

REPORT ON AN ACTUARIAL VALUATION OF THE  
ASSETS AND LIABILITIES OF THE EMPLOYEES RETIREMENT  
SYSTEM OF THE STATE OF RHODE ISLAND  
AS OF JUNE 30, 1952

The results of an actuarial valuation of the assets and liabilities of the Employees Retirement System of the State of Rhode Island, as of June 30, 1952, are presented herewith.

Basis of Valuation

The benefit and contribution provisions forming the basis of this valuation are presented in the appendix.

The statistics required for this report concerning the membership of the system were supplied to me in excellent form by Joseph B. Lewis, Secretary.

Membership statistics

	State Employees		
	<u>Male</u>	<u>Female</u>	<u>Total</u>
Number of members	3865	2545	6410
Proportion of total	60.3%	39.7%	100.0%
Annual salaries	\$11,031,627.00	\$5,905,632.00	\$16,937,259.00
Average salary	\$2,854.00	\$2,320.00	\$2,642.00
Average age	47.0	40.0	44.2

	Teachers		
	Male	Female	Total
Number of members	1164	3394	4558
Proportion of total	25.5%	74.5%	100.0%
Annual salaries	\$4,244,966.00	\$11,143,179.00	\$15,388,145.00
Average salary	\$3,647.00	\$3,283.00	\$3,376.00
Average age	41.8	44.7	44.0

	Beneficiaries		
	State Employees	Teachers	Total
Number	188	243	431
Proportion of total	43.6%	56.4%	100.0%
Aggregate annual payments	\$138,039.00	\$407,776.00	\$545,815.00
Average annual payment	\$734.00	\$1,677.00	\$1,266.00
Reserve liability	\$877,870.00	\$2,711,880.00	\$3,589,750.00

Valuation balance sheet

The accompanying Valuation Balance Sheet presents the results of a valuation of the assets and liabilities of the system as of June 30, 1952. The purpose of this valuation is to establish from the actuarial standpoint the accrued and prospective liabilities under the benefit and contribution provisions now in effect.

Employees Retirement System of the  
State of Rhode Island

VALUATION BALANCE SHEET - JUNE 30, 1952

A S S E T S

NET PRESENT ASSETS:

Cash	\$ 331,404.01
Investments	<u>11,216,268.30</u>
	\$11,547,672.31

DEFERRED ASSETS:

Obligation of members and of the employers for retirement benefits covering service of members after June 30, 1952, to be discharged by future contributions	\$15,227,690.00
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UNFUNDED LIABILITY:

Deferred obligation of the employers -

Present value of accrued retirement benefits on account of prior service	\$15,972,339.00
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Present value of accrued retirement benefits on account of membership service	9,933,979.00
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Present value of annuities and benefits entered upon and in force	3,589,750.00
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Liability for disability and death benefits on active members	<u>2,683,710.00</u>
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\$32,179,778.00

LESS:

Contingent	<u>11,547,672.31</u>	<u>\$20,632,105.69</u>
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Total.....\$47,407,468.00

Employees Retirement System of the  
State of Rhode Island

VALUATION BALANCE SHEET - JUNE 30, 1952

L I A B I L I T I E S

Present value of annuities and  
benefits entered upon and in  
force \$ 3,589,750.00

Present value of retirement benefits  
covering service of members sub-  
sequent to June 30, 1952 -

State employees	\$7,994,539.00	
Teachers	<u>7,233,151.00</u>	15,227,690.00

Present value of retirement  
benefits accruing on account  
of service prior to July 1,  
1952 -

State employees	\$ 8,958,620.00	
Teachers	<u>16,947,698.00</u>	25,906,318.00

Liability on account of dis-  
ability and death benefits  
on active members -

Ordinary disability	\$ 466,722.00	
Ordinary death	1,835,113.00	
Accidental disability	209,658.00	
Accidental death	<u>172,217.00</u>	2,683,710.00

Total..... \$47,407,468.00

### Results of Valuation

Total accrued liabilities for the various annuity and benefit obligations amounted, at June 30, 1952, to \$32,179,778.00. Accumulated assets of the system consisting of cash and securities which were derived from contributions by the members and the State, totalled at such date, to \$11,547,672.31. The excess of the accrued liabilities over the present assets amounted to \$20,632,105.59. This constitutes the accrued unfunded obligation and is technically referred to as the actuarial reserve deficiency.

