

*Report
of the
Actuary*

MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM
OF THE STATE OF RHODE ISLAND

ACTUARIAL VALUATION AS OF JUNE 30, 1983

Martin E. Segal Company, Inc.
March, 1984

MARTIN E. SEGAL COMPANY

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March 16, 1984

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

Dear Members of the Board:

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

Our report analyzes the actuarial status of the System, and projects
the cost requirements for the Board to certify to each municipality
for the fiscal year beginning July 1, 1985.

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 when-
ever 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:

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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 the report at your convenience.


Sincerely yours,

MARTIN E. SEGAL COMPANY INCORPORATED

By


Sherman G. Sasse
Senior Vice President

By


Joseph C. Demty, A.S.A., F.A.A.A.
Vice President and Actuary

I. SUMMARY

Benefit Provisions

The Municipal Employees' Retirement System of Rhode Island covers employees of the many municipalities, housing authorities, water, and sewer 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 5 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 3,891 active general employees and 284 police and firemen as of June 30, 1983, who were participating in the system. The average salary was \$13,000 for general employees and \$18,900 for police and firemen. On average, the general employees were age 47 and had 9½ years of service; police and firemen were age 38 with 11 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 1,459 pensioners and 43 beneficiaries as of June 30, 1983. The pensioners' average monthly benefit was \$265. Of all the pensioners on the rolls, 8 per cent had retired in the year ended June 30, 1983.

Retirement Fund

As of June 30, 1983, the Fund had assets of approximately \$98.7 million available as an offset to the actuarial liabilities for future benefits.

Actuarial Valuation

Our valuation was prepared as of June 30, 1983. Our calculations were based on 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 assumed retirement age.

The employer normal cost* for general employees is \$2.2 million. This is 4.3 per cent of the payroll of participating general employees. The employer normal cost for police and firemen is \$0.4 million or 7.9 per cent of payroll.

For general employees, the actuarial liability* (the accumulated cost of the benefits assigned to the period before July 1, 1983) is \$106.0 million of which \$39.3 million represents the liability to those already receiving pensions. The unfunded actuarial liability at the end of the year is \$18.5 million after accounting for assets of \$87.4 million. For police and firemen, the actuarial liability is \$14.2 million of which \$4.0 million is for those receiving pensions.

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

The unfunded actuarial liability stands at \$3.0 million after accounting for police and fire assets of \$11.2 million.

The value of the System's vested benefits is \$117 million. Thus the assets are short of this amount by \$19 million.

Based on the normal cost plus an amortization payment of each municipality's unfunded actuarial liability, the total annual employer cost as of June 30, 1983 adjusted for monthly payment is \$4.9 million (9.7 per cent of covered payroll) for general employees and \$0.7 million (13.9 per cent of covered payroll) for police and firemen. These amounts are in addition to the required employee contributions. The amortization payments for each municipality are generally based on the period remaining of an initial 25-year funding period. In some instances, these remaining periods have been lengthened in order to spread the effects of actuarial losses over a longer period.

11. EMPLOYEE DATA

We received data on 3,891 general employees and 284 police and firemen participating in the System on June 30, 1983. The data included age, service, sex, and salary for each of them. The total number of general employees earning \$60,814 was 609,814 and the total number of police and firemen was 284.

Tables 1A and 1B give data on age, service, sex, and salary for general employees and police and firemen, respectively.

Tables 2A and 2B summarize certain basic statistics as of June 30, 1983 and 1982 on active general employees and firemen. Table 2C gives active employee statistics separately for each participating municipality. This table shows the number of employees, their average age, average service, and average salary as of June 30, 1983. Table 2D which shows the same information for 1982 is included for comparison purposes.

The data we received for this division in respect of some of the municipalities named inconsistent, and in some cases, were incomplete, when compared to that of the prior year. However, results are obtained from the data is inconsistent. However, for the majority of the municipalities, the data are usable. The Retirement Board has progressed in improving the quality of the data. We hope that the Board continues to participate in the data for the municipalities.

Table 1A

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

GENERAL EMPLOYEES

Age	Total	Years of service										Total	Average Salary		
		0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 and over	Total	Average Salary				
Total	3,891	1,130	1,055	\$28,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000
Under 25	1,130	\$11,100	---	---	---	---	---	---	---	---	---	---	---	---	---
25 - 29	130	116	\$	---	---	---	---	---	---	---	---	---	---	---	---
30 - 34	285	140	27	\$12,500	---	---	---	---	---	---	---	---	---	---	---
35 - 39	384	170	111	32	\$15,000	---	---	---	---	---	---	---	---	---	---
40 - 44	428	150	80	44	24	\$15,000	---	---	---	---	---	---	---	---	---
45 - 49	489	158	155	65	11	\$15,000	---	---	---	---	---	---	---	---	---
50 - 54	547	115	148	144	80	27	\$15,000	---	---	---	---	---	---	---	---
55 - 59	685	102	184	188	108	40	\$15,000	---	---	---	---	---	---	---	---
60 - 64	438	89	144	131	88	30	\$15,000	---	---	---	---	---	---	---	---
65 and over	1,130	1,130	1,055	\$28,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	
Total	3,891	1,130	1,055	\$28,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	

Table 1B
 Number and Average Salaries of Employees in Active Service
 as of June 30, 1983 by Age and by Years of Service

