

REPORT OF THE ACTUARY

On An Actuarial Valuation of the System
as of June 30, 1971

The purpose of an actuarial valuation is to establish the liabilities and reserve requirements for the accrued and prospective pension credits under the prescribed benefit schedule. The actuarial balance sheet that is prepared shows the accrued and prospective liabilities and the present and prospective assets to cover these liabilities.

A determination is made of the liabilities incurred for the several benefit obligations. The reserves required to meet these accrued liabilities for the lifetime of the members are established. The factors of mortality, turnover in employment and interest earnings are basic in these calculations. Other factors are prominent in actuarial procedure, such as rates of salary and their progression until retirement of the members, disability incidents and ages of retirement of the members.

Rates reflecting these basic factors were formulated in a previous survey and investigation of operating experience of the system. Because of the marked variance in basic characteristics, separate rates are used for State employees and teacher-members. A further division was made between male and female members to give effect to the diverse physiological conditions and employment factors affecting the two sexes. Some variations from these established standards frequently

occur in current operations. These are also considered by means of specific adjustments of the results of the valuation.

BASIS OF VALUATION

The benefit and contribution provisions forming the basis of the valuation are summarized in the appendix. The several assumptions relative to the actuarial factors applied in this valuation are as follows:

1. Mortality expectancy: The 1951 Group Annuity Table (modified)
2. Interest rate: Compound interest at 5%.
3. Turnover factors: Assumed annual rates of withdrawal from all causes -

<u>Age</u>	<u>Rate per 1,000</u>
20	247
25	198
30	162
35	120
40	91
45	60
50	33
55	15
60 and over	Mortality only

4. Future salary increment: Assumed at an annual rate of 3½%
5. Age at retirement: Average of 62 years
6. Disability rates: Class (1) rates of disablement from the Society of Actuaries 1952 Intercompany study were used. It was assumed that 15% of all disablements would occur in line of duty.

7. Marital status: 85% of employees in service were assumed to be married with the average age of the wives 4 years younger than the employees. It was assumed that 75% of the employees retiring on pension are married.

8. Administrative expense: No provision.

MEMBERSHIP STATISTICS

Statistics forming the basis of the valuation were compiled and tabulated. Detailed tables reflecting this data are presented in the appendix. A summary thereof is as follows:

<u>ACTIVE MEMBERS</u>	<u>State Employees</u>		<u>Teachers</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
Number	6,255	6,195	3,780	6,621
Percent of total	50.2%	49.8%	36.3%	63.7%
Annual salaries	\$50,244,808	\$37,905,758	\$34,654,359	\$58,316,625
Average salary	\$8,033	\$6,119	\$9,168	\$8,808
Average age	45.4	43.8	35.8	40.0
Average service	9.2	8.1	9.3	10.3

<u>RETIREMENTS</u>	<u>State Employees</u>		<u>Teachers</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
Number	1,172	903	298	1,498
Percent of total	56.5%	43.5%	16.6%	83.4%
Average age at June 30, 1971	71.7	77.9	71.3	72.2
Retirements during year	164	132	49	195
Average age at retirement	63.9	64.3	62.5	64.4
Terminations	76	27	15	62
Average age at death	75.2	73.7	74.7	79.1

RESULTS OF VALUATION

A test of progress in the operation of any retirement system is the extent to which the accrued liabilities for earned pension credits are covered in comparison with the prior period. This assumes that the system is fully funded, that is, the cost of the accruing pension credits are financed currently in full measure, and that the unfunded accrued liability is being systematically amortized. Pension liabilities represent discounted sums reflecting the interest factor, therefore, the established liabilities for prior years accrue currently, at interest, at the assumed rate.

