

STATE EMPLOYES' RETIREMENT SYSTEM

Actuarial Valuation
as of
December 31, 1981

COMMONWEALTH OF PENNSYLVANIA
STATE EMPLOYES' RETIREMENT BOARD
HARRISBURG

July 2, 1982

His Excellency
Dick Thornburgh, Governor
Commonwealth of Pennsylvania
Harrisburg, Pennsylvania 17101

FINANCIAL STATEMENT as of DECEMBER 31, 1981

Dear Sir:

The following report is submitted in compliance with the provisions of the State Employees' Retirement Code.

Herewith please find the Financial Balance Sheet and Statement of Receipts and Disbursements of the Retirement Fund with the accompanying comments.

On December 31, 1981, the number of members of this System classified as active members was 120,047, inactive members was 2,070 and the number of pensioners was 52,604, a total of 174,721.

The total present assets of the fund amounted to \$3,497,667,000 of which \$260,719,719 was in cash and \$3,099,781,035 was the book value of investments. Interest accrued on investments amounted to \$42,153,255, members' contributions in transit amounted to \$4,680,163 and accounts receivable, due from Commonwealth to the State Accumulation Account, amounted to \$90,332,828. These assets, along with those previously discussed, constitute the present assets totaling \$3,497,667,000.

As of December 31, 1981, the balance in the Members' Savings Account was \$1,004,602,042. This is made up of members' contributions and interest credits thereon at the rate of 4% compounded annually. In addition to these funds, there was a balance of \$2,000,079,007 in the Annuity Reserve Account, \$565,175,428 in the State Accumulation Account and \$(-)287,359,381 in the Supplemental Annuity Account. The remaining balances were in the special accounts for State Police and Enforcement Officers, amounting to \$198,920,550 and \$12,491,929 respectively, and a miscellaneous liability of \$3,757,425 comprising the reserve for accounts payable.

FINANCIAL STATEMENT as of DECEMBER 31, 1981

The annuitants on the roll as of December 31, 1981, including the survivor beneficiaries and the amounts of their annual allowances, were as follows:

	<u>As of December 31, 1981</u>	
	<u>Number</u>	<u>Allowance</u>
Superannuation	37,433	\$148,981,246.56
Withdrawal	7,694	20,846,013.12
Disability	3,108	11,002,312.68
Death Benefit	<u>4,369</u>	<u>12,949,036.80</u>
Total	<u>52,604</u>	<u>\$193,778,609.16</u>

The additional supplemental annuities payable under the provisions of Act 230 approved in 1968, Act 31 approved in 1974 and Act 130 approved in 1979 are not included in the above annual allowances. They amount to \$30,928,896.84 annually.

STATE EMPLOYES' RETIREMENT SYSTEM

BALANCE SHEET

DECEMBER 31, 1981

ASSETS

Cash	\$	52,618
Short Term Investments (At Cost)		260,667,101
Fixed Income Investments (At Par)		
U.S. Gov't. Obligations	\$	393,490,000
Corporate Bonds & Notes		1,341,512,890
Mortgages		598,841,161
		<u>\$2,333,844,051</u>
Add Net of Premiums & Discounts		<u>44,696,264</u>
Total Fixed Income Investments (Book Value)		2,378,540,315
Equities (At Cost)		721,240,720
Receivables:		
Employers' Contributions Receivable	\$	89,998,469
Members' Contributions Receivable		4,680,163
Other Accounts Receivable		<u>334,359</u>
Total Receivables		95,012,991
Accrued Interest and Dividends		<u>42,153,255</u>
TOTAL ASSETS		<u>\$3,497,667,000</u>

RESERVES & LIABILITIES

Reserves:		
Members Annuity Savings Account	\$	988,927,951
Members Annuity Savings Account-SSI		15,674,091
Annuity Reserve Account \$2,000,079,007		
Less: Supplemental		
Annuity Account <u>287,359,381</u>		
Net Reserve for Annuity Benefits		1,712,719,626
State Annuity Accumulation Account		565,175,428
PA State Police Benefit Account		198,920,550
PA Enforcement Officers Account		<u>12,491,929</u>
		<u>\$2,489,307,533</u>
Total Reserves		\$3,493,909,575
Liabilities		
Benefits Payable	\$	3,338,891
Administrative Expenses Payable		110,247
Reserve for Outstanding Checks		213,287
Contingency Fees		<u>95,000</u>
Total Liabilities		<u>3,757,425</u>
TOTAL RESERVES AND LIABILITIES		<u>\$3,497,667,000</u>

STATE EMPLOYES' RETIREMENT SYSTEM

STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN RESERVES

FOR THE YEAR ENDED DECEMBER 31, 1981

REVENUE

Members Contributions	\$115,759,584	
Employer Contributions	309,813,085	
Casualty Premium Tax	8,825,791	
Funds Received From PSERB	7,568,890	
Investment Income:		
Interest on Investments	\$235,153,772	
Dividends on Investments	38,145,522	
Accrual of Discounts on Investments	3,382,780	
Profit on Sale of Investments	<u>23,119,986</u>	
Total Investment Income	299,802,060	
Miscellaneous Revenue	<u>3,643</u>	
 TOTAL REVENUE		 \$ 741,773,053

EXPENSES

Benefit Payments:		
Withdrawals	\$ 13,747,410	
Normal Retirement	231,856,363	
Disability Retirement	15,053,215	
Early Retirement	50,804,283	
Beneficiary Annuity	14,115,881	
Funds Transferred to PSERB	<u>1,853,951</u>	
Total Benefit Payments	327,431,103	
Administrative Expenses	2,966,332	
Investment Expenses:		
Loss on Sale of Investments	\$ 67,363,447	
Amortization of Premium on Investment	<u>17,609,413</u>	
Total Investment Expenses	<u>84,972,860</u>	
 TOTAL EXPENSES		 <u>415,370,295</u>
Excess of Revenues over Expenses		\$ 326,402,758
Reserve Balance at 1-1-81		<u>3,167,506,817</u>
Reserve Balance at 12-31-81		<u>\$3,493,909,575</u>

Included in the valuation report as of December 31, 1981, a copy of which is attached, are the amounts of fund transfers as recommended by the actuary. These are as follows:

<u>From</u>	<u>To</u>
State Accumulation Account	Annuity Reserve Account \$60,480,947

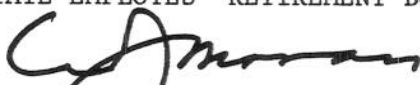
These financial statements were prepared from the records maintained in the office of the Board.

In the accompanying report of the actuarial valuation, attention has been drawn to the status of the funding of the accrued liability and the anticipated level of employer contribution required.

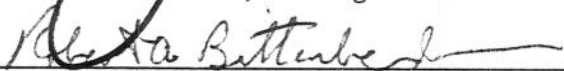
A summary of the benefit and contribution provisions of the retirement system as of December 31, 1981 is included as Schedule N of the valuation report.

Respectfully submitted,

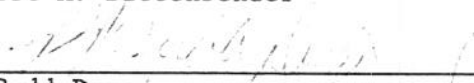
STATE EMPLOYES' RETIREMENT BOARD




William J. Moran, Acting Chairman



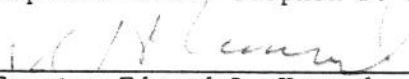
Robert A. Bittenbender



R. Budd Dwyer



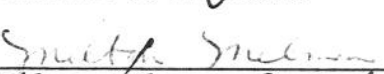
Representative Stephen F. Freind



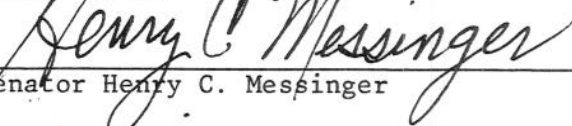
Senator Edward L. Howard



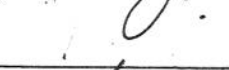
Charles J. Lieberth



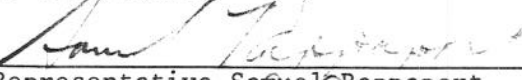
Milton Melman




Senator Henry C. Messinger



K. Paul Muench



Representative Samuel Rappaport



James I. Scheiner

STATE EMPLOYEES' RETIREMENT SYSTEM

Actuarial Valuation
as of
December 31, 1981

HAY/HUGGINS
MEMBER—THE HAY GROUP

Actuarial & Employee Benefits Consultants

229 S. 18 ST. • RITTENHOUSE SQUARE • PHILADELPHIA, PA 19103 • (215) 875-2300

July 2, 1982

Mr. Robert L. Cusma, Secretary
State Employees' Retirement System
204 Labor & Industry Building
Harrisburg, Pennsylvania 17120

STATE EMPLOYES' RETIREMENT SYSTEM

Actuarial Valuation as of December 31, 1981

Dear Mr. Cusma:

Herewith please find the valuation report showing statements of assets, account balances and actuarial liabilities of the State Employees' Retirement System as of December 31, 1981, together with an actuarial balance sheet in which these statements are consolidated. Reserve liabilities and statistical tables were determined based upon the data submitted by the Commonwealth.

There are attached supporting schedules from A to O, inclusive.

Respectfully submitted,

HAY/HUGGINS

By



WILLIAM A. REIMERT, F.S.A.
Member American Academy of Actuaries

WAR:lb

PART I - VALUATION AS OF DECEMBER 31, 1981

A complete actuarial valuation of the State Employees' Retirement System was made as of December 31, 1981 in which the actuarial liabilities were calculated, based on the contributions and benefits in effect on that date. These results were compared with the account balances as of that date and, after adjusting the account balances for deficiencies or surpluses, an actuarial balance sheet was prepared.

This Part I consists of the following three statements:

1. Assets of the Retirement Fund as of December 31, 1981.
2. Liabilities of the Retirement Fund as of December 31, 1981, showing the various account balances.
3. Actuarial liabilities as of December 31, 1981.

