

REPORT ON AN ACTUARIAL VALUATION OF THE
STATE TEACHERS RETIREMENT SYSTEM OF OHIO
PREPARED AS OF JULY 1, 1988

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November 23, 1988

The Retirement Board
The State Teachers
Retirement System of Ohio
275 East Broad Street
Columbus, Ohio 43215

Ladies and Gentlemen:

This report presents the results of the actuarial valuation of the assets and liabilities of The State Teachers Retirement System of Ohio as of July 1, 1988, prepared in accordance with Section 3307.20 of Chapter 3307 of the Ohio Revised Code.

The valuation was based on (i) the revised rates of separation and interest rate assumption of 7-3/4% per annum which were recommended by the actuary in the report on the experience investigation for the period July 1, 1980 through June 30, 1985, and approved by the Board, and (ii) the annual rates of salary increases adopted by the Board effective July 1, 1981.

The valuation indicates that the unfunded accrued liability of the System is equal to \$6,760 million as of July 1, 1988. On the basis of an assumed annual growth rate of the STRS payroll of 5.50% per annum, the unfunded amount of \$6,760 million will be liquidated over a period of 35 years from July 1, 1988.

Legislated Amendments

The valuation reflects the amendments to the Revised Code as legislated under Senate Bill 305. These amendments provided for (i) ad hoc increases in benefits for STRS retirants who retired prior to July 1, 1979, as enacted under Section 3307.4011 of the Revised Code, and (ii) the modifications in eligibility requirements for survivor benefits, as incorporated under the amended Section 3307.49 of the Revised Code.

An additional charge to the members of .02% of payroll has been established to cover the cost of the modifications in eligibility requirements for survivor benefits. On this basis, the total normal rate of contribution (excluding health care) has been increased from 14.28% of payroll as of July 1, 1987 to 14.30% of payroll as of July 1, 1988, of which 8.77% of payroll is to be met by members' contributions and the remainder, or 5.53%, is to be met by the employers.

Establishment of Special Reserves

The valuation also reflects the Board's decision to set aside \$225 million of the investment income of the fund for specific purposes. The special reserves of \$225 million are to be used as follows: (i) \$25 million is to be used to

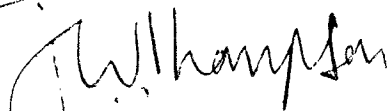
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strengthen the reserves of the Health Care Stabilization Fund; and (ii) \$200 million is to be established as an additional reserve in the Employers' Trust Fund, bringing the total reserves in the Employers' Trust Fund to \$300 million, to assist in covering the cost to the employers for future purchase of service transactions by the members and additional members' benefits which would require statutory approval.

If the \$225 million had not been deposited in the special reserve fund and otherwise applied against the unfunded accrued liability of the System, the deficiency would have been equal to \$6,535 million as of July 1, 1988 and the liquidation period would have decreased to exactly 33 years.

The Table of Contents, which immediately follows, outlines the material contained in the report.

Respectfully submitted,



John W. Thompson
Consulting Actuary

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REPORT ON AN ACTUARIAL VALUATION OF THE
STATE TEACHERS RETIREMENT SYSTEM OF OHIO
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SECTION I - SUMMARY OF PRINCIPAL RESULTS

1. This report presents the results of an actuarial valuation of The State Teachers Retirement System of Ohio prepared as of July 1, 1988. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized in Table I below.

TABLE I

<u>Valuation Date</u>	7/1/88	7/1/87
Active members included in valuation:		
Number	152,200	150,607
Annual salaries	\$ 4,336,723,017	\$ 4,074,129,054
Number of inactive members included in valuation:		
Eligible for pensions	15,587	15,568
Eligible for refunds only	65,520	63,015
Retirees and beneficiaries in receipt of benefits as of the valuation date:		
Number	64,957	62,819
Annual allowances	\$ 713,028,230	\$ 640,566,254
Assets (book value)	\$14,613,182,194	\$12,911,071,860
Normal Contribution Rate (excluding Health Care)	14.30%	14.28%
Health Care Cost Allocation as % of payroll	2.00%	2.00%
Unfunded Accrued Liability (excluding Health Care)	\$ 6,759,786,182	\$ 6,380,719,832
Liquidation Period	35 years	35 years

2. The valuation reflects the amendments to the Revised Code which provided for (i) ad hoc increases in benefits for retirants who retired prior to July 1, 1979, as enacted under Section 3307.4011 of the Revised Code, and (ii) the modifications in eligibility requirements for survivor benefits, as incorporated under the amended Section 3307.49 of the Revised Code.
3. The valuation balance sheet showing the results of the valuation is presented in Table V of Section IV.
4. Comments on the valuation results are presented in Section V, while the gain and loss analysis during the valuation year is presented in Section VI.
5. Exhibit A of this report outlines the full set of actuarial assumptions and methods employed. Exhibit B presents a summary of the benefit and contribution provisions of the System.