The law prescribes a partial method of funding the employer's share of the cost of the system. Contributions by the employer

are to be the average annual requirements for benefits according to a 5-year projection of pension payments by the system. The rate per cent of contributions established in 1967 for the period of 5 years subsequent thereto was 5.55% of payroll for State employees and 7.80% for teacher-members. The latter cost is divided equally between the State and Cities and Towns. Partial funding results in a deferment of part of the incurred accruing cost, therefore, the unfunded accrued liability has continued in an upward trend and will continue in this trend for an indeterminate period.

A reexamination of the aforesaid rates was completed during the year and were found to be, respectively, 6.5% for State employees and 9.0% for teacher-members. These rates will take effect July 1, 1972.

Actuarial funding. According to actuarial criteria which reflect the accrual principle, the full accruing cost of financing current service on account of the members of the system, as of the aforesaid date, as a percentage of salary, as determined by actuarial valuation, is as follows:

	<u>State Employees</u>	<u>Teacher Members</u>	<u>Composite</u>
Total cost as a percentage of payroll	14.9%	18.0%	16.3%
Less, member contributions	<u>5.0</u>	<u>6.0</u>	<u>5.5</u>
Net Cost to the Employer	<u>9.9%</u>	<u>12.0%</u>	<u>10.8%</u>

VALUATION BALANCE SHEET

A Valuation Balance Sheet is presented in the following pages reflecting the financial condition of the system at June 30, 1971. From a technical standpoint, a retirement system is considered to be in a sound financial condition when its present assets are equal to the difference between (a) the total of all accrued and prospective liabilities, and (b) the present value of future contributions to be received by the system. A system attaining this status will have provided in full for all accrued pension credits in accordance with actuarial reserve requirements.

VALUATION BALANCE SHEET

JUNE 30, 1971

VALUATION BALANCE SHEET - JUNE 30, 1971
Statement of Assets, Liabilities and Reserves

A S S E T S

NET PRESENT ASSETS:

Cash	\$ 742,178.00	
Investments (Amortized book value for bonds - cost for stocks)	144,241,567.00	
Accrued interest receivable	1,646,410.00	

DEFERRED ASSETS:

Present value of future service credits on account of service subsequent to July 1, 1971			
State employees - Members	\$ 14,172,022.00		
State of Rhode Island	26,182,163.00		
Teacher-Members - Members	15,121,788.00		
State of Rhode Island	18,433,657.00		
Cities and Towns	<u>18,433,657.00</u>	92,343,287.00	

UNFUNDED ACCRUED LIABILITY:

Due from employers for unfunded accrued pension credits -			
State of Rhode Island	\$113,620,000.00		
Cities and Towns ^{1/}	<u>58,743,000.00</u>	172,363,000.00	
TOTAL ASSETS		<u><u>\$411,336,442.00</u></u>	

^{1/} The State of Rhode Island and the cities and towns share equally in the financing of teachers' pensions.

VALUATION BALANCE SHEET - JUNE 30, 1971
Statement of Assets, Liabilities and Reserves

LIABILITIES AND RESERVES

CURRENT LIABILITIES:

Unclaimed Benefits		\$ 24,151.00
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FUTURE SERVICE LIABILITY:

State employees	\$ 40,354,185.00	
Teacher-members	<u>51,989,102.00</u>	92,343,287.00

RESERVE REQUIREMENTS:

RESERVE FOR MEMBER CONTRIBUTIONS -

<u>State Employees -</u>		
For service retirement and disability annuities	\$ 14,033,583.00	
For future refunds	<u>14,598,313.00</u>	28,631,896.00

<u>Teacher-Members -</u>		
For service retirement and disability annuities	\$ 25,112,503.00	
For future refunds	<u>11,572,985.00</u>	36,685,488.00

RESERVE FOR SURVIVOR BENEFITS		4,019,016.00
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RESERVE FOR EMPLOYER CONTRIBUTIONS -

For service retirement and disability annuities on active members -		
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<u>State Employees -</u>		
Total requirements	\$ 67,906,804.00	
Employee contributions	<u>14,033,583.00</u>	53,873,221.00

<u>Teacher-Members -</u>		
Total requirements	\$117,473,900.00	
Employee contributions	<u>25,112,503.00</u>	92,361,397.00

RETIREMENT AND BENEFITS RESERVE -

State employees		33,221,353.00
Teachers		<u>70,176,633.00</u>

TOTAL LIABILITIES AND RESERVES		<u><u>\$411,336,442.00</u></u>
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The following explanation of the several items comprising the Valuation Balance Sheet is given to facilitate an understanding of their function and meaning.

Present Assets comprise the assets on hand as shown by the financial reports prepared by the accountant of the system.

Deferred Assets consist of the obligations of the members and the employers for service to be rendered subsequent to June 30, 1971. They represent actuarially determined amounts, giving effect to the factors of mortality, interest, turnover and others that enter into the computation of liabilities and annuities and benefits that accrue on account of future service.

Unfunded Accrued Liability constitutes the amounts accrued and unpaid on account of service rendered prior to the balance sheet date. This is an accrued obligation of the State and the cities and towns to be discharged in future years by increased financial allocations to the system.

Current Liabilities represent current accounts payable at the close of the year as shown by the financial statements prepared by the system.

Future Service Liability is an offset to Deferred Assets and represents the present value of the proportionate pension credits to be earned by the members during future service extending from the balance sheet date to the assumed ages of retirement.

Reserve for Members' Contributions consists of the total of members' contribution credits at the balance sheet date. Part of these credits is payable as a refund in future years to members withdrawing from service on account of resignation, dismissal or death. The remainder is to be applied to finance a portion of the annuities and benefits payable to members now in service who will ultimately qualify for retirement.

Reserve for Survivor Benefits represents the accumulation of contributions by the teacher-members and the cities and towns towards the survivor benefit provision specifically applicable to these members.

Reserve for Employer Contributions represents the amounts that must be provided to finance the employers' portion of the accrued pension credits for those employees now in service who will ultimately qualify for retirement and disability pensions.

Retirement and Benefits Reserve constitutes the amount reserved to pay out during the future lifetime of the pensioners presently on the pension roll the pensions granted and in force at the balance sheet date.

CERTIFICATION

The accompanying Valuation Balance Sheet exhibits all assets, accrued liabilities and reserves of the system as of June 30, 1971. Present assets were taken from the financial statements submitted by the accountant of the system.

In our opinion, this Valuation Balance Sheet correctly presents the condition of the Employees' Retirement System of the State of Rhode Island at June 30, 1971 after giving effect to all accrued liabilities and actuarial reserve requirements for the several annuities and benefits under the applicable law in effect at such date.

A. A. Weinberg,
Actuary

FINANCIAL STATEMENTS

1. Financial Balance Sheet as of June 30, 1971
2. Statement of Revenues and Expenditures for the Fiscal Year Ended June 30, 1971
3. Statement of Cash Receipts and Disbursements for the Fiscal Year Ended June 30, 1971
4. Comparative Statement of Investment Receipts and Disbursements, Fiscal Years Ended June 30, 1971 and June 30, 1970
5. Statement of Net Investment Earnings for the Fiscal Year Ended June 30, 1971

FINANCIAL BALANCE SHEET - JUNE 30, 1971

A S S E T S

Cash		\$ 742,178.27
Accrued Interest Receivable	\$145,283,593.75	1,646,410.48
Investments		
Less Unamortized Discounts and Premiums (Net)	<u>1,042,026.13</u>	
Net Investments		<u>144,241,567.62</u>
Total Assets		<u>\$146,630,156.37</u>

LIABILITIES AND RESERVES

<u>Current Liabilities</u>		
Unclaimed Benefits	\$	24,151.57
<u>Members' Contribution Reserves</u>		
State Employees	\$28,631,896.42	
Teachers	34,577,458.07	
Teachers' Survivors	<u>2,108,030.55</u>	
Total Members' Reserves		65,317,385.04
<u>General Reserves</u>		
State Employees	\$51,490,315.28	
Teachers	25,770,327.80	
Teachers' Survivors	4,019,016.65	
Certain State Employees	6,286.69	
Certain Teachers	<u>2,673.34</u>	
Total General Reserves		<u>81,288,619.76</u>
Total Liabilities and Reserves		<u>\$146,630,156.37</u>

STATEMENT OF REVENUES AND EXPENDITURES
FOR THE FISCAL YEAR ENDED JUNE 30, 1971

REVENUES

<u>Member Contributions -</u>		
State Employees	\$ 4,810,695.99	
Teachers	6,609,794.52	
Teachers' Survivors	419,727.78	
Death Benefit Premiums - Retired Legislators	\$1,800.00	
Retired Employees	<u>315.23</u>	
		<u>2,115.23</u>
		\$11,842,333.52
<u>General Fund Appropriations -</u>		
State Employees	\$ 3,033,701.00	
State Employees a/c FF Costs	1,554,986.59	
Teachers	2,956,034.00	
Certain State Employees	5,600.00	
Certain Teachers	<u>2,000.00</u>	
		<u>7,552,321.59</u>
<u>Municipal Contributions -</u>		
Teachers	\$ 3,867,921.56	
Teachers' Survivors	411,376.37	
Employees Transferred	<u>103,843.10</u>	
		<u>4,383,141.03</u>
<u>Other Contributions -</u>		
Miscellaneous Refunds	\$ 18,980.68	
Unclaimed Benefits	10,659.71	
Miscellaneous Receipts	<u>137,621.11</u>	
		<u>167,261.50</u>
<u>Investment Income -</u>		
Investment Earnings	\$ 7,317,097.13	
Gain on Sales	<u>104,578.27</u>	
		<u>7,421,675.40</u>
TOTAL REVENUES		<u>\$31,366,733.04</u>

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EXPENDITURES

Pensions and Death Benefits -

State Employees	\$4,575,450.52	
Legislators	188,170.30	
Teachers	8,789,863.77	
Teachers' Survivors	60,310.60	
Certain State Employees	13,664.96	
Certain Teachers	<u>1,840.00</u>	\$13,629,300.15

Refunds of Contributions -

State Employees	\$ 927,228.92	
Teachers	1,594,298.34	
Teachers' Survivors	106,337.80	
Interest, Teachers' Survivors Contribution Refunds	8,641.17	
To Municipalities a/c Teachers	15,137.76	
To Municipalities a/c Teachers' Survivors	<u>2,312.51</u>	2,653,956.50

Unclaimed Benefits 2,853.12

Miscellaneous Refunds 5,144.55

Transferred to Municipal 1,269.90

Investment Expense -

Postage & Insurance on Purchases 60.04

TOTAL EXPENDITURES

EXCESS OF REVENUE OVER EXPENDITURES

\$16,292,584.26

\$15,074,148.78

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS
FISCAL YEAR ENDED JUNE 30, 1971

Cash Balance, July 1, 1970

\$ 1,186,061.98

Receipts -

Investments Sold and Matured	\$42,442,862.48	
Investment Earnings	6,842,586.23	
Discounts on Purchases	189,403.79	
Gain on Sales	<u>104,578.27</u>	\$49,579,430.77

Member Contributions -

State Employees	\$ 4,810,695.99	
Teachers	6,609,794.52	
Teachers' Survivors	419,727.78	
Ins. Benefit Prem. Retired Employees	315.23	
Ins. Benefit Prem. Retired Legislators	<u>1,800.00</u>	11,842,333.52

General Fund Contributions -

State Employees	\$ 4,588,687.59	
Teachers	2,956,034.00	
Certain State Employees	5,600.00	
Certain Teachers	<u>2,000.00</u>	7,552,321.59

Municipal Contributions -

Teachers	\$ 3,867,921.56	
Teachers' Survivors	411,376.37	
Employees Transferred	<u>103,843.10</u>	4,383,141.03

Other Contributions -

Unclaimed Benefits	10,659.71	
Miscellaneous Receipts	<u>158,351.79</u>	

TOTAL RECEIPTS

\$73,526,238.41

TOTAL AVAILABLE

\$74,712,300.39

Statement of Cash Receipts and Disbursements - continued

Disbursements -

Investments Purchased	\$57,578,261.03	
Accrued Interest on Purchases	38,816.83	
Premiums on Purchases	60,460.00	
Postage & Insurance on Purchases	60.04	\$57,677,597.90

Pension Benefits - Death Benefits - Death Retirement Allowances -

State Employees	\$ 4,575,450.52	
Teachers	8,789,863.77	
Legislators	188,170.30	
Teachers' Survivors	60,310.60	
Certain State Employees	13,664.96	
Certain Teachers	1,840.00	13,629,300.15

Refunds of Contributions -

State Employees	\$ 927,228.92	
Teachers	1,594,298.34	
Teachers' Survivors	106,337.80	
Interest, Teachers' Survivors Contribution Refunds	8,641.17	
Municipalities a/c Teachers	15,137.76	
Municipalities a/c Teachers' Survivors	2,312.51	2,653,956.50
Unclaimed Benefits		2,853.12
Miscellaneous Refunds		5,144.55
Transferred to Municipal		1,269.90

TOTAL DISBURSEMENTS

\$73,970,122.1

CASH BALANCE, JUNE 30, 1971

\$ 742,178.2

COMPARATIVE STATEMENT OF INVESTMENT EARNINGS
RECEIPTS AND DISBURSEMENTS
FISCAL YEARS ENDED JUNE 30, 1971 AND JUNE 30, 1970

	<u>1970-1971</u>	<u>1969-1970</u>
<u>RECEIPTS:</u>		
Interest & Dividends	\$6,842,586.23	\$5,552,664.21
Discounts on Purchases	189,403.79	364,731.60
Gain on Sales	104,578.27	169,845.38
	<hr/>	<hr/>
<u>Gross Receipts</u>	\$7,136,568.29	\$6,087,241.19
 <u>DISBURSEMENTS:</u>		
Accrued Interest on Purchases	\$ 38,816.83	\$ 79,206.05
Premiums on Purchases	60,460.00	26,205.00
Postage and Insurance on Purchases	60.04	18.97
	<hr/>	<hr/>
<u>Total Disbursements</u>	\$ 99,336.87	\$ 105,430.02
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NET INVESTMENT RECEIPTS FOR THE YEAR	\$7,037,231.42	\$5,981,811.17
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STATEMENT OF INVESTMENT EARNINGS
FISCAL YEAR ENDED JUNE 30, 1971

Investment Income - Interest and Dividends		\$6,842,586.23
<u>Add:</u>		
Accrued Interest June 30, 1971	\$1,646,410.48	
Accrued Interest July 1, 1970	<u>1,414,753.09</u>	
	\$ 231,657.39	
Discounts Amortized	<u>310,229.33</u>	
<u>Total Addition</u>		541,886.72
		<u>\$7,384,472.95</u>
<u>Less:</u>		
Accrued Interest Purchased	\$ 55,581.62	
Premiums Amortized	<u>11,794.20</u>	
<u>Total Deduction</u>		67,375.82
Net Investment Earnings for the Year		<u>\$7,317,097.13</u>

1/ Exclusive of Capital Gain of \$104,578.27

SUMMARY OF INVESTMENT OPERATIONS
JULY 1, 1970 TO JUNE 30, 1971

Total Investments at July 1, 1970		\$130,148,195
<u>Add:</u>		
Purchases during the year		<u>59,978,261</u>
		\$190,126,456
<u>Deduct:</u>		
Redemptions and Sales during the year		<u>44,842,862</u>
<u>TOTAL INVESTMENTS AT JUNE 30, 1971</u>		<u>\$145,283,594</u>