400	3 13,300	11 10,200	3 6,200	---	---	---	---	3 9,000
60 - 64	387 8,800	53 8,100	142 8,600	82 8,900	41 8,200	38 9,900	17 8,900	5 11,500	7 12,600	2 9,000	---	---	---	---	2 9,000
65 and over	77 8,800	3 6,700	29 8,400	17 10,000	15 8,000	7 8,500	5 10,800	1 9,800	---	---	---	---	---	---	---
Unknown	27 8,200	11 8,900	6 9,000	---	---	1 4,300	---	---	1 8,300	8 6,900	---	---	---	---	---

Table 1B
 Number and Average Salaries of Employees in Active Service
 as of June 30, 1977
 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	296 \$12,000	96 \$10,500	97 \$11,800	49 \$12,900	25 \$13,200	17 \$15,400	6 \$14,900	2 \$20,200	1 \$18,200	3 \$ 8,700
Under 20	1 \$ 9,200	1 \$ 9,200	--	--	--	--	--	--	--	--
20 - 24	20 10,200	19 10,200	1 \$11,000	--	--	--	--	--	--	--
25 - 29	51 10,800	32 10,400	18 11,500	--	--	--	--	--	--	1 \$11,800
30 - 34	73 11,500	25 10,600	34 11,600	13 \$12,900	1 \$12,200	--	--	--	--	--
35 - 39	46 12,200	4 11,400	23 11,900	13 12,500	6 12,700	--	--	--	--	--
40 - 44	27 13,700	2 13,700	7 11,800	8 12,900	6 14,200	4 \$17,900	--	--	--	--
45 - 49	27 12,800	5 13,000	5 12,600	7 12,700	4 13,000	5 14,000	--	--	--	1 6,500
50 - 54	34 13,200	4 11,100	6 13,000	7 12,900	5 12,100	6 15,100	4 \$15,100	1 \$18,100	--	1 7,800
55 - 59	10 11,300	4 7,500	2 11,700	--	2 14,900	1 17,100	1 12,800	--	--	--
60 - 64	7 15,600	--	1 8,700	1 18,900	1 13,200	1 11,600	1 16,300	1 22,300	1 \$18,200	--

RHODE ISLAND MUNICIPAL ERS

Table 2A
 Statistical Data on Active Employees
 on June 30, 1977
 GENERAL EMPLOYEES

Number of covered employees	3,907
Total annual salary	\$32,644,300
Average annual salary	\$ 8,400
Average age	46½
Average years of service	8
Number eligible for service retirement	363
Number vested but not eligible to retire	662

RHODE ISLAND MUNICIPAL ERS

Table 2C

Statistical Data on Active Employees on June 30, 1977
by Municipality

Municipality	Number	Average age	Average service	Average salary
<u>General Employees</u>				
01 Barrington	163	47½	8	\$ 7,900
02 Bristol	107	48½	9	8,800
03 Burrillville	97	46	5½	7,200
07 Cranston	594	48	8	7,900
09 E. Greenwich	122	46½	7	7,700
10 E. Providence	273	47½	10	10,600
14* Hopkinton	24	46	4½	6,800
15 Jamestown	29	47½	10	8,800
16 Johnston	179	48	8	7,300
21 Newport	257	44½	11	9,400
23 N. Kingstown	162	45	7	9,200
24 N. Providence	195	45	7	6,900
25 N. Smithfield	64	51	7½	7,100
26 Pawtucket	745	44½	7	8,600
30 Scituate	55	49½	8½	6,000
31 Smithfield	92	49½	6½	7,800
32 S. Kingstown	148	43	5½	8,100
33* Tiverton	80	46	8	8,200
34 Warren	70	48	8	7,600
36 Westerly	9	48½	13	14,400
39 Woonsocket	356	48	8½	8,200
51 Cranston Housing	11	50½	7	9,500
52 E. Providence Housing	11	52½	6½	10,300
53 Pawtucket Housing	35	49½	8½	12,100
56 Cumberland Housing	3	43	8	11,300
57 Lincoln Housing	7	43	6½	9,700
59 Bristol Housing	4	43½	4	9,700
65 Burrillville Housing	2	56½	6½	8,700
66 N. Providence Housing	4	45	2½	9,600
67 E. Smithfield Water	2	52	9½	9,400
68 Greenville Water	2	32	5	7,900
71 Warren Housing	2	51½	3	8,200
72 Johnston Housing	3	54	9	9,600
<u>Police and Fire</u>				
50 E. Greenwich Fire	10	48	11	16,000
54 E. Greenwich Police	20	39	9	13,100
55 N. Kingstown P & F	82	36½	8½	12,700
58 N. Providence P & F	53	38½	7½	11,000
60 Barrington P & F	65	39½	12	11,800
62 Warren Police	18	37½	8	11,800
63 S. Kingstown P & F	31	34½	8	11,900
64 Primrose Volunteer Fire	4	44	4½	8,200
73 Scituate Police	13	33½	8	9,600

