

SOUTH CAROLINA RETIREMENT SYSTEM
REPORT OF THE ACTUARY ON
THE THIRTIETH VALUATION
PREPARED AS OF JUNE 30, 1981

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State Budget and Control Board
South Carolina Retirement System
Columbia, South Carolina 29211

Gentlemen:

We transmit herewith our report on the thirtieth actuarial valuation of the South Carolina Retirement System, prepared as of June 30, 1981.

As a result of Board action and legislative changes in 1980, the following item affecting the operation of the System should be noted. A post-retirement increase special fund was established by legislation to cover all cost-of-living benefit adjustments granted after June 30, 1981. The diversion of .30 per cent of compensation to this fund effective July 1, 1981 was taken into account in this valuation.

The actuarial assumptions are, in the aggregate, reasonable, and represent our best estimate of anticipated experience under the System. The actuarial cost method utilized is the projected benefit method with level percentage entry age normal cost and open-end accrued liability. This cost method is specifically recognized as an acceptable method by the Employee Retirement Income Security Act of 1974. The current assets applicable to the System were supplied by the Retirement System office. They are valued at adjusted amortized cost.

In our opinion, the Schedule of Valuation Results included in this report correctly presents the condition of the South Carolina Retirement System as to those benefits which are funded on an actuarial reserve basis.

The valuation indicates that for Class One employers the total contribution rate payable, exclusive of the pre-retirement death benefit, should be established at 3.20 per cent of earnable compensation. For Class Two employers the contribution rates, exclusive of the pre-retirement death benefit, should be established at 6.50 per cent of earnable compensation by the State and 5.65 per cent of earnable compensation by other employers. These rates are exclusive of any payments to the post-retirement increase special fund. In addition, the contribution rates of participating employers should be continued at .30 per cent of payroll to provide the pre-retirement death benefits.

As noted above, .30 per cent of compensation was diverted from regular funding to the post-retirement increase special fund. The Law requires

employers to make an additional contribution to this fund of .20 per cent of compensation. Thus, the total contribution rate to the post-retirement increase special fund should be .50 per cent of compensation.

We trust that the report is in satisfactory form for use by the Board.

Respectfully submitted,

GEORGE B. BUCK CONSULTING ACTUARIES, INC.

(Signed) THOMAS J. CAVANAUGH

Thomas J. Cavanaugh, F.S.A.
Consulting Actuary

TABLE OF CONTENTS

<u>Section</u>	<u>Item</u>	<u>Page No.</u>
I	Summary of Principal Results	1
II	Membership Data	2
III	Assets	5
IV	Comments on Valuation	5
V	Contributions Payable Under the System	7
VI	Valuation Basis	7
VII	Accounting Information	7
<u>Schedule</u>		
A	Valuation Results	9
B	Outline of Actuarial Assumptions and Method	10
C	Summary of Main System Provisions as Interpreted for Valuation Purposes	12
D	Membership Data Tabulations	20

REPORT ON AN ACTUARIAL VALUATION OF THE
SOUTH CAROLINA RETIREMENT SYSTEM
PREPARED AS OF JUNE 30, 1981

SECTION I - SUMMARY OF PRINCIPAL RESULTS

1. For convenience of reference, the principal results of the valuation and a comparison with the preceding valuation's results are summarized below:

<u>Valuation Date</u>	<u>6/30/81</u>	<u>6/30/80</u>
Number of active members:		
Men	51,794	52,326
Women	88,482	88,563
Total	140,276	140,889
Annual earnable compensation of active members during year:		
Men	\$ 775,755,013	\$ 712,727,129
Women	961,416,270	902,491,868
Total	\$ 1,737,171,283	\$ 1,615,218,997
Number of retired members and beneficiaries	24,386	22,833
Annual retirement allowances	\$ 89,784,800	\$ 78,924,224
Assets for valuation purposes	\$ 2,052,819,853	\$ 1,780,539,829
Normal contribution as per cent of compensation:		
Class One Service	2.21%	2.11%
Class Two Service:		
State	3.08	2.98
Others	2.54	2.49
Unfunded accrued liability (UAL)	\$ (416,289,141)	\$ 458,637,583
Unfunded accrued liability contribution as per cent of payroll:		
Class One Service	.99%	1.39%
Class Two Service:		
State	3.42	3.82
Others	3.11	3.46
Unfunded accrued liability liquidation period (years)	(10)	12
Number of cost-of-living increases to be granted after valuation date included in UAL	0	1
Pre-retirement death benefit contribution as per cent of payroll	.30%	.30%
Post-retirement increase special fund contribution as per cent of payroll*	.50%	--

*Includes .30% to be diverted to post-retirement increase special fund effective July 1, 1981. Remainder is additional contribution required of all employers.

2. Comments on the valuation results as of June 30, 1981 are given in Section IV and further discussion of the contribution levels is set out in Section V. Two amendments were made to the provisions of the System since the June 30, 1980 valuation and were taken into account in this valuation. One provided for the election of a monthly benefit for life in lieu of the return of accumulated contributions plus the Group Life Insurance payment in the case of an active member who dies in service with at least 15 years of creditable service. The other amendment changes the definition of the compensation used to calculate disability benefits under the System to an average of the three highest consecutive fiscal years' compensation as of the date of disability.
3. Schedule B of this report outlines the full set of actuarial assumptions and method employed. The provisions of the System are summarized in Schedule C.

