Report of the Actuary

Valuation and Review
of the

MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM
OF THE STATE OF RHODE ISLAND

as of June 30, 1985

MARTIN E. SEGAL COMPANY

607 BOYLSTON STREET
BOSTON, MASSACHUSETTS 02116
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May 7, 1986

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, 1985.

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, 1987.

We received a great deal of help from State employees in obtaining the information which forms the basis of this report. Most important, Mr. John F. Sullivan, Acting Director and Mr. Carlo Mencucci, Supervisory 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:

ATLANTA / BOSTON / CHICAGO / CLEVELAND / DENVER / HARTFORD / HOUSTON / LOS ANGELES
NEW ORLEANS / NEW YORK / PHOENIX / SAN FRANCISCO / WASHINGTON, D.C. / EDMONTON / TORONTO

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. Sass
Senior Vice President

By _____
Joseph C. Demty, A.S.A., M.A.A.A.
Vice President and Actuary

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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. For groups that elect an optional cost-of-living provision, the employee contribution rate is increased by 1 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 three 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 3,883 active general employees and 300 police and firemen as of June 30, 1985, who were participating in the System. The average salary was $15,000 for general employees and $21,100 for police and firemen. On average, the general employees were age 47 and had 10 years of service; police and firemen were age 38 with 10 1/2 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 1,619 pensioners and 56 beneficiaries as of June 30, 1985. The pensioners' average monthly benefit was $300. Of all the pensioners on the rolls, 7 per cent had retired in the year ended June 30, 1985.

Retirement Fund

As of June 30, 1985, the Fund had assets of approximately $129.1 million available as an offset to the actuarial liabilities for future benefits.

Actuarial Valuation

Our valuation was prepared as of June 30, 1985. Our calculations were based on what we believe are reasonable assumptions as to expected future experience. With this valuation we have revised the net investment return and salary scale assumptions. 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 the date of hire to assumed retirement age. All of the assumptions and methods are detailed in the attached Certificate of Actuarial Valuation.

The employer normal cost* for general employees is $2.1 million. This is 3.6 per cent of the payroll of participating general employees. The employer normal cost for police and firemen is $0.4 million or 6.7 per cent of payroll.

For general employees, the actuarial liability* (the accumulated cost of the benefits assigned to the period before July 1, 1985) is $134.7 million of which $55.9 million represents the liability to those already receiving pensions. The unfunded actuarial liability at the end of the year is $20.5 million after accounting for assets of $114.2 million. For police and firemen, the actuarial liability is $16.4 million of which $5.6 million is for those receiving pensions. The unfunded actuarial liability stands at $1.6 million after accounting for police and fire assets of $14.8 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 approximately $150 million. Thus the assets are short of this amount by $20.6 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, 1985 adjusted for monthly payment is $5.1 million (8.7 per cent of covered payroll) for general employees and $0.6 million (9.8 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.

Table 19

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							
		0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	Unknown
Total	500 $21,100	89 $18,400	48 $19,700	54 $21,800	43 $22,200	21 $24,300	9 $26,800	1 $27,000	11 $20,000
Under 20	1 $18,900	1 $18,900	--	--	--	--	--	--	--
20 - 24	17 18,500	17 18,500	--	--	--	--	--	--	--
25 - 29	58 19,500	46 19,500	12 $18,900	1 $18,100	--	--	--	--	0 $18,100
30 - 34	54 20,400	20 19,400	18 20,500	14 21,800	--	--	--	--	4 21,200
35 - 39	51 21,500	4 18,800	10 20,800	30 21,500	6 $22,800	--	--	--	1 20,800
40 - 44	42 22,000	1 19,500	3 18,800	10 22,100	20 22,000	7 $24,900	--	--	--
45 - 49	23 22,400	2 20,800	--	3 19,800	11 21,800	4 23,100	1 $18,800	--	--
50 - 54	10 24,300	--	--	1 23,800	4 22,000	4 23,200	1 20,800	1 $27,000	--
55 - 59	10 24,300	1 18,000	1 18,100	2 23,800	0 23,800	6 23,500	3 25,800	--	--
60 - 64	4 20,700	--	1 14,400	1 27,800	--	2 20,400	--	--	--
65 and over	1 18,800	1 18,800	--	--	--	--	--	--	--
Unknown	0	0	0	--	--	--	--	--	--