The accrued unfunded obligation is to be discharged by future contributions to the system under the prescribed method of financing.

### Prior service

This represents an obligation for service rendered prior to July 1, 1936 in the case of State employees and prior to July 1, 1949 in the case of teachers.

The amount of liability on account of State employees is steadily decreasing as members retire or otherwise become separated from service due to death or resignation.

Retirement of members results in a transfer of the obligation to the account representing the beneficiaries.

Increases in salary have the effect of partially offsetting any decreases of liabilities due to separations from service. Since the service retirement allowances are predicated upon the average salary for the highest five consecutive years of service, any upward salary adjustments mitigate the gains due to releases of liability on account of separations from service.

#### Membership service

The liability on account of membership service consists of two parts, namely: (1) that covering the period from July 1, 1936 to the date of valuation in the case of State employees, and from July 1, 1949 to the date of valuation in the case of the teachers; and (2) that covering the period subsequent to the date of valuation.

Obviously, as members continue in service, the liability for membership service will increase. Pension credits represent services rendered and these credits will continue to become larger. On the other hand, the liability for membership service subsequent to the date of valuation, covering the assumed future

working lifetime of the members, generally remains constant assuming no major changes in the characteristics of the membership or in rates of salary occur. However, this liability has also been increasing due to a larger membership in the system and the upward trend in salaries.

#### Ordinary death benefit

This benefit is the equivalent of group life insurance and involves total insurance coverage in excess of \$15,000,000.00.

There were 58 claims paid during the year, consisting of 43 State employees and 15 teachers, being about the same as in the preceding year. The average age at death in the case of State employees was 60 years and in the case of teachers 56 years. Average length of service for the deceased State employee was 8.6 years and for the teachers 25.7 years.

Claim payments for the year on account of State employees totalled \$56,716.80 and on account of teachers \$29,922.21. These payments represented the death benefit provided from State contributions. In addition to these amounts, a payment was made of the deceased members' accumulated contributions which are refundable to the designated beneficiaries.

Other benefits

Nonoccupational disability benefits were granted during the year to members who met the minimum service qualifying conditions and presented proof of disability satisfactory to the board. These incidents have been considerably below the expected for the group of members exposed to this risk. Likewise, claims on account of occupational disability or occupational death have been below the number contemplated by standard expectancy tables reflecting these hazards.

Refunds

A total of 805 members withdrew from the system and took refunds of their contributions, thereby terminating their membership, consisting of 629 State employees and 176 teachers. During the preceding year 748 State employees and 109 teachers took refunds. The number appears to be normal for the type of service involved although in some States the separations are at a somewhat heavier rate due to local policies and conditions.




ACTUARIAL INVESTIGATION

The quinquennial actuarial investigation and survey of the operating experience of the system which under the Act must be made as of June 30, 1952, is under way and will shortly be completed. A report on the results of this investigation will be submitted which will include rates of separation and mortality in comparison with assumed standards and will discuss all important phases of the system's operations. This survey will disclose whether any changes are necessary in the standards used in the computation of certain benefits or in measuring the deaths among active and retired members, in rates of interest or other basic factors used in the annual valuations of assets and liabilities.

Conclusion

Operations of the system are progressing satisfactorily. Its administration is being maintained at a high standard of efficiency, reflecting policies and procedures that meet its requirements adequately and effectively.

Respectfully submitted,

  
A. A. Weinberg,  
Actuary.

Employees Retirement System of the  
State of Rhode Island

SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS

In force June 30, 1952

B E N E F I T S

1. Service retirement allowance

Retirement is optional with a member upon attainment of the age of 60 years, provided he has at least 10 years of credited service.

In the case of a member withdrawing from service prior to the attainment of age 60, the right to a retirement benefit vests in full if his service is 10 years or more, and the retirement allowance will become available to the member upon attainment of age 60, provided he has not taken a refund of his contributions.

Retirement of a member is compulsory on the first day of the calendar month next succeeding that in which he attained age 70, unless the member requests permission to continue in service, in which case the retirement board may permit his continuation in service beyond such age for periods of one year.

The service retirement allowance is equal to 1-2/3% of average compensation\*, multiplied by the number of years of total service, not to exceed 45 years, subject to a maximum of 75% of the rate of compensation at date of retirement.