POLICE AND FIREMEN

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	284 \$18,900	77 \$17,200	54 \$18,100	75 \$19,600	42 \$20,700	11 \$21,000	9 \$26,800	3 \$23,100	1 \$17,900	12 \$16,600			
20 - 24	19 \$16,100	17 \$16,100	---	---	---	---	---	---	---	---	---	2 \$16,100	
25 - 29	59 \$17,200	60 \$17,000	16 \$18,400	---	---	---	---	---	---	---	---	5 \$15,400	
30 - 34	51 \$17,900	15 \$17,500	23 \$17,600	10 \$19,100	---	---	---	---	---	---	---	3 \$18,900	
35 - 39	64 \$19,000	3 \$18,500	9 \$18,700	25 \$19,100	6 \$19,600	---	---	---	---	---	---	1 \$18,300	
40 - 44	65 \$20,100	---	6 \$19,300	22 \$19,800	15 \$20,800	2 \$20,100	---	---	---	---	---	---	
45 - 49	24 \$20,600	2 \$24,000	---	10 \$19,200	8 \$20,200	3 \$21,500	1 \$27,300	---	---	---	---	---	
50 - 54	16 \$22,600	---	---	3 \$19,800	4 \$21,000	3 \$20,800	6 \$25,400	---	---	---	---	---	
55 - 59	20 \$21,400	---	---	5 \$19,600	8 \$20,600	3 \$21,300	1 \$32,300	3 \$23,100	---	---	---	---	
60 - 64	3 \$26,800	---	---	---	1 \$27,200	---	1 \$29,200	---	1 \$17,900	---	---	---	
65 and over	1 \$11,700	---	1 \$11,700	---	---	---	---	---	---	---	---	---	
Unknown	2 \$17,200	---	1 \$19,300	---	---	---	---	---	---	---	---	1 \$15,100	

RHODE ISLAND MUNICIPAL EMS

Table 2A

Statistical Data on Active Employees
 On June 30, 1983 and 1982

GENERAL EMPLOYEES

	June 30, 1983	June 30, 1982
Number of covered employees	3,891	3,930
Total annual salary	\$50,443,600	\$48,492,300
Average annual salary	\$13,000	\$12,300
Average age	47	47
Average years of service	9 $\frac{1}{2}$	9 $\frac{1}{2}$
Number eligible for service retirement	503	498
Number vested but not eligible to retire	959	964

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Table 2B

Statistical Data on Active Employees
On June 30, 1983 and 1982

POLICE AND FIREMEN

	June 30, 1983	June 30, 1982
Number of covered employees	284	259
Total annual salary	\$5,375,500	\$4,628,100
Average annual salary	\$18,900	\$17,900
Average age	38	38½
Average years of service	11	12
Number eligible for service retirement	33	28
Number vested but not eligible to retire	108	99

RHODE ISLAND MUNICIPAL ERS

Table 2C
Statistical Data on Active Employees on June 30, 1983
by Municipality

Municipality	Number	Average age	Average service	Average salary
<u>General Employees</u>				
01 Barrington	133	46	9	\$13,000
02 Bristol	111	46½	10	13,100
03 Burrillville	99	48	7	11,700
07 Cranston	594	47½	10	11,700
09 E. Greenwich	114	46½	8½	12,000
10 E. Providence	286	46½	11½	16,200
11 Exeter-W. Greenwich Sch. Dist.	23	46½	10½	8,700
12 Foster	18	47	6½	13,100
14 Hopkinton	25	45	5	10,100
15 Jamestown	32	43	8½	14,400
16 Johnston	162	50	11	11,800
21 Newport	261	42½	10½	15,000
22 New Shoreham	12	38	8½	11,300
23 N. Kingstown	165	45½	9	13,700
24 N. Providence	193	45½	8½	11,100
25 N. Smithfield	71	48	8	11,600
26 Pawtucket	629	47	10½	13,600
29 Richmond	12	42½	3½	7,800
30 Scituate	55	51	10½	10,200
31 Smithfield	106	49	8	11,900
32 S. Kingstown	174	42½	6	11,800
33 Tiverton	67	50	8	12,800
34 Warren	63	50½	9½	12,800
36 Westerly	8	51	11	21,000
39 Woonsocket	341	48½	11	12,900
40 Charle Reg. Sch. Dist.	21	48	6	10,400
51 Cranston Housing	12	43	7½	15,700
52 E. Providence Housing	9	52½	9	14,200
53 Pawtucket Housing	31	49	12	18,800
56 Cumberland Housing	8	43½	7	14,900
57 Lincoln Housing	7	43½	6½	16,000
59 Bristol Housing	6	46	7	14,800
65 Burrillville Housing	1	38½	8½	12,500
66 N. Providence Housing	4	40	4½	14,800
67 E. Smithfield Water	3	45	2½	13,500
68 Greenville Water	3	47½	8½	19,100
71 Warren Housing	4	51½	6	14,300
72 Johnston Housing	5	43½	3½	12,000
79 Coventry Housing	5	56	9½	14,300
80 S. Kingstown Housing	1	62½	9½	15,300
81 Smithfield Sewer	10	40	3½	13,800
83 West Warwick Housing	6	42	6	14,000
84 Smithfield Housing	1	56½	14½	14,000
<u>Police and Fire</u>				
50 E. Greenwich Fire	12	53½	14	25,200
54 E. Greenwich Police	23	40	11½	20,400
55 N. Kingstown Fire	61	36½	9½	19,700
58 N. Providence Fire	25	40	11½	14,400
60 Barrington P & F	57	39½	15	19,900
62 Warren Police	16	37	10½	18,900
63 S. Kingstown P & F	33	36	11½	18,400
64 Primrose Volunteer Fire	6	28½	2	14,300
76 N. Smithfield Police	14	35½	11	17,200
77 Tiverton Fire	17	41½	11	18,000
82 Foster Police	6	32½	4	17,400
85 Woonsocket Police	14	27	0½	18,800