RHODE ISLAND MUNICIPAL ERS

Table 19

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

FIREMEN AND POLICEMEN

Age	Total	Years of service							
		0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	Unknown
Total	500 $21,100	89 $18,400	48 $19,700	54 $21,800	43 $22,200	21 $24,300	9 $26,800	1 $27,000	11 $20,000
Under 20	1 $18,900	1 $18,900	--	--	--	--	--	--	--
20 - 24	17 18,500	17 18,500	--	--	--	--	--	--	--
25 - 29	58 19,500	46 19,500	12 $18,900	1 $18,100	--	--	--	--	0 $18,100
30 - 34	54 20,400	20 19,400	18 20,500	14 21,800	--	--	--	--	4 21,200
35 - 39	51 21,500	4 18,800	10 20,800	30 21,500	6 $22,800	--	--	--	1 20,800
40 - 44	42 22,000	1 19,500	3 18,800	10 22,100	20 22,000	7 $24,900	--	--	--
45 - 49	23 22,400	2 20,800	--	3 19,800	11 21,800	4 23,100	1 $18,800	--	--
50 - 54	10 24,300	--	--	1 23,800	4 22,000	4 23,200	1 20,800	1 $27,000	--
55 - 59	10 24,300	1 18,000	1 18,100	2 23,800	0 23,800	6 23,500	3 25,800	--	--
60 - 64	4 20,700	--	1 14,400	1 27,800	--	2 20,400	--	--	--
65 and over	1 18,800	1 18,800	--	--	--	--	--	--	--
Unknown	0	0	0	--	--	--	--	--	--

RHODE ISLAND MUNICIPAL ERS

Table 2B

Statistical Data on Active Employees
on June 30, 1985 and 1984

POLICE AND FIREMEN

	June 30, 1985	June 30, 1984
Number of covered employees	300	283
Total annual salary	$6,328,900	$5,603,200
Average annual salary	$21,100	$19,800
Average age	38	37 1/2
Average years of service	10 1/2	11
Number eligible for service retirement	31	29
Number vested but not eligible to retire	121	117

RHODE ISLAND MUNICIPAL ERS

Table 2C

Statistical Data on Active Employees on June 30, 1985
by Municipality

Municipality	Number	Average age	Average service	Average salary
General Employees				
01 Barrington	131	47 1/2	9 1/2	$15,200
02 Bristol	107	45 1/2	9 1/2	13,400
03 Burrillville	104	48 1/2	7 1/2	12,900
07 Cranston	573	47 1/2	10	15,200
09 E. Greenwich	123	46 1/2	8 1/2	13,100
10 E. Providence	346	47	11 1/2	17,000
11 Exeter-W. Greenwich School District	28	46 1/2	9	9,300
12 Foster	27	47 1/2	5	11,300
14 Hopkinton	35	44 1/2	5 1/2	12,000
15 Jamestown	33	40 1/2	6 1/2	14,700
16 Johnston	164	51	11 1/2	14,200
21 Newport	265	43 1/2	10 1/2	17,100
22 New Shoreham	19	42 1/2	6 1/2	11,900
23 N. Kingstown	166	45 1/2	8 1/2	15,400
24 N. Providence	200	47 1/2	9 1/2	12,200
25 N. Smithfield	67	50 1/2	8 1/2	14,700
26 Pawtucket	515	47	11	16,100
29 Richmond	15	42	3	10,000
30 Scituate	56	51	11	12,400
31 Smithfield	111	49 1/2	8 1/2	14,400
32 S. Kingstown	189	44	6 1/2	13,300
33 Tiverton	69	48 1/2	8	14,800
34 Warren	60	49 1/2	12	14,500
36 Westerly	13	53 1/2	10	15,600
39 Woonsocket	338	50	12	15,000
40 Chariho Regional School District	23	47 1/2	7 1/2	13,600
51 Cranston Housing	10	45 1/2	8 1/2	17,700
52 E. Providence Housing	9	48 1/2	5	8,600
53 Pawtucket Housing	25	49	12	21,000
56 Cumberland Housing	8	48 1/2	8 1/2	17,800
57 Lincoln Housing	7	45 1/2	8 1/2	17,500
59 Bristol Housing	6	49 1/2	8	17,600
65 Burrillville Housing	2	42	7	16,900
66 N. Providence Housing	6	43	5 1/2	14,600
67 E. Smithfield Water	1	46 1/2	3 1/2	16,500
68 Greenville Water	4	50	9	17,300
71 Warren Housing	6	45	5 1/2	14,500
72 Johnston Housing	6	48 1/2	4 1/2	14,900
79 Coventry Housing	7	51	8 1/2	16,200
80 S. Kingstown Housing	1	64 1/2	7 1/2	17,400
83 W. Warwick Housing	6	44	8	16,500
84 Smithfield Housing	2	48 1/2	9	15,400
Police and Fire				
50 E. Greenwich Fire	11	46	10 1/2	26,800
54 E. Greenwich Police	26	39 1/2	10	22,100
55 N. Kingstown Fire	59	38 1/2	11	22,600
58 N. Providence Fire	27	39 1/2	11 1/2	18,900
60 Barrington P & F	54	39	15	21,100
62 Warren Police	16	39	11 1/2	21,900
63 S. Kingstown P & F	40	36 1/2	10	20,100
64 Primrose Volunteer Fire	8	35	3 1/2	17,200
76 N. Smithfield Police	15	36 1/2	12	20,300
77 Tiverton Fire	18	41	10 1/2	20,300
82 Foster Police	6	34 1/2	6	18,500
85 Woonsocket Police	20	28	2	20,200