*1 2/3% Plan"

RHODE ISLAND MUNICIPAL ERS

Table 2B

Statistical Data on Active Employees
on June 30, 1977

POLICE AND FIREMEN

	June 30, 1977
Number of covered employees	296
Total annual salary	\$3,553,400
Average annual salary	\$ 12,000
Average age	38
Average years of service	9
Number eligible for service retirement	21
Number vested but not eligible to retire	79

RHODE ISLAND MUNICIPAL ERS

111. 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:

Pensioners:
 Number 960
 Average age 69½
 Average monthly benefit \$194

Beneficiaries:
 Number 17
 Average age 63
 Average monthly benefit \$225

Table 3 gives distributions of the 95 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 benefits had been correctly 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, 1977
 By Type and by Monthly Amount

Type of pension	Monthly Amount		Total
	Number	Amount	
Total	1	\$ 50 - \$ 99	1
	3	100 - 149	3
	25	150 - 199	25
	11	200 - 249	11
	8	250 - 299	8
	5	300 - 349	5
	4	350 - 399	4
	4	400 - 449	4
	3	450 - 499	3
	4	500 - 599	4
4	600 - 699	4	
1	700 - 799	1	
1	800 - 899	1	
1	900 - 1,099	1	
Accidental Death	1	\$ 50 - \$ 99	1
	3	100 - 149	3
	17	150 - 199	17
	6	200 - 249	6
	3	250 - 299	3
	5	300 - 349	5
	4	350 - 399	4
	4	400 - 449	4
	3	450 - 499	3
	4	500 - 599	4
Sickness Benefit	1	\$ 50 - \$ 99	1
	3	100 - 149	3
	25	150 - 199	25
	11	200 - 249	11
	8	250 - 299	8
	5	300 - 349	5
	4	350 - 399	4
	4	400 - 449	4
	3	450 - 499	3
	4	500 - 599	4
Service	1	\$ 50 - \$ 99	1
	3	100 - 149	3
	25	150 - 199	25
	11	200 - 249	11
	8	250 - 299	8
	5	300 - 349	5
	4	350 - 399	4
	4	400 - 449	4
	3	450 - 499	3
	4	500 - 599	4
Accidental Death	1	\$ 50 - \$ 99	1
	3	100 - 149	3
	17	150 - 199	17
	6	200 - 249	6
	3	250 - 299	3
	5	300 - 349	5
	4	350 - 399	4
	4	400 - 449	4
	3	450 - 499	3
	4	500 - 599	4
Total	95		95
	94		94
	9		9
	17		17
	6		6
	3		3
	5		5
	4		4
	4		4
	3		3

Table 4

Pensions Awarded in the Year Ended June 30, 1977
By Type and by Age on Effective Date

Age on Effective Date	Total	Type of pension		
		Service	Ordinary Disability	Accidental Disability
Total	95	84	10	1
30 - 34	2	--	2	--
35 - 39	1	--	1	--
40 - 44	1	1	--	--
45 - 49	2	--	1	1
52	2	1	1	--
53	3	1	1	--
55	4	4	--	--
56	2	--	2	--
58	14	6	--	--
59	2	2	--	--
60	1	1	--	--
61	9	9	--	--
62	39	14	1	--
63	9	9	--	--
64	6	5	1	--
65	12	12	--	--
66	2	2	--	--
67	30	1	--	--
68	9	9	--	--
69	6	6	--	--
70 and over	3	3	--	--

RHODE ISLAND MUNICIPAL ERS

Table 5

Pensions in Force on June 30, 1977
By Type and by Monthly Amount

Monthly Amount	Total	Type of pension			
		Service	Ordinary Disability	Accidental Disability	Beneficiary
Total	977	872	63	25	17
Under \$50	62	56	5	--	1
\$ 50 - \$ 99	193	183	10	--	--
100 - 149	217	194	19	1	3
150 - 199	160	141	17	1	1
200 - 249	108	92	8	1	7
250 - 299	57	55	1	--	1
300 - 349	55	42	3	7	3
350 - 399	30	24	--	6	--
400 - 449	27	23	--	3	1
450 - 499	29	25	--	4	--
500 - 599	20	18	--	2	--
600 - 699	10	10	--	--	--
700 - 799	4	4	--	--	--
800 - 899	2	2	--	--	--
900 - 999	2	2	--	--	--
1,000 - 1,099	1	1	--	--	--

RHODE ISLAND MUNICIPAL ERS

Table 6

Pensions in Force on June 30, 1977
By Type and by Age

Age on June 30, 1977	Total	Type of pension			Beneficiary
		Service	Ordinary Disability	Accidental Disability	
Total	977	872	63	25	17
30 - 34	3	--	2	1	--
35 - 39	4	--	1	2	1
40 - 44	6	1	4	1	--
45 - 49	13	2	6	3	2
50 - 54	13	3	4	3	3
55 - 59	44	26	13	4	1
60 - 64	154	133	15	4	2
65 - 69	294	282	9	2	1
70 - 74	236	222	6	4	4
75 - 79	143	136	3	1	3
80 - 84	53	53	--	--	--
85 - 89	13	13	--	--	--
90 - 94	1	1	--	--	--

RHODE ISLAND MUNICIPAL ERS

Table 7
Pensioner and Beneficiary Statistical Data as of June 30, 1977
by Municipality

Municipality	Number	Average Age	Average Monthly Benefit
<u>General Employees</u>			
01 Barrington	45	66	\$230
02 Bristol	20	71	166
03 Burrillville	3	59	121
07 Cranston	167	70½	173
09 E. Greenwich	8	64	234
10 E. Providence	96	69	207
14* Hopkinton	6	72½	217
15 Jamestown	6	74	113
16 Johnston	9	67	183
21 Newport	74	66	248
23 N. Kingstown	35	70	154
24 N. Providence	35	69	144
25 N. Smithfield	12	72½	129
26 Pawtucket	221	70½	183
30 Scituate	20	71½	220
31 Smithfield	14	69	186
32 S. Kingstown	21	68	167
33* Tiverton	14	72	160
34 Warren	20	68½	202
36 Westerly	4	64	505
39 Woonsocket	92	69½	168
51 Cranston Housing	--	--	--
52 E. Providence Housing	1	66	185
53 Pawtucket Housing	9	70½	189
56 Cumberland Housing	--	--	--
57 Lincoln Housing	--	--	--
59 Bristol Housing	--	--	--
65 Burrillville Housing	--	--	--
66 N. Providence Housing	--	--	--
67 E. Smithfield Water	3	74½	114
68 Greenville Water	1	58	261
71 Warren Housing	--	--	--
72 Johnston Housing	--	--	--
<u>Police and Fire</u>			
50 E. Greenwich Fire	--	--	--
54 E. Greenwich Police	6	62½	314
55 N. Kingstown P & F	11	61½	337
58 N. Providence P & F	5	56½	336
60 Barrington P & F	8	55	390
62 Warren Police	4	60	377
63 S. Kingstown P & F	4	57	325
64 Primrose Volunteer Fire	--	--	--
73 Scituate Police	--	--	--

*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, 1977.

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, 1977.

At June 30, 1977, assets totalled just under \$43 million. Table 9 gives a breakdown of the assets. About 71 per cent of the fund was invested in fixed income securities such as bonds and notes.