In the statement of the assets, it will be noted that the total book value of investments, after adjustment for amortization, amounted to \$3,099,781,035. In addition to the other items, it will be noted that there was an amount of \$90,332,828 of Accounts Receivable which represents amounts due from the Commonwealth. The total assets amount to \$3,497,667,000.

The account balances total \$3,497,667,000, matching the assets of the Retirement Fund, and are allocated as shown in the statement. The account balance in the State Annuity Accumulation Account of \$565,175,428 is before any transfers to adjust account balances.

Comments on the statement of actuarial liabilities are made following the statements. It will be noted that the total actuarial liabilities amount to \$9,804,891,741.

STATE EMPLOYEES' RETIREMENT FUND

STATEMENT OF ASSETS AS OF DECEMBER 31, 1981

Cash or equivalent	\$	260,719,719
<u>Investments</u>		
Unmatured (Par Value) of investments	\$3,055,084,771	
Net Accrual on Investments after amortization	<u>44,696,264</u>	3,099,781,035
Interest due and accrued		42,153,255
Members contribution in transit		4,680,163
Accounts Receivable (Due from Commonwealth)		<u>90,332,828</u>
 TOTAL ASSETS		 <u>\$3,497,667,000</u>

STATE EMPLOYES' RETIREMENT FUND

STATEMENT OF ACCOUNT BALANCES AS OF DECEMBER 31, 1981

Members' Savings Account	\$1,004,602,042
Annuity Reserve Account	2,000,079,007
State Police Benefit Account	198,920,550
Enforcement Officers Benefit Account	12,491,929
State Accumulation Account	565,175,428
Supplemental Annuity Account	(287,359,381)
Accounts payable (Miscellaneous Liability)	<u>3,757,425</u>
 TOTAL ACCOUNT BALANCES AND MISCELLANEOUS LIABILITIES	 <u>\$3,497,667,000</u>

STATE EMPLOYES' RETIREMENT FUND

STATEMENT OF ACTUARIAL LIABILITIES AS OF DECEMBER 31, 1981

Present value of benefits payable on account of annuitants and beneficiaries
from -

Annuity Reserve Account:

Superannuation	\$1,365,384,192	
Disability	91,484,640	
Withdrawal	246,331,344	
Death (beneficiaries)	<u>105,281,488</u>	
Sub-total		\$1,808,481,664
Supplemental Annuities		<u>252,078,290</u>
Total		\$2,060,559,954

State Police Benefit Account 129,995,303

Enforcement Officers Benefit Account 8,204,371

Total for annuitants and beneficiaries \$2,198,759,628

Present value of benefits to active and inactive members for -

Superannuation and withdrawal	\$6,307,993,472	
Disability	471,948,985	
Death	738,410,862	
Refunds	<u>84,021,369</u>	
Total for active and inactive members		\$7,602,374,688

Miscellaneous 3,757,425

TOTAL ACTUARIAL LIABILITIES \$9,804,891,741

Liability related to present annuitants and beneficiaries .. \$2,198,759,628

A breakdown of the liability of \$2,198,759,628 related to present annuitants and beneficiaries according to the type of benefit payment is shown in the following table.

<u>Category of Annuitants or Beneficiaries</u>	<u>Liability as of December 31, 1981 Total Annuity Reserve</u>
<u>Other Than State Police or Enforcement Officers</u>	
Superannuation	\$1,365,384,192
Disability	91,484,640
Withdrawal	246,331,344
Death	<u>105,281,488</u>
Sub-total	\$1,808,481,664
Supplemental Annuities	<u>252,078,290</u>
Total	\$2,060,559,954
<u>State Police</u>	129,995,303
<u>Enforcement Officers</u>	<u>8,204,371</u>
Total Liabilities	<u>\$2,198,759,628</u>

It is interesting to compare the above liabilities with the corresponding amounts shown in the statement of account balance on page 3. The liabilities of \$2,060,559,954 must be compared with the Annuity Reserve Account balance of \$2,000,079,007 indicating a balance of liabilities over assets of \$60,480,947 in the Annuity Reserve Account. A transfer of this deficiency amount should be made to the Annuity Reserve Account as of December 31, 1981 in order to bring the account into balance with the corresponding liability.

The required reserves for benefits payable to retired State Police or their beneficiaries amount to \$129,995,303. The corresponding account balance in the State Police Benefit Account is \$198,920,550 which produces a balance of assets over liabilities of \$68,925,247. Reserves for annuitants are transferred to this account upon a member's retirement. Special contributions for active members are also credited to this account. The balance of \$68,925,247 previously referred to is not a surplus but is a reserve for benefits payable to State Police members who are currently active or inactive.

The required reserves for benefits payable to retired Enforcement Officers and their beneficiaries amount to \$8,204,371. This reflects the reserves for both the members' portion and the State's portion as noted earlier in this report. The corresponding account balance in the Enforcement Officers Benefit Account is \$12,491,929 which produces a balance of assets over liabilities of \$4,287,558.

Liabilities for supplemental retirement allowances were created by Act 230, approved in 1968, which also made provision for a Supplemental Retirement Allowance Account to receive the Commonwealth appropriations for supplemental and cost-of-living allowances. Act 31, approved in 1974, and Act 130, approved in 1979, made provision for additional supplemental allowances. When the liabilities for supplemental retirement allowances are created, corresponding funds are transferred to the Annuity Reserve Account. The transfer to the Annuity Reserve Account was charged to the Supplemental Annuity Account creating a deficiency in this account. As the Commonwealth appropriates moneys to fund supplemental retirement allowances, these amounts are credited to the Supplemental Annuity Account. The Supplemental Annuity

Account shows a negative balance of \$287,359,381 as of December 31, 1981. The actuarial liabilities as of December 31, 1981 for Supplemental Annuities payable amount to \$252,078,290. This latter amount represents the value as of December 31, 1981 of all supplemental annuities payable in the future as a result of Act 230, Act 31 and Act 130 and is part of the total liability to be offset by the Annuity Reserve Account. The deficiency of \$287,359,381 in the Supplemental Annuity Account represents the unfunded portion of the deficiency that existed in this account. Of the total liability of \$287,359,381 for supplemental annuities, \$3,996,554 represents the liability for supplemental annuities which became effective in 1968, \$68,337,799 represents the liability for supplemental annuities which became effective in 1974 and \$215,025,028 represents the liabilities for supplemental annuities effective in 1979.

The number of present annuitants and beneficiaries and their annual annuities as of December 31, 1981 are shown in the following table. This information reflects the data supplied us by the Commonwealth.

Category of Annuitants or Beneficiaries	Annual Annuities as of December 31, 1981			Total Annuity
	Number	Basic	Supplemental	
<u>Other Than State Police or Enforcement Officers</u>				
Superannuation	36,330	\$138,982,814	\$24,123,438	\$163,106,252
Disability	3,076	10,830,197	1,290,173	12,120,370
Withdrawal	7,374	19,830,290	2,206,753	22,037,043
Death Benefit	<u>4,103</u>	<u>11,960,051</u>	<u>656,255</u>	<u>12,616,306</u>
Sub-total	50,883	\$181,603,352	\$28,276,619	\$209,879,971
<u>State Police</u>	1,602	11,291,329	2,440,937	13,732,266
<u>Enforcement Officers</u>	<u>119</u>	<u>883,929</u>	<u>211,340</u>	<u>1,095,269</u>
Totals	<u>52,604</u>	<u>\$193,778,610</u>	<u>\$30,928,896</u>	<u>\$224,707,506</u>

The age distributions of the annuitants and beneficiaries in the various kinds of retirement as supplied by the Commonwealth are shown in schedules at the end of this report, as listed in the Appendix.

Liability related to present active and inactive members .. \$7,602,374,688

The data related to the active and inactive members of the system as supplied by the Commonwealth are summarized briefly in the table below.

Active members:

	<u>Male</u>	<u>Female</u>	<u>Total</u>
Number	66,986	53,061	120,047
Salaries	\$1,320,357,128	\$806,327,737	\$2,126,684,865

Inactive Members:

There were 2,070 inactive members for whom a liability was calculated and included in the valuation results.

Miscellaneous \$ 3,757,425

This item is the total of the reserve for outstanding checks, member withdrawals payable, annuities payable and payroll deduction payable.

Total actuarial liabilities \$ 9,804,891,741

The total actuarial liability represents the present value of all obligations of the System for all expected future benefits, both those related to service prior to December 31, 1981 and those related to subsequent service.

A summary of the major benefit provisions and the provisions related to member contributions are shown in Schedule N at the end of this report.

The actuarial assumptions used in this valuation are summarized in Schedule O at the end of this report. These are based on the experience of the Retirement System in 1976-1980 with interest assumed at 5-1/2% per annum.

PART II - REQUIRED TRANSFERS TO ADJUST ACCOUNT BALANCE

In discussing the various account balances in Part I, reference was made to a reserve transfer that should be made as of December 31, 1981 in order to bring the accounts into balance. A summary of the account balances and actuarial liabilities, along with the corresponding surplus or deficiency, is as follows:

<u>Fund</u>	<u>Account Balance</u>	<u>Actuarial Liability</u>	<u>Surplus (+) or Deficiency (-)</u>
Annuity Reserve Account .	\$2,000,079,007	\$2,060,559,954	(-)\$ 60,480,947

As previously mentioned in Part I, the adjustments to be made to the books to accord with the requirements of Act 31 of 1974 lead to the following transfer:

<u>From</u>	<u>To</u>	<u>Amount</u>
State Accumulation Account ...	Annuity Reserve Account ...	\$ 60,480,947

As result of this transfer the various account balances are as follows after adjustment:

	<u>Adjusted Account Balance</u>
Members' Annuity Savings Account	\$1,004,602,042
Annuity Reserve Account	2,060,559,954
State Police Benefit Account	198,920,550
Enforcement Officers Benefit Account ..	12,491,929
State Accumulation Account	504,694,481
Supplemental Annuity Account	(-)287,359,381
Miscellaneous	<u>3,757,425</u>
Total Account Balances	<u>\$3,497,667,000</u>

These account balances are now ready for use in our actuarial balance sheet where they appear as "Present Assets" when compared with the actuarial liabilities. The actuarial balance sheet is presented on the following page.