RHODE ISLAND MUNICIPAL ERS

Table 29

Statistical Data on Active Employees on June 30, 1984
By Municipality

Municipality	Number	Average age	Average service	Average salary
General Employees				
01 Barrington	141	49 1/2	9	$13,400
02 Bristol	111	47 1/2	9 1/2	13,500
03 Burrillville	126	48	7	11,900
04 Charlestown	60?	47 1/2	9 1/2	13,300
05 Coventry	121	48	8 1/2	13,600
06 E. Greenwich	596	49 1/2	11	18,500
07 E. Providence				
08 Exeter-W. Greenwich School District	30	48	8	8,000
	27	48	5	11,600
09 Foster	28	43 1/2	6 1/2	11,700
10 Hopkinton	58	43 1/2	6 1/2	14,500
11 Jamestown	170	50 1/2	11 1/2	13,300
12 Johnston	248	43	10 1/2	12,100
13 Newport	21	41	5 1/2	11,600
14 New Shoreham	163	43	8 1/2	14,200
15 N. Kingstown	201	43 1/2	8 1/2	11,100
16 N. Providence	55	48 1/2	6	11,800
17 N. Smithfield	814	47	10 1/2	14,100
18 Pawtucket	15	40 1/2	5 1/2	9,100
19 Richmond	58	51	10 1/2	11,000
20 Scituate	106	49 1/2	8	13,300
21 Smithfield	184	43	6 1/2	12,400
22 S. Kingstown	70	50	8 1/2	13,100
23 Tiverton	82	51 1/2	11 1/2	13,500
24 Warren	8	52	10	22,100
25 Westerly	344	49 1/2	11	13,400
26 Woonsocket				
40 Chariho Regional School District	24	45 1/2	5	11,100
41 Cranston Housing	13	42 1/2	7 1/2	16,600
42 E. Providence Housing	11	47	5 1/2	16,300
43 Pawtucket Housing	28	50 1/2	12 1/2	14,000
44 Cumberland Housing	9	43	7	16,400
45 Lincoln Housing	7	44 1/2	7 1/2	17,500
46 Bristol Housing	5	49	8 1/2	15,500
47 Burrillville Housing	2	41	8	15,800
48 N. Providence Housing	6	42	4	15,700
49 E. Smithfield Water	3	48	5 1/2	14,500
50 Greenville Water	4	48 1/2	7 1/2	19,500
51 Warren Housing	6	44	4 1/2	14,500
52 Johnston Housing	6	47 1/2	9 1/2	13,400
53 Coventry Housing	7	49 1/2	7 1/2	13,400
80 S. Kingstown Housing	1	63 1/2	10 1/2	16,500
83 N. Kenvick Housing	6	45	7	15,000
84 Smithfield Housing	2	47 1/2	8	14,500
Police and Fire				
52 E. Greenwich Fire	10	50	13	25,800
54 E. Greenwich Police	22	40	11 1/2	21,600
55 N. Kingstown Fire	58	37 1/2	10 1/2	20,000
58 N. Providence Fire	26	38 1/2	11	16,900
60 Barrington F & F	52	39 1/2	15 1/2	20,400
62 Warren Police	16	38	10 1/2	19,800
65 S. Kingstown F & F	30	35 1/2	10	19,500
66 Primrose Volunteer Fire	-	51	3	16,800
78 N. Smithfield Police	13	36 1/2	12	18,700
77 Tiverton Fire	17	40 1/2	10 1/2	19,100
82 Foster Police	8	33 1/2	5	18,200
85 Woonsocket Police	17	27 1/2	1 1/2	20,200

RHODE ISLAND MUNICIPAL ERS

III. RETIREE DATA

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

The following are significant statistics on the retired group as of June 30, 1985 and 1984:

	June 30, 1985	June 30, 1984
Pensioners:		
Number	1,619	1,530
Average age	69 1/2	69 1/2
Average monthly benefit	$300	$283
Beneficiaries:		
Number	56	51
Average age	64 1/2	64
Average monthly benefit	$277	$275

Table 3 gives distributions of the 124 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 we received for those currently on the pension rolls was generally good. One question, which we have raised in the past has to do with whether some of those designated as pensioners are in fact really beneficiaries.

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, 1985
by Type and by Monthly Amount

Monthly amount	Total	Type of pension			
		Service	Ordinary disability	Accidental disability	Beneficiary
Total	124	113	8	2	1
Under $50	1	1	--	--	--
$50 - 99	7	7	--	--	--
100 - 149	6	6	--	--	--
150 - 199	12	10	2	--	--
200 - 249	8	7	1	--	--
250 - 299	17	14	3	--	--
300 - 349	14	12	2	--	--
350 - 399	10	10	--	--	--
400 - 449	7	7	--	--	--
450 - 499	8	8	--	--	--
500 - 599	6	6	--	--	--
600 - 699	5	5	--	--	--
700 - 799	5	4	--	--	1
800 - 899	7	6	--	1	--
900 - 999	1	1	--	--	--
1,000 - 1,099	1	1	--	--	--
1,100 - 1,199	5	4	--	1	--
1,200 - 1,299	1	1	--	--	--
1,300 - 1,399	1	1	--	--	--
1,500 - 1,999	2	2	--	--	--