Table 10
 Statistical Data on Active Employees on June 30, 1960
 by Municipality

Municipality	Number	Average age	Average service	Average salary
General Employees				
01 Barrington	112	47	15	\$11,300
02 Bristol	111	46 1/2	15 1/2	11,700
03 Burlington	111	47 1/2	16 1/2	11,800
04 Canton	111	47 1/2	16	11,700
05 E. Greenfield	111	46 1/2	15 1/2	11,500
06 E. Providence	111	47	15 1/2	11,900
07 Foster	111	47 1/2	16	5,600
08 Haverhill	111	47 1/2	16 1/2	11,300
09 Haverhill	111	47 1/2	16 1/2	11,400
10 Haverhill	111	47 1/2	16 1/2	11,400
11 Lowell	111	47 1/2	16 1/2	11,300
12 New Bedford	111	47 1/2	16 1/2	14,000
13 S. Kingstown	111	47	16 1/2	11,100
14 S. Providence	111	47	16 1/2	11,500
15 S. Springfield	111	47 1/2	16 1/2	11,800
16 Taunton	111	47 1/2	16 1/2	9,800
17 Wareham	111	47 1/2	16 1/2	8,400
18 Westfield	111	47 1/2	16 1/2	11,100
19 Weymouth	111	47 1/2	16 1/2	11,400
20 Weymouth	111	47 1/2	16 1/2	11,400
21 Weymouth	111	47 1/2	16 1/2	11,900
22 Weymouth	111	47 1/2	16 1/2	11,900
23 Weymouth	111	47 1/2	16 1/2	11,000
24 Weymouth	111	47 1/2	16 1/2	8,700
25 Weymouth	111	47 1/2	16 1/2	14,500
26 Weymouth	111	47 1/2	16 1/2	14,200
27 Weymouth	111	47 1/2	16 1/2	14,500
28 Weymouth	111	47 1/2	16 1/2	14,000
29 Weymouth	111	47 1/2	16 1/2	14,200
30 Weymouth	111	47 1/2	16 1/2	14,200
31 Weymouth	111	47 1/2	16 1/2	14,200
32 Weymouth	111	47 1/2	16 1/2	14,200
33 Weymouth	111	47 1/2	16 1/2	14,200
34 Weymouth	111	47 1/2	16 1/2	14,200
35 Weymouth	111	47 1/2	16 1/2	14,200
36 Weymouth	111	47 1/2	16 1/2	14,200
37 Weymouth	111	47 1/2	16 1/2	14,200
38 Weymouth	111	47 1/2	16 1/2	14,200
39 Weymouth	111	47 1/2	16 1/2	14,200
40 Weymouth	111	47 1/2	16 1/2	14,200
41 Weymouth	111	47 1/2	16 1/2	14,200
42 Weymouth	111	47 1/2	16 1/2	14,200
43 Weymouth	111	47 1/2	16 1/2	14,200
44 Weymouth	111	47 1/2	16 1/2	14,200
45 Weymouth	111	47 1/2	16 1/2	14,200
46 Weymouth	111	47 1/2	16 1/2	14,200
47 Weymouth	111	47 1/2	16 1/2	14,200
48 Weymouth	111	47 1/2	16 1/2	14,200
49 Weymouth	111	47 1/2	16 1/2	14,200
50 Weymouth	111	47 1/2	16 1/2	14,200
51 Weymouth	111	47 1/2	16 1/2	14,200
52 Weymouth	111	47 1/2	16 1/2	14,200
53 Weymouth	111	47 1/2	16 1/2	14,200
54 Weymouth	111	47 1/2	16 1/2	14,200
55 Weymouth	111	47 1/2	16 1/2	14,200
56 Weymouth	111	47 1/2	16 1/2	14,200
57 Weymouth	111	47 1/2	16 1/2	14,200
58 Weymouth	111	47 1/2	16 1/2	14,200
59 Weymouth	111	47 1/2	16 1/2	14,200
60 Weymouth	111	47 1/2	16 1/2	14,200
61 Weymouth	111	47 1/2	16 1/2	14,200
62 Weymouth	111	47 1/2	16 1/2	14,200
63 Weymouth	111	47 1/2	16 1/2	14,200
64 Weymouth	111	47 1/2	16 1/2	14,200
65 Weymouth	111	47 1/2	16 1/2	14,200
66 Weymouth	111	47 1/2	16 1/2	14,200
67 Weymouth	111	47 1/2	16 1/2	14,200
68 Weymouth	111	47 1/2	16 1/2	14,200
69 Weymouth	111	47 1/2	16 1/2	14,200
70 Weymouth	111	47 1/2	16 1/2	14,200
71 Weymouth	111	47 1/2	16 1/2	14,200
72 Weymouth	111	47 1/2	16 1/2	14,200
73 Weymouth	111	47 1/2	16 1/2	14,200
74 Weymouth	111	47 1/2	16 1/2	14,200
75 Weymouth	111	47 1/2	16 1/2	14,200
76 Weymouth	111	47 1/2	16 1/2	14,200
77 Weymouth	111	47 1/2	16 1/2	14,200
78 Weymouth	111	47 1/2	16 1/2	14,200
79 Weymouth	111	47 1/2	16 1/2	14,200
80 Weymouth	111	47 1/2	16 1/2	14,200
81 Weymouth	111	47 1/2	16 1/2	14,200
82 Weymouth	111	47 1/2	16 1/2	14,200
83 Weymouth	111	47 1/2	16 1/2	14,200
84 Weymouth	111	47 1/2	16 1/2	14,200
85 Weymouth	111	47 1/2	16 1/2	14,200
86 Weymouth	111	47 1/2	16 1/2	14,200
87 Weymouth	111	47 1/2	16 1/2	14,200
88 Weymouth	111	47 1/2	16 1/2	14,200
89 Weymouth	111	47 1/2	16 1/2	14,200
90 Weymouth	111	47 1/2	16 1/2	14,200
91 Weymouth	111	47 1/2	16 1/2	14,200
92 Weymouth	111	47 1/2	16 1/2	14,200
93 Weymouth	111	47 1/2	16 1/2	14,200
94 Weymouth	111	47 1/2	16 1/2	14,200
95 Weymouth	111	47 1/2	16 1/2	14,200
96 Weymouth	111	47 1/2	16 1/2	14,200
97 Weymouth	111	47 1/2	16 1/2	14,200
98 Weymouth	111	47 1/2	16 1/2	14,200
99 Weymouth	111	47 1/2	16 1/2	14,200
100 Weymouth	111	47 1/2	16 1/2	14,200

The data on retired workers are available in Table 11, which shows monthly benefits, retirement cost, cost of care and type of pension.