The financial statements indicate that 89 per cent of the assets relate to general employees, and 11 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, 1977

Employer contributions	\$4,365,012	
Member contributions	<u>2,255,440</u>	
Total contributions	\$6,620,453	
Less: Administration expenses	<u>8</u>	
Net contribution income		\$6,620,445
Net miscellaneous items		447
Investment income:		
Dividends	\$ 629,193	
Interest	1,970,403	
Capital gains and losses	<u>103,992</u>	
Net investment income		<u>2,703,588</u>
Total income available for benefit payments		\$9,324,480
Benefit payments:		
Pension benefits	\$2,268,565	
Death benefits	88,800	
Contribution refunds	<u>510,236</u>	
Total benefit payments		<u>2,867,601</u>
Excess of income over expenses		<u>\$6,456,879</u>

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

RHODE ISLAND MUNICIPAL ERS

Table 9
Assets as of June 30, 1977

Cash		\$ 422,761
Accrued interest receivable		559,717
Investments		
Government bonds	\$ 7,680,183	
Corporate bonds	18,437,200	
Common and preferred stocks	11,864,785	
Certificates of deposit	2,500,000	
Repurchase agreements	2,000,000	
(Less) Unamortized premiums and discounts	<u>(299,590)</u>	<u>42,182,578</u>
Total assets		\$43,165,056
Refund payable on account of withdrawal of Smithfield Police and Fire		<u>198,433</u>
Net assets		<u>\$42,966,623</u>

RHODE ISLAND MUNICIPAL ERS

Table 10
Allocation of Assets by Plan
as of June 30, 1977

General Employees:		
Retirement reserves	\$25,664,025	
Employer reserves	2,565,595	
Member reserves	<u>10,112,540</u>	
Total General Employees reserves		\$38,342,160
Police and Fire:*		
Retirement reserves	\$ 2,730,619	
Employer reserves	442,409	
Member reserves	<u>1,447,172</u>	
Total Police and Fire reserves		4,620,200
Unallocated:		
Unclaimed benefit reserve		<u>4,262</u>
Net assets		<u>\$42,966,623</u>

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

*Adjusted for withdrawal of Smithfield Police and Fire.

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 obligation. 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.

It should be noted that our assumptions have been completely revised from those used by the prior actuary as of June 30, 1976. The most important change is the explicit reflection of continuing inflation at a 3 per cent annual rate. Also important are changes in the withdrawal and retirement age assumptions for police and firemen.

Mortality Rates

We assumed that mortality rates would conform with the 1971 Group Annuity Mortality Table. This is the most recent 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 underestimate 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 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. As no termination data was available, we are using rates which are similar to those used by the prior actuary for general employees. However, we are assuming no voluntary withdrawals for police and firemen, in accordance with our experience with other public retirement systems. The effect of this change is to increase the number of officers who are expected to remain until retirement, thus increasing the actuarial cost.

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

<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.

*Rates shown are for men; rates for women are slightly lower.
NOTE: Detail figures may not add to totals shown due to rounding.

Optional Police and Fire (Rate %)

<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.

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. For general employees, this assumption is similar to that used by the prior actuary. However, we have reduced the assumed retirement age for police and firemen significantly. This is in accordance with our experience with other public safety pension plans, and increases plan costs.

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. The prior actuary assumed a 5 per cent investment return; the change reduces plan costs.

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).

VI. RESULTS OF VALUATION

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.

General Employees

The costs for general employees as of June 30, 1977, developed as follows:

<u>Item</u>	<u>Amount</u>	<u>% of Payroll</u>
(1) Participating payroll	\$31,644,300	--
(2) Employer normal cost	1,453,500	4.6%
(3) Unfunded actuarial liability	17,828,900	--
(4) Amortization of unfunded actuarial liability	2,377,400	7.5
(5) Total annual cost if paid July 1, 1977 = (2) + (4)	3,830,900	12.1
(6) Total annual cost if paid in December = (5) plus ½ year interest	3,955,700	12.5

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, 1977, developed as follows:

<u>Item</u>	<u>Amount</u>	<u>% of Payroll</u>
(1) Participating payroll	\$3,553,400	--
(2) Employer normal cost	293,200	8.3%
(3) Unfunded actuarial liability	2,873,900	--
(4) Amortization of unfunded actuarial liability	270,300	7.6
(5) Total annual cost if paid July 1, 1977 = (2) + (4)	563,500	15.9
(6) Total annual cost if paid in December = (5) plus ½ year interest	581,700	16.4

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 five years remaining on their amortization program. Other groups have more years left. On a dollar-weighted basis, the remaining amortization period is about 10 years for general employees and 17 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.