RHODE ISLAND MUNICIPAL ERS

Table 4

Pensions Awarded in the Year Ended June 30, 1985
by Type and by Age on Effective Date

Age on effective date	Total	Type of Pension			
		Service	Ordinary disability	Accidental disability	Beneficiary
Total	124	113	8	2	1
40 - 44	4	--	2	1	1
45 - 49	1	1	--	--	--
52	1	--	--	1	--
54	3	1	1	--	--
56	2	1	1	--	--
57	4	2	2	--	--
58	20 9	8	1	--	--
59	5	5	--	--	--
60	9	9	--	--	--
61	8	8	--	--	--
62	56 26	25	1	--	--
63	8	8	--	--	--
64	5	5	--	--	--
65	20	20	--	--	--
66	3	3	--	--	--
67	34 6	6	--	--	--
68	3	3	--	--	--
69	2	2	--	--	--
70	5	5	--	--	--
71	6 1	1	--	--	--

RHODE ISLAND MUNICIPAL ERS

Table 5

Pensions in Payment Status on June 30, 1985
by Type and by Monthly Amount

Monthly amount	Total	Type of pension			
		Service	Ordinary disability	Accidental disability	Beneficiary
Total	1,675	1,465	105	49	56
Under $50	54	48	4	1	1
$50 - 99	166	153	9	1	3
100 - 149	219	198	14	1	6
150 - 199	282	235	37	2	8
200 - 249	206	177	16	2	11
250 - 299	137	117	9	--	11
300 - 349	127	112	7	5	3
350 - 399	96	85	3	4	4
400 - 449	83	78	1	2	2
450 - 499	67	53	3	7	4
500 - 599	72	63	--	9	--
600 - 699	44	39	1	3	1
700 - 799	44	43	--	--	1
800 - 899	23	19	--	4	--
900 - 999	18	14	--	3	1
1,000 - 1,099	16	11	1	4	--
1,100 - 1,199	10	9	--	1	--
1,200 - 1,299	4	4	--	--	--
1,300 - 1,399	2	2	--	--	--
1,400 - 1,499	1	1	--	--	--
1,500 - 1,999	4	4	--	--	--

RHODE ISLAND MUNICIPAL ERS

Table 6

Pensions in Payment Status on June 30, 1985
by Type and by Age

Age on June 30, 1985	Total	Type of Pension			
		Service	Ordinary disability	Accidental disability	Beneficiary
Total	1,675	1,465	105	49	56
Under 25	1	--	--	--	1
25 - 29	2	--	--	1	1
30 - 34	3	--	1	1	1
35 - 39	3	--	--	3	--
40 - 44	11	--	5	4	2
45 - 49	16	1	7	7	1
50 - 54	37	9	15	7	6
55 - 59	67	41	18	7	1
60 - 64	313	268	25	7	13
65 - 69	466	433	20	5	8
70 - 74	375	354	7	3	11
75 - 79	218	205	4	2	7
80 - 84	124	118	2	2	2
85 - 89	30	27	1	--	2
90 - 94	8	8	--	--	--
95 - 99	1	1	--	--	--

RHODE ISLAND MUNICIPAL ERS

Table 7

Pensioner and Beneficiary Statistical Data
as of June 30, 1985 by Municipality

Municipality	Number	Average age	Average monthly benefit
General Employees			
01 Barrington	79	69	$290
02 Bristol	46	66 1/2	284
03 Burrillville	21	65 1/2	374
07 Cranston	263	71	258
09 E. Greenwich	28	67	295
10 E. Providence	145	70	297
11 Exeter-W. Greenwich School District	1	47 1/2	287
12 Foster	--	--	--
14 Hopkinton	5	77 1/2	168
15 Jamestown	13	67 1/2	343
16 Johnston	47	68	246
21 Newport	131	68 1/2	370
22 New Shoreham	3	66 1/2	129
23 N. Kingstown	59	69	285
24 N. Providence	54	70 1/2	230
25 N. Smithfield	33	67 1/2	227
26 Pawtucket	297	70 1/2	297
29 Richmond	3	64	246
30 Scituate*	29	70 1/2	234
31 Smithfield**	32	70	247
32 S. Kingstown	45	70	260
33 Tiverton	30	70	239
34 Warren	29	66	227
36 Westerly	7	64 1/2	628
39 Woonsocket	150	70 1/2	256
40 Chariho Regional School District	3	65	378
51 Cranston Housing	4	71	207
52 E. Providence Housing	6	68 1/2	358
53 Pawtucket Housing	17	69 1/2	357
56 Cumberland Housing	--	--	--
57 Lincoln Housing	2	64	199
59 Bristol Housing	--	--	--
65 Burrillville Housing	--	--	--
66 N. Providence Housing	1	67 1/2	239
67 E. Smithfield water	2	69 1/2	304
68 Greenville Water	1	66 1/2	261
71 Warren Housing	--	--	--
72 Johnston Housing	1	65 1/2	241
76 Coventry Housing	--	--	--
80 S. Kingstown Housing	--	--	--
83 W. Warwick Housing	1	67 1/2	375
84 Smithfield Housing	--	--	--
Police and Fire			
50 E. Greenwich Fire	3	62	1,266
54 E. Greenwich Police	8	62 1/2	374
55 N. Kingstown Fire	14	65	582
58 N. Providence Fire	5	64 1/2	330
60 Barrington F & F	24	58	679
62 Warren Police	10	58	585
63 S. Kingstown F & F	9	58 1/2	546
64 Primrose Volunteer Fire	1	71 1/2	303
70 N. Smithfield Police	2	42	458
77 Tiverton Fire	9	62	564
82 Foster Police	--	--	--
85 Woonsocket Police	--	--	--

*Includes 1 pensioner formerly covered by the Scituate Police Plan.
**Includes 2 pensioners formerly covered by the Smithfield Police and Fire 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, 1985.

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

Payments from the Fund are primarily for refunds of employee contributions, lump sum death benefits, and pension payments. Contribution refunds occur when an employee terminates employment and elects to take a refund, or when he dies after retirement without having received payments from the Fund equal to his total contributions.

Table 8 gives a summary of income and expenditures for the year ended June 30, 1985.

At June 30, 1985 assets totalled approximately $129.1 million. Table 9 gives a breakdown of the assets. About 39 per cent of the Fund was invested in fixed income securities such as bonds and notes.

The financial statements indicate that 86 per cent of the assets relate to general employees and 14 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, 1985

Employer contributions	$ 7,317,332	
Member contributions	4,025,085	
Total contributions	$11,342,417	
less: Administration expenses	15	
Net contribution income		$11,342,402
Net miscellaneous items		(165,971)
Investment income:		
Dividends	$2,348,730	
Interest	7,898,904	
Capital gains	344,730	
Sale of options/calls	12,348	
Net investment income		10,604,712
Total income available for benefit payments		$21,781,143
Benefit payments:		
Pension benefits	$ 7,984,188	
Death benefits	98,500	
Contribution refunds	388,232	
Total benefit payments		8,852,809
Excess of income over expenses		$12,928,334

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

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V. ACTUARIAL ASSUMPTIONS AND COST METHOD

The actual cost of a pension plan consists of the benefit payments and administrative expenses less any investment earnings. An actuarial cost method aims to budget this cost so as to establish a reasonable relationship between employer pension contributions and the employee services that give rise to the pension 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 the previous actuarial valuation with two exceptions. The net investment return and salary scale assumptions have been increased to better reflect past experience and future expectations.

Mortality Rates

We assumed that mortality rates would conform with the 1971 Group Annuity Mortality Table. This is a table of pension plan mortality, and we believe it is a reasonable basis for estimating 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 determined 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 level as a percentage of payroll rather than level as a dollar amount, and a salary projection is also used for this purpose. If the cost were calculated as a level dollar amount for an individual, the cost might be a high per cent of his pay when he is young and a lower per cent of his higher salary at a later age. By the use of a salary projection, the contribution for an individual, all other things remaining the same, tends to stay at the same percentage over the years.

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

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

Age	Present Salary as a % of Age 65 Salary	Annual Increases (Rate %)
20	11.00	5.85
25	15.00	5.77
30	19.79	5.61
35	25.91	5.41
40	33.52	5.09
45	42.66	4.73
50	53.43	4.45
55	66.26	4.34
60	81.02	4.17

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.

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 8 per cent - in contrast to a 5 per cent yield - will reduce annual costs by 15-20 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 increased the investment return assumption to 7 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. It is also consistent with the increased salary scale factors discussed above.

Termination Rates

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

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

General Employees (Rate 7)

Age	Death*	Disability	Withdrawal	Total*
20	.05	.00	21.20	21.31
25	.06	.08	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	.51	.91	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 2)

Age	Death*	Disability	Withdrawal	Total*
20	.03	.12	--	.15
25	.06	.17	--	.23
30	.08	.22	--	.30
35	.11	.29	--	.40
40	.19	.44	--	.63
45	.29	.72	--	1.01
50	.53	1.21	--	1.74
55	.85	--	--	.85

42% 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 age 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 30 years of service if later. Police and firemen retirements are assumed to occur when an 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.