ACTUARIAL BALANCE SHEET SHOWING PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES
of STATE EMPLOYEES' RETIREMENT SYSTEM as of DECEMBER 31, 1981

A S S E T S

Present assets:	
Members' Annuity Savings Account	\$1,004,602,042
Annuity Reserve Account	2,060,559,954
State Police Benefit Account	198,920,550
Enforcement Officers Benefit Account ...	12,491,929
State Accumulation Account	504,694,481
Supplemental Annuity Account	(-)287,359,381
Miscellaneous	<u>3,757,425</u>
Total present assets (book value)	<u>\$3,497,667,000*</u>

Present value of future contributions	
Members' Savings Account (Employee)	\$1,186,977,032
State Accumulation Account (Employer) ...	4,832,888,328
Supplemental Annuity Account (Employer) ...	<u>287,359,381</u>

Total future assets

TOTAL ASSETS

*Total present assets (book value)
distributed as follows:

Cash or equivalent	\$ 260,719,719
Investments (net of amortization) ...	3,099,781,035
Accrued Interest and Dividends	42,153,255
Members contribution in transit	4,680,163
Due from Commonwealth	<u>90,332,828</u>

Total present assets

L I A B I L I T I E S

Present value of benefits payable on account of annuitants and beneficiaries from	
Annuity Reserve Account:	
Superannuation	\$ 1,365,384,192
Disability	91,484,640
Withdrawal	246,331,344
Death	105,281,488
Sub-total	<u>\$1,808,481,664</u>
Supplemental Annuities	<u>252,078,290</u>

Total

State Police Benefit Account

Enforcement Officers Benefit Account

Total for annuitants and beneficiaries ..

Present value of benefits to active
and inactive members for -

Superannuation and withdrawal	\$ 6,307,993,472
Disability	471,948,985
Death	738,410,862
Refunds	84,021,369

Total for active and inactive members ..

Miscellaneous

TOTAL LIABILITIES

PART III - CONTRIBUTION RATES

In the actuarial balance sheet submitted on page 10, the present assets of \$3,497,667,000, represented by the various account balances, are compared with the total liabilities of \$9,804,891,741. The difference of \$6,307,224,741 represents the future assets representing the present value of expected future member and employer contributions.

It will be noted that the present value of future employee contributions appears as \$1,186,977,032. In addition, the present value of the employer contributions to the State Accumulation Account is \$4,832,888,328 and to the Supplemental Annuity Account is \$287,359,381.

Section 5508(b) of the State Employees' Retirement Code states:

"The employer normal contribution rate shall be determined after each actuarial valuation on the basis of an annual five and one-half percent (5-1/2%) interest rate and such mortality and other tables as shall be adopted by the board. Until all accrued liability contributions have been completed, the employer normal contribution rate shall be determined as a level percentage of the compensation of the average new active member, which percentage, if contributed on the basis of his prospective compensation throughout his entire period of active State service, would be sufficient to fund the liability for any prospective benefit payable to him, except a supplemental benefit as provided in Section 5708, in excess of that portion funded by his prospective member contributions. After all accrued liability contributions have been completed, the employer normal contribution rate shall be determined by deduct-

ing from the present value of the liabilities for all prospective benefits, except supplemental benefits as provided in Section 5708, the sum of the total assets in the fund on the valuation date, excluding the balance in the supplemental annuity account, and the present value of prospective member contributions, and dividing the remainder by the present value of the future compensation of all active members."

Since accrued liability contributions have not been completed, we determined the employer normal contribution rate in accordance with the above provisions. We first obtained the normal contribution rate, as a level percentage of compensation, which would be required for new active members to fund the liability for any prospective benefit payable to such new members. In making this contribution we used data for all active members who had not yet completed one year of credited service. Using the entry age normal cost method, the normal cost contribution, expressed as a level percentage of future compensation of new employees, was determined as follows:

<u>Benefit</u>	<u>Normal Cost as a Percent of Payroll for Active Members</u>
Superannuation and Withdrawal	9.75%
Disability	0.99
Death	1.10
Refunds	<u>1.07</u>
Total normal cost percentage	12.91%

Section 5508(b) made reference to the normal contribution rate for prospective benefits in excess of that portion funded by the members' contributions. Hence the employer normal cost is determined as follows:

Total normal cost	12.91%
Employee contribution	<u>5.00</u>
Employer normal cost	7.91%

As shown in the balance sheet on page 10, the present value of future employer contributions (i.e., future contributions to the State Accumulation Account) is \$4,832,888,328. Part of this represents the present value of future employer normal cost contributions, and part of this represents the value of future contributions to fund the unfunded accrued liability. This breakdown is shown below:

Present value of future employer contributions other than for Supplemental Retirement Allowances	\$4,832,888,328
Present value of future normal cost contributions (7.91% of future payroll) ...	<u>1,848,421,818</u>
Present value of future contributions to fund the Unfunded Accrued Liability	\$2,984,466,510

The present value of future contributions to fund the unfunded accrued liability of \$2,984,466,510 is the present unfunded accrued liability since the present value of all future contributions for this purpose must be equal to this liability.

The unfunded accrued liability of \$2,984,466,510 is composed of two parts: one part is to be funded over 30 years from July 1, 1969 and other part over 30 years from July 1, 1974. The two parts and the amount required to fund each over the applicable period allowing for annual salary increases of 4% are as follows:

<u>Funding Period:</u> 30 Years from July 1	<u>Amount of Liability</u>	<u>Annual Payment to Fund</u>	
		<u>Amount</u>	<u>Percent*</u>
1969	\$2,107,771,301	\$142,648,301	6.52%
1974	<u>876,695,209</u>	<u>47,745,083</u>	<u>2.18</u>
	\$2,984,466,510	\$190,393,384	8.70%

*Payment for 1982 expressed as a percentage of the estimated total payroll for active members in 1982 of \$2,187,214,384.

The accrued liability for supplemental allowances is composed of three parts: one part is to be funded over 20 years from July 1, 1969, the second part over 20 years from July 1, 1974, and the third over 20 years from July 1, 1979 on the basis of level payments for each part. This may be summarized as follows:

Funding Period: <u>20 Years from July 1</u>	Amount of <u>Liability</u>	<u>Annual Payment to Fund</u>	
		<u>Amount</u>	<u>Percent*</u>
1969	\$ 3,996,554	\$ 665,095	0.03%
1974	68,337,799	7,706,112	0.35
1979	<u>215,025,028</u>	<u>19,448,718</u>	<u>0.89</u>
	\$287,359,381	\$27,819,925	1.27%

*Payment for 1982 expressed as a percentage of the estimated total payroll for active members in 1982.

Section 5508(d) provides in part that, in addition to determining the contributions required for other members of the Retirement System "...The actuary shall determine the Commonwealth or other employer contributions required for active members of Class C and officers of the Pennsylvania State Police and enforcement officers and investigators of the Pennsylvania Liquor Control Board who are members of Class A to finance their benefits in excess of those to which other members of Class A are entitled. Such additional contributions shall be determined separately for officers and employees of the Pennsylvania State Police and for enforcement officers and investigators of the Pennsylvania Liquor Control Board."

As noted earlier in this report, the amounts currently carried in the State Police Benefit Account and the Enforcement Officers' Benefit Account exceed the liability for pensioners and beneficiaries corresponding to these two accounts. Thus, assets are currently on hand to meet at least part of the liability for the special benefit payable to these two categories of participants. The liability for the special benefit in excess of the assets on

hand was expressed as a percentage of the future compensation of the two groups involved in order to determine the extra contribution to be made. In view of the assets held in the Enforcement Officers' Benefit Account in comparison to liabilities, it is recommended that no special contribution be made for Enforcement Officers. In view of the assets held in the State Police Benefit Account in comparison to liabilities, it is also recommended that no special contribution be made for State Police.

The cost discussed above expressed as a percentage of the total payroll of all active covered participants may be summarized as follows:

	<u>Contribution Payable January 1, 1982</u>	<u>Contribution Payable Quarterly</u>
Total Normal Cost	12.91%	N/A
Member Deductions	5.00	N/A
Employer portion of Normal Costs ...	<u>7.91%</u>	8.35%
Payment on Unfunded Accrued Liability other than for Supplemental Allowances	8.70	9.18
Payment on Unfunded Accrued Liability for Supplemental Allowances	1.27	1.34
Total Employer Contribution Rate ...	<u>17.88%</u>	<u>18.87%</u>

It should be noted that the 18.87% of payroll employer contribution rate will serve as a basis for the 1983-84 fiscal year appropriation. This figure includes appropriate adjustments to reflect the anticipated timing of the contributions.

PART IV - SUMMARY

In Part I of the report, we presented the statements of assets, account balances and actuarial liabilities as of December 31, 1981. The actuarial liabilities were discussed in some detail.

In Part II, we discussed the surplus or deficiency in each account and recommended a transfer as of December 31, 1981 in order to bring the Annuity Reserve Account into balance with the actuarial liability. This transfer is as follows:

<u>From</u>	<u>To</u>
State Accumulation Account	Annuity Reserve Account \$ 60,480,947

Using this adjusted account balance we developed an actuarial balance sheet in which we compared the present assets and the future assets with the total actuarial liability, with the future assets serving as the balancing item.

In Part III, we developed the following rates of employer contribution to the Retirement Fund:

Normal contribution rate-State Accumulation Account	8.35%
Accrued liability contribution rate-State Accumulation Account	<u>9.18</u>
Total contribution rate-State Accumulation Account	17.53%
Accrued liability contribution rate-Supplemental Annuity Account	<u>1.34</u>
Total employer contribution rate	<u>18.87%</u>

The total unfunded accrued liability as of December 31, 1981 is \$2,984,466,510.

There is no special extra contribution currently required for either State Police or Enforcement Officers.

Shown below is a summary of the number of active participants together with their total salaries that have been used in the last four valuations. The average salary is also shown for each of these four years.

	As of December 31,			
	<u>1981</u>	<u>1980</u>	<u>1979</u>	<u>1978</u>
Number	120,047	121,761	124,812	127,417
Total salaries .	\$2,126,684,865	\$2,051,691,609	\$1,930,814,169	\$1,790,017,545
Average salary . \$	17,715	\$ 16,850	\$ 15,470	\$ 14,048

APPENDIX - SCHEDULES OF MEMBERSHIP as of DECEMBER 31, 1981

The following schedules of the membership as of December 31, 1981 are supporting schedules to the valuation because it was upon this membership that the liabilities were calculated. Schedules A, B and C show the distribution, and the annual salaries of the active membership by age nearest birthday as of December 31, 1981. Schedules D through L show the distribution and the total amount of annuities for annuitants. Age nearest birthday for these schedules was calculated as of December 31, 1981.

In Schedule A are shown, according to age nearest birthday and class of membership, the total number and annual salary of the male members still remaining in active membership. At the end of the schedule, their average age and average annual salary are shown.

In Schedule B are shown, according to age nearest birthday and class of membership, the total number and annual salary of the female members still remaining in active membership. At the end of the schedule, their average age and average salary are shown.

In Schedule C is shown a summary of the two preceding schedules, including the total number of active members and the total annual salaries both by sex and by class. Due to two new changes, a summary is given of Class A by category. One change is that all recently hired members will be put into Class A. Second, the categories take over the function of the old classes.

In Schedule D are shown, according to age nearest birthday, the number of male members who are receiving superannuation annuities and the total amounts of the basic monthly benefits and supplemental monthly benefits.

In Schedule E are shown, according to age nearest birthday, the number of female members who are receiving superannuation annuities and the total amounts of the basic monthly benefits and supplemental monthly benefits.

In Schedule F are shown, according to age nearest birthday, the number of male members who are receiving disability annuities and the total amounts of members' basic monthly benefits and supplemental monthly benefits.

In Schedule G are shown, according to age nearest birthday, the number of female members who are receiving disability annuities and the total amounts of members' basic monthly benefits and supplemental monthly benefits.

In Schedule H are shown, according to age nearest birthday, the number of male members who are receiving withdrawal annuities and the total amount of the basic monthly benefit and supplemental monthly benefit.

In Schedule I are shown, according to age nearest birthday, the number of female members who are receiving withdrawal annuities and the total amount of the basic monthly benefit and supplemental monthly benefit.

In Schedule J are shown, according to age nearest birthday, the number and amount of the basic monthly benefit and supplemental monthly benefit being paid to surviving male beneficiaries of annuitants and members who died in active service.

In Schedule K are shown, according to age nearest birthday, the number and amount of the basic monthly benefit and supplemental monthly benefits paid to surviving female beneficiaries of annuitants and members who died in active service.

In Schedule L is shown the summary of all annuities outstanding as of December 31, 1981 whether superannuation, disability, withdrawal or supplemental and whether being paid to members or their survivors.

In Schedule M is shown, for comparison, the outstanding membership both active and annuitant as of December 31, 1977, December 31, 1978, December 31, 1979, December 31, 1980 and December 31, 1981.

In Schedule N, the benefits and member contributions and provisions of the plan as of December 31, 1981 are summarized.

The actuarial assumptions used in this valuation are shown in Schedule O.

ACTIVE MEMBERSHIP as of December 31, 1981

M A L E

CLASS	A		C		D		E		GRAND TOTAL	
	Age	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.
19	17	\$	167,887					17	\$	167,887
20	79		861,857					79		861,857
21	198		2,206,652					198		2,206,652
22	298		3,418,724					298		3,418,724
23	412		4,894,920					412		4,894,920
24	548		6,876,794					548		6,876,794
25	722		9,502,922					722		9,502,922
26	828		11,269,702					828		11,269,702
27	971		13,720,146					971		13,720,146
28	1,176		17,409,658					1,176		17,409,658
29	1,403		21,574,089					1,403		21,574,089
30	1,620		25,312,844					1,620		25,312,844
31	1,690		27,921,176					1,690		27,921,176
32	1,782		30,103,981					1,811	\$	55,000
33	2,021		35,822,895	28	\$	629,873	1	2,072		37,004,134
34	2,150		38,963,376	51		1,181,239		2,280		42,028,329
35	2,278		42,032,740	129		3,037,870	1	2,489		46,953,681
36	2,481		47,886,295	206		4,796,513	2	2,833		56,166,074
37	1,715		33,279,631	351		8,255,279	1	1,961		39,058,795
38	1,557		31,050,950	244		5,720,014	2	1,794		36,621,380
39	1,628		32,901,422	236		5,545,930	1	1,892		39,135,024
40	1,807		37,209,406	263		6,210,589	1	2,053		43,051,289
41	1,511		31,023,065	244		5,788,646	1	1,692		35,331,882
42	1,398		29,476,029	179		4,259,817	2	1,567		33,564,815
43	1,359		29,127,981	165		3,968,319	4	1,510		32,831,714
44	1,397		29,896,522	146		3,540,225	3	1,513		32,742,876
				111		2,717,939	2			

SCHEDULE A(1)

ACTIVE MEMBERSHIP as of December 31, 1981

M A L E

CLASS	A		C		D		E		GRAND TOTAL	
	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary
45	1,366	\$ 29,138,467	85	\$ 2,086,227	1	\$ 27,083	5	\$ 152,697	1,457	\$ 31,404,474
46	1,296	27,701,447	83	2,070,975			4	98,000	1,383	29,870,422
47	1,353	29,457,502	64	1,619,658	2	54,166	7	220,520	1,426	31,351,846
48	1,388	30,049,727	68	1,728,271	1	27,083	5	193,000	1,462	31,998,081
49	1,357	29,054,599	47	1,222,533	1	38,825	4	120,117	1,409	30,436,074
50	1,414	30,436,837	36	944,286	3	81,249	8	401,571	1,461	31,863,943
51	1,512	32,216,450	53	1,371,563	4	129,241	17	580,456	1,586	34,297,710
52	1,558	33,680,039	66	1,748,491	3	84,174	9	411,769	1,636	35,924,473
53	1,513	32,215,674	43	1,136,612	2	54,166	8	242,401	1,566	33,648,853
54	1,461	30,945,191	33	866,362	3	86,991	16	639,321	1,513	32,537,865
55	1,642	34,504,289	45	1,222,751	1	27,083	22	897,871	1,710	36,651,994
56	1,531	31,912,879	61	1,610,666	3	83,950	15	474,691	1,610	34,082,186
57	1,643	34,406,700	33	875,803	1	27,083	16	599,641	1,693	35,909,227
58	1,625	33,429,588	35	989,814	5	157,659	27	955,495	1,692	35,532,556
59	1,612	32,950,274	27	732,832	2	54,166	20	730,283	1,661	34,467,555
60	1,591	32,423,282	24	641,787	4	115,916	18	690,372	1,637	33,871,357
61	1,479	29,889,042	4	100,713	6	165,423	13	532,777	1,502	30,687,955
62	1,302	26,093,283	4	86,896	3	88,066	25	948,482	1,334	27,216,727
63	1,072	21,131,284	1	23,466	4	120,466	19	811,421	1,096	22,086,637
64	612	11,982,290	1	23,466	3	80,674	14	546,708	630	12,633,138
65	567	11,566,432			2	54,166	10	360,483	579	11,981,081
66	446	8,886,126	1	26,823	3	84,174	18	698,948	468	9,696,071
67	230	4,479,248			1	27,083	9	370,177	240	4,876,508
68	153	3,064,150			2	56,925	14	624,497	169	3,745,572
69	141	2,731,993			1	27,083	3	144,000	145	2,903,076

SCHEDULE A(2)

ACTIVE MEMBERSHIP as of December 31, 1981

M A L E

CLASS	A		C		D		E		GRAND TOTAL		
	Age	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary
70	99	\$	2,007,415						105	\$	2,337,415
71	88		1,828,060	2	\$	57,091	6	\$	330,000	90	1,885,151
72	62		1,211,635							62	1,211,635
73	45		815,995	3		81,173				48	897,168
74	37		763,164	2		54,166				39	817,330
75	39		776,125							39	776,125
76	28		538,045				1	64,500		29	602,545
77	22		426,547							22	426,547
78	18		409,391							18	409,391
79	14		326,485				1	67,000		15	393,485
80	6		87,241							6	87,241
81	15		335,472							15	335,472
82	4		86,024							4	86,024
Totals	63,387	\$1,227,870,056	3,167	\$76,782,248	83	\$2,376,028	349	\$13,328,796	66,986	\$1,320,357,128	
Average Age		44.41		41.68		56.02		57.84		44.37	
Average Salary		\$19,371		\$24,244		\$28,627		\$38,191		\$19,711	

SCHEDULE A(3)

ACTIVE MEMBERSHIP as of December 31, 1981

F E M A L E

CLASS	A		C		D		E		GRAND TOTAL	
	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary
18	1	\$ 9,503							1	\$ 9,503
19	65	660,504							65	660,504
20	273	2,817,815							273	2,817,815
21	526	5,768,226							526	5,768,226
22	545	6,175,712							545	6,175,712
23	700	8,131,784							700	8,131,784
24	899	11,055,748							899	11,055,748
25	1,121	14,002,042							1,121	14,002,042
26	1,273	16,917,649							1,273	16,917,649
27	1,342	17,939,973							1,342	17,939,973
28	1,629	22,223,560							1,629	22,223,560
29	1,777	24,914,998							1,777	24,914,998
30	1,872	26,862,465							1,872	26,862,465
31	1,821	26,596,283							1,821	26,596,283
32	1,652	24,607,646	1	\$ 22,979					1,653	24,630,625
33	1,586	24,174,131	6	135,926					1,592	24,310,057
34	1,579	24,338,031	1	22,353					1,580	24,360,384
35	1,517	23,623,430	2	47,783					1,519	23,671,213
36	1,577	24,929,436	2	45,830			1	\$ 22,747	1,580	24,998,013
37	1,091	17,343,807	2	41,202					1,093	17,385,009
38	1,019	16,263,555							1,019	16,263,555
39	1,069	16,737,102							1,069	16,737,102
40	1,195	18,877,755							1,195	18,877,755
41	1,002	15,813,766							1,002	15,813,766
42	996	15,889,802							996	15,889,802
43	1,005	15,903,383	1	21,878			2	40,230	1,008	15,965,491
44	1,046	16,790,318	1	17,574					1,047	16,807,892

SCHEDULE B(1)

ACTIVE MEMBERSHIP as of December 31, 1981

F E M A L E

CLASS	A		C		D		E		GRAND TOTAL	
	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary
45	1,007	\$ 16,235,042	1	\$ 15,985	1	\$ 17,774	1,009	\$ 16,268,801		
46	999	15,894,443			2	49,000	1,001	15,943,443		
47	972	15,437,206			1	24,500	973	15,461,706		
48	1,081	17,148,707	1	14,668	2	49,000	1,084	17,212,375		
49	970	15,407,664	1	22,924	1	24,500	972	15,455,088		
50	1,060	16,977,030			1	24,500	1,061	17,001,530		
51	1,100	17,700,222			2	42,475	1,102	17,742,697		
52	1,167	18,615,694	1	17,360	2	46,627	1,170	18,679,681		
53	1,105	17,858,327	1	21,690	3	69,746	1,109	17,949,763		
54	1,158	18,452,782			4	125,060	1,162	18,577,842		
55	1,247	19,815,957			3	72,746	1,250	19,888,703		
56	1,287	21,001,136			4	88,793	1,291	21,089,929		
57	1,231	19,893,818			3	70,503	1,234	19,964,321		
58	1,196	19,235,125	1	15,985	9	219,229	1,206	19,470,339		
59	1,304	20,825,517			4	118,926	1,308	20,944,443		
60	1,175	18,771,630			1	24,500	1,176	18,796,130		
61	1,111	17,707,575			2	47,506	1,113	17,755,081		
62	959	15,534,227			1	22,582	960	15,556,809		
63	770	12,097,440	1	15,985	2	45,753	773	12,159,178		
64	423	6,637,436			3	134,500	426	6,771,936		
65	404	6,365,678					404	6,365,678		
66	284	4,564,720	1	16,129			285	4,580,849		
67	194	3,107,667			1	\$ 27,083	195	3,134,750		
68	152	2,368,463					152	2,368,463		
69	106	1,712,590			1	55,000	107	1,767,590		
70	74	1,180,965			2	82,938	76	1,263,903		
71	50	884,123					50	884,123		
72	55	865,060					55	865,060		
73	34	541,741					34	541,741		
74	21	349,338					21	349,338		

ACTIVE MEMBERSHIP as of December 31, 1981

F E M A L E

CLASS	A		C		D		E		GRAND TOTAL	
	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary
75	23	\$ 372,363					23	\$ 372,363		
76	18	316,931					18	316,931		
77	13	223,940					13	223,940		
78	12	195,616					12	195,616		
79	6	96,267					6	96,267		
80	9	150,212					9	150,212		
81	19	301,820					19	301,820		
82	5	72,372					5	72,372		
Totals	52,979	\$ 804,285,268	24	\$ 496,251	1	\$ 27,083	57	\$ 1,519,135	53,061	\$ 806,327,737
Average Age		42.32		41.71		67.00		55.63		42.34
Average Salary		\$15,181		\$20,677		\$27,083		\$26,651		\$15,196

SUMMARY OF ACTIVE MEMBERS as of DECEMBER 31, 1981

	<u>Number</u>	<u>Annual Salary</u>	<u>Average Age</u>	<u>Average Annual Salary</u>
<u>By Sex</u>				
Male	66,986	\$1,320,357,128	44.37	\$19,711
Female	53,061	806,327,737	42.34	15,196
Total	<u>120,047</u>	<u>\$2,126,684,865</u>	<u>43.47</u>	<u>\$17,715</u>
<u>By Class</u>				
A	116,366	\$2,032,155,324	43.46	\$17,463
C	3,191	77,278,499	41.68	24,218
D	84	2,403,111	56.15	28,608
E	406	14,847,931	57.53	36,571
Total	<u>120,047</u>	<u>\$2,126,684,865</u>	<u>43.47</u>	<u>\$17,715</u>
<u>Class A by Category</u>				
0	112,342	\$1,943,892,920	43.54	\$17,303
1, 5, 6	3,504	70,527,757	40.27	20,128
2	155	4,213,902	43.91	27,186
3, 4	365	13,520,745	50.64	37,043
Total	<u>116,366</u>	<u>\$2,032,155,324</u>	<u>43.46</u>	<u>\$17,463</u>

SCHEDULE C

SUPERANNUATION ANNUITIES AS OF DECEMBER 31, 1981

MALE MEMBERS

Age	Number	Basic Monthly Benefit	Supplemental Monthly Benefits	
			Not Continuing to Beneficiary	Continuing to Beneficiary
50	1	\$ 1,134.20		
51	17	14,649.70		
52	26	24,537.12		
53	28	24,311.57		
54	54	50,940.30		\$ 639.96
55	54	45,755.64		1,332.10
56	76	72,098.56		2,427.38
57	90	75,835.87		3,185.19
58	98	86,841.37		5,049.84
59	117	100,448.00		7,796.15
60	134	115,663.75		6,623.97
61	307	217,316.94		6,054.50
62	483	281,270.56		10,643.34
63	812	378,970.12		6,623.21
64	1,027	459,266.81		10,522.99
65	1,223	534,737.44		18,327.86
66	1,318	538,313.50	\$ 45.49	29,179.75
67	1,514	602,806.12	332.76	45,929.11
68	1,509	560,793.25	565.54	53,419.79
69	1,515	535,733.06	668.84	72,565.94
70	1,280	447,087.50	620.52	74,015.50
71	1,307	407,168.50	1,025.64	82,332.87
72	1,410	449,806.00	695.38	106,883.06
73	1,093	338,523.37	871.56	91,525.75
74	1,068	327,976.50	506.34	102,650.81
75	957	263,813.25	541.15	89,239.00
76	876	240,421.12	1,151.51	87,396.75
77	745	191,322.00	1,711.99	76,902.19
78	615	152,502.06	1,706.30	66,162.75
79	559	136,009.44	2,496.06	58,423.13
80	457	104,524.69	3,236.34	50,703.08
81	372	107,373.06	2,759.85	45,301.56
82	259	55,182.02	2,600.37	27,897.83
83	39	8,413.77	508.02	4,596.98
84	289	67,784.37	3,668.93	35,068.59
85	192	37,465.59	2,926.32	20,049.72
86	151	34,387.14	3,115.25	17,835.97
87	140	31,461.27	3,292.72	17,440.66
88	118	26,032.09	3,483.28	13,213.26
89	99	20,240.28	3,331.24	12,096.07

SCHEDULE D(1)

SUPERANNUATION ANNUITIES AS OF DECEMBER 31, 1981

MALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
90	70	\$ 14,983.64	\$ 1,908.73	\$ 8,300.14
91	49	11,774.77	1,930.24	5,837.54
92	29	5,557.34	1,320.66	3,536.45
93	23	4,270.04	690.96	2,673.39
94	16	3,468.87	491.09	1,787.84
95	21	3,333.75	736.08	1,941.70
96	6	725.28	279.84	509.89
97	4	456.96	204.30	321.23
98	1	15.73		11.06
99	4	978.75	109.73	362.10
101	1	720.77		
102	1	2,083.90	212.20	935.17
106	1	732.09	92.35	514.66
Total	<u>22,655</u>	<u>\$8,218,019.79</u>	<u>\$49,837.58</u>	<u>\$1,386,787.78</u>

SCHEDULE D(2)

SUPERANNUATION ANNUITIES AS OF DECEMBER 31, 1981

FEMALE MEMBERS

Age	Number	Basic Monthly Benefit	Supplemental Monthly Benefits	
			Not Continuing to Beneficiary	Continuing to Beneficiary
54	6	\$ 3,526.96		
55	7	6,382.55		
56	4	2,379.57		
57	15	9,647.31		\$ 37.21
58	14	12,081.61		112.85
59	25	20,634.29		381.93
60	19	12,452.18		67.24
61	200	101,470.19		615.23
62	334	148,910.81		892.70
63	653	250,119.56		1,586.52
64	757	267,215.06		2,814.75
65	762	250,645.44		5,278.24
66	936	301,357.56	\$ 5.39	10,964.24
67	1,037	339,516.56		21,860.71
68	1,006	330,159.31	16.86	27,349.03
69	996	299,486.81		37,389.47
70	894	261,861.94		42,837.87
71	815	225,688.94	12.70	44,666.54
72	803	222,321.19		53,064.17
73	665	175,283.87		51,558.74
74	639	153,817.31	42.93	49,940.96
75	633	150,132.81	2.10	52,166.08
76	521	116,003.56	104.52	48,263.17
77	458	91,574.75	502.59	42,286.75
78	406	76,969.37	674.66	34,226.46
79	378	69,189.19	1,208.21	33,084.18
80	285	54,386.84	1,533.69	29,040.10
81	239	47,438.11	1,926.12	25,033.28
82	233	44,735.40	2,034.66	24,049.88
83	7	948.27	25.50	158.10
84	167	27,045.21	2,368.51	15,852.73
85	160	25,884.28	2,755.78	15,894.86
86	140	21,421.25	2,324.84	12,953.91
87	142	21,695.82	3,309.30	12,615.98
88	85	10,530.82	2,064.50	6,821.98
89	91	12,730.23	2,353.39	7,979.97
90	54	7,723.36	1,643.87	4,820.07
91	53	6,956.86	1,235.09	4,323.66
92	37	5,538.62	1,450.38	3,732.46
93	38	4,515.42	1,246.76	3,046.53

SCHEDULE E(1)

SUPERANNUATION ANNUITIES AS OF DECEMBER 31, 1981

FEMALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
94	20	\$ 2,229.36	\$ 772.84	\$ 1,513.15
95	14	1,307.89	361.34	899.21
96	11	1,217.04	518.51	855.59
97	7	696.05	248.43	489.32
98	4	550.41	257.36	386.95
99	2	89.11	42.06	62.64
100	1	155.63	42.40	109.41
101	2	79.88	36.30	56.16
102	3	376.53	69.08	266.80
Total	<u>14,778</u>	<u>\$4,197,084.09</u>	<u>\$31,190.62</u>	<u>\$732,407.78</u>

WITHDRAWAL ANNUITIES AS OF DECEMBER 31, 1981

MALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
29	1	\$ 39.75		
30	3	101.86		
31	17	752.91		
32	19	808.41		
33	44	2,084.18		
34	60	2,707.61		
35	124	7,757.88		
36	100	6,372.65		
37	82	5,377.73		
38	88	6,470.46		
39	121	8,878.28		
40	93	7,731.32		
41	82	7,851.28		
42	79	8,473.39		
43	90	11,759.75		
44	72	9,499.27		
45	90	12,804.87		
46	61	11,785.89		
47	73	12,284.79		
48	78	13,002.78		
49	96	23,822.43		
50	99	22,888.23		
51	106	27,873.85		\$ 55.41
52	113	30,352.41		294.58
53	92	28,405.20		349.12
54	120	34,184.72		494.20
55	103	32,645.79		520.08
56	119	49,868.60		739.14
57	141	51,373.48		896.44
58	146	57,529.09		701.96
59	158	76,301.87		1,097.54
60	193	87,327.25		894.73
61	164	74,939.44		3,505.30
62	156	60,406.89		4,313.15
63	100	42,877.85		5,218.79
64	88	30,825.85		5,733.58
65	84	27,131.86		7,609.02
66	81	24,697.77		8,679.25
67	93	28,138.58		11,495.67
68	80	23,065.96		10,497.02

SCHEDULE F(1)

WITHDRAWAL ANNUITIES AS OF DECEMBER 31, 1981

MALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
69	77	\$ 18,368.73		\$ 8,200.93
70	69	17,975.89		8,903.91
71	55	9,590.02		5,456.75
72	59	9,210.39		5,553.61
73	54	7,949.95		5,282.07
74	46	5,648.05		3,899.32
75	35	3,381.68		2,377.40
76	42	5,480.55		3,852.93
77	22	1,823.92		1,245.06
78	27	3,337.48		2,346.26
79	27	2,581.53		1,814.82
80	24	1,660.23		1,152.77
81	25	1,749.81		1,230.22
82	16	1,195.47		840.40
83	7	943.75		663.46
84	25	1,399.35		960.04
85	20	1,890.34		1,328.88
86	19	1,233.34		867.10
87	18	1,946.86		1,368.68
88	8	362.29		254.72
89	3	541.05		380.36
91	1	102.89		72.32
92	2	102.01		71.71
93	2	380.87		267.77
94	1	88.34		62.11
Total	<u>4,393</u>	<u>\$1,070,146.97</u>		<u>\$121,548.58</u>

WITHDRAWAL ANNUITIES AS OF DECEMBER 31, 1981

FEMALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
28	2	\$ 83.64		
29	15	666.40		
30	32	1,367.24		
31	60	2,631.51		
32	51	2,468.36		
33	60	2,939.62		
34	59	3,022.68		
35	90	4,893.57		
36	66	4,000.86		
37	36	2,233.57		
38	42	2,671.71		
39	49	3,344.05		
40	42	3,227.36		
41	37	2,562.76		
42	40	4,035.98		
43	24	2,611.57		
44	35	3,452.05		
45	27	2,699.05		
46	34	4,238.54		
47	41	4,965.45		
48	42	6,012.42		
49	50	7,199.05		
50	53	8,332.17		
51	61	10,513.30		
52	59	9,245.69		
53	84	17,242.48		
54	78	18,905.34		
55	94	21,951.36		\$ 82.33
56	108	23,470.37		63.23
57	112	28,481.61		72.07
58	155	39,754.67		106.38
59	169	51,872.55		116.11
60	149	46,643.24		
61	157	49,979.46		2,184.92
62	148	45,889.48		3,569.37
63	113	34,122.93		4,425.30
64	102	31,091.04		4,853.08
65	84	22,250.00		4,592.89
66	82	23,260.57		6,871.43
67	50	20,203.86		5,926.91

SCHEDULE G(1)

WITHDRAWAL ANNUITIES AS OF DECEMBER 31, 1981

FEMALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
68	55	\$ 18,086.33		\$ 7,168.57
69	42	9,950.11		4,663.60
70	54	14,391.83		7,050.80
71	54	12,841.81		7,099.09
72	38	7,450.98		4,386.43
73	36	4,912.64		3,189.69
74	31	5,338.21		3,701.23
75	26	3,992.46		2,801.25
76	30	3,781.75	\$57.51	2,601.10
77	22	1,942.36		1,365.49
78	18	1,384.50		973.30
79	16	2,399.55		1,686.89
80	13	1,105.79		777.32
81	10	568.66		399.77
82	15	727.44		511.43
84	13	1,243.49		874.20
85	8	721.43		507.17
86	3	233.36		164.05
87	5	341.83		240.31
88	4	93.69		65.86
89	4	114.61		80.57
90	1	82.78		58.20
91	2	249.50		175.39
92	1	225.23		158.34
94	1	70.07		49.26
95	3	80.30		56.45
96	1	25.10		17.65
97	1	15.42		10.85
98	1	63.65		44.75
100	1	48.35		34.00
Total	<u>3,301</u>	<u>\$667,020.79</u>	<u>\$57.51</u>	<u>\$83,777.03</u>

DISABILITY ANNUITIES AS OF DECEMBER 31, 1981

MALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
26	1	\$ 263.54		
29	1	299.04		
31	2	661.22		
32	1	241.36		
33	10	2,764.78		\$ 122.20
34	8	3,037.22		
35	13	4,119.92		171.31
36	8	3,061.55		13.55
37	9	3,521.93		109.34
38	11	3,496.78		100.66
39	16	5,899.09		192.04
40	10	3,154.21		78.60
41	14	5,038.63		310.50
42	20	7,191.82		291.17
43	14	4,465.71		203.27
44	12	4,287.65		139.53
45	25	8,115.92		339.94
46	17	6,917.11		144.99
47	27	10,419.46		365.91
48	22	8,576.97		351.39
49	30	10,649.11	\$ 22.60	747.50
50	38	15,368.66	1.65	566.51
51	35	14,522.72		651.48
52	51	21,897.15	16.34	1,121.31
53	58	23,695.68	35.87	953.36
54	75	33,528.36		1,564.39
55	85	33,581.28		1,520.16
56	87	36,640.33		2,066.04
57	85	32,430.43		2,246.79
58	99	39,345.50		1,948.97
59	111	41,019.87	42.20	3,653.28
60	104	35,787.17		2,516.74
61	123	39,895.73		3,069.09
62	99	30,122.95	15.31	3,175.02
63	88	25,881.28	17.02	3,682.08
64	95	25,826.05	67.51	4,416.86
65	75	20,572.44	26.33	4,795.22
66	40	9,229.48		2,482.50
67	45	9,231.28	59.75	3,352.82
68	27	5,124.37	71.02	2,148.05
69	33	4,696.46	107.97	2,429.10
70	22	3,253.31	53.04	1,544.28
71	24	2,673.99	75.50	1,504.80
72	9	901.56	106.11	585.79
73	7	644.54	129.33	442.39

DISABILITY ANNUITIES AS OF DECEMBER 31, 1981

MALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
74	9	\$ 865.09	\$ 157.93	\$ 596.26
75	8	633.21	148.87	445.18
76	13	1,190.96	256.17	837.25
77	5	302.07	263.68	212.39
78	9	665.83	214.87	468.06
79	2	307.24	61.31	216.00
80	1	57.18	15.57	40.19
81	3	296.08	280.67	208.14
82	1	73.33	82.72	51.55
87	1	57.36	146.52	40.33
89	1	84.36	33.04	59.31
Total	<u>1,839</u>	<u>\$606,586.32</u>	<u>\$2,508.89</u>	<u>\$59,293.59</u>

DISABILITY ANNUITIES AS OF DECEMBER 31, 1981

FEMALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
26	1	\$ 315.31		
27	1	322.48		
28	1	377.50		
29	3	857.93		
31	3	766.23		
32	2	591.45		\$ 59.52
33	4	1,162.84		
34	5	1,447.44		40.99
35	7	1,792.61		57.47
36	3	1,090.79		27.39
37	7	2,306.69		52.00
38	4	1,249.99		92.62
39	8	2,134.82		256.43
40	4	1,260.44		15.04
41	9	2,515.06		164.02
42	9	2,369.92		86.32
43	7	2,784.22		39.81
44	7	1,600.21	\$ 1.75	233.89
45	10	3,575.61		56.96
46	12	3,428.46		272.57
47	12	3,190.50		223.33
48	17	5,614.89		234.50
49	8	2,698.87		190.59
50	17	5,153.80		283.57
51	29	9,598.10	6.01	454.89
52	29	8,419.28		562.54
53	27	8,480.37	6.47	364.60
54	31	9,118.88	6.80	888.98
55	39	12,274.96	27.04	439.24
56	47	13,978.14		1,152.48
57	75	23,197.26		2,075.15
58	54	15,761.04	12.52	1,429.54
59	79	25,421.80	50.20	2,208.61
60	76	21,798.18	38.44	2,721.45
61	75	18,872.85	18.39	1,501.04
62	83	20,451.84	27.02	2,540.88
63	61	13,280.99	27.87	2,651.23
64	58	12,606.89	31.99	2,968.58
65	56	11,631.97	41.09	2,952.24
66	37	7,090.23	23.61	2,357.02

SCHEDULE I(1)

DISABILITY ANNUITIES AS OF DECEMBER 31, 1981

FEMALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
67	41	\$ 6,914.81	\$ 67.70	\$ 2,723.04
68	36	5,688.20	94.95	2,547.46
69	34	4,760.57	116.99	2,390.97
70	30	3,414.07	197.21	1,814.93
71	21	1,994.36	176.05	1,245.17
72	16	1,543.58	218.10	1,012.98
73	13	1,197.78	89.10	816.61
74	10	845.53	255.57	592.32
75	9	608.16	288.65	427.56
76	7	464.90	138.93	326.85
77	5	339.74	133.02	238.83
78	5	366.31	65.59	257.53
79	3	151.87	90.12	106.77
80	2	95.06	65.63	66.83
81	6	395.90	175.96	278.30
82	2	135.93	72.14	95.56
85	6	421.75	261.66	294.27
86	4	210.21	215.28	147.77
91	1	77.17	107.64	54.25
92	1	46.33	27.94	32.57
Total	<u>1,269</u>	<u>\$310,273.07</u>	<u>\$3,177.41</u>	<u>\$45,126.06</u>

BENEFICIARIES RECEIVING PAYMENTS
AS OF DECEMBER 31, 1981

MALES

Age	Number	Basic Monthly Benefit	Supplemental Monthly Benefits	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
15	1	\$ 198.34		
17	1	1,540.39		
19	1	184.66		
22	3	957.92		
23	3	594.35		
25	1	480.95		
26	1	153.57		
28	3	635.07		
29	3	993.92		
30	1	495.20		
31	3	783.92		
32	5	1,501.22		
33	2	940.27		
34	2	429.40		
35	1	303.05		
36	2	737.45		\$ 31.56
37	3	382.98		
38	5	1,600.52		
39	4	1,058.68		
40	4	1,037.92		
41	7	866.77		70.20
42	4	1,513.01		25.00
43	3	394.29		23.45
44	4	619.21		40.23
45	2	307.23		
46	3	934.72		42.90
47	3	1,113.66		36.73
49	4	815.05		17.65
50	2	353.52		
51	2	1,071.35		
52	2	1,592.65		
53	4	509.01		
54	2	444.66		
55	2	272.32		
56	3	1,010.73		21.66
57	5	1,119.63		32.38
58	4	1,674.46		19.33
59	5	1,814.10		14.07
60	8	2,189.87		22.83
61	9	4,137.67		
62	5	3,523.26		
63	10	4,715.54		28.09
64	8	3,087.19		192.70
65	9	2,345.48		42.72
66	8	2,697.99		9.31

SCHEDULE J(1)

BENEFICIARIES RECEIVING PAYMENTS
AS OF DECEMBER 31, 1981

MALES

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
67	6	\$ 1,971.17		\$ 27.47
68	4	2,135.99		10.43
69	10	3,934.38		116.93
70	6	1,471.21		
71	12	6,109.35		
72	9	2,284.20		
73	9	3,225.96		123.61
74	9	2,871.28		107.05
75	3	932.34		170.64
76	5	507.86		109.39
77	4	1,080.93		229.95
78	2	1,002.61		
79	3	692.32		77.02
83	1	188.20		
84	3	609.50		
85	2	373.95		17.76
87	4	1,150.98		236.12
88	1	86.31		
90	1	157.13		47.13
91	1	49.39		34.73
Total	<u>262</u>	<u>\$84,968.21</u>		<u>\$1,979.04</u>

BENEFICIARIES RECEIVING PAYMENTS
AS OF DECEMBER 31, 1981

FEMALES

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
14	1	\$ 1,137.42		
16	1	1,540.39		
18	3	663.08		
19	1	48.88		
22	1	567.55		
23	2	432.59		
24	1	673.74		
25	1	99.52		
26	1	151.41		
27	4	1,616.04		
29	2	1,596.83		
30	2	547.88		
31	2	341.06		\$ 6.18
32	6	1,520.38		
33	6	1,539.11		
34	4	735.31		
35	4	834.69		
36	2	182.66		
37	5	885.87		
38	2	415.53		
39	4	995.67		87.31
40	5	534.61		10.91
41	5	1,170.46		4.53
42	7	2,845.64		
43	9	2,022.29		40.09
44	7	1,093.95		
45	10	6,314.02		7.61
46	7	731.16		
47	6	906.62		
48	9	2,940.64		16.25
49	13	5,098.98		62.15
50	11	3,447.61		
51	21	7,981.47		
52	25	7,954.91		78.47
53	26	7,691.36		395.83
54	37	13,993.18		99.76
55	52	14,682.56		402.31
56	35	16,203.69		80.24
57	53	18,358.40		159.52
58	58	23,728.61		137.09

SCHEDULE K(1)

BENEFICIARIES RECEIVING PAYMENTS
AS OF DECEMBER 31, 1981

FEMALES

Age	Number	Basic Monthly Benefit	Supplemental Monthly Benefits	
			Not Continuing to Beneficiary	Continuing to Beneficiary
59	48	\$ 17,046.52		\$ 326.67
60	85	25,970.85		517.42
61	97	29,023.84		504.11
62	107	34,537.72		1,238.63
63	109	29,838.63		1,378.14
64	136	41,184.74		1,471.96
65	127	30,117.44		1,355.42
66	171	47,479.86		1,573.04
67	149	44,603.87		2,203.26
68	165	41,402.52		2,357.52
69	176	47,619.46		3,190.08
70	167	40,851.86		2,355.89
71	156	38,388.95		3,594.93
72	182	47,482.00		5,549.89
73	166	39,147.30		3,089.46
74	160	36,373.80		3,309.48
75	153	26,640.85		2,410.74
76	154	34,887.82		3,470.43
77	126	23,928.62		2,672.91
78	121	20,432.71		2,116.83
79	119	24,335.70		1,956.34
80	108	20,428.63		2,496.84
81	123	19,614.64		2,010.38
82	46	7,094.35		640.40
83	42	5,252.22		851.30
84	71	10,399.54		661.99
85	67	12,288.70		1,183.06
86	75	11,797.33		1,310.29
87	51	9,012.28		641.31
88	45	5,142.98		64.83
89	32	3,990.06		401.54
90	27	4,168.32		795.32
91	17	1,184.82		148.69
92	22	2,412.82		36.45
93	17	1,847.45		15.89
94	9	910.20		
95	8	678.75		24.49
96	6	711.46		126.99
97	5	713.21		74.98
98	8	768.36		
99	1	44.93		
100	1	91.31		
102	1	45.00		
Total	<u>4,107</u>	<u>\$994,118.19</u>		<u>\$59,716.15</u>

SCHEDULE K(2)

SUMMARY OF ANNUITIES AS OF DECEMBER 31, 1981

	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>	<u>Total</u>	<u>Average Monthly Benefit</u>
<u>Superannuation</u>						
Male	22,655	\$ 8,218,019.79	\$ 49,837.58	\$1,386,787.78	\$ 9,654,645.15	\$426.16
Female	14,778	4,197,084.09	31,190.67	732,407.78	4,960,682.54	335.68
Total	37,433	12,415,103.88	81,028.25	2,119,195.56	14,615,327.69	390.44
<u>Withdrawal</u>						
Male	4,393	\$ 1,070,146.97	\$ 0.00	\$ 121,548.58	\$ 1,191,695.55	\$271.27
Female	3,301	667,020.79	57.51	83,777.03	750,855.33	227.45
Total	7,694	1,737,167.76	57.51	205,325.61	1,942,550.88	252.48
<u>Disability</u>						
Male	1,839	\$ 606,586.32	\$ 2,508.89	\$ 59,293.59	\$ 668,388.80	\$363.45
Female	1,269	310,273.07	3,177.41	45,126.06	358,576.54	282.57
Total	3,108	916,859.39	5,686.30	104,419.65	1,026,965.34	330.43
<u>Beneficiaries</u>						
Male	262	\$ 84,968.21	\$ 0.00	\$ 1,979.04	\$ 86,947.25	\$331.86
Female	4,107	994,118.19	0.00	59,716.15	1,053,834.34	256.59
Total	4,369	1,079,086.40	0.00	61,695.19	1,140,781.59	261.11

SCHEDULE L

C O M P A R I S O N O F M E M B E R S H I P

	<u>December 31, 1978</u>		<u>December 31, 1979</u>		<u>December 31, 1980</u>		<u>December 31, 1981</u>	
	<u>Number</u>	<u>Salary</u>	<u>Number</u>	<u>Salary</u>	<u>Number</u>	<u>Salary</u>	<u>Number</u>	<u>Salary</u>
			<u>A C T I V E M E M B E R S</u>					
Male	73,112	\$1,146,108,973	70,726	\$1,215,782,698	68,351	\$1,274,060,936	66,986	\$1,320,357,128
Female	54,305	643,908,572	54,086	715,031,471	53,410	777,630,673	53,061	806,327,737
Total	<u>127,417</u>	<u>\$1,790,017,545</u>	<u>124,812</u>	<u>\$1,930,814,169</u>	<u>121,761</u>	<u>\$2,051,691,609</u>	<u>120,047</u>	<u>\$2,126,684,865</u>

A N N U I T A N T S

Male	23,412	25,766	27,597	29,149
Female	18,585	20,371	22,096	23,455
Total	<u>41,997</u>	<u>46,137</u>	<u>49,693</u>	<u>52,604</u>

BENEFIT AND CONTRIBUTION PROVISIONS as of DECEMBER 31, 1974
(as embodied in Act 31, approved March 1, 1974)

The State Employees' Retirement System of Pennsylvania makes provision for retirement, disability, and death benefits for all State employees and certain other eligible groups. The major provisions may be summarized as follows:

Eligibility Employees

- Class A - All regular State employees as well as employees of certain Commissions and Authorities and all employees of state-owned educational institutions and the Pennsylvania State University (unless such employees have joined the Public School Employees' Retirement System of Pennsylvania). All employees who become members (or who rejoin the Retirement System) on and after March 1, 1974.
- Class C - Officers and employees of the Pennsylvania State Police and enforcement officers of the Pennsylvania Liquor Control Board who were members prior to March 1, 1974.
- Class D-3 - Members of the General Assembly who were members prior to March 1, 1974.
- Class E-1 - Members of the Judiciary who were members prior to March 1, 1974.
- Class E-2 - Justices of the Peace paid by the Commonwealth who were members prior to March 1, 1974.