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\* Average compensation means the average annual compensation earnable by a member during the five consecutive years within his total service when such average was the highest.

2. Reversionary annuity

A member, upon retirement, has the option of receiving a lesser amount of service retirement allowance for himself and provide, on an actuarial equivalent basis, an annuity for a designated beneficiary to become payable upon his death, in accordance with the several optional privileges prescribed by the law.

3. Non-occupational disability benefit

This benefit is available to any member having at least 10 years of credited service. The benefit is equal to 90% of the amount of the service retirement allowance covering the period of total service of the member.

A member qualifying for this benefit but not having completed at least 15 years of service, is entitled to receive the benefit provided for 15 years of service. If the member first entered service after the age of 45 years, his benefit is limited to 90% of the rate of service retirement allowance for which he would qualify if he remained in service until the age of 60 years and retired at such age.

4. Occupational disability benefit

A member becoming disabled as the direct result of the performance of duty, is entitled to a benefit equal to  $66\frac{2}{3}\%$  of his rate of compensation at the date of becoming eligible for this benefit.

5. Non-occupational death benefit

Upon death of a member while in service, from any cause other than occupational disability, his designated beneficiary or the estate of the member is entitled to receive a refund

of his accumulated contributions, without interest, together with an amount provided from State contributions equal to \$200.00 for each year of total service of the member. The payment from State contributions is subject to a minimum of \$500.00 and a maximum amount of \$2,000.00.

If the period of service of the member has been less than one year, the minimum benefit of \$500.00 is reduced by the difference between the amount of accumulated contributions that the member would have had at the end of one year of service had he continued to render service, and the amount of accumulated contributions actually credited at the date of death.

Members of the General Assembly may continue coverage under this benefit after withdrawal from the General Assembly by making an annual contribution of \$15.00.

#### 6. Occupational death benefit

Upon death of a member due to occupational causes, his accumulated contributions, including interest, are payable to such person having an insurable interest in his life as the member shall have designated, or if no such designation shall have been made or if the beneficiary is not alive, payment is to be made to the estate of the member.

In addition to the above payment, the surviving widow is entitled to a benefit equal to 50% of the member's salary at date of death. If no widow survives, or if death of the widow occurs or if the widow remarries before any child of the member has attained age 18, the 50% benefit is payable to the surviving child or children, until their attainment of age 18, or prior death. If there be no widow or child or minor children, the benefit is payable to a dependent father or mother for life.

7. Death benefit after retirement

Upon death of a retired member who did not elect any of the optional provisions of the Act, his beneficiary is entitled to a refund of the excess, if any, of the total member contributions at date of retirement, without interest, over the total benefits paid to him.

8. Refunds

A member, upon withdrawal from the State service, may receive a refund of his contributions to the System equal to the full amount of his contributions, plus interest on the amounts contributed by the member prior to July 1, 1947. No interest is payable on refunds representing amounts contributed by a member after July 1, 1947.

C O N T R I B U T I O N S

By members:

Members of the system are required to contribute at the rate of 5% of salary, which rate is uniform for all employees, both male and female.

By the State of Rhode Island:

The State of Rhode Island is obligated to make regular contributions to meet the cost of the various benefits after applying the amounts contributed by the members. These contributions are made by means of regular annual appropriations.

The contributions by the State for any one year consist of an amount equal to the computed average annual expenditures for the various purposes of the system, for the period of ten years next succeeding the fiscal year in question, after applying against these expenditures the amounts to be contributed by the members. A uniform rate is to be maintained under this method of determination for a period of ten years subsequent to July 1, 1947.

#### EXTENSION TO SCHOOL TEACHERS - MODIFICATIONS

Effective July 1, 1949, the system was extended to include teachers of the State schools and teachers of the several cities and towns of the State of Rhode Island.

All provisions of the system relating to State employees apply with equal force to such teachers. Prior service credit is extended to teachers covering the period prior to July 1, 1949.

Contributions for leaves of absence during any year may be made for the purpose of receiving pension credit under stated conditions.

Credit for teaching service in any of the public schools of the United States, outside of this State, and in any private schools or institutions not operated for profit is allowed, not exceeding a total of 10 years, upon payment of certain prescribed contributions for such service. Such credit is available, however, only if the outside service was rendered more than 10 years before retirement.