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

Table 11

Expected Number of Years of Life
Remaining at Specified Ages

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

1971 Group Annuity Mortality Tables

RHODE ISLAND MUNICIPAL ERS

VI. RESULTS OF VALUATION

General Employees

The costs for general employees as of June 30, 1985 developed as follows:

Item	Amount	% of Payroll
(1) Participating payroll	$58,078,900	--
(2) Employer normal cost	2,094,700	3.6%
(3) Unfunded actuarial liability	20,479,600	--
(4) Amortization of unfunded actuarial liability	2,803,300	4.8
(5) Total annual cost if paid July 1, 1985 = (2) + (4)	4,898,000	8.4
(6) Total annual cost if paid monthly = (5) plus 1/2 year interest	5,081,800	8.7

Police and Firemen

The costs for police and firemen as of June 30, 1985, developed as follows:

Item	Amount	% of Payroll
(1) Participating payroll	$6,328,900	--
(2) Employer normal cost	421,100	6.7%
(3) Unfunded actuarial liability	1,582,600	--
(4) Amortization of unfunded actuarial liability	178,800	2.8
(5) Total annual cost if paid July 1, 1985 = (2) + (4)	599,900	9.5
(6) Total annual cost if paid monthly = (5) plus 1/2 year interest	622,400	9.8

The actuarial cost method develops costs that assume the employer contributions will be paid into the retirement funds at the beginning of the year, and begin earning interest from that time. In fact, the money is deposited monthly. 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 amortizaiton periods were lengthened four 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 13 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 1.6 per cent of payroll (from 10.0 per cent to 8.4 per cent). The normal cost percentage decreased from 4.4 per cent to 3.6 per cent and there was also a decrease in the amortization payment when expressed as a per cent of payroll (from 5.6 per cent to 4.8 per cent). The dollar-weighted aggregate amortization period remained at 9 years for the general employee group. It should be noted that this year's valuation includes the cost of COLA Plan B for the cities of Cranston and East Providence.

For police and firemen, costs decreased by 3.1 per cent of payroll (from 12.6 per cent to 9.5 per cent). The normal cost percentage decreased from 7.8 per cent to 6.7 per cent and the amortization payment as a per cent of payroll decreased by 2.0 per cent (from 4.8 per cent to 2.8 per cent). The dollar-weighted aggregate amortization period increased by one year for this group from 12 years to 13 years.

Table 13 shows the recommended rates for each participating municipality. These rates are to be effective for the year beginning July 1, 1987. The total rates are separated into normal cost and unfunded liability amortization components. For comparison, the 1986 and 1985 recommended total rates are also shown. In addition, the remaining amortization periods for each municipality are presented. There are no new entering groups as of June 30, 1985. The city of East Providence elected the optional COLA Plan B.

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	$ 79,196,600	$ 6,968,200
Inactive members	1,935,600	49,400
Retired members	55,906,100	5,599,200
Total value of vested benefits	$137,038,300	$12,616,800
Assets	114,187,800	10,829,000
Unfunded value of vested benefits	$ 22,850,500	$ [illegible]

Table 12 includes the unfunded vested benefits for each municipality.

Overall Status of System

As Table 13 shows, the costs for almost all the municipalities are lower than those reported last year. This is mostly a result of the changes in the investment return and salary increase assumptions. In addition, actuarial gains and losses can have an effect. An example 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

Actuarial Cost Factors as of June 30, 1985
by Municipality

Municipality	Year joined	Employer normal cost	Unfunded actuarial liability	Unfunded value of vested benefits
General Employees				
01 Barrington	1957	$ 70,700	$ 272,400	$ 371,700
02 Bristol	1957	46,100	--	--
03 Burrillville	1968	58,400	264,400	543,800
07 Cranston*	1963	359,600	9,771,300	9,699,900
09 E. Greenwich	1957	49,400	--	--
10 E. Providence*	1961	208,800	3,851,800	4,536,600
11 Exeter-W. Greenwich School District	1982	10,900	259,800	190,000
12 Foster	1981	12,700	23,300	--
14 Hopkinton	1969	15,800	--	--
15 Jamestown	1964	13,400	--	--
16 Johnston	1968	96,600	38,700	356,800
21 Newport	1966	107,800	2,436,700	2,435,900
22 New Shoreham	1980	7,600	79,700	69,100
23 N. Kingstown	1957	80,900	--	--
24 N. Providence	1961	87,900	604,600	700,400
25 N. Smithfield	1964	46,800	146,100	188,300
26 Pawtucket	1962	268,400	3,593,800	4,125,500
29 Richmond	1979	6,900	59,600	35,700
30 Scituate	1967	27,700	273,100	276,600
31 Smithfield	1959	70,500	--	--
32 S. Kingstown	1957	89,800	--	--
33 Tiverton	1964	45,600	186,300	36,700
34 Warren	1957	34,800	--	75,100
36 Westerly	1976	9,200	593,100	644,100
39 Woonsocket	1962	184,800	118,900	975,100
40 Chariho Regional School District	1981	12,800	296,300	273,800
51 Cranston Housing	1968	6,200	--	--
52 E. Providence Housing	1968	3,800	--	--
53 Pawtucket Housing	1968	18,400	--	--
56 Cumberland Housing	1969	6,000	--	5,600
57 Lincoln Housing	1969	4,500	11,900	64,400
59 Bristol Housing	1970	5,000	--	--
65 Burrillville Housing	1972	1,100	--	--
66 N. Providence Housing	1973	2,700	--	--
67 E. Smithfield Water	1973	1,000	12,800	9,800
68 Greenville Water	1973	1,900	27,900	--
71 Warren Housing	1975	3,400	4,100	--
72 Johnston Housing	1976	5,100	--	--
79 Coventry Housing	1977	5,300	28,100	33,100
80 S. Kingstown Housing	1977	1,200	--	--
83 W. Warwick Housing	1981	3,600	80,300	104,900
84 Smithfield Housing	1981	1,600	27,200	48,000
Police and Fire				
50 E. Greenwich Fire	1967	26,800	2,000	--
54 E. Greenwich Police	1968	36,900	132,300	--
55 N. Kingstown Fire	1968	87,900	333,300	--
58 N. Providence Fire	1968	36,100	110,100	--
60 Barrington P & F	1970	69,100	514,400	--
62 Warren Police	1970	23,400	428,200	195,900
63 S. Kingstown P & F	1971	51,300	--	--
64 Primrose Volunteer Fire	1972	10,400	--	--
76 N. Smithfield Police	1977	18,200	56,300	--
77 Tiverton Fire	1977	27,600	151,100	--
82 Foster Police	1981	8,100	14,300	--
85 Woonsocket Police	1982	25,300	--	--