Age Requirements for Superannuation Retirement (with full formula benefits)

- Class A* - Age 60, except for members of the General Assembly, enforcement officers, correction officers, psychiatric security aides and officers of the Pennsylvania State Police for whom the requirement is age 50.

*Members of Class A with 35 or more years of credited service are entitled to at least full formula benefits regardless of age.

Classes C and D-3 - Age 50.

Class E-1 - Age 60.

Class E-2 - Age 60.

Formula for Superannuation Retirement Annuity

The standard single-life annuity applicable to members of Class A, is equal to 2% of the final 3-year average salary ("F.A.S.") of the member multiplied by the years and fractions of credited service.

The annuity for other classes of members is obtained by multiplying the standard single-life annuity by a class multiplier as follows:

Class	Class of Service Multiplier	
	<u>Prior to 1/1/73</u>	<u>On and After 1/1/73</u>
C	1	1
D-3	3.75	1.731
E-1	2. for each of the first 10 years of judicial service plus 1.5 for each subsequent year.	1.50 for each of the first 10 years of judicial service plus 1.125 for each subsequent year.
E-2	1.5	1.125

NOTE: There are conditions under which long-service members or members retiring at advanced ages may receive somewhat larger benefits than those described above.

In addition to the standard single-life annuity as determined above, a member of Class C receives a "member's annuity" actuarially equivalent to the regular accumulated member contributions and interest at retirement but not less than such annuity determined as if the member were age 60 at retirement.

In addition to the above benefits, a member who, prior to March 1, 1974, has elected "Social Security Integration Credits" is entitled to a single-life annuity of 2% of his "Average Non-Covered Salary" for each year

SCHEDULE N(2)

of Social Security Integration credits. "Average Non-Covered Salary" is the average annual salary received while covered by the Retirement System since January 1, 1956 in excess of the maximum covered wages under Social Security. In effect, the years of Social Security Integration Credit are the same as total credited service unless the member did not elect coverage when first eligible.

Age and Service Requirements for Early Retirement

In the case of withdrawal, a member of Class D-3 is eligible for early retirement after 6 years of legislative service and members of other classes are eligible after 10 years of service.

Adjustment for Early Retirement Benefit

A member receives the actuarial equivalent of the annuity payable at superannuation retirement age earned to the date of early retirement.

Age and Service Requirements for Disability Retirement

A member is eligible for disability retirement if he is unable to perform his current job prior to superannuation retirement age and has at least 5 years of service, except an officer of the State Police or an enforcement officer for whom there is no service requirement.

Formula for Disability Benefit

The disability benefit is equal to the benefit calculated as for superannuation retirement, based on years of credited service at disability, if the result is greater than or equal to 33-1/3% of F.A.S. at time of disability. If the benefit so calculated is less than 33-1/3% of F.A.S., the disability benefit is equal to the smaller of:

- (a) the benefit calculated as for superannuation retirement based on service to superannuation, or
- (b) 33-1/3% of F.A.S. at time of disability.

Eligibility for Vested Benefit

A member is eligible for a vested benefit after 10 years of service, except for members of Class D-3 who are eligible after 6 years of credited service.

Vested Benefit

The vested benefit is calculated as for superannuation retirement but deferred until superannuation retirement age.

Eligibility for Death Benefit Prior to Retirement

A member is eligible if he has 10 years of credited service, except for a member of Class D-3 who is eligible after 6 years of credited service, or attainment of superannuation age.

Amount of Death Benefit Prior to Retirement

An eligible beneficiary receives the full reserve value of the benefits to which the member would have been entitled had he retired the day before he dies, assuming he had elected Option 1 if no other option had been elected.

Death Benefits After Retirement

A member may elect one of several typical optional reduced pensions in lieu of his maximum single-life annuity provided by the formula. However, if he elects the single-life annuity, there is a provision for a modified cash refund without actuarial reduction of the unpaid balance of the member accumulated contributions and interest at time of retirement.

Supplemental Allowances

Any superannuation or disability annuitant is entitled to a supplemental allowance sufficient to build the amount of his total single life allowance including any cost of living supplements up to not less than at the rate of \$84.50 for each year of credited service.

Supplemental annuities applying cost-of-living increases to the benefits of annuitants have been instituted from time to time. The most recent of these became effective as of July 1, 1979 for annuitants who had retired prior to July 1, 1978. The increase percentages varied according to year of retirement and began with a 5% increase for those who retired between July 1, 1977 and June 30, 1978 and increased to 31% for those who retired prior to March 1, 1974. Other supplemental annuities have become effective as of July 1, 1968 and July 1, 1974.

Rate of Member Contribution

(i) Regular member contributions, excluding Social Security Integration contributions

Class A - 5% of total salary

For other classes of members, the class of service multiplier is applied to the 5% rate to produce the following:

Class C - 5%

Class D-3 - 8.655%

Class E-1 - 7.5% during the first 10 years of judicial service and 5.625% thereafter.

Class E-2 - 5.625%

(ii) Additional contribution for Social Security Integration Credit

A member of any class who elected before March 1, 1974 Social Security Integration Credit pays 5% of any salary in excess of the amount of salary covered by Social Security during the year for which contributions are being made. A member electing to end additional contributions is ineligible to make future contributions or accrue future benefits.

Interest Credited on Member Contribution

A rate of 4% stipulated as the statutory rate of interest, has been credited on the member contributions since the inception of the system.

SCHEDULE N (5)

Refund of Accumulated Member Contributions

On the death of a member not qualifying for death benefits, his accumulated member contributions are paid to his beneficiary; also, any member terminating service when not eligible for another form of benefit is paid a refund of his accumulated contributions and interest; any other terminating member may elect the refund of his accumulated contributions and interest in lieu of the retirement allowance to which he is entitled.

Employer Contributions

The State pays the balance of the required contributions in excess of the members contributions in accordance with the law. Basically, the employer contribution is the normal cost plus an accrued liability contribution funded over 30 years, assuming the accrued liability contribution increases at least 4% each year. In addition, contributions are required to fund each of the Supplemental Allowances over a 20 year period.

ACTUARIAL ASSUMPTIONS

Interest Rate: 5-1/2% per annum, compounded annually.

Service Tables: Service tables for active members based on the experience of the Retirement System in 1975-80, with values at specimen ages in five separate classes as follows:

CLASS*	AGE	Rates of Separation Due To						Super- annuation Retire- ment**	SALARY SCALE
		Withdrawal after Years of Service			Death	Dis- ability	Early Retire- ment**		
		1	5	11					
A and B (MALE)	25	.2279	.1074	.0040	.0012	.0007	.0340	-	\$ 4,000
	35	.2008	.0750	.0036	.0039	.0020	.0270	-	7,409
	45	.1649	.0498	.0033	.0099	.0051	.0160	-	11,318
	55	.1286	.0320	-	.0251	.0135	.0210	.1924	16,114
	65	-	-	-	.0475	-	-	.4329	22,727
A and B (FEMALE)	25	.1829	.1290	.0023	.0005	.0006	.0321	-	4,000
	35	.1516	.0836	.0019	.0010	.0016	.0204	-	7,409
	45	.1320	.0543	.0016	.0018	.0041	.0149	-	11,318
	55	.1280	.0353	-	.0038	.0102	.0258	.1800	16,114
	65	-	-	-	.0121	-	-	.4000	22,727
C (MALE and FEMALE)	25	.1303	.0102	.0002	.0012	.0007	.0125	-	4,000
	35	.1303	.0102	.0002	.0039	.0020	.0125	-	7,109
	45	.1303	.0102	-	.0099	.0051	.0125	-	11,221
	55	-	-	-	.0251	-	-	.0843	16,300
	65	-	-	-	.0475	-	-	.5000	22,992
D (MALE and FEMALE)	25	.0300	.0160	.0145	.0012	.0007	.0390	-	4,000
	35	.0300	.0160	.0145	.0039	.0020	.0390	-	5,642
	45	.0300	.0160	-	.0099	.0051	.0390	-	7,959
	55	-	-	-	.0251	-	-	.0700	11,227
	65	-	-	-	.0475	-	-	.2500	15,837
E (MALE and FEMALE)	25	.0950	.0200	.0070	.0012	.0007	.0183	-	4,000
	35	.0950	.0200	.0070	.0039	.0020	.0183	-	5,642
	45	.0950	.0200	.0070	.0099	.0051	.0183	-	7,959
	55	.0950	.0200	-	.0251	.0135	.0183	-	11,227
	65	-	-	-	.0475	-	-	.1000	15,837

Superannuation and Withdrawal Allowances: The mortality table used for those receiving superannuation and withdrawal allowance is the 1971 Group Annuity Mortality Table.

Disability Allowances: The mortality tables used for those receiving disability allowances are modifications based on sex of 1965 Railroad Retirement Board Mortality among Totally Disabled Annuitants.

*As defined in Retirement Law prior to March 1, 1974 amendment (Act 31).
 **Retirement Rates are assumed to decrease by 20% after 1990.

SCHEDULE O