The minimum service retirement allowance in the case of a teacher having rendered at least 35 years of service is \$1,000.00 per year.

Any teacher having at least 20 years of credited service is assured of a minimum ordinary disability allowance (non-occupational) of \$800.00 per year.

All teachers are required to make contributions at a uniform rate of 5% of salary, regardless of age or sex. The cities and towns share with the State, on an equal basis, the remainder of the cost of financing the benefits payable to teachers of the cities and towns, after applying the amounts contributed by the teachers.

Employees Retirement System of the  
State of Rhode Island

TABLE 1.

SHOWING NUMBER OF MEMBERS AND ANNUAL SALARIES  
AT VARIOUS AGES AS OF JUNE 30, 1952

STATE EMPLOYEES - MALE

<u>Age</u>	<u>Number</u>	<u>Annual Salaries</u>	<u>Age</u>	<u>Number</u>	<u>Annual Salaries</u>
16	2	\$ 4,046.00	55	88	\$250,151.00
17	12	23,932.00	56	96	280,775.00
18	13	26,280.00	57	106	300,102.00
19	17	32,400.00	58	126	356,554.00
20	16	31,046.00	59	94	292,268.00
21	28	54,490.00	60	100	302,325.00
22	34	64,838.00	61	77	216,160.00
23	36	74,348.00	62	69	208,197.00
24	26	55,246.00	63	56	164,306.00
25	53	121,212.00	64	59	168,226.00
26	53	121,823.00	65	40	122,349.00
27	52	122,041.00	66	43	135,361.00
28	75	179,641.00	67	33	83,920.00
29	50	125,576.00	68	42	118,505.00
30	69	168,740.00	69	26	62,180.00
31	59	154,144.00	70	34	94,772.00
32	83	217,461.00	71	32	89,611.00
33	66	175,256.00	72	26	75,790.00
34	67	187,841.00	73	24	69,009.00
35	70	198,679.00	74	18	46,709.00
36	70	174,304.00	75	13	33,824.00
37	70	203,175.00	76	7	24,612.00
38	54	158,882.00	77	10	20,128.00
39	75	225,128.00	78	3	6,480.00
40	102	315,471.00	79	3	6,284.00
41	102	311,927.00	80	1	2,280.00
42	89	277,335.00	81	-	-
43	81	234,407.00	82	2	3,178.00
44	99	299,132.00	83	1	1,872.00
45	101	324,191.00	84	1	3,696.00
46	107	347,084.00	85	-	-
47	115	344,689.00	86	1	300.00
48	106	348,563.00	Unknown	3	2,280.00
49	100	322,827.00			
50	85	253,361.00			
51	86	282,367.00			
52	105	330,570.00			
53	88	267,371.00			
54	115	329,599.00			
			Totals	3865	\$11,031,627.00



Employees Retirement System of the  
State of Rhode Island

TABLE 2.

SHOWING NUMBER OF MEMBERS AND ANNUAL SALARIES  
AT VARIOUS AGES AS OF JUNE 30, 1952

STATE EMPLOYEES - FEMALE

<u>Age</u>	<u>Number</u>	<u>Annual Salaries</u>	<u>Age</u>	<u>Number</u>	<u>Annual Salaries</u>
16	2	\$ 3,360.00	50	71	\$188,527.00
17	2	3,600.00	51	51	123,343.00
18	27	47,320.00	52	56	142,802.00
19	54	92,520.00	53	43	108,873.00
			54	45	114,156.00
20	66	117,080.00			
21	84	151,540.00	55	39	90,964.00
22	81	147,640.00	56	42	106,973.00
23	74	142,900.00	57	46	106,466.00
24	102	203,340.00	58	39	100,653.00
			59	39	91,798.00
25	86	177,758.00			
26	68	146,760.00	60	49	113,108.00
27	64	150,135.00	61	33	83,891.00
28	61	122,808.00	62	24	65,017.00
29	42	97,440.00	63	21	58,916.00
			64	23	60,751.00
30	54	114,025.00			
31	56	117,378.00	65	21	48,201.00
32	55	119,125.00	66	20	43,062.00
33	41	86,043.00	67	21	48,629.00
34	50	123,876.00	68	12	31,160.00
			69	14	43,424.00
35	47	114,024.00			
36	54	124,692.00	70	15	40,621.00
37	55	140,452.00	71	11	30,890.00
38	38	93,412.00	72	8	22,651.00
39	55	146,109.00	73	4	9,956.00
			74	3	5,525.00
40	37	98,593.00			
41	48	127,340.00	75	-	-
42	46	109,822.00	76	3	7,514.00
43	47	119,204.00	77	1	2,244.00
44	51	137,220.00			
45	43	106,675.00			
46	54	146,685.00			
47	53	150,438.00			
48	47	123,780.00			
49	47	112,423.00			
			Totals	2,545	\$5,905,632.00