SECTION II - MEMBERSHIP DATA

Data regarding the membership of the System which was used as a basis for the valuation were furnished by the System's office. The following tables summarize the membership of the System as of July 1, 1988 upon which the valuation was based. Detailed tabulations of the data are given in Exhibit C.

Table II following shows the number and annual salaries of active members as of July 1, 1988.

TABLE II

THE NUMBER AND ANNUAL SALARIES OF ACTIVE
MEMBERS AS OF JULY 1, 1988

GROUP	NUMBER	ANNUAL SALARIES
Men	55,329	\$ 1,878,432,630
Women	96,871	2,458,290,387
Total	152,200	\$ 4,336,723,017

Table III following shows the number of inactive members as of July 1, 1988.

TABLE III

THE NUMBER OF INACTIVE MEMBERS
AS OF JULY 1, 1988

GROUP	ELIGIBLE FOR ALLOWANCES	ELIGIBLE FOR REFUNDS ONLY
Men	4,391	20,718
Women	11,196	44,802
Total	15,587	65,520

Table IV on the following page shows the number and annual retirement allowances of retirees and beneficiaries as of July 1, 1988.

TABLE IV

THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF
RETIREES AND BENEFICIARIES AS OF JULY 1, 1988

GROUP	NUMBER	ANNUAL ALLOWANCES AS OF JULY 1, 1988		
		Basic	Cost-of-Living Increases	Total
Superannuation retirees:				
Men	17,214	\$ 234,243,560	\$ 33,051,704	\$ 267,295,264
Women	36,960	287,121,435	57,183,800	344,305,235
Subtotal	54,174	\$ 521,364,995	\$ 90,235,504	\$ 611,600,499
Disability retirees:				
Men	1,531	\$ 21,206,901	\$ 3,089,284	\$ 24,296,185
Women	2,582	25,145,939	3,892,480	29,038,419
Subtotal	4,113	\$ 46,352,840	\$ 6,981,764	\$ 53,334,604
Beneficiaries receiving optional allowances:				
Men	675	\$ 3,071,513	\$ 816,891	\$ 3,888,404
Women	2,755	17,584,973	4,992,706	22,577,679
Subtotal	3,430	\$ 20,656,486	\$ 5,809,597	\$ 26,466,083
Total	61,717	\$ 588,374,321	\$ 103,026,865	\$ 691,401,186
Survivors' Benefit Fund beneficiaries:				
Men	726	\$ 3,322,716	\$ 732,603	\$ 4,055,319
Women	2,123	12,960,622	2,863,957	15,824,579
Orphans	391	1,496,995	250,151	1,747,146
Total	3,240	\$ 17,780,333	\$ 3,846,711	\$ 21,627,044
Grand Total	64,957	\$ 606,154,654	\$ 106,873,576	\$ 713,028,230

In addition, 154 beneficiaries of deceased active members entitled to annual deferred allowances of \$468,898 were included in the valuation.

SECTION III - EMPLOYEE DATA

1. The valuation was based on detailed data submitted by the System covering 152,200 active members with annual compensation of \$4,336,723,017, 61,717 retired members and beneficiaries in receipt of total annual retirement allowances of \$691,401,186, 3,240 beneficiaries covered under the Survivors' Benefit Fund who are in receipt of annual retirement allowances of \$21,627,044, 154 beneficiaries of deceased active members entitled to annual deferred allowances of \$468,898, 15,587 inactive members eligible for allowances and 65,520 inactive members eligible for refunds only.

2. Tables 1 and 2 of Exhibit C show the number and annual compensation of active members distributed by age and years of service as of July 1, 1988. Table 3 shows the number of inactive members eligible for allowances distributed by age, while Table 4 shows the number of inactive members eligible for refunds distributed by age as of July 1, 1988. Tables 5 through 8 of Exhibit C show the number and annual retirement allowances of retired members and contingent annuitants included in the valuation. Table 9 of Exhibit C shows the number and annual allowances of children without an eligible parent distributed by age as of July 1, 1988.

SECTION IV - VALUATION BALANCE SