

*Report
of the
Actuary*

MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM
OF THE STATE OF RHODE ISLAND

Actuarial Valuation as of June 30, 1982

Martin E. Segal Company, Inc.
March, 1983

MARTIN E. SEGAL COMPANY

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March 23, 1983

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, 1982.

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, 1984.

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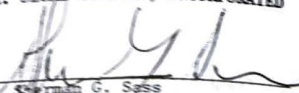
Following the report, we have attached our actuarial certificate detailing the cost factors, assumptions, and plan of benefits used for the valuation.

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

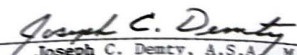
Sincerely yours,

MARTIN E. SEGAL COMPANY, INCORPORATED

By


Sherman G. Segal
Senior Vice President

By


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

/psc

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 3,930 active general employees and 259 police and firemen as of June 30, 1982, who were participating in the system. The average salary was \$12,300 for general employees and \$17,900 for police and firemen. On the average, the general employees were age 47 and had 9½ years of service; police and firemen were age 38½ with 12 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 1,379 pensioners and 23 beneficiaries as of June 30, 1982. The pensioners' average monthly benefit was \$251. Of all the pensioners on the rolls, 10 per cent had retired in the year ended June 30, 1982.

Retirement Fund

As of June 30, 1982, the Fund had assets of approximately \$85.9 million available as an offset to the actuarial liabilities for future benefits.

Actuarial Valuation

Our valuation was prepared as of June 30, 1982. 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 \$2.1 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 7.3 per cent of payroll.

For general employees, the actuarial liability* (for benefits earned before July 1, 1982) is \$98.7 million of which \$35.2 million represents the liability to those already receiving pensions. The unfunded actuarial liability at the end of the year is \$22.5 million after accounting for assets of \$76.2 million. For police and firemen, the actuarial liability is \$12.6 million of which \$3.4 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 \$3.1 million after accounting for police and fire assets of \$9.5 million.

The value of the System's vested benefits is \$108 million. Thus the assets are short of this amount by \$22 million.

Based on the normal cost plus an amortization payment of each municipality's unfunded actuarial liability, the annual employer cost as of June 30, 1982 adjusted for payment on December 31, 1982 is \$5.3 million (11.0 per cent of covered payroll) for general employees and \$0.7 million (14.8 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.

the reported data on Civil Service employees and the Police and Fire Department employees in the Survey of June 30, 1982. The data included age, service, sex, and salary for each of them. The average salary of the participants was \$14,300 for general employees and \$17,900 for Police and Firemen.

Tables 1A and 1B give detailed age, service and average salary data for general employees and Police and Firemen, respectively.

Table 1A and 1B summarize general basic statistics on active general employees and Police and Firemen. Table 1C gives active employee statistics for each municipality. As we reported these separately for each participating municipality, we will be able to show the range of service data on an individual basis, as well as able to show other employee statistics in other public employee data.

The data we reported for this population is composed of some of the information we reported in our previous report. In some cases, more information about employees in the Police and Fire Departments was obtained from the data on these departments. However, for the majority of the municipalities, the data was similar. The Retirement Board has made much progress in improving the quality of the data. We urge that the Board continue to review the importance of good data to the municipalities.

Table 1A
Number and Average Salaries of Employees in Active Service
as of June 30, 1982
by Age and by Years of Service
GENERAL EMPLOYEES

Age	Total	Years of Service								
		0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 and over	Unknown
Total	3,930 \$12,300	1,224 \$11,400	1,064 \$12,500	842 \$11,900	339 \$13,100	164 \$15,100	66 \$16,500	23 \$13,900	28 \$13,000	180 \$14,300
Under 20	7 \$9,700	6 \$10,300	--	--	--	--	--	--	--	1 \$ 6,100
20 - 24	130 11,500	119 11,400	8 \$12,100	--	--	--	--	--	--	3 13,900
25 - 29	314 12,200	192 12,100	101 12,400	10 \$11,600	--	--	--	--	--	11 13,300
30 - 34	375 13,200	163 12,800	109 13,000	79 13,900	6 \$16,000	--	--	--	--	18 13,400
35 - 39	326 12,900	135 11,200	96 13,300	52 14,700	22 14,800	3 \$12,500	--	--	--	18 15,600
40 - 44	414 11,900	167 10,100	123 11,500	64 13,800	29 15,900	11 14,500	1 \$15,100	--	--	19 15,100
45 - 49	504 12,100	134 10,500	153 11,800	117 11,700	45 14,200	21 15,900	11 18,500	2 \$13,400	--	21 14,400
50 - 54	617 12,000	132 10,600	172 12,800	168 10,400	70 12,900	36 15,900	9 18,800	2 15,300	8 \$10,100	20 13,700
55 - 59	685 12,300	114 11,800	177 12,000	199 11,600	82 11,900	44 15,900	23 14,400	10 15,800	10 15,100	26 13,300
60 - 64	433 12,300	51 12,500	100 12,400	123 11,300	76 11,800	35 14,300	19 15,600	5 11,600	7 10,900	17 12,300
65 and over	86 11,700	4 11,200	16 11,300	29 10,600	9 14,000	14 12,100	3 10,300	4 11,300	3 18,500	4 12,000
Unknown	39 20,700	7 10,900	9 34,500	1 14,000	--	--	--	--	--	22 18,500

Table 1B

Number of Average Salaries of Employees in Active Service
as of June 30, 1982
by Age and by Years of Service
POLICE AND FIREMEN

Age	Total	Years of Service								
		0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 and over	Unknown
Total	259 \$17,900	58 \$16,100	52 \$17,500	70 \$18,000	28 \$19,100	17 \$21,500	8 \$23,100	3 \$21,500	1 \$16,500	22 \$16,500
20 - 24	15 \$14,200	13 \$14,400	--	--	--	--	--	--	--	2 \$13,100
25 - 29	46 15,800	29 15,500	13 \$16,900	--	--	--	--	--	--	4 14,700
30 - 34	45 17,400	8 17,900	20 17,200	14 \$17,400	--	--	--	--	--	3 16,900
35 - 39	52 17,900	3 16,100	12 16,700	27 17,900	6 \$20,500	--	--	--	--	4 18,700
40 - 44	39 18,700	2 25,200	3 17,300	18 18,300	7 18,600	4 \$20,200	--	--	--	5 17,300
45 - 49	22 19,900	1 20,000	2 20,900	5 17,600	6 19,000	5 23,000	1 \$22,700	--	--	2 18,100
50 - 54	15 21,100	--	1 25,200	2 17,600	5 21,600	3 20,000	4 22,100	--	--	--
55 - 59	19 20,500	--	1 25,200	4 20,000	4 15,200	5 22,100	1 30,500	3 \$21,500	--	1 18,200
60 - 64	3 20,100	--	--	--	--	--	2 21,800	--	1 \$16,500	--
65 and over	1 11,100	--	--	--	--	--	--	--	--	1 11,100
Unknown	2 16,200	2 16,200	--	--	--	--	--	--	--	--

RHODE ISLAND MUNICIPAL ERS

Table 2A
Statistical Data on Active Employees
on June 30, 1982 and 1981
GENERAL EMPLOYEES

	June 30, 1982	June 30, 1981
Number of covered employees	3,930	4,150
Total annual salary	\$48,492,300	\$44,735,300
Average annual salary	\$12,300	\$10,800
Average age	47	46½
Average years of service	9½	9
Number eligible for service retirement	498	510
Number vested but not eligible to retire	964	987

RHODE ISLAND MUNICIPAL ERS

Table 2B
 Statistical Data on Active Employees
 on June 30, 1982 and 1981
 POLICE AND FIREMEN

	June 30, 1982	June 30, 1981*
Number of covered employees	259	310
Total annual salary	\$4,628,100	\$4,665,600
Average annual salary	\$17,900	\$15,100
Average age	38½	38½
Average years of service	12	11½
Number eligible for service retirement	28	28
Number vested but not eligible to retire	99	111

*These statistics include the N. Kingstown, N. Providence, and Scituate Police who left the System July 1, 1981.