*Based on COLA Plan B

Table 13

Rhode Island Municipal Employees' Retirement System
Recommended Contribution Rates

Municipality	YEAR BEGINNING JULY 1, 1987 Amortization Period	Normal Cost	Past Service	Total Rate	TOTAL RATE YEAR BEGINNING JULY 1, 1986	1985
General Employees						
01 Barrington	5	3.68%	3.27%	6.95%	12.46%	11.82%
02 Bristol	--	3.33	--	3.33	3.97	4.20
03 Burrillville	8	4.52	3.25	7.77	9.88	10.25
07 Cranston*	18	4.27	11.14	15.41	12.48	13.79
09 E. Greenwich	6	3.19	--	3.19	5.88	4.83
10 E. Providence*	6	3.67	13.44	17.11	20.55	13.42
11 Exeter-W. Greenwich School District	22	4.33	9.04	13.37	14.54	15.83
12 Foster	21	4.34	0.70	5.04	8.95	10.19
14 Hopkinton	9	3.90	--	3.90	5.22	5.44
15 Jamestown	4	2.86	--	2.86	9.51	7.83
16 Johnston	8	4.30	0.26	4.56	8.52	8.46
21 Newport	17	2.47	5.50	7.97	10.08	10.24
22 New Shoreham	20	3.50	3.36	6.86	8.53	11.46
23 N. Kingstown	2	3.28	--	3.28	4.20	6.04
24 N. Providence	17	3.74	2.53	6.27	7.63	8.20
25 N. Smithfield	4	4.92	4.26	9.18	10.46	8.08
26 Pawtucket	17	3.35	4.43	7.78	10.11	10.40
29 Richmond	19	4.75	3.88	8.63	9.98	11.70
30 Scituate	8	4.14	6.48	10.62	13.24	13.83
31 Smithfield	2	4.56	--	4.56	9.74	11.75
32 S. Kingstown	--	3.71	--	3.71	4.44	4.46
33 Tiverton	4	4.64	5.26	9.90	15.12	15.93
34 Warren	3	4.16	--	4.16	10.57	8.06
36 Westerly	17	4.70	29.85	34.55	38.54	39.28
39 Woonsocket	2	3.79	1.26	5.05	12.87	12.75
40 Chariho Reg. Sch. Dist.	21	4.25	8.82	13.07	13.23	14.33
51 Cranston Housing	8	3.61	--	3.61	3.70	3.77
52 E. Providence Housing	8	5.03	--	5.03	4.97	6.27
53 Pawtucket Housing	8	3.63	--	3.63	4.52	4.53
56 Cumberland Housing	16	4.36	--	4.36	5.08	5.11
57 Lincoln Housing	9	3.81	1.41	5.22	8.73	6.53
59 Bristol Housing	10	4.92	--	4.92	5.15	4.73
65 Burrillville Housing	17	3.26	--	3.26	8.25	13.60
66 N. Providence Housing	17	3.20	--	3.20	4.25	3.70
67 E. Smithfield Water	21	6.29	7.04	13.33	13.99	15.27
68 Greenville Water	17	2.84	4.23	7.07	9.11	10.49
71 Warren Housing	15	4.06	0.43	4.49	6.56	8.23
72 Johnston Housing	17	5.95	--	5.95	6.95	7.00
79 Coventry Housing	17	4.86	2.56	7.42	10.59	13.11
80 S. Kingstown Housing	17	6.90	--	6.90	14.11	13.73
83 W. Warwick Housing	21	3.79	7.56	11.35	12.67	13.33
84 Smithfield Housing	21	5.38	8.26	13.64	15.73	23.57
Police and Fire						
50 E. Greenwich Fire	17	9.45	0.07	9.52	11.53	13.67
54 E. Greenwich Police	17	6.65	2.35	9.00	14.12	13.81
55 N. Kingstown Fire	13	6.84	2.96	9.80	13.41	13.94
58 N. Providence Fire	9	7.36	3.28	10.64	14.00	16.55
60 Barrington P & F	17	6.30	4.62	10.92	13.91	13.99
62 Warren Police	20	6.92	11.47	18.39	21.03	22.79
63 S. Kingstown P & F	4	6.62	--	6.62	11.97	13.51
64 Primrose Volunteer Fire	12	7.86	--	7.86	8.50	7.93
76 N. Smithfield Police	17	6.21	1.91	8.12	9.63	9.53
77 Tiverton Fire	17	7.82	4.22	12.04	12.65	13.19
82 Foster Police	21	7.57	1.27	8.84	11.06	11.42
85 Woonsocket Police	22	6.48	--	6.48	7.60	7.72