The cost factors based on this valuation are substantially different from those reflected in the rates currently being contributed by the various participating municipalities. There are three major reasons for this: First, many groups are contributing based on rates which were determined as long as ten years ago. In many cases, the characteristics

of the covered employees and pensioners are materially different from the group as constituted when the rates were set. Second, the "optional police and fire" program has a uniform contribution rate, although (see Table 2C) the age, service, and salary data differs significantly from group to group. Third, the actuarial assumptions have been changed. The assumed investment return has been increased, which lowers all cost factors significantly. The voluntary termination rates have been eliminated and the assumed retirement age lowered significantly for police and firemen, both of which increase costs substantially for that plan. And other assumptions have had changes which have a lesser impact.

Because of these differences, we believe a review of the funding policy is appropriate. We will be studying this matter and expect to report our recommendations to the Board in the near future, for expected implementation as of July 1, 1979. In the meantime, we suggest that the current rates be continued unchanged for the year beginning July 1, 1978.

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

Table 12
Actuarial Cost Factors as of June 30, 1977
by Municipality

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:

	General Employees	Police and Firemen
Active members	\$37,130,500	\$4,081,600
Retired members	18,431,100	1,604,400
Total value of vested benefits	\$55,561,600	\$5,686,000
Assets	38,342,100	4,620,300
Unfunded value of vested benefits	\$17,219,500	\$1,065,700

Table 12 includes the unfunded vested benefits for each municipality.

Overall Status of System

The costs reported here differ substantially from those reported by the prior actuary. To a large extent, this reflects changes in actuarial assumptions. We believe that the quality of the data is better than has been available in the past, and this may also affect the results.

Municipality	Year Joined	Employer Normal Cost	Unfunded Actuarial Liability	Unfunded Vested Benefits
<u>General Employees</u>				
01 Barrington	1957	\$ 60,500	\$ 666,800	\$ 655,400
02 Bristol	1957	41,700	200,500	197,600
03 Burrillville	1968	34,300	52,500	--
07 Cranston	1963	217,600	3,025,100	3,137,900
09 E. Greenwich	1957	45,000	238,700	244,100
10 E. Providence	1961	116,800	1,456,600	1,472,100
14* Hopkinton	1969	6,300	90,800	65,800
15 Jamestown	1964	11,100	54,600	65,100
16 Johnston	1968	69,200	322,900	60,000
21 Newport	1966	77,700	2,477,600	2,968,700
23 N. Kingstown	1957	65,000	167,500	--
24 N. Providence	1961	62,000	827,700	861,700
25 N. Smithfield	1964	27,100	--	--
26 Pawtucket	1962	266,500	5,253,200	5,219,200
30 Scituate	1967	17,100	404,000	347,400
31 Smithfield	1959	39,600	120,500	197,400
32 S. Kingstown	1957	57,400	--	--
33* Tiverton	1964	20,200	--	--
34 Warren	1957	26,500	255,300	131,700
36 Westerly	1976	3,900	426,900	441,500
39 Woonsocket	1962	139,300	1,727,900	1,592,500
51 Cranston Housing	1968	5,800	--	--
52 E. Providence Housing	1968	8,500	9,500	35,800
53 Pawtucket Housing	1968	20,700	131,500	128,900
56 Cumberland Housing	1969	1,200	1,600	--
57 Lincoln Housing	1969	2,800	12,600	--
59 Bristol Housing	1970	2,000	--	--
65 Burrillville Housing	1972	1,400	7,300	--
66 N. Providence Housing	1973	2,500	5,900	--
67 E. Smithfield Water	1973	1,000	45,500	61,500
68 Greenville Water	1973	100	28,000	27,300
71 Warren Housing	1975	900	--	--
72 Johnston Housing	1976	2,000	44,000	34,400
<u>Police and Fire</u>				
50 E. Greenwich Fire	1967	17,400	128,400	41,000
54 E. Greenwich Police	1968	22,700	319,700	164,100
55 N. Kingstown P & F	1968	83,600	763,600	239,400
58 N. Providence P & F	1968	52,100	327,700	62,500
60 Barrington P & F	1970	60,300	912,400	495,900
62 Warren Police	1970	17,100	217,600	128,100
63 S. Kingstown P & F	1971	27,100	230,700	30,600
64 Primrose Volunteer Fire	1972	3,400	--	--
73 Scituate Police	1976	9,500	--	--

*"1 2/3% Plan"

MARTIN E. SEGAL COMPANY
INCORPORATED

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April 12, 1978

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, 1977.