RHODE ISLAND MUNICIPAL ERS

Table 2C
 Statistical Data on Active Employees on June 30, 1982
 by Municipality

Municipality	Number	Average age	Average service	Average salary
<u>General Employees</u>				
01 Barrington	142	47	9	\$11,500
02 Bristol	112	46½	9½	12,700
03 Burrillville	93	48½	8½	11,000
07 Cranston	625	47½	9½	11,800
09 E. Greenwich	112	47	9	12,700
10 E. Providence	299	46½	10½	15,500
12 Foster	15	47	7	12,900
14 Hopkinton	29	42½	5	9,600
15 Jamestown	30	44½	9½	13,000
16 Johnston	168	49	11½	10,600
21 Newport	263	43	11	13,800
22 New Shoreham	11	46½	10½	12,000
23 N. Kingstown	164	45½	9	14,000
24 N. Providence	191	46	8½	10,100
25 N. Smithfield	69	49½	8½	11,500
26 Pawtucket	630	47	10½	12,800
29 Richmond	12	41½	4	6,800
30 Scituate	56	50	10½	8,400
31 Smithfield	107	49	8	11,100
32 S. Kingstown	178	41½	6½	11,400
33 Tiverton	69	49	8	11,400
34 Warren	65	50½	11	11,900
36 Westerly	7	52	12	20,900
39 Woonsocket	349	48½	10	12,000
40 Charho Reg. Sch. Dist.	20	48½	7	9,700
51 Cranston Housing	11	48	9½	14,500
52 E. Providence Housing	9	49½	9	14,200
53 Pawtucket Housing	34	48½	10	16,500
56 Cumberland Housing	8	43½	8	14,000
57 Lincoln Housing	5	44½	7½	15,900
59 Bristol Housing	7	46½	6	14,200
65 Burrillville Housing	1	37½	7½	12,500
66 N. Providence Housing	5	44	5	12,600
67 E. Smithfield Water	1	51½	5½	12,800
68 Greenville Water	3	46½	8	17,000
71 Warren Housing	4	50	4½	13,000
72 Johnston Housing	5	52	4½	10,600
79 Coventry Housing	5	55	8½	13,300
80 S. Kingstown Housing	1	61½	8½	14,100
81 Smithfield Sewer	8	36½	4	13,400
83 West Warwick Housing	6	48	9	13,000
84 Smithfield Housing	1	55½	13½	12,100
<u>Police and Fire</u>				
50 E. Greenwich Fire	12	52½	14½	24,000
54 E. Greenwich Police	23	39	14½	19,100
55 N. Kingstown Fire	50	37½	12	18,900
58 N. Providence Fire	24	39½	10	14,400
60 Barrington P & F	57	39½	16	18,400
62 Warren Police	18	36½	11	17,100
63 S. Kingstown P & F	36	35	10½	17,200
64 Primrose Volunteer Fire	2	32½	4½	11,900
76 N. Smithfield Police	14	34½	9½	16,200
77 Tiverton Fire	18	40	9½	16,700
82 Foster Police	5	32½	4	15,900

III. RETIREE DATA

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

The following are significant statistics on the retired group as of June 30, 1982 and 1981:

	<u>June 30, 1982</u>	<u>June 30, 1981</u>
Pensioners:		
Number	1,379	1,276
Average age	69	69
Average monthly benefit	\$251	\$237
Beneficiaries:		
Number	23	21
Average age	62	64½
Average monthly benefit	\$286	\$254

Table 3 gives distributions of the 142 pensions awarded in the current year by type of pension and amount. Table 4 does the same for age at retirement.

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

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

The data on retirees was reasonably good for retired employees. However, it was not certain that beneficiaries were being classified correctly.

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

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

Table 3

Pensions Awarded in the Year Ended June 30, 1982
by Type and by Monthly Amount

Monthly amount	Total	Type of pension			
		Service	Ordinary Disability	Accidental Disability	Beneficiary
Total	142	132	7	1	2
Under \$50	3	3	--	--	--
\$ 50 - \$ 99	5	4	1	--	--
100 - 149	9	9	--	--	--
150 - 199	22	18	3	1	--
200 - 249	24	22	2	--	--
250 - 299	11	11	--	--	--
300 - 349	8	8	--	--	--
350 - 399	14	13	--	--	1
400 - 449	12	11	1	--	--
450 - 499	4	4	--	--	--
500 - 599	10	10	--	--	--
600 - 699	7	6	--	--	1
700 - 799	6	6	--	--	--
800 - 899	2	2	--	--	--
900 - 999	3	3	--	--	--
1,000 - 1,099	1	1	--	--	--
1,200 - 1,299	1	1	--	--	--

RHODE ISLAND MUNICIPAL ERS

Table 4

Pensions Awarded in the Year Ended June 30, 1982
by Type and by Age on Effective Date

Age on effective date	Total	Type of pension			
		Service	Ordinary Disability	Accidental Disability	Beneficiary
Total	142	132	7	1	2
25 - 29	1	--	--	--	1
40 - 44	1	--	1	--	--
45 - 49	5	1	--	--	1
52	1	1	--	--	--
55	1	1	--	--	--
56	1	1	--	--	--
57	36	3	4	--	--
58	14	13	1	--	--
59	13	12	--	1	--
60	4	4	--	--	--
61	8	8	--	--	--
62	63	28	1	--	--
63	10	10	--	--	--
64	12	12	--	--	--
65	12	12	--	--	--
66	5	5	--	--	--
67	29	4	--	--	--
68	3	3	--	--	--
69	5	5	--	--	--
70	7	7	--	--	--
71	1	1	--	--	--
76	1	1	--	--	--

RHODE ISLAND MUNICIPAL ERS

Table 5

Pensions in Force on June 30, 1982
by Type and by Monthly Amount

Monthly amount	Total	Type of pension			
		Service	Ordinary Disability	Accidental Disability	Beneficiary
Total	1,402	1,248	96	35	23
Under \$50	60	53	5	1	1
\$ 50 - \$ 99	178	167	10	1	--
100 - 149	230	213	16	1	--
150 - 199	272	231	36	2	3
200 - 249	169	147	14	1	7
250 - 299	89	83	4	--	2
300 - 349	90	77	3	6	4
350 - 399	64	54	2	5	3
400 - 449	59	52	2	3	2
450 - 499	50	43	3	4	--
500 - 599	62	54	--	8	--
600 - 699	27	24	1	1	1
700 - 799	24	24	--	--	--
800 - 899	11	9	--	2	--
900 - 999	10	10	--	--	--
1,000 - 1,099	3	3	--	--	--
1,100 - 1,199	1	1	--	--	--
1,200 - 1,299	2	2	--	--	--
1,300 - 1,399	1	1	--	--	--

RHODE ISLAND MUNICIPAL ERS

Table 6

Pensions in Force on June 30, 1982
by Type and by Age

Age on June 30, 1982	Total	Type of pension			
		Service	Ordinary Disability	Accidental Disability	Beneficiary
Total	1,402	1,248	96	35	23
25 - 29	1	--	--	1	--
30 - 34	1	--	3	2	--
35 - 39	5	--	2	5	1
40 - 44	8	--	7	1	3
45 - 49	15	4	--	--	2
50 - 54	29	7	15	5	5
55 - 59	81	52	19	7	1
60 - 64	264	235	21	4	2
65 - 69	389	365	18	1	3
70 - 74	304	294	6	--	--
75 - 79	186	177	4	3	2
80 - 84	95	90	1	1	3
85 - 89	19	19	--	--	--
90 - 94	5	5	--	--	--

RHODE ISLAND MUNICIPAL ERS

Table 1
Pensioner and Beneficiary Statistical Data as of June 30, 1982
by Municipality

Municipality	Number	Average Age	Average Monthly Benefit
<u>General Employees</u>			\$268
01 Barrington	68	67	261
02 Bristol	40	68	240
03 Burrillville	12	63	214
07 Cranston	234	70½	300
09 E. Greenwich	20	64½	259
10 E. Providence	135	69½	--
12 Foster	--	--	194
14 Hopkinton	7	76½	265
15 Jamestown	8	71	213
16 Johnston	35	66½	323
21 Newport	117	68½	130
22 New Shoreham	2	65	223
23 N. Kingstown	45	69	211
24 N. Providence	47	68½	173
25 N. Smithfield	24	68	226
26 Pawtucket	246	71	--
29 Richmond	--	--	236
30 Scituate*	25	68½	263
31 Smithfield**	28	68	217
32 S. Kingstown	33	69½	200
33 Tiverton	25	70	202
34 Warren	26	69½	628
36 Westerly	7	66½	228
39 Woonsocket	133	69½	--
40 Charho Reg. Sch. Dist.	--	--	231
51 Cranston Housing	2	70	289
52 E. Providence Housing	4	68	329
53 Pawtucket Housing	13	69½	--
56 Cumberland Housing	--	--	247
57 Lincoln Housing	1	65½	--
59 Bristol Housing	--	--	--
65 Burrillville Housing	--	--	--
66 N. Providence Housing	--	--	364
67 E. Smithfield Water	2	66½	261
68 Greenville Water	1	63½	--
71 Warren Housing	--	--	--
72 Johnston Housing	--	--	--
79 Coventry Housing	--	--	--
80 S. Kingstown Housing	--	--	--
81 Smithfield Sewer	--	--	--
83 West Warwick Housing	--	--	--
84 Smithfield Housing	--	--	--
<u>Police and Fire</u>			
50 E. Greenwich Fire	--	--	--
54 E. Greenwich Police	6	65½	279
55 N. Kingstown Fire	17	63	504
58 N. Providence Fire	5	61½	336
60 Barrington P & F	15	60½	483
62 Warren Police	7	57½	543
63 S. Kingstown P & F	6	59½	497
64 Primrose Volunteer Fire	1	68½	303
76 N. Smithfield Police	1	68½	725
77 Tiverton Fire	4	66½	460
82 Foster Police	--	--	--

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

IV. RETIREMENT FUND

The State maintains the Municipal Employees' Retirement Fund. The Retirement Board provided us with financial statements as of June 30, 1982.

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, 1982.

At June 30, 1982, assets totalled approximately \$85.9 million. Table 9 gives a breakdown of the assets. About 68 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 the Island of June 30, 1962

Government contributions	36,100,000		
Other contributions	<u>3,200,000</u>		
Total contributions		39,300,000	
Net income from operations		38,300,000	
Government expenses:			
Personnel	30,000,000		
Materials	6,000,000		
Contractual	<u>2,000,000</u>		
Net government income		<u>1,300,000</u>	
Total income available for operations			40,600,000
Operating expenses:			
Personnel	30,000,000		
Materials	20,000,000		
Contractual	<u>1,000,000</u>		
Total operating expenses			<u>51,000,000</u>
Balance of income over expenses			<u>11,600,000</u>

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

GROUP ISLAND MUNICIPAL BKS

Table 3
Summary Statement of Income and Expenses
for the Island of June 30, 1962

Government contributions	36,100,000		
Other contributions	<u>3,200,000</u>		
Total contributions		39,300,000	
Net income from operations		38,300,000	
Government expenses:			
Personnel	30,000,000		
Materials	6,000,000		
Contractual	<u>2,000,000</u>		
Net government income		<u>1,300,000</u>	
Total income available for operations			40,600,000
Operating expenses:			
Personnel	30,000,000		
Materials	20,000,000		
Contractual	<u>1,000,000</u>		
Total operating expenses			<u>51,000,000</u>
Balance of income over expenses			<u>11,600,000</u>

GROUP ISLAND MUNICIPAL BKS

Table 10
 Allocation of Assets by Plan
 as of June 30, 1982

General Employees:		
Retirement Reserves	\$57,910,782	
Employee Reserves	2,058,433	
Member Reserves	<u>16,285,802</u>	
Total General Employees Reserves		\$76,245,018
Police and Fire:		
Retirement Reserves	\$ 6,453,215	
Employee Reserves	1,143,176	
Member Reserves	<u>2,031,906</u>	
Total Police and Fire Reserves		9,608,297
Unallocated:		21,636
Unclaimed Benefit Reserve		<u>\$85,874,951</u>
Total Assets		

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

HAWAII ISLAND MUNICIPAL EMS

V. ACTUARIAL ASSUMPTIONS AND METHODS

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

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

Mortality Rates

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

Salary Projections

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

are level as a percentage of payroll rather than level as a dollar amount, and a salary projection is also used for this purpose. If the 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 65 Salary	Annual Increases (Rate %)
20	17.45	4.84
25	22.07	4.75
30	27.76	4.59
35	34.62	4.39
40	42.68	4.08
45	51.76	3.72
50	61.77	3.45
55	72.98	3.33
60	86.08	3.16

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

Termination Rates

In any employee group, many employees will terminate and receive less than full benefits. Employees terminating with less than ten years

of active service, for example, receive only a refund of their contributions. The termination assumption anticipates the release of 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:

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

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

<u>Optional Police and Fire (Rate %)</u>				
Age	Death*	Disability	Withdrawal	Total*
20	.05	.12	--	.17
25	.06	.17	--	.23
30	.08	.22	--	.30
35	.11	.29	--	.41
40	.16	.44	--	.60
45	.29	.72	--	1.01
50	.53	1.21	--	1.74
55	.85	--	--	.85

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

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

NOTE: Detail figures may not add to totals shown 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).

VI. RESULTS OF VALUATION

General Employees

The costs for general employees as of June 30, 1982, developed as follows:

<u>Item</u>	<u>Amount</u>	<u>% of Payroll</u>
(1) Participating payroll		--
(2) Employer normal cost	\$48,492,300	--
(3) Unfunded actuarial liability	2,062,700	4.3%
(4) Amortization of unfunded actuarial liability	22,498,100	--
(5) Total annual cost if paid July 1, 1982 = (2) + (4)	3,089,500	6.4
(6) Total annual cost if paid in December = (5) plus ½ year interest	5,152,200	10.6
	5,319,900	11.0

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

Police and Firemen

The costs for police and firemen as of June 30, 1982, developed as follows:

<u>Item</u>	<u>Amount</u>	<u>% of Payroll</u>
(1) Participating payroll		--
(2) Employer normal cost	\$4,628,100	--
(3) Unfunded actuarial liability	360,500	7.3%
(4) Amortization of unfunded actuarial liability	3,100,400	--
(5) Total annual cost if paid July 1, 1982 = (2) + (4)	300,500	6.5
(6) Total annual cost if paid in December = (5) plus ½ year interest	661,000	14.3
	682,700	14.8

The calculations as completed assume that the employer contributions will be paid into the retirement funds at the beginning of each year, and will start to earn interest from that time. In fact, the money is deposited in December. 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.

Table 11

Expected Number of Years of Life Remaining at Specified Ages

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

1971 Group Annuity Mortality Table

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 last year 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 16 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 increased by 0.1 per cent of payroll (from 10.5 per cent to 10.6 per cent). The normal cost percentage decreased slightly (from 4.4 per cent to 4.3 per cent) and there was an increase in the amortization payment when expressed as a per cent of payroll (from 6.1 per cent to 6.4 per cent). The dollar-weighted aggregate amortization period decreased from 11 years to 9 years for the general employee group.

For police and firemen, costs increased by 1.0 per cent of payroll (from 13.3 per cent to 14.3 per cent). The normal cost percentage decreased slightly from 8.1 per cent to 7.8 per cent and the amortization payment as a per cent of payroll increased by 1.3 per cent (from 5.2 per cent to 6.5 per cent). The dollar-weighted aggregate amortization period increased by one year for this group from 15 years to 16 years.

Table 13 shows the recommended rates for each participating municipality. These rates are to be effective for the year beginning July 1, 1984. The total rates are separated into normal cost and unfunded liability amortization components. For comparison, the 1983 and 1982 recommended total rates are also shown. In addition, the remaining amortization periods for each municipality are presented. The Town of Foster, Charho Regional School District, West Warwick Housing Authority, Smithfield Housing Authority, and Foster Police are the new entering groups as of June 30, 1982. North Kingstown Police, North Providence Police and Scituate Police 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 are also including 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	\$61,956,400	\$6,220,300
Inactive members	216,900	2,400
Retired members	35,225,700	3,864,400
Total value of vested benefits	\$98,399,000	\$9,587,100
Assets	76,245,200	9,540,100
Unfunded value of vested benefits	\$22,153,800	\$ 47,000

Table 13 includes the unfunded vested benefits for each municipality.

Overall Status

As Table 13 shows, the costs for some municipalities differ substantially 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.

Municipality	Year	Employer Contribution	Actuarial Liability	Unfunded	Value of Unfunded Vested Benefits
General Employees					
01 Barrington	1987	\$ 43,400	\$ 477,400	\$ 434,000	\$ 868,800
02 Bristol	1987	42,200	171,200	129,000	258,000
03 Burlington	1984	43,500	528,800	485,300	970,600
07 Canton	1982	208,400	3,205,200	2,996,800	5,993,600
09 E. Greenwich	1987	53,200	187,700	134,500	269,000
10 E. Providence	1981	172,300	1,437,900	1,265,600	2,531,500
12 Foster	1981	4,000	145,800	141,800	283,600
14 Hopkinton	1983	11,600	74,700	63,100	126,200
15 Johnston	1984	14,400	74,700	60,300	120,600
16 Johnston	1984	14,400	74,700	60,300	120,600
17 Newport	1984	85,400	551,900	466,500	933,000
11 New Shoreham	1980	206,200	3,438,000	3,231,800	6,463,600
13 K. Kingston	1980	4,400	144,400	140,000	280,000
14 K. Providence	1987	42,800	179,800	137,000	274,000
15 K. Smithfield	1982	86,200	1,158,500	1,072,300	2,144,600
16 K. Smithfield	1984	42,500	1,515,200	1,472,700	2,945,400
17 Pawtucket	1982	285,500	5,580,300	5,294,800	10,589,600
18 Richmond	1979	4,300	4,111,200	4,106,900	8,213,800
20 Scituate	1986	11,200	8,500	7,380	14,760
21 Smithfield	1984	43,200	324,800	281,600	563,200
22 S. Kingston	1987	43,200	293,800	250,600	501,400
23 Tiverton	1987	41,000	504,500	463,500	927,000
24 Warren	1984	44,900	590,900	546,000	1,092,000
26 Westerly	1987	47,800	245,600	197,800	395,600
29 Woonsocket	1982	131,000	662,300	531,300	1,062,600
40 Charlevoix Reg. Sch. Dist.	1981	11,800	1,684,900	1,673,100	3,348,000
51 E. Providence	1984	1,800	18,500	16,700	33,400
52 E. Providence	1984	7,300	74,300	67,000	134,000
53 Pawtucket Housing	1984	25,300	41,000	15,700	31,400
54 Cumberland Housing	1984	10,700	10,700	0	0
57 Lincoln Housing	1984	4,300	11,400	7,100	14,200
58 Bristol Housing	1984	3,600	12,700	9,100	18,200
59 Bristol Housing	1970	4,900	4,900	0	0
65 Burlington Housing	1972	400	400	0	0
66 K. Providence Housing	1973	7,900	7,900	0	0
67 E. Smithfield Water	1973	700	28,700	28,000	56,000
68 Greenfield Water	1973	1,200	15,800	14,600	29,200
71 Warren Housing	1975	3,200	7,000	3,800	7,600
72 Johnston Housing	1976	4,200	700	3,800	7,600
73 Coventry Housing	1977	4,200	4,200	0	0
80 S. Kingston Housing	1977	1,200	4,700	3,500	7,000
81 S. Kingston Sewer	1977	1,500	18,300	16,800	33,600
83 West Warwick Housing	1982	4,100	102,300	98,200	196,400
84 Smithfield Housing	1981	900	23,400	22,500	45,000
Police and Fire					
50 E. Greenwich Fire	1987	28,200	224,800	196,600	393,200
54 E. Greenfield Police	1986	15,700	272,800	257,100	514,200
55 K. Kingston Fire	1986	7,700	41,500	33,800	67,600
58 K. Providence Fire	1986	28,100	253,700	225,600	451,300
60 Barrington F & F	1970	72,400	927,500	855,100	1,710,200
62 Warren Police	1970	23,600	223,000	199,400	398,800
63 S. Kingston P & F	1971	45,300	212,000	166,700	333,400
64 Providence Volunteer Fire	1972	1,900	211,000	209,100	418,200
70 K. Smithfield Police	1977	16,300	31,800	15,500	31,000
71 Tiverton Fire	1977	26,400	184,900	158,500	317,000
82 Foster Police	1981	4,900	29,000	24,100	48,200