The following are significant variations in the retired group as of June 30, 1960 and 1961:

	June 30, 1960	June 30, 1961
Beneficiaries:		
Number	1,138	1,178
Average age	66	66
Average monthly benefit	\$121	\$121
Beneficiaries:		
Number	61	61
Average age	65	65
Average monthly benefit	\$121	\$121

Table 12 gives distributions of the 125 pensions awarded in the current year by type of pension and amount. Table 13 shows the same for age at retirement.

Table 14 gives distributions for all pensions in force at the end of the fiscal year by type and amount. Table 15 shows the same by age.

Table 16 has statistical data on beneficiaries and beneficiaries by municipality.

The data we received for those currently on the pension rolls was generally good. The question which would have to be asked in the calculation of liabilities, was to do with whether those designated as beneficiaries are properly classified.

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

Table 3

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

Monthly amount	Total	Type of pension			
		Service	Ordinary Disability	Accidental Disability	Beneficiary
Total	125	113	6	3	3
Under \$ 50	1	--	1	--	--
\$ 50 - 99	6	6	--	--	--
100 - 149	5	2	1	--	2
150 - 199	14	13	1	--	--
200 - 249	17	16	1	--	--
250 - 299	14	14	--	--	--
300 - 349	13	11	2	--	--
350 - 399	9	9	--	--	--
400 - 449	10	10	--	--	--
450 - 499	4	4	--	--	--
500 - 599	7	7	--	--	--
600 - 699	5	5	--	--	--
700 - 799	7	7	--	--	--
800 - 899	4	2	--	1	1
900 - 999	5	3	--	2	--
1,000 -1,099	2	2	--	--	--
1,200 -1,299	2	2	--	--	--

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Table 4

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

Age on effective date	Total	Type of pension			
		Service	Ordinary Disability	Accidental Disability	Beneficiary
Total	125	113	6	3	3
35 - 39	1	--	--	1	--
45 - 49	2	--	1	1	--
50	2	2	--	--	--
51	2	1	1	--	--
53	6	1	--	--	--
54	1	--	1	--	--
55	1	--	--	1	--
57	2	1	1	--	--
58	11	7	--	--	--
59	1	1	--	--	--
60	6	5	1	--	--
61	8	6	1	--	1
62	55	21	--	--	--
63	9	9	--	--	--
64	11	10	--	--	1
65	20	20	--	--	--
66	7	7	--	--	--
67	36	2	--	--	--
68	4	4	--	--	--
69	3	3	--	--	--
70	12	12	--	--	--
71	1	--	--	--	1
72	1	1	--	--	--

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Table 5

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

Monthly amount	Total	Type of pension			Beneficiary
		Service	Ordinary Disability	Accidental Disability	
Total	1,502	1,322	99	38	43
Under \$ 50	57	50	5	1	1
50 - 99	177	164	10	1	2
100 - 149	228	204	18	1	5
150 - 199	233	238	36	2	7
200 - 249	187	162	14	1	10
250 - 299	105	95	4	--	6
300 - 349	103	89	5	6	3
350 - 399	70	61	2	4	3
400 - 449	69	63	1	3	2
450 - 499	56	46	3	5	2
500 - 599	62	55	--	7	--
600 - 699	33	29	1	2	1
700 - 799	31	31	--	--	--
800 - 899	14	10	--	3	1
900 - 999	15	13	--	2	--
1,000 - 1,099	5	5	--	--	--
1,100 - 1,199	2	2	--	--	--
1,200 - 1,299	4	4	--	--	--
1,300 - 1,399	1	1	--	--	--

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Table 6

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

Age on June 30, 1983	Total	Type of pension			Beneficiary
		Service	Ordinary Disability	Accidental Disability	
Total	1,502	1,322	99	38	43
25 - 29	1	--	--	--	1
30 - 34	1	--	1	1	--
35 - 39	6	--	1	3	--
40 - 44	8	--	3	4	1
45 - 49	16	2	6	4	2
50 - 54	39	17	20	5	2
55 - 59	66	39	13	5	7
60 - 64	281	268	23	5	5
65 - 69	618	386	19	6	9
70 - 74	363	326	9	1	7
75 - 79	185	173	4	3	5
80 - 84	117	111	1	1	4
85 - 89	22	22	--	--	--
90 - 94	5	5	--	--	--

ROOSE ISLAND MUNICIPAL EMS

Table 7
 Assets and Beneficiary Contributions June 30, 1983
 by Municipality

Municipality	Number	Average Age	Average Monthly Benefit
General Employees			
01 Wellington	75	58	260
02 Belmont	82	58	260
03 Belmont	15	56	260
04 Northville	239	73	227
05 Hammon	25	59	262
06 E. Hammon	239	75	225
07 E. Hammon	--	--	--
08 Bureau of Firefighters Ret. Plan	--	--	--
09 Police	7	77	196
10 Wellington	9	59	277
11 Hammon	62	57	227
12 Northville	225	59	236
13 Hammon	8	56	229
14 E. Hammon	69	59	228
15 E. Hammon	55	59	227
16 E. Hammon	27	57	195
17 E. Hammon	275	73	264
18 Wellington	7	55	212
19 Belmont	26	59	225
20 Belmont	35	59	265
21 Belmont	65	59	226
22 Trenton	25	73	226
23 Hammon	26	59	220
24 Hammon	7	57	228
25 Hammon	139	75	221
26 Charles Eng. Soc. Plan	1	53	551
27 Hammon Bowling	6	59	227
28 E. Hammon Bowling	6	59	229
29 Hammon Bowling	23	59	226
30 Hammon Bowling	--	--	--
31 Hammon Bowling	1	56	247
32 Hammon Bowling	--	--	--
33 Northville Bowling	1	59	223
34 E. Hammon Bowling	1	59	229
35 E. Hammon Bowling	2	57	266
36 Hammon Bowling	1	56	261
37 Hammon Bowling	--	--	--
38 Hammon Bowling	--	--	--
39 Hammon Bowling	--	--	--
40 E. Hammon Bowling	--	--	--
41 Belmont Bowling	--	--	--
42 West Hammon Bowling	1	53	271
43 Belmont Bowling	--	--	--
Police and Fire			
44 E. Hammon Fire	--	--	--
45 E. Hammon Police	6	56	279
46 E. Hammon Fire	18	63	228
47 E. Hammon Fire	1	62	226
48 Wellington P & F	17	54	227
49 Hammon Police	19	57	263
50 E. Hammon P & F	8	66	222
51 Hammon Volunteer Fire	1	69	202
52 W. Belmont Police	1	69	225
53 Trenton Fire	6	67	466
54 Hammon Police	--	--	--
55 Hammon Police	--	--	--

*Includes 1 beneficiary formerly covered by the Trenton Police Plan.
 **Includes 2 beneficiaries formerly covered by the Belmont Police and Fire Plan.

35. Continued

The State administers the Northville Employees' Retirement Fund. The retirement benefit provided is with financial statements as of June 30, 1983.

The Fund receives all member and employer contributions. The assets are invested by the State Investment Commission, with the income being added to the Fund and available for retirement.

Payments from the Fund are primarily for refunds of employee contributions, long term health 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, 1983.

At June 30, 1983, assets totalled approximately \$99.7 million. Table 9 gives a breakdown of the assets. About 45 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 3

Summary Statement of Income and Expenses
For Year Ended June 30, 1985

Employer contributions	54,581,446	
Member contributions	<u>3,551,119</u>	
Total contributions		58,132,565
Net investment income		<u>18,577</u>
Investment income:		
Dividends	51,879,446	
Interest	4,578,876	
Capital gains	202,128	
Investment expenses	<u>1,172</u>	
Net investment income		<u>8,418,531</u>
Total income available for benefit payments		66,551,106
Benefit payments:		
Pension benefits	56,791,881	
Death benefits	67,446	
Contribution refunds	<u>437,310</u>	
Total benefit payments		<u>57,296,637</u>
Excess of income over expenses		<u>9,254,469</u>

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

ZHOGE ISLAND MUNICIPAL ERG

TABLE 4

Assets as of June 30, 1985

Cash investments		\$ 156,100
Unpaid interest receivable		<u>1,141,774</u>
Investments:		
Investment funds	54,473,486	
Corporate bonds	18,775,766	
Common and preferred stocks	31,573,795	
Certificates of deposit	6,886,566	
Commercial paper	7,179,566	
Classy, unamortized premiums and discounts	<u>(572,862)</u>	
Total Assets		<u>122,586,726</u>

ZHOGE ISLAND MUNICIPAL ERG

Table 10
Allocation of Assets by Plan
as of June 30, 1983

General Employees:		
Retirement reserves	\$67,728,317	
Employer reserves	1,629,346	
Member reserves	<u>18,050,546</u>	
Total General Employees Reserves		\$87,408,209
Police and Fire:		
Retirement reserves	\$ 7,852,216	
Employer reserves	1,082,861	
Member reserves	<u>2,315,477</u>	
Total Police and Fire Reserves		11,250,555
Unallocated:		
Unclaimed benefit reserve		<u>25,962</u>
Total Assets		<u>\$98,684,726</u>

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

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 Tables. This is a table of pension plan mortality, and we believe it is 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 calculated from these tables.

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 based on 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 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:

Age	Present Salary as a % of Age 55 Salary	Annual Increases (Rate %)
25	77.45	4.84
25	77.57	4.75
30	77.75	4.59
35	78.02	4.53
40	78.38	4.58
45	78.75	3.72
50	81.77	3.45
55	77.92	3.33
60	84.04	3.15

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 contribution accumulation anticipated for retired employees funds that may have been accumulated for such people, thus resulting in a reduced retiring cost.

It is assumed that contributions each year from all covered employ-
 employees would be as follows:

General Employees (Rate 1)				
Age	Death*	Disability	Withdrawal	Total*
25	.05	.16	25.75	25.96
25	.06	.19	25.89	26.14
30	.08	.21	25.60	25.89
35	.11	.25	24.65	24.96
40	.14	.27	24.25	24.66
45	.20	.28	24.25	24.73
50	.25	.31	23.55	24.11
55	.35	1.31	--	1.66
60	1.21	--	--	1.21

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

Optional Police and Fire (Rate 2)				
Age	Death*	Disability	Withdrawal	Total*
25	.05	.12	--	.17
25	.06	.17	--	.23
30	.08	.22	--	.30
35	.11	.29	--	.40
40	.14	.34	--	.48
45	.20	.37	--	.57
50	.25	1.21	--	1.46
55	.35	--	--	.35

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 because of 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. 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 $6\frac{1}{2}$ 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.

Cost 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
		28.0
55	22.7	27.1
56	21.9	26.2
57	21.1	25.3
58	20.3	24.4
59	19.5	
	18.8	23.5
60	18.0	22.6
61	17.3	21.8
62	16.5	20.9
63	15.8	20.1
64		
	15.1	19.2
65	14.4	18.4
66	13.8	17.6
67	13.1	16.8
68	12.5	16.0
69		
	11.9	15.3
70	11.3	14.5
71	10.8	13.8
72	10.3	13.1
73	9.7	12.4
74		
	9.2	11.7
75		

1971 Group Annuity Mortality Table

RESULTS OF VALUATION

General Employees

The costs for general employees as of June 30, 1983, developed as follows:

<u>Item</u>	<u>Amount</u>
(1) Participating payroll	\$50,443,600
(2) Employer normal cost	2,152,800
(3) Unfunded actuarial liability	18,514,000
(4) Amortization of unfunded actuarial liability	2,593,000
(5) Total annual cost if paid July 1, 1983 = (2) + (4)	4,745,800
(6) Total annual cost if paid monthly = (5) plus ½ year interest	4,900,000

Police and Firemen

The costs for police and firemen as of June 30, 1983, developed as follows:

<u>Item</u>	<u>Amount</u>	<u>% of Payroll</u>
(1) Participating payroll	\$5,375,500	--
(2) Employer normal cost	423,800	7.9%
(3) Unfunded actuarial liability	2,985,700	--
(4) Amortization of unfunded actuarial liability	297,600	5.5
(5) Total annual cost if paid July 1, 1983 = (2) + (4)	721,400	13.4
(6) Total annual cost if paid monthly = (5) plus ½ year interest	744,900	13.9

The actuarial cost method develops costs that assume the employer contributions will be paid into the retirement funds at the beginning of each year, and begin earning interest from that time. In fact, the money is deposited monthly effective July 1, 1983. Thus, about half a year's interest is lost, and the contributions should be increased to reflect this loss. These adjustments are incorporated in line 6 of the above groups.

Comments on Results

The costs reported on the preceding page are for the System as a whole. The principal cost factors for each municipality are shown in Table 12. (The total of the unfunded actuarial liabilities shown in Table 12 exceeds the total shown on the preceding page 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 completed their amortization schedules. Other groups have more years left. As mentioned earlier, some of the amortization periods were lengthened two years ago to spread the effects of actuarial losses over a longer period. On a dollar-weighted basis, the remaining amortization period is about 9 years for general employees and 15 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 decreased by 1.2 per cent of payroll (from 10.6 per cent to 9.4 per cent). The normal cost percentage remained the same at 4.3 per cent and there was a decrease in the amortization payment when expressed as a per cent of payroll (from 6.4 per cent to 5.1 per cent). The dollar-weighted aggregate amortization period remained at 9 years for the general employee group.

For police and firemen, costs decreased by 0.9 per cent of payroll (from 14.3 per cent to 13.4 per cent). The normal cost percentage increased slightly from 7.8 per cent to 7.9 per cent and the amortization payment as a per cent of payroll decreased by 1.0 per cent (from 6.5 per cent to 5.5 per cent). The dollar-weighted aggregate amortization period decreased by one year for this group from 16 years to 15 years.

Table 13 shows the recommended rates for each participating municipality. These rates are to be effective for the year beginning July 1, 1985. The total rates are separated into normal cost and unfunded liability amortization components. For comparison, the 1984 and 1983 recommended total rates are also shown. In addition, the remaining amortization periods for each municipality are presented. Exeter-West Greenwich School District and Woonsocket Police are the new entering groups as of June 30, 1983. No groups withdrew from the System this year.

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 may not be covered by this Opinion, a brief discussion of this subject may be helpful.

The "value of vested benefits" represents the single sum value under the plan's investment income and mortality assumptions of all benefits to present and former employees. In this calculation, future employment by the employee is not a condition for the receipt of benefits. 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 10 years of service. For active employees with less than 10 years of service, only the accumulated employee contributions are included, since that is all such employees would receive if they had no further employment. This year we again included the accumulated employee contributions for inactive former employees.

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

	General Employees	Police and Firemen
Active members	\$ 66,340,100	\$6,957,800
Inactive members	579,100	9,000
Retired members	<u>38,302,900</u>	<u>4,037,100</u>
Total value of vested benefits	\$106,222,100	\$11,003,900
Assets	<u>87,408,100</u>	<u>11,182,000</u>
Unfunded value of vested benefits	\$ 18,814,000	\$ --

Table 12 includes the unfunded vested benefits for each municipality.

Overall Status

As Table 13 shows, the costs for some municipalities differ somewhat from those reported last year. The major reason this occurs is the effect of actuarial gains and losses, one example of which will explain the situation. In a large system, if some participants retire earlier than assumed due to disability, for example, the impact on the total system is generally not significant. However, the impact on the costs of a small system (such as a municipality) can be quite dramatic if the retiree is one of its members. As a whole, the assumptions we employ are reasonable for the whole system, but for any one system at any one time, the assumptions and the actual experience may differ significantly. When this happens, the individual system's liabilities will be substantially affected resulting in yearly fluctuations. We recommend the continuation of the practice of annual valuations and look forward to working with the Retirement Board in this effort.

Table 12
Unfunded Vested Benefits as of June 30, 1982
by Municipality

Municipality	Year Adopted	Employee Normal Cost	Unfunded Accrual Liabilities	Value of Unfunded Vested Benefits
General Employees				
01 Barrington	1957	\$ 71,000	\$ 139,000	\$ 199,000
02 Bristol	1957	59,000	--	--
03 Burrillville	1968	467,500	429,000	467,000
07 Cranston	1960	298,900	1,471,000	1,179,000
09 E. Greenwich	1957	61,400	17,000	--
11 E. Providence	1961	161,100	1,126,000	1,266,400
11 Foster - W. Greenwich 1st Year	1960	8,000	177,000	185,000
12 Foster	1961	11,000	142,000	153,000
14 Hopkinton	1969	11,000	19,000	--
15 Mansfield	1964	18,500	85,000	170,000
16 Johnston	1969	89,000	434,000	661,700
17 Newport	1966	117,000	1,291,000	1,199,500
17 New Shoreham	1980	1,000	117,000	117,000
23 N. Kingstown	1957	54,000	119,400	--
24 N. Providence	1961	37,000	869,000	912,000
25 N. Smithfield	1964	44,100	139,000	111,000
26 Pawtucket	1962	147,000	1,889,000	4,261,000
28 Richmond	1979	5,000	94,000	119,700
30 Scituate	1967	17,000	267,000	119,000
31 Smithfield	1959	69,400	290,000	111,000
31 S. Kingstown	1957	88,000	--	--
33 Tiverton	1964	49,000	429,000	119,000
34 Warren	1957	47,000	48,000	11,000
36 Westerly	1976	8,000	968,000	1,011,000
39 Woonsocket	1962	194,000	1,177,000	1,267,000
40 Charlestown Reg. Sch. Dist.	1961	117,000	119,000	194,000
51 Cranston Housing	1968	7,000	--	--
52 E. Providence Housing	1968	7,000	--	39,000
53 Pawtucket Housing	1968	15,000	--	97,000
56 Cumberland Housing	1969	4,000	11,000	39,000
57 Lincoln Housing	1969	1,000	17,000	39,400
59 Bristol Housing	1970	4,000	--	--
63 Burrillville Housing	1972	400	11,000	1,000
66 N. Providence Housing	1973	2,000	--	--
67 E. Smithfield Water	1973	1,000	45,000	47,000
68 Greenville Water	1973	1,000	14,000	7,000
71 Warren Housing	1975	1,500	11,400	--
72 Johnston Housing	1976	4,000	--	--
79 Coventry Housing	1977	4,000	51,000	37,000
80 S. Kingstown Housing	1977	1,200	8,000	--
81 Smithfield Sewer	1980	1,000	19,600	--
83 West Warwick Housing	1981	1,700	89,000	112,400
84 Smithfield Housing	1981	1,000	19,400	17,400
Police and Fire				
50 E. Greenwich Fire	1967	32,000	97,000	8,000
54 E. Greenwich Police	1968	37,000	181,000	49,400
55 N. Kingstown Fire	1968	91,500	704,000	7,100
58 N. Providence Fire	1968	37,000	221,000	34,000
60 Barrington P & F	1970	83,000	804,000	--
61 Warren Police	1970	11,400	832,000	123,000
63 S. Kingstown P & F	1971	45,000	174,000	--
64 Primrose Volunteer Fire	1972	9,000	--	--
76 N. Smithfield Police	1977	17,000	62,000	--
77 Tiverton Fire	1977	17,000	134,700	--
81 Foster Police	1981	8,000	33,400	--
85 Woonsocket Police	1982	19,400	1,400	7,700

Table 13

Rhode Island Municipal Employees' Retirement System
Recommended Contribution Rates

Municipality	YEAR BEGINNING JULY 1, 1985			TOTAL RATE YEAR BEGINNING JULY 1,		
	Amortization Period	Normal Cost	Past Service	Total Rate	1984	1983
<u>General Employees</u>						
	7	4.25%	7.57%	11.82%	13.34%	11.92%
01 Barrington	1	4.20	--	4.20	10.96	9.05
02 Bristol	10	5.38	4.87	10.25	11.58	10.85
03 Burrillville	7	4.44	3.74	8.18	11.10	11.97
07 Cranston	8	4.63	0.20	4.83	5.89	6.62
09 E. Greenwich	3	3.58	9.84	13.42	13.92	13.08
10 E. Providence	24	4.60	11.23	15.83	--	--
11 Exeter-W.Greenwich Sch.Dist.	23	5.19	5.00	10.19	10.88	--
12 Foster	11	4.51	0.93	5.44	7.53	8.50
14 Hopkinton	6	3.71	4.12	7.83	5.80	7.59
15 Jamestown	10	5.40	3.06	8.46	8.87	8.76
16 Johnston	19	3.21	7.03	10.24	11.54	11.08
21 Newport	22	2.96	8.50	11.46	12.23	12.13
22 New Shoreham	4	4.33	1.71	6.04	6.99	5.46
23 N. Kingstown	19	4.53	3.67	8.20	9.45	9.25
24 N. Providence	6	5.51	2.57	8.08	10.79	7.09
25 N. Smithfield	19	4.19	6.21	10.40	10.27	10.63
26 Pawtucket	21	5.76	5.94	11.70	6.36	14.63
29 Richmond	10	5.01	8.82	13.83	13.74	12.56
30 Scituate	4	5.44	6.31	11.75	15.38	14.36
31 Smithfield	--	4.46	--	4.46	4.34	5.99
32 S. Kingstown	6	5.97	9.96	15.93	17.10	16.40
33 Tiverton	5	5.46	2.60	8.06	11.86	11.99
34 Warren	19	4.90	34.38	39.28	45.04	34.41
36 Westerly	4	4.69	8.06	12.75	14.06	13.52
39 Woonsocket	23	6.02	8.31	14.33	13.90	--
40 Charho Reg. Sch. Dist.	10	3.77	--	3.77	4.71	5.31
51 Cranston Housing	10	6.27	--	6.27	9.96	9.49
52 E. Providence Housing	10	4.53	--	4.53	4.86	4.75
53 Pawtucket Housing	18	4.23	0.88	5.11	6.41	6.67
56 Cumberland Housing	11	4.62	1.91	6.53	6.67	4.66
57 Lincoln Housing	12	4.73	--	4.73	5.12	4.90
59 Bristol Housing	19	3.30	10.30	13.60	3.20	12.45
65 Burrillville Housing	19	3.70	--	3.70	4.75	4.76
66 N. Providence Housing	23	5.85	9.42	15.27	30.47	21.72
67 E. Smithfield Water	19	5.06	5.43	10.49	10.98	11.67
68 Greenville Water	17	6.33	1.90	8.23	7.71	6.36
71 Warren Housing	19	7.00	--	7.00	8.11	15.92
72 Johnston Housing	19	6.63	6.48	13.11	12.91	12.59
79 Coventry Housing	19	8.09	5.64	13.73	13.48	7.09
80 So. Kingstown Housing	22	4.39	1.09	5.48	4.86	5.36
81 Smithfield Sewer	23	4.54	8.79	13.33	16.32	--
83 West Warwick Housing	23	8.12	15.45	23.57	23.14	--
84 Smithfield Housing						
<u>Police and Fire</u>						
50 E. Greenwich Fire	19	10.98	2.69	13.67	17.24	17.11
54 E. Greenwich Police	15	7.88	6.06	13.94	15.34	12.90
55 N. Kingstown Fire	11	8.82	7.73	16.55	17.10	16.03
58 N. Providence Fire	19	7.60	6.39	13.99	15.13	12.10
62 Barrington P & F	22	7.99	14.80	22.79	16.19	19.62
62 Warren Police	6	7.72	5.79	13.51	13.62	15.10
63 S. Kingstown P & F	14	7.93	--	7.93	8.40	7.37
64 Primrose Volunteer Fire	19	7.27	2.26	9.53	8.65	9.53
76 N. Smithfield Police	19	9.20	3.99	13.19	13.88	14.62
77 Tiverton Fire	23	8.72	2.70	11.42	11.93	--
82 Foster Police	24	7.62	0.10	7.72	--	--
85 Woonsocket Police						