Employees Retirement System of the  
State of Rhode Island

TABLE 3.

SHOWING NUMBER OF MEMBERS AND ANNUAL SALARIES  
AT VARIOUS AGES AS OF JUNE 30, 1952

TEACHERS - MALE

<u>Age</u>	<u>Number</u>	<u>Annual Salaries</u>	<u>Age</u>	<u>Number</u>	<u>Annual Salaries</u>
21	-	-	55	28	\$131,387.00
22	1	\$ 1,800.00	56	20	94,626.00
23	10	23,550.00	57	18	65,733.00
24	16	36,500.00	58	12	58,000.00
25	18	43,750.00	59	12	52,300.00
26	25	58,200.00	60	12	56,650.00
27	32	77,612.00	61	5	21,000.00
28	38	93,637.00	62	9	36,580.00
29	23	61,250.00	63	8	37,883.00
30	30	77,763.00	64	10	43,960.00
31	41	115,141.00	65	8	39,300.00
32	39	121,475.00	66	9	43,250.00
33	38	110,669.00	67	3	15,000.00
34	36	115,460.00	68	5	23,833.00
35	25	87,217.00	69	1	5,000.00
36	22	71,523.00	70	4	16,800.00
37	37	121,237.00	71	-	-
38	41	146,098.00	72	1	4,113.00
39	32	114,508.00			
40	44	161,160.00	Totals	1,164	\$4,244,966.00
41	46	175,462.00			
42	44	164,319.00			
43	40	151,174.00			
44	37	155,023.00			
45	37	145,706.00			
46	33	142,209.00			
47	24	100,206.00			
48	38	167,658.00			
49	31	135,131.00			
50	35	147,467.00			
51	27	115,066.00			
52	23	100,642.00			
53	21	95,018.00			
54	15	65,920.00			

Employees Retirement System of the  
State of Rhode Island

TABLE 4.

SHOWING NUMBER OF MEMBERS AND ANNUAL SALARIES  
AT VARIOUS AGES AS OF JUNE 30, 1952

TEACHERS - FEMALE

<u>Age</u>	<u>Number</u>	<u>Annual Salaries</u>	<u>Age</u>	<u>Number</u>	<u>Annual Salaries</u>
21	1	\$ 2,400.00	55	85	\$ 304,217.00
22	36	73,350.00	56	93	339,254.00
23	92	186,850.00	57	83	305,646.00
24	106	229,153.00	58	72	263,817.00
25	108	247,229.00	59	66	247,826.00
26	85	210,183.00	60	57	219,573.00
27	59	144,161.00	61	71	270,608.00
28	47	127,758.00	62	61	231,756.00
29	55	153,622.00	63	40	155,550.00
30	44	125,476.00	64	44	165,868.00
31	51	146,747.00	65	43	167,191.00
32	46	136,424.00	66	34	125,340.00
33	39	112,487.00	67	24	90,840.00
34	57	170,465.00	68	17	64,621.00
35	71	214,124.00	69	28	108,083.00
36	44	137,949.00	70	16	60,867.00
37	54	171,372.00	71	3	8,600.00
38	53	171,616.00	72	1	3,150.00
39	71	235,138.00	73	2	8,200.00
40	55	184,021.00			
41	80	266,013.00			
42	95	313,764.00			
43	117	401,807.00			
44	106	365,086.00			
45	125	431,782.00			
46	112	390,855.00			
47	109	376,148.00			
48	106	379,808.00			
49	103	368,931.00			
50	107	383,432.00			
51	71	259,532.00			
52	89	312,580.00			
53	84	294,259.00			
54	76	272,150.00			
			Totals	3,394	\$11,143,179.00