Table 13

Rhode Island Municipal Employees' Retirement System
Recommended Contribution Rates

Municipality	YEAR BEGINNING JULY 1, 1984				TOTAL RATE YEAR BEGINNING JULY 1,	
	Amortization Period	Normal Cost	Past Service	Rate	1983	1982
General Employees						
01 Barrington	8	4.40%	8.94%	13.34%	11.92%	13.91%
02 Bristol	2	4.49	6.47	10.96	9.05	6.47
03 Burrillville	11	5.02	6.56	11.58	10.85	10.14
07 Cranston	8	4.60	6.50	11.10	11.97	12.81
09 E. Greenwich	9	3.86	2.03	5.89	6.62	4.76
10 E. Providence	4	3.83	10.09	13.92	13.08	12.46
12 Foster	24	4.79	6.09	10.88	--	--
14 Hopkinton	12	4.32	3.21	7.53	8.50	7.70
15 Jamestown	7	3.81	1.99	5.80	7.59	6.99
16 Johnston	11	4.97	3.90	8.87	8.76	7.88
21 Newport	20	3.04	8.50	11.54	11.08	10.80
22 New Shoreham	23	3.45	8.78	12.23	12.13	--
23 N. Kingstown	5	4.16	2.83	6.99	5.46	4.05
24 N. Providence	20	4.62	4.83	9.45	9.25	8.53
25 N. Smithfield	7	5.53	5.26	10.79	--	--
26 Pawtucket	20	4.17	6.10	10.27	10.63	10.27
29 Richmond	22	5.43	0.93	6.36	14.63	6.22
30 Scituate	11	4.68	9.06	13.74	12.56	13.32
31 Smithfield	5	5.48	9.90	15.38	14.36	12.40
32 S. Kingstown	--	4.34	--	4.34	5.99	4.65
33 Tiverton	7	5.87	11.23	17.10	16.40	15.57
34 Warren	6	5.42	6.44	11.86	11.99	10.92
36 Westerly	20	5.22	39.82	45.04	34.41	40.03
39 Woonsocket	5	4.70	9.36	14.06	13.52	12.56
40 Charlestown Reg. Sch. Dist.	24	6.25	7.65	13.90	--	--
51 Cranston Housing	11	4.71	--	4.71	5.31	4.89
52 E. Providence Housing	11	5.92	4.04	9.96	9.49	11.29
53 Pawtucket Housing	11	4.60	0.26	4.86	4.75	5.08
56 Cumberland Housing	19	3.95	2.46	6.41	6.67	4.50
57 Lincoln Housing	12	4.68	1.99	6.67	4.66	5.18
59 Burrillville Housing	13	5.12	--	5.12	4.90	5.60
65 N. Providence Housing	20	3.20	--	3.20	12.45	12.73
66 E. Smithfield Water	20	4.75	--	4.75	4.76	4.66
67 Greenville Water	24	5.65	24.82	30.47	21.72	13.02
68 Warren Housing	20	4.66	6.32	10.98	11.67	12.56
71 Johnston Housing	18	6.37	1.34	7.71	6.36	7.26
72 Coventry Housing	20	8.11	--	8.11	15.92	17.69
79 So. Kingstown Housing	20	6.67	6.24	12.91	12.59	12.50
80 Smithfield Sewer	20	8.79	4.69	13.48	7.09	6.25
81 West Warwick Housing	23	3.38	1.48	4.86	5.36	--
83 Smithfield Housing	24	5.44	10.88	16.32	--	--
84 Foster Police	24	7.68	15.46	23.14	--	--
Police and Fire						
50 E. Greenwich Fire	20	10.48	6.76	17.24	17.11	16.97
54 E. Greenwich Police	20	8.40	5.88	14.28	14.50	13.94
55 N. Kingstown Fire	16	7.71	7.63	15.34	12.90	12.96
58 N. Providence Fire	12	8.38	8.72	17.10	16.03	17.50
60 Barrington P & F	20	7.51	7.62	15.13	12.10	12.62
62 Warren Police	23	7.91	8.28	16.19	19.62	18.76
63 S. Kingstown P & F	7	7.56	6.06	13.62	15.10	12.79
64 Primrose Volunteer Fire	15	8.40	--	8.40	7.37	7.42
76 N. Smithfield Police	20	7.43	1.22	8.65	9.53	9.06
77 Tiverton Fire	20	9.06	4.82	13.88	14.62	14.66
82 Foster Police	24	8.95	2.98	11.93	--	--