RHODE ISLAND MUNICIPAL ERS

MARTIN E. SEGAL COMPANY

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

March 16, 1984

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, 1983.

The certificate contains the following attached exhibits:

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

A. General employees

B. Police and firemen

EXHIBIT II - Actuarial Assumptions and Cost Method

EXHIBIT III - Summary of Plan Provisions

To the best of my knowledge the information supplied in this actuarial valuation is complete and accurate (except as noted in Exhibit I) and in my opinion the assumptions used in the aggregate (a) are reasonable 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: Joseph C. Demty, A.S.A., M.A.A.A.
Vice President and Actuary

EXHIBIT I
ACTUARIAL COST FOR YEAR BEGINNING JULY 1, 1983

A. GENERAL EMPLOYEES

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

- a. 3,891 active participants (including 1,462 fully vested) with total annual salaries of \$50,443,600
- b. 349 inactive participants
- c. 1,432 pensioners (including 31 beneficiaries of deceased pensioners and active employees)

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

1. Total normal cost	\$ 5,174,000
2. Projected employee contributions	3,021,200
3. Employer normal cost	2,152,800
4. Actuarial liability - total	105,922,100
Active employees	\$66,040,100
Inactive employees	579,100
Pensioners (including beneficiaries of deceased pensioners and active employees)	39,302,900
5. Assets	87,408,100
6. Unfunded actuarial liability	18,514,000

Liability for accrued vested benefits: \$106,222,100

Note: Included are 182 active employees unknown as to age, service, or both. Status of beneficiaries was unclear. The liability included for inactive employees is the sum of their accumulated contributions.

EXHIBIT I
ACTUARIAL COST FOR YEAR BEGINNING JULY 1, 1983

B. POLICE AND FIREMEN

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

- a. 284 active participants (including 141 fully vested) with total annual salaries of \$5,375,500
- b. 1 inactive participant
- c. 70 pensioners (including 12 beneficiaries of deceased pensioners and active employees)

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

1. Total normal cost	\$ 800,100
2. Projected employee contributions	376,300
3. Employer normal cost	423,800
4. Actuarial liability - total	14,167,700
Active employees	\$10,121,600
Inactive employees	9,000
Pensioners (including beneficiaries of deceased pensioners and active employees)	4,037,100
5. Assets	11,182,000
6. Unfunded actuarial liability	2,985,700

Liability for accrued vested benefits: \$11,003,900

Note: Included are 13 active employees unknown as to age, service, or both. Status of beneficiaries was unclear. The liability included for the inactive employee is the accumulated contributions.

EXHIBIT II

ACTUARIAL ASSUMPTIONS AND COST RATIOS

Mortality rates -- 1970 Group Annuity Mortality Table

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

Termination rates before retirement:

General Employees (Rate 2)				
Age	Death*	Disability	Withdrawal	Total
20	.15	.16	20.20	20.51
25	.16	.18	15.80	16.14
30	.18	.20	11.60	11.98
35	.20	.22	8.40	8.82
40	.22	.24	6.20	6.66
45	.24	.26	4.20	4.70
50	.26	.28	2.60	3.14
55	.28	1.00	—	1.28
60	1.00	—	—	1.00

50% of the above disability rates are service-connected.

National Police and Fire (Rate 2)				
Age	Death*	Disability	Withdrawal	Total
20	.15	.10	—	.25
25	.16	.10	—	.26
30	.18	.10	—	.28
35	.20	.10	—	.30
40	.22	.10	—	.32
45	.24	.10	—	.34
50	.26	1.00	—	1.26
55	.28	—	—	.28

50% of the above disability rates are service-connected.

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

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

Salary scales

Age	Present salary as a percent of salary at 65	Annual increase (Rate 2)
20	77.45	4.5%
25	77.65	4.5%
30	77.85	4.5%
35	78.05	4.5%
40	78.25	4.5%
45	78.45	4.5%
50	78.65	4.5%
55	78.85	4.5%
60	79.05	4.5%

Continued on page 11 of this report.

General Information on Assumptions -- This is the actuarial table of mortality rates used in the actuarial study. It is based on the 1970 Group Annuity Mortality Table. The mortality rates are based on the 1970 Group Annuity Mortality Table. The mortality rates are based on the 1970 Group Annuity Mortality Table. The mortality rates are based on the 1970 Group Annuity Mortality Table.

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 years	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

Ordinary:

Age requirement: None
Service requirement: 5 years
Amount: 2% of final average salary at disability per year of service (but not less than 20%), payable immediately.

Accidental:

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 for general and at age 55 for police and firemen.

Pre-retirement death benefits

Ordinary death benefits:

Lump sum benefits:

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

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.

Accidental 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's 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 survivor's 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.