The certificate contains the following attached exhibits:

EXHIBIT I - Actuarial Cost for Year Beginning July 1, 1977

- 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

Thomas D. Levy

By: Thomas D. Levy, F.S.A., M.A.A.A.
Senior Vice President and Actuary

EXHIBIT I

ACTUARIAL COST FOR YEAR BEGINNING JULY 1, 1977

A. GENERAL EMPLOYEES

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

- a. 3,907 active participants (including 1,025 fully vested) with total annual salaries of \$32,644,300
- b. 939 pensioners (including 8 beneficiaries of deceased pensioners and active employees)

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

1. Total normal cost	\$ 3,412,200
2. Projected employee contributions	1,958,700
3. Employer normal cost	1,453,500
4. Actuarial liability - total	56,171,000
Active employees	\$37,739,900
Pensioners (including beneficiaries of deceased pensioners and active employees)	18,431,100
5. Assets	38,342,100
6. Unfunded actuarial liability	17,828,900

Liability for accrued vested benefits: \$55,561,600.

Note: Included are 47 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, 1977

B. POLICE AND FIREMEN

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

- a. 296 active participants (including 100 fully vested) with total annual salaries of \$3,553,400
- b. 38 pensioners (including 9 beneficiaries of deceased pensioners and active employees)

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

1. Total normal cost	\$ 541,900
2. Projected employee contributions	248,700
3. Employer normal cost	293,200
4. Actuarial liability - total	7,494,200
Active employees	\$5,889,800
Pensioners (including beneficiaries of deceased pensioners and active employees)	1,604,400
5. Assets	4,620,300
6. Unfunded actuarial liability	2,873,900

Liability for accrued vested benefits: \$5,686,000.

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.

Optional Police and Fire (Rate %)

<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 %)
		4.84
20	17.45	4.75
25	22.07	4.59
30	27.76	4.39
35	34.62	4.08
40	42.68	3.72
45	51.76	3.45
50	61.77	3.33
55	72.98	3.16
60	86.08	

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 -- 6 1/2%

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

	<u>General Employees</u>		<u>Police and Firemen</u>	
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.

Part 4. RECOMMENDED RATES OF CONTRIBUTION
 FOR PARTICIPATING MUNICIPALITIES
 JUNE 30, 1977

Code	City or Town	Year of Member-ship	Rate of Pension Credit	Per cent of Payroll Employer's Contributions		
				Normal Cost	Accrued Liability	Total
<u>General Employees</u>						
1	Barrington	1957	2%	10.70%	1.40%	12.10%
2	Bristol	1957	2	11.50	1.30	12.80
3	Burrillville	1968	2	10.42	--	10.42
7	Cranston	1963	2	8.59	3.52	12.11
9	East Greenwich	1957	2	10.80	1.50	12.30
10	East Providence	1961	2	10.70	2.01	12.71
14	Hopkinton	1969	1-2/3	8.60	8.20	16.80
15	Jamestown	1964	2	9.26	2.55	11.81
16	Johnston	1968	2	8.16	3.83	11.99
21	Newport	1966	2	8.81	6.78	15.59
23	North Kingstown	1957	2	8.90	1.20	10.10
24	North Providence	1961	2	7.81	1.87	9.68
25	North Smithfield	1964	2	8.65	2.52	11.17
26	Pawtucket	1962	2	6.59	4.26	10.85
30	Scituate	1967	2	8.93	8.55	17.48
31	Smithfield	1959	2	8.70	1.00	9.70
32	South Kingstown	1957	2	9.00	0.40	9.40
33	Tiverton	1964	1-2/3	7.42	3.47	10.89
34	Warren	1957	2	9.90	3.20	13.10
36	Westerly	1976	2	11.20	13.40	24.60
39	Woonsocket	1962	1-2/3	7.02	3.71	10.73
<u>Housing Authorities</u>						
51	Cranston	1968	2%	8.42%	1.52%	9.94%
52	East Providence	1968	2	8.11	1.41	9.52
53	Pawtucket	1968	2	10.68	10.10	20.78
56	Cumberland	1969	1-2/3	4.20	1.10	5.30
57	Lincoln	1969	1-2/3	4.70	1.20	5.90
59	Bristol	1970	2	8.40	1.30	9.70
65	Burrillville	1972	2	6.30	2.50	8.80
66	North Providence	1973	2	5.80	0.20	6.00
71	Warren	1975	2	12.10	2.00	14.10
72	Johnston	1976	2	8.30	4.20	12.50
<u>Water Districts</u>						
67	East Smithfield	1973	2	12.20	6.60	18.80
68	Greenville	1973	2	4.50	5.10	9.60