RHODE ISLAND MUNICIPAL ERS

MARTIN E. SEGAL COMPANY

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

March 23, 1983

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, 1982.

The certificate contains the following attached exhibits:

EXHIBIT I - Actuarial Cost for Year Beginning July 1, 1982

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

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

EXHIBIT I
 ACTUARIAL COST FOR YEAR BEGINNING JULY 1, 1982
 A. GENERAL EMPLOYEES

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

- a. 3,930 active participants (including 1,462 fully vested with total annual salaries of \$48,492,300)
- b. 225 inactive participants
- c. 1,340 pensioners (including 11 beneficiaries of deceased pensioners and active employees)

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

1. Total normal cost	\$ 4,971,400
2. Projected employee contributions	2,908,700
3. Employer normal cost	2,062,700
4. Actuarial liability - total	98,743,300
Active employees	\$63,300,700
Inactive employees	216,900
Pensioners (including beneficiaries of deceased pensioners and active employees)	35,225,700
5. Assets	76,245,200
6. Unfunded actuarial liability	22,498,100

Liability for accrued vested benefits: \$98,399,000

Note: Included are 197 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, 1982

B. POLICE AND FIREMEN

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

- a. 259 active participants (including 127 fully vested with total annual salaries of \$4,628,100)
- b. 1 inactive participant
- c. 62 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	\$ 684,600
2. Projected employee contributions	324,100
3. Employer normal cost	360,500
4. Actuarial liability - total	12,640,500
Active employees	\$9,273,700
Inactive employees	2,400
Pensioners (including beneficiaries of deceased pensioners and active employees)	3,364,400
5. Assets	9,540,100
6. Unfunded actuarial liability	3,100,400

Liability for accrued vested benefits: \$9,587,100

Note: Included are 24 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 METHOD

Mortality rates -- 1971 Group Annuity Mortality Table

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

Termination rates before retirement:

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

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

<u>Optional Police and Fire (Rate %)</u>				
<u>Age</u>	<u>Death*</u>	<u>Disability</u>	<u>Withdrawal</u>	<u>Total*</u>
20	.05	.12	--	.17
25	.06	.17	--	.23
30	.08	.22	--	.30
35	.11	.29	--	.41
40	.16	.44	--	.60
45	.29	.72	--	1.01
50	.53	1.21	--	1.74
55	.85	--	--	.85

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 scale:

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

Includes allowance for inflation of 3% per year.

Unknown 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 Fire: 60, or completion of service requirement if later.

Percent married -- Social Security awards during 1972

Net investment return -- 6 1/2%

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

Cost method -- Entry age normal cost

EXHIBIT III
SUMMARY OF PLAN PROVISIONS

Service pension

	<u>General Employees</u>		<u>Police and Firemen</u>	
Age requirement:	58	None	55	None
	or		or	
Service requirement:	10 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 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 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.