SECTION II - MEMBERSHIP DATA

1. In order to obtain the aggregate liabilities and assets on account of members of the System as of June 30, 1981, data were needed with respect to each active member and beneficiary of the System and also with respect to terminations during the valuation year. The data with respect to both active and terminated members and beneficiaries were furnished to the actuary by the Retirement System office on a magnetic tape.
2. From the data, tabulations were made showing as of June 30, 1981 the number and annual earnable compensation of active members classified by

age and years of service and the number and retirement allowances of retired members and beneficiaries on the roll as of June 30, 1981 classified by age. These tabulations are presented in Schedule D.

3. The following table shows the number of active members of the Retirement System together with earnable compensation as of June 30, 1981.

TABLE 1

THE NUMBER AND EARNABLE COMPENSATION OF ACTIVE MEMBERS
AS OF JUNE 30, 1981

GROUP	TOTAL		TEACHERS		EMPLOYEES	
	Number	Earnable Compensation	Number	Earnable Compensation	Number	Earnable Compensation
Men	51,794	\$ 775,755,013	12,592	\$ 184,144,557	39,202	\$ 591,610,456
Women	88,482	961,416,270	47,397	503,675,250	41,085	457,741,020
Total	140,276	\$1,737,171,283	59,989	\$ 687,819,807	80,287	\$1,049,351,476

There are in addition 68,301 inactive members and 13,564 active members not on the payroll as of the valuation date. The results of the valuation were adjusted to take these members into account.

4. The following table shows the number and annual amount of retirement allowances payable to retired members and to beneficiaries of deceased retired and active members as of June 30, 1981.

TABLE II

THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF
RETIRED MEMBERS AND BENEFICIARIES ON THE ROLL
AS OF JUNE 30, 1981

GROUP	NUMBER	TOTAL ANNUAL RETIREMENT ALLOWANCES
Service Retirements		
Teachers:		
Men	1,995	\$ 9,246,873
Women	9,880	37,814,008
Employees:		
Men	4,473	17,572,853
Women	3,374	10,395,786
Total	19,722	\$ 75,029,520
Disability Retirements		
Teachers:		
Men	313	\$ 1,411,173
Women	932	3,503,661
Employees:		
Men	1,111	3,715,367
Women	604	1,959,611
Total	2,960	\$ 10,589,812
Beneficiaries of Deceased Retired Members and Active Members		
Men	188	\$ 461,224
Women	1,516	3,704,244
Total	1,704	\$ 4,165,468
Grand Total	24,386	\$ 89,784,800

SECTION III - ASSETS

The amounts of the present assets taken into account in this valuation are at book value. The values of the assets were taken from a statement furnished by the Director of the System and exclude reserve assets creditable to the Group Life Insurance Fund for pre-retirement lump sum death benefits.

Included in the valuation are the assets of the employee annuity savings fund which represent the accumulated contributions of members together with interest thereon. As of June 30, 1981, these assets amounted to \$587,274,724.

Also included in the valuation are the assets of the employer annuity accumulation fund to which the contributions made by employers are credited and from which are paid all benefits on account of retired members and their beneficiaries. The assets of the accumulation fund amounted to \$1,465,545,129 as of June 30, 1981.

SECTION IV - COMMENTS ON THE VALUATION

Schedule A of this report contains the results of the valuation which show present and prospective assets and liabilities of the System as of June 30, 1981. The following comments on the valuation are pertinent:

The schedule shows that the System has actuarial liabilities of \$4,297,154,416 of which \$743,063,730 is for the prospective benefits payable on account of present retired members and beneficiaries, and \$3,554,090,686 is for the prospective benefits payable on account of present active and inactive members. Against these liabilities, the System has present assets of \$2,052,819,853 and anticipated future contributions by members of \$1,185,612,247 leaving a balance of \$1,058,722,316 to be provided by future contributions of the employers. Of this amount, \$642,433,175 represents the present value of normal contributions

by the employers and the balance of \$416,289,141 represents the present value of accrued liability contributions.

The retirement act provides that the contributions of employers shall consist of a normal contribution to cover the liability on account of service currently rendered and an accrued liability contribution on account of liabilities for past service which are not covered by present assets.

The following rates of contribution are payable by employers exclusive of the rate required for the pre-retirement lump sum death benefit and post-retirement increase special fund:

For Class One employers, the total employer contribution rate should be established at 3.20 per cent of earnable compensation of which 2.21 per cent is attributable to the normal contribution and .99 per cent is attributable to the accrued liability contribution for the period July 1, 1981 to June 30, 1982. The total employer contribution rate is exclusive of any payments to the post-retirement increase special fund.

For Class Two employers, the total contribution rate should be established at 6.50 per cent payable by the State and 5.65 per cent by the other Class Two employers. Of the total rates, 3.08 per cent and 2.54 per cent are attributable to normal contributions of the State and other employers, respectively. The accrued liability rates are therefore 3.42 per cent for the State and 3.11 per cent for other employers for the period July 1, 1981 to June 30, 1982. The total employer contribution rates are exclusive of any payments to the post-retirement increase special fund.

On the basis of the above accrued liability contribution rates it is anticipated that the accrued liability of \$416,289,141 shown in the valuation balance sheet will be liquidated within a period of 10 years from the valuation date.

The rate necessary to provide the pre-retirement lump sum death benefit on a one-year term cost basis may be continued at .30 per cent of earnable compensation on the basis of the valuation, and in view of the development of reserve assets of \$14,652,579 creditable to the Group Life Insurance Fund. Employers participating in the Pre-retirement Death Benefit Program should contribute .30 per cent of earnable compensation in addition to the appropriate rate above.

SECTION V - CONTRIBUTIONS PAYABLE UNDER THE SYSTEM

The following table gives the rates of contribution payable by employers, as determined on the basis of the present valuation.

RATES OF CONTRIBUTION	CLASS ONE	CLASS TWO	
		State	Others
Normal	2.21%	3.08%	2.54%
Accrued Liability	.99	3.42	3.11
Pre-retirement Death Benefit	.30	.30	.30
Post-retirement Increase Special Fund	.50	.50	.50
Total	4.00%	7.30%	6.45%

SECTION VI - VALUATION BASIS

The valuation of the Retirement System was made on the basis of the rates of separation and mortality tables in effect since June 11, 1974 and a salary scale and interest rate of 7% adopted by the Board on April 8, 1980. An outline of the actuarial assumptions and method employed is presented in Schedule B.

SECTION VII - ACCOUNTING INFORMATION

- Opinion No. 8 of the Accounting Principles Board of the American Institute of Certified Public Accountants, as amended by Statement No. 36 of the Financial Accounting Standards Board, requires that certain items of information concerning retirement systems be furnished by the actuary for the State's audited financial statements.

2. Statement No. 35 of the Financial Accounting Standards Board requires that certain items of information be furnished by the actuary for the system's audited financial statements.
3. The information required by the amended Opinion No. 8 and Statement No. 35 includes the actuarial present value of accrued (accumulated) benefits as of the valuation date. The relevant amounts as of June 30, 1981 are:

Actuarial present value of accrued benefits:

Vested benefits

Participants currently receiving payments	\$ 620,737,870
Other participants	<u>515,043,447</u>
	\$ 1,135,781,317

Nonvested benefits

	<u>64,276,838</u>
Total	\$ 1,200,058,155

The actuarial present value of vested and nonvested accrued benefits is based on an interest rate of 10%. This rate represents the estimated constant equivalent rate of return for the periods during which payment of these benefits will be deferred based on the interest rates in use as of the valuation date to calculate the Pension Benefit Guaranty Corporation's annuity values for terminating plans covered by the Employee Retirement Income Security Act of 1974.

SCHEDULE A

RESULTS OF THE VALUATION AS OF JUNE 30, 1981

(1) Actuarial Liabilities

Present value of prospective benefits payable
in respect of:

(a) Present retired members and beneficiaries	\$ 743,063,730
(b) Present active and inactive members	3,554,090,686

(c) Total actuarial liabilities	\$4,297,154,416
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	<u>2,052,819,853</u>
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(2) Assets of the System

(3) Unfunded Value of Prospective Benefits = (1)(c) - (2)	\$2,244,334,563
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(4) Present Value of Future Contributions by Members	<u>1,185,612,247</u>
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(5) Total Prospective Contributions by Employers = (3) - (4)	\$1,058,722,316
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(6) Present Values of 1 Per Cent of Future Compensation

(a) Class One Service	\$ 1,294,094
(b) Class Two Service: State	184,605,563
(c) Class Two Service: Others	27,948,068

(7) Present Value of Future Normal Contributions by
Employers At

(a) 2.21% = (6)(a) x 2.21	\$ 2,859,948
(b) 3.08% = (6)(b) x 3.08	568,585,134
(c) 2.54% = (6)(c) x 2.54	<u>70,988,093</u>

(d) Total	\$ 642,433,175
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(8) Present Value of Accrued Liability Contributions by Employers = (5) - (7)(d)	\$ 416,289,141
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(9) Accrued Liability Rates (effective 7/1/81)

(a) Class One Service	.99%
(b) Class Two Service: State	3.42
(c) Class Two Service: Others	3.11

(10) Accrued Liability Liquidation Period	10 years
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(11) Pre-Retirement Death Benefit Contribution Rate	.30%
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(12) Post-Retirement Increase Special Fund Contribution Rate	.50%
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SCHEDULE B

OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHOD

INTEREST RATE: 7% per annum, compounded annually.

SEPARATIONS FROM SERVICE AND SALARY INCREASES: Representative values of the assumed annual rates of separation and annual rates of salary increase are as follows:

<u>Age</u>	<u>With- drawal</u>	<u>Death</u>	<u>Disa- bility</u>	<u>Annual Rate of</u>		<u>Death</u>	<u>Disa- bility</u>	<u>Service Retirement</u>		
				<u>Service Retirement</u>	<u>With- drawal</u>					
				<u>Men Teachers</u>				<u>Women Teachers</u>		
20	11.11%	.04%	.01%			13.79%	.03%	.02%		
25	9.97	.05	.01			12.83	.03	.03		
30	7.91	.08	.02			9.12	.04	.04		
35	6.06	.12	.03			5.61	.06	.04		
40	4.67	.18	.06			3.43	.08	.07		
45	3.67	.25	.11			2.33	.13	.12		
50	2.83	.35	.20	4.00%		1.74	.20	.20	4.00%	
55	2.03	.50	.34	5.50		1.18	.29	.35	6.00	
60		.70	.59	7.50			.45	.61	8.00	
64		.92	.94	20.00			.66	.82	35.00	
	<u>With- drawal</u>	<u>Death</u>	<u>Disa- bility</u>	<u>Service Retirement</u>		<u>Salary Increase</u>				
						<u>Employees</u>				
20	11.11%	.07%	.04%			11.31%				
25	9.97	.09	.04			10.40				
30	7.91	.11	.06			9.00				
35	6.06	.14	.08			7.30				
40	4.67	.18	.10			6.51				
45	3.67	.28	.15			6.10				
50	2.83	.46	.25	2.00%		5.80				
55	2.03	.75	.40	3.50		5.60				
60		1.08	.61	5.00		5.40				
65		1.36	.85	17.50		5.30				
						<u>Teachers and Employees</u>				

DEATHS AFTER RETIREMENT: Combined Annuity Mortality Tables, Modified and Makehamized, for service retirement and dependent beneficiaries with a 2 year set back in ages for men employees, a 3 year set back for women employees, men teachers and men dependents and a 4 year set back for women teachers and women dependents. A special mortality table is used for disability retirements.

LOADING OR CONTINGENCY RESERVES: None.

VALUATION METHOD: Projected benefit with level percentage entry age normal cost and open-end unfunded accrued liability. Gains and losses are reflected in the period remaining to liquidate the unfunded accrued liability. Lump sum death benefits are provided on a one-year term cost basis.

SCHEDULE CSUMMARY OF MAIN SYSTEM PROVISIONS AS
INTERPRETED FOR VALUATION PURPOSESBACKGROUND

The South Carolina Retirement System was established as of July 1, 1945. There are two classes of employers and members under the System. Those employers becoming participants in the System on or after July 1, 1964 are Class Two employers. Class One employers include all employers who elected, by written notice to the Board not later than December 31, 1964, to remain and have their members remain under the provisions of the System as in effect on June 30, 1964. Class Two employers include all employers who elect, by written notice to the Board in allowable election periods, to participate and have their members participate as Class Two members provided such employers and employees in their employ make additional required contributions.

A summary of the main benefit provisions of the System, as interpreted in preparing the actuarial valuation, and a summary of the sources of revenue from which benefits are paid is presented in the following digest. "Average final compensation" means the average annual earnable compensation of a member during the three consecutive fiscal years of his creditable service producing the highest such average. "Prior service" means service prior to July 1, 1945 for which credit is allowed. "Membership service" means service rendered while a member of the System for which credit is allowed. The term "creditable service" means the sum of prior service and membership service.

BENEFITS

Service Retirement Allowance

Condition for Allowance

A retirement allowance is payable upon the request of any teacher or employee who has attained age 60 or has rendered 30 or more years of creditable service.

A member must retire at age 70 except that with the approval of both his employer and the Board, the member may remain in service to the end of the fiscal year in which he reaches his seventy-second birthday.

Amount of Allowance

Effective July 1, 1976 on service retirement, a Class One member receives a retirement allowance equal to 1 per cent of the portion of his average final compensation not in excess of \$4,800, plus 1.30 per cent of such compensation in excess of \$4,800, multiplied by the number of years of his creditable service.

On service retirement, a Class Two member receives a retirement allowance equal to 1.25 per cent of the portion of his average final compensation not in excess of \$4,800, plus 1.65 per cent of the portion of such compensation in excess of \$4,800, multiplied by the number of years of his creditable service.

If a member has not attained age 65 or completed 30 years of creditable service at the time of retirement, his allowance is reduced $\frac{5}{12}$ of 1 per cent for each month by which his age at retirement is less than age 65.

In no event will a Class One member who retires on or subsequent to July 1, 1976 or a Class Two member whose creditable service commenced on or before June 30, 1964 receive a smaller retirement allowance than he would have received under the benefit provisions applicable to a Class One member in effect prior to July 1, 1976.

Effective July 1, 1975 out-of-State service means service as a teacher or employee rendered by a member of the System for any state, territory or other governmental subdivision under the jurisdiction of the United States other than this State.

Effective July 1, 1975 out-of-State service is creditable irrespective of when it was performed at a cost of 10 per cent of current annual earnable compensation for each year established, provided that the earnable compensation used cannot be less than his earnable compensation in any one of the three preceding fiscal years.

If the member's creditable service does not, at his retirement, exceed his out-of-State service, the employer annuity based on his total out-of-State service before and after July 1, 1945 shall be reduced in the proportion which his creditable service bears to his out-of-State service.

Disability Retirement Allowance

Condition for Allowance

A disability retirement allowance is payable to any member who while in service becomes permanently incapacitated for duty mentally or physically, and who has had 5 or more years of creditable service.

Amount of Allowance

Upon disability retirement, on or after July 1, 1976, a Class One or a Class Two member receives a service retirement allowance if he has attained age 65 otherwise he receives a disability retirement allowance equal to the service retirement allowance which would have been payable had he continued in service to age 65, minus the actuarial equivalent of the contributions he would have made during such continued service. The compensation to be used for purposes of computing this benefit is the average final compensation as of the date of disability.

In no event will a Class One member whose creditable service commenced prior to July 1, 1976 receive a smaller allowance than he would have received under the disability benefit provisions applicable to Class One members prior to July 1, 1976.

In no event will a Class Two member whose creditable service commenced on or before June 30, 1964 receive a smaller allowance than he would have received under the disability benefit provisions applicable to a Class One member.

Deferred Retirement Allowance

Condition for Allowance

A deferred retirement allowance, commencing at age 60, is payable to any member who ceases to be a teacher or an employee after he has rendered at least 5 years of creditable service, provided he leaves his contributions in the System.

Amount of Allowance

The deferred retirement allowance is computed like a service retirement allowance, except that the employee annuity is the actuarial equivalent at age 60 of the member's contributions with such interest credits as are allowed.

Supplemental Minimum Allowance

Upon retirement after 20 or more years of creditable service a supplemental monthly sum is paid, in addition to the regular allowance and any amount provided from the general funds of the State, to provide a minimum of \$150 per month plus \$1 per month for each completed year of service in excess of 20, reduced by 5/12 of 1 per cent for each month by which the member's age at retirement is less than age 65 unless he has completed 35 years of creditable service.

Return of Contributions and Optional Death Benefit

Upon the withdrawal of a member without a retirement benefit, he is paid his total contributions with the accumulated regular interest thereon.

Upon the death of a member before retirement, his accumulated contributions are payable to his designated beneficiary or to his estate.

Upon the death of a member before retirement who had 30 years of creditable service or had attained age 65, or who had 20 years of creditable service and attained age 60, the person nominated to receive the amount of the member's accumulated contributions may elect to receive, in lieu of such accumulated contributions, an allowance for life in an amount as if the member had retired on the date of his death under Option 2 as described below. If such a person has received a refund of the member's accumulated contributions, he may, upon repayment of such refund in a single sum, receive the allowance under Option 2 from the time of the repayment of the contributions to the System.

Upon the death of a member before retirement who had 15 years of creditable service, the person nominated to receive the amount of the member's accumulated contributions may elect to receive, in lieu of such accumulated contributions and the Group Life Insurance payment, an allowance for life in an amount as if the member had retired on the date of his death and had elected for payments to commence at age 60 under Option 2 as described below. The compensation to be used for purposes of computing this benefit is the average final compensation as of the date of death.

Upon the death of a retired member who has not elected an optional form of allowance, a lump sum amount equal to the excess, if any, of his total accumulated contributions at the time his retirement allowance commenced over the sum of the retirement allowance payments made to him, is paid to his designated beneficiary or estate.

Lump Sum Death Benefit

Upon the death of a contributing member in service after the completion of one year of membership service or at any time if death is a result of an injury arising

out of and in the course of the performance of duty, a lump sum equal to the member's annual earnable compensation at the time of death is paid to the person he has nominated for the refund of his accumulated contributions or estate, provided the member's employer is a participant in the Pre-retirement Death Benefit Program. Benefits under this program are to be provided in the form of group life insurance.

Optional Allowance

Until the first payment on account of any benefit becomes normally due, any member may elect to receive his retirement allowance in accordance with one of the following forms, which are computed to be actuarially equivalent:

Option 1. A reduced retirement allowance payable during the retired member's life, with the provision that, if he dies within 10 years from his retirement date, an amount equal to his accumulated contributions at retirement, less $1/120$ for each month he received a retirement allowance payment, shall be paid to a designated person.

Option 2. A reduced retirement allowance payable during the retired member's life, with the provision that after his death the reduced retirement allowance is to be continued to a designated beneficiary.

Option 3. A reduced retirement allowance payable during the retired member's life, with the provision that after his death one-half the reduced retirement allowance is to be continued to a designated beneficiary.

Option 4. A retirement allowance in such amount that, together with his Social Security benefit, he will receive approximately the same income per annum before and after the earliest age at which he is eligible for a Social Security benefit. A member who makes an election of this Option 4 shall be deemed to have made a further election of Option 1.

Post-Retirement
Increases in Allowances

If the increase in the Consumer Price Index for the previous year ending December 31 equals or exceeds 3%, the retirement allowance of each beneficiary in receipt of an allowance for at least one year as of said December 31 is to be increased by 4%. Any increase in allowance granted hereunder through July 1, 1980 is to be permanent, irrespective of any subsequent decrease in the Consumer Price Index, and is to be included in determining any subsequent increase. Effective July 1, 1981 all subsequent increases in allowances will be paid from the post-retirement increase special fund and are guaranteed only to the extent of the assets in that fund.

The allowance of a surviving annuitant of a beneficiary whose allowance is increased under this section is to be increased by the same per cent, when and if payable.

CONTRIBUTIONS

By Members

Effective July 1, 1964, without regard to the member's Social Security coverage, Class One members contribute at the rate of 3% of earnable compensation not in excess of \$4,800, and 5% of the portion in excess of \$4,800, and Class Two members contribute at the rate of 4% of earnable compensation not in excess of \$4,800, and 6% of the portion in excess of \$4,800.

By Employers

Employers make annual contributions consisting of a "normal contribution" and an "accrued liability contribution". The "normal contribution" rate is determined by the actuary after each valuation. The "accrued liability contribution" rate is determined by the first actuarial valuation of the System, provided, however, that such rate shall be increased on the basis of subsequent valuations if benefits are increased. Such rate may be decreased if the actuary engaged by the Board certifies that such reduction will

not impair the System. Each year's accrued liability payment is to be at least 3% greater than the preceding annual accrued liability payment subject to the preceding sentence. On and after July 1, 1946, all employers' contributions for teachers are paid by the State.

Effective July 1, 1981, .30 per cent of payroll will be diverted from the accrued liability rate to the post-retirement increase special fund and employers will make an additional .20 per cent of payroll contribution to that fund.

SCHEDULE D

TABLE 1

THE NUMBER AND EARNABLE COMPENSATION
OF MEMBERS DISTRIBUTED BY
AGE AS OF JUNE 30, 1981

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
16	2	\$ 4,382	2	\$ 2,880
17	13	42,770	11	18,905
18	47	187,634	35	114,327
19	261	1,342,472	223	1,150,274
20	435	2,671,961	429	2,600,246
21	572	3,758,915	678	4,444,953
22	704	5,276,569	1,145	8,449,497
23	936	7,661,289	2,036	16,945,778
24	1,122	10,043,838	2,730	24,362,533
25	1,312	12,411,856	3,024	29,104,832
26	1,400	14,341,827	3,185	31,964,272
27	1,469	16,181,590	3,451	35,499,520
28	1,601	18,566,270	3,454	36,578,806
29	1,664	20,530,730	3,577	39,266,297
30	1,692	22,115,358	3,448	38,607,606
31	1,805	24,378,844	3,396	38,154,759
32	1,867	27,105,814	3,288	37,490,890
33	1,815	27,308,908	3,100	35,726,163
34	1,886	29,750,160	3,332	38,143,558
35	1,737	28,307,422	2,920	33,152,646
36	1,406	23,498,361	2,317	25,962,073
37	1,368	23,329,005	2,330	26,181,727
38	1,358	23,921,859	2,305	26,029,004
39	1,215	21,759,242	2,242	25,041,790
40	1,147	20,522,807	1,955	22,416,792
41	1,095	19,975,559	1,836	20,795,945
42	1,036	18,235,025	1,808	20,121,561
43	1,077	19,366,216	1,724	19,491,710
44	936	16,382,524	1,671	18,316,612
45	1,034	18,264,157	1,586	17,504,070
46	1,014	17,398,068	1,666	18,395,750
47	1,052	18,671,478	1,618	18,117,896
48	1,008	17,963,671	1,559	17,792,907
49	1,129	19,439,727	1,656	18,584,784
50	925	16,491,279	1,512	17,566,205
51	1,026	17,289,221	1,473	17,104,442
52	982	17,100,519	1,542	17,562,171
53	997	16,400,828	1,506	17,352,033
54	924	15,444,726	1,584	18,619,241
55	893	15,073,186	1,362	15,635,556

TABLE 1

THE NUMBER AND EARNABLE COMPENSATION
OF MEMBERS DISTRIBUTED BY
AGE AS OF JUNE 30, 1981

CONTINUED

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
56	943	\$ 15,377,555	1,421	\$ 16,385,262
57	881	15,058,311	1,348	15,684,688
58	866	14,272,873	1,142	13,310,439
59	890	14,426,568	1,207	13,859,764
60	910	15,346,239	1,036	11,734,878
61	766	12,571,156	957	11,310,106
62	628	10,070,321	765	8,678,272
63	521	8,211,471	525	5,895,529
64	371	6,311,500	452	5,059,554
65	390	5,837,336	330	3,691,635
66	183	2,967,901	167	1,806,417
67	123	1,694,105	128	1,231,578
68	111	1,584,325	111	938,387
69	94	1,313,661	71	556,435
70	47	515,894	45	350,624
71	44	505,962	30	246,577
72	45	527,203	14	113,468
73	19	162,299	9	110,569
74	13	54,965		
75	21	194,066	1	5,513
76	6	37,099	1	175
77	8	70,162	1	13,471
78	6	44,047	1	14,256
80	3	45,802		
81	1	14,100	4	47,662
84	2	24,025		
TOTAL	51,794	\$775,755,013	88,482	\$961,416,270

SUMMARY

EMPLOYEES	39,202	\$591,610,456	41,085	\$457,741,020
TEACHERS	12,592	\$184,144,557	47,397	\$503,675,250

SEE FOOTNOTE TABLE I

TABLE 2

THE NUMBER AND EARNABLE COMPENSATION
OF MEMBERS DISTRIBUTED BY
YEARS OF SERVICE AS OF JUNE 30, 1981

YEARS OF SERVICE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
0	2,846	\$ 26,144,745	3,530	\$ 30,422,493
1	7,005	68,867,317	11,716	94,902,746
2	5,953	72,170,562	11,151	103,497,853
3	4,657	62,774,211	9,385	93,901,152
4	3,577	49,434,830	6,934	71,768,021
5	2,676	39,188,215	5,230	54,373,650
6	2,419	37,772,275	4,324	44,853,237
7	2,630	41,019,517	4,875	53,347,484
8	2,463	40,353,941	3,949	45,613,250
9	2,045	35,727,043	3,404	40,382,519
10	1,747	31,089,250	3,127	38,131,999
11	1,563	28,395,094	2,783	33,552,629
12	1,506	27,015,125	2,354	29,981,650
13	1,153	21,673,742	2,000	25,669,415
14	1,078	20,774,696	1,627	21,331,665
15	956	19,541,719	1,585	20,338,667
16	818	15,994,914	1,064	14,872,026
17	674	12,554,846	1,122	15,266,106
18	578	11,385,204	875	12,828,563
19	541	11,057,909	793	11,315,475
20	483	9,838,363	672	10,148,156
21	478	9,723,336	600	9,084,425
22	428	8,658,725	612	9,427,286
23	406	8,442,839	473	7,326,386
24	432	9,110,377	548	8,811,773
25	365	7,488,607	482	7,372,592
26	383	7,784,474	546	8,440,053
27	295	6,054,776	398	6,437,702
28	274	5,488,493	402	6,513,036
29	193	3,715,405	270	4,329,334
30	248	5,143,641	313	5,051,082
31	194	4,278,386	251	3,997,675
32	179	3,983,601	223	3,622,172
33	121	2,961,971	162	2,812,830
34	101	2,531,440	166	2,662,119
35	93	2,456,853	119	1,916,061

TABLE 2

THE NUMBER AND EARNABLE COMPENSATION
OF MEMBERS DISTRIBUTED BY
YEARS OF SERVICE AS OF JUNE 30, 1981

CONTINUED

YEARS OF SERVICE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
36	40	\$ 946,339	108	\$ 1,850,043
37	44	1,125,840	61	1,025,882
38	21	499,950	72	1,213,379
39	22	618,784	51	881,631
40	27	654,074	46	777,667
41	20	574,487	24	454,401
42	4	150,234	15	237,370
43	6	242,168	17	328,147
44	3	73,433	9	145,073
45	2	72,710	2	30,794
46	5	144,963	2	43,262
47	2	55,589	5	51,416
48			2	28,206
49			1	19,101
50			1	13,145
55			1	13,471
TOTAL	51,794	\$775,755,013	88,482	\$961,416,270

SUMMARY

EMPLOYEES	39,202	\$591,610,456	41,085	\$457,741,020
TEACHERS	12,592	\$184,144,557	47,397	\$503,675,250

SEE FOOTNOTE TABLE I

TABLE 3
THE DISTRIBUTION OF THE NUMBER AND ANNUAL
RETIREMENT ALLOWANCES OF RETIRED MEMBERS
AND BENEFICIARIES BY AGE AS OF JUNE 30, 1981

SERVICE RETIREMENTS AND BENEFICIARIES

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
10			1 \$	191
11			1	3,744
13	1 \$	186		
15			1	1,423
17			2	10,378
19			1	925
20	2	8,695	1	414
21	1	1,515	1	450
22			1	3,399
23			1	2,374
24	2	5,046	1	499
25			2	1,848
26	3	8,496	4	13,675
28	1	5,302		
29	2	3,774	3	8,069
30	2	5,127	6	4,342
31			2	2,651
32	3	6,753		
33	4	5,929	1	3,781
34	3	6,196	5	12,589
35	1	696	5	4,170
36	2	2,882	5	8,630
37	1	157		
38	5	10,295	2	1,313
39	1	1,203	6	13,388
40	2	1,928	5	6,377
41	3	6,051	5	12,490
42			4	8,279
43	2	1,181	6	16,582
44	1	3,698	3	2,027
45	4	5,987	6	15,816
46	2	8,955	6	19,520
47	2	4,483	5	13,271
48	7	11,544	7	21,824
49	2	7,756	13	34,595
50	4	27,114	11	16,301
51	6	25,192	28	90,262
52	10	65,945	27	118,538
53	8	44,809	35	178,632
54	16	134,809	46	258,463
55	27	249,203	60	382,268

TABLE 3

THE DISTRIBUTION OF THE NUMBER AND ANNUAL
RETIREMENT ALLOWANCES OF RETIRED MEMBERS
AND BENEFICIARIES BY AGE AS OF JUNE 30, 1981

SERVICE RETIREMENTS AND BENEFICIARIES

CONTINUED

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
56	33	\$ 253,112	68	\$ 405,507
57	37	302,552	79	469,957
58	40	357,561	102	650,918
59	47	395,160	135	843,665
60	69	566,117	191	1,134,311
61	90	547,939	290	1,573,935
62	128	770,311	363	1,668,639
63	246	1,156,900	470	1,857,677
64	285	1,135,128	523	2,072,668
65	349	1,564,731	648	2,440,486
66	406	1,797,186	689	2,791,806
67	440	1,764,771	746	2,873,220
68	452	1,837,526	716	2,731,711
69	410	1,600,848	800	2,862,511
70	421	1,648,898	761	2,773,799
71	424	1,675,627	777	2,667,627
72	365	1,454,420	756	2,815,354
73	312	1,300,741	750	2,550,286
74	261	930,013	707	2,561,036
75	276	1,033,090	610	1,959,197
76	240	837,989	608	1,889,472
77	207	730,784	560	1,726,947
78	186	572,050	462	1,412,062
79	161	435,271	427	1,132,616
80	112	463,046	359	959,042
81	104	349,871	315	767,142
82	76	201,914	249	587,247
83	59	198,125	243	549,878
84	56	158,271	169	356,079
85	53	139,085	158	299,332
86	54	115,393	154	283,270
87	26	65,052	132	261,077
88	35	92,635	112	192,975
89	23	62,334	79	134,270
90	6	19,933	56	91,309

TABLE 3

THE DISTRIBUTION OF THE NUMBER AND ANNUAL
RETIREMENT ALLOWANCES OF RETIRED MEMBERS
AND BENEFICIARIES BY AGE AS OF JUNE 30, 1981

SERVICE RETIREMENTS AND BENEFICIARIES

CONTINUED

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
91	14	\$ 32,081	67	\$ 112,320
92	8	13,218	43	64,369
93	3	9,512	27	30,479
94	7	12,820	18	23,829
95	1	702	9	12,493
96	2	3,376	10	15,753
97			5	4,830
98	1	807	2	3,865
99			2	873
100	1	3,143	2	1,438
102			1	239
103			1	3,024
TOTAL	6,656	\$ 27,280,950	14,770	\$ 51,914,038

SUMMARY

LIFE ANNUITY	2,915	\$ 9,827,277	8,893	\$ 31,422,445
CASH REFUND	1,029	4,209,228	1,595	6,175,588
100% J+S	1,188	4,044,616	1,369	3,662,796
50% J+S	1,102	6,704,199	794	2,482,986
SOC. SEC. LEVELING	234	2,034,406	603	4,465,979
BENEFICIARIES	188	461,224	1,516	3,704,244

TABLE 4

THE DISTRIBUTION OF THE NUMBER AND ANNUAL
RETIREMENT ALLOWANCES OF RETIRED MEMBERS, BY
AGE AS OF JUNE 30, 1981

DISABILITY RETIREMENTS

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
25	1	\$ 143	1	\$ 2,070
26			1	2,044
27			1	2,135
28	1	3,183	1	3,355
29	1	1,271	1	6,543
30	2	4,573	3	4,601
31	4	7,683	2	7,945
32	2	5,340	3	16,240
33	1	1,580	3	9,840
34	2	6,711	3	21,947
35			5	42,582
36	4	14,265	6	8,598
37	6	16,754	3	15,974
38	3	9,278	6	30,456
39	3	7,415	9	26,434
40	11	36,969	7	16,625
41	8	31,591	4	15,011
42	7	49,957	6	20,889
43	9	31,475	8	18,197
44	9	35,617	6	25,277
45	6	21,043	10	42,121
46	14	52,894	11	67,779
47	16	48,935	13	55,774
48	19	87,688	18	63,022
49	26	101,415	17	87,108
50	24	112,870	19	98,793
51	25	120,446	23	123,320
52	39	143,569	29	149,689
53	36	187,366	36	150,849
54	33	159,656	38	205,510
55	35	133,347	53	242,335
56	56	200,865	53	235,981
57	50	194,516	63	263,532
58	60	259,753	65	264,210
59	75	280,339	90	364,748
60	86	332,745	85	367,496
61	81	333,154	108	390,001
62	94	330,325	106	331,524
63	99	361,919	89	344,595
64	89	286,861	88	293,421
65	91	322,340		

TABLE 4

THE DISTRIBUTION OF THE NUMBER AND ANNUAL
RETIREMENT ALLOWANCES OF RETIRED MEMBERS BY
AGE AS OF JUNE 30, 1981

DISABILITY RETIREMENTS

CONTINUED

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
66	67	\$ 209,561	72	\$ 254,731
67	66	165,902	68	211,439
68	54	193,827	52	162,632
69	37	73,955	50	135,964
70	18	42,704	33	84,197
71	17	42,078	24	54,163
72	9	14,637	17	38,929
73	5	7,327	13	18,456
74	8	12,493	9	14,629
75			8	7,742
76	5	6,825	7	8,314
77	1	554	4	3,733
78	2	3,815	4	5,536
79			5	5,134
80	2	3,259	1	1,674
81			3	4,493
82			4	2,625
83			2	1,408
84	1	322	4	2,612
85			1	673
86	1	1,536	5	3,142
87			1	422
89	1	380	1	829
90	2	11,514	2	1,224
TOTAL	1,424	\$ 5,126,540	1,536	\$ 5,463,272

SUMMARY

LIFE ANNUITY	747	\$ 2,934,459	1,228	\$ 4,457,216
CASH REFUND	174	655,719	142	501,393
100% J+S	305	729,172	108	290,284
50% J+S	198	807,190	57	208,422
SOC. SEC. LEVELING			1	5,957