<u>Code</u>	<u>City or Town</u>	<u>Year of Membership</u>	<u>Rate of Pension Credit</u>	<u>Total Employer's Contributions</u>
<u>Police and Fire</u>				
50	East Greenwich Fire District	1967	2%	14.00%
54	East Greenwich Police	1968	2	14.00
55	North Kingstown Police and Fire	1968	2	14.00
58	North Providence Police	1968	2	14.00
60	Barrington Police and Fire	1970	2	14.00
61	Smithfield Fire	1972	2	14.00
62	Warren Police	1970	2	14.00
63	South Kingstown Police and Fire	1971	2	14.00
64	Primrose Volunteer Fire Dept.	1972	2	14.00
73	Scituate Police	1976	2	14.00

Financial Statements

The aforesaid rates are to be applied to the budgeted payroll for each fiscal year on the employees participating in the system. Thus, sufficient revenues will be provided currently to meet the system's annual accruing requirements. These requirements consist of the current service cost, technically referred to as the "normal cost", plus the annual amortization payment on the "Unfunded Accrued Liability".

Comparative Financial Balance Sheet

June 30

<u>Assets</u>	<u>1977</u>	<u>1976</u>
Cash	\$ 422,751	\$ 126,630
Cash	10	
Accrued Interest Receivable	559,717	488,185
Investments (At Amortized Book Value for Bonds and Cost for Stocks)	<u>42,182,578</u>	<u>36,093,362</u>
Total Assets	\$ <u>43,165,056</u>	\$ <u>36,708,177</u>
 <u>Liabilities & Reserves</u>		
<u>Current Liabilities</u>		
Unclaimed Benefits	\$ 4,262	\$ 6,837
<u>Reserves-General Employees</u>		
Members Contribution	10,112,540	8,890,175
Employers Accumulation	2,565,595	1,766,828
Retirement	<u>25,664,025</u>	<u>22,228,508</u>
Total Reserves-General Employees	38,342,160	32,885,511
<u>Reserves-Police & Fire</u>		
Members Contribution	1,545,350	1,330,703
Employers Accumulation	407,749	349,348
Retirement	<u>2,865,535</u>	<u>2,135,778</u>
Total Reserves-Police & Fire	4,818,634	3,815,829
Total Liabilities & Reserves	\$ <u>43,165,056</u>	\$ <u>36,708,177</u>

Analysis of Revenue & Expenditures

Fiscal Year Ended - June 30, 1977

<u>REVENUES</u>	General Employees Amount	%	Police & Fire Amount	%	Total
Members Contributions	\$1,987,414	24.0	\$ 268,026	25.2	\$2,255,440
Employers Contributions	3,861,225	46.7	503,788	47.3	4,365,013
Investment Earnings	2,411,296	29.1	292,284	27.5	2,703,580
Other	<u>18,130</u>	<u>0.2</u>	<u>103</u>		<u>18,233</u>
Total Revenues	\$8,278,065	100.0	\$1,064,201	100.0	\$9,342,266
 <u>EXPENDITURES</u>					
Monthly Pensions	\$1,986,662	24.0	\$ 145,421	13.7	\$2,132,083
Survivor Benefits			28,093	2.6	28,093
Death Retirement Allowances	197,189	2.4			197,189
Refunds of Contributions	491,018	5.9	19,218	1.8	510,236
Other	<u>15,340</u>	<u>0.2</u>	<u>2,446</u>	<u>0.2</u>	<u>17,786</u>
Total Expenditures	\$2,690,209	32.5	\$ 195,178	18.3	\$2,885,387
Excess Revenues over Expenditures to Reserves	\$5,587,856	67.5	\$ 869,023	81.7	\$6,456,879

Distribution of Excess Revenue

<u>UNCLAIMED BENEFITS</u>	\$ - 2,574
<u>GENERAL EMPLOYEES</u>	
Members Contribution Reserve	1,222,365
Employees Accumulated Reserve	798,767
Retirement Reserve	3,435,517
<u>POLICE & FIRE</u>	
Member Contribution Reserve	214,647
Employers Accumulated Reserve	58,400
Retirement Reserve	<u>729,757</u>
Total Distribution	<u>\$6,456,879</u>

MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM

Average Balance - Distribution of Earnings
Fiscal Year Ended - June 30, 1977

<u>General Employees</u>	<u>Code</u>	<u>Total all Reserves</u>	<u>Average</u>	<u>%</u>	<u>Distribution of Earnings</u>
Barrington	01	3,653,237.75	1,826,618.88	04.734	127,987.50
Bristol	02	2,536,887.08	1,268,443.54	03.287	88,866.69
Burrillville	03	922,640.25	461,320.12	01.196	32,334.82
Cranston	07	10,431,922.23	5,215,961.12	13.520	365,524.08
East Greenwich	09	1,882,768.99	941,384.49	02.440	65,967.36
East Providence	10	8,205,584.23	4,102,792.12	10.634	287,498.75
Hopkinton	14	180,658.40	90,329.20	00.234	6,326.38
Jamestown	15	676,625.92	338,312.96	00.877	23,710.40
Johnston	16	2,279,326.36	1,139,663.18	02.955	79,890.80
Newport	21	5,682,885.69	2,841,442.84	07.366	199,145.74
North Kingstown	23	3,488,214.98	1,744,107.49	04.521	122,228.87
North Providence	24	1,825,351.17	912,675.59	02.366	63,966.71
North Smithfield	25	1,385,677.63	692,838.81	01.796	48,556.30
Pawtucket	26	9,452,778.93	4,726,389.47	12.252	331,242.68
Scituate	30	841,391.64	420,695.82	01.091	29,496.06
Smithfield	31	1,780,053.32	890,026.66	02.307	62,371.60
South Kingstown	32	2,546,319.19	1,273,159.59	03.300	89,218.16
Tiverton	33	1,558,690.55	779,345.28	02.020	54,612.33
Warren	34	1,409,096.12	704,548.06	01.826	49,367.38
Westerly	36	39,554.51	19,777.25	00.051	1,378.83
Woonsocket	39	6,336,389.39	3,168,194.70	08.213	222,045.06
Cranston Housing Authority	51	219,256.23	109,628.11	00.284	7,678.17
E. Prov., Housing Authority	52	195,143.24	97,571.62	00.253	6,840.06
Pawtucket Housing Authority	53	988,446.34	494,223.17	01.281	34,632.87
Cumberland Housing Auth.	56	49,458.43	24,729.22	00.064	1,730.29
Lincoln Housing Authority	57	76,832.85	38,416.42	00.100	2,703.58
Bristol Housing Authority	59	64,643.23	32,321.62	00.084	2,271.01
Burrillville Housing Auth.	65	20,415.81	10,207.90	00.026	702.93
No. Prov., Housing Auth.	66	20,031.19	10,015.60	00.026	702.93
E. Smithfield Water Dist.	67	28,033.92	14,016.96	00.036	973.29
Greenville Water District	68	23,933.44	11,966.72	00.031	838.11
Warren Housing Authority	71	9,284.88	4,642.44	00.012	324.43
Johnston Housing Authority	72	4,840.98	2,420.49	00.006	162.21
Total		68,816,374.87	34,408,187.44	89.189	2,411,296.38
Police & Fire					
East Greenwich Fire Dist.	50	381,313.18	190,656.59	00.494	13,355.69
East Greenwich Police	54	552,747.49	276,373.75	00.716	19,357.64
No. Kingstown Police & Fire	55	2,408,812.23	1,204,406.11	03.121	84,378.75
No. Providence Police & Fire	58	1,187,827.10	593,913.55	01.539	41,608.10
Barrington Police & Fire	60	1,932,564.91	966,282.46	02.505	67,724.69
Smithfield Police & Fire	61	336,158.86	168,079.43	00.436	11,787.61
Warren Police	62	485,310.12	242,655.06	00.629	17,005.52
So. King., Police & Fire	63	825,080.44	412,540.22	01.069	28,901.28
Primrose Volunteer Fire Dept.	64	72,985.56	36,492.78	00.095	2,568.40
Scituate Police	73	159,379.09	79,689.54	00.207	5,596.41
Total Police & Fire		8,342,178.98	4,171,089.49	10.811	292,284.09
Grand Total		77,158,553.85	38,579,276.93	100.000	2,703,580.47

Investments