*Based on COLA Plan B

MARTIN E. SEGAL COMPANY

101 ARCH STREET
BOSTON, MASSACHUSETTS 02110
(617) 262-0550

May 7, 1986

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, 1985.

This certificate contains the following attached exhibits:

EXHIBIT I - Actuarial Cost for Year Beginning July 1, 1985

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 reasonably related to the experience of the plan and to reasonable expectations and (b) represent my best estimate of anticipated experience under the plan.

MARTIN E. SEGAL COMPANY, INCORPORATED

By: Joseph C. Demty

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

JCD/emb
D52

EXHIBIT I

ACTUARIAL COST FOR YEAR BEGINNING JULY 1, 1985

A. GENERAL EMPLOYEES

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

a. 3,883 active participants (including 1,658 fully vested) with total annual salaries of $58,078,900

b. 715 inactive participants

c. 1,588 pensioners (including 38 beneficiaries of deceased pensioners and active employees)

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

1.	Total normal cost		$ 5,723,000
2.	Projected employee contributions		1,628,300
3.	Employer normal cost		2,094,700
4.	Actuarial liability - total		134,667,400
	Active employees	$76,825,700	
	Inactive employees	1,935,600	
	Pensioners (including beneficiaries of deceased pensioners and active employees)	55,906,100	
5.	Assets		114,187,800
6.	Unfunded actuarial liability		20,479,600

Liability for accrued vested benefits: $137,038,300

Note: Included are 243 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. The liability for accrued vested benefits is based on a different set of assumptions.

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

1. Total normal cost .... $ [illegible]
2. Projected employee contributions .... [illegible]
3. Employer normal cost .... [illegible]
4. Actuarial liability - total .... [illegible]
   Active employees $10,758,000
   Inactive employees 49,400
   Pensioners (including beneficiaries of deceased pensioners and active employees) 5,599,200
5. Assets .... [illegible]
6. Unfunded actuarial liability .... [illegible]

Liability for accrued vested benefits: [illegible]

Note: Included are 17 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. The liability for accrued vested benefits is based on a different set of assumptions.

Age	Death	Disability	Withdrawal	Total
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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

Age	Death	Disability	Withdrawal	Total
[illegible]	[illegible]	[illegible]	—	[illegible]
[illegible]	[illegible]	[illegible]	—	[illegible]
[illegible]	[illegible]	[illegible]	—	[illegible]
[illegible]	[illegible]	[illegible]	—	[illegible]
[illegible]	[illegible]	[illegible]	—	[illegible]
[illegible]	[illegible]	[illegible]	—	[illegible]
[illegible]	[illegible]	[illegible]	—	[illegible]
[illegible]	[illegible]	—	—	[illegible]

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

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

Note: Total rates may not add to totals shown because of rounding.

Salary scale:

Age	Present salary as a percent of salary at 65	Annual increase (Rate %)
20	11.30	5.85
25	15.00	5.77
30	19.79	5.61
35	25.91	5.41
40	33.52	5.09
45	42.66	4.73
50	53.63	4.45
55	66.24	4.36
60	82.02	4.17

Includes allowance for inflation of 4% per year (previously 3% per year).

Turnover characteristics of employees: Same as those exhibited by employees with known characteristics.

Retirement age -- General Employees: 65, or completion of service requirement, if later. Optional Police and Firemen: 55, or completion of service requirement, if later.

Percent married -- Social Security wages during 1977

Net investment return -- 7 1/2% (previously 6 1/2%)

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

Actuarial cost method -- Entry age normal cost

EXHIBIT III

SUMMARY OF PLAN PROVISIONS

Service pension

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

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

Early Retirement (Police and Firemen only)

Age requirement: 50
Service requirement: 20 years
Amount: Regular pension accrued, reduced by 6% for each year of age less than 55.

Disability

Ordinary:

Age requirement: None
Service requirement: 5 years
Amount: 2% 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 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

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

Post-retirement death benefit

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

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.

Post-retirement cost-of-living increases:

3% of the original amount, not compounded, to pensioners and beneficiaries if municipal group elects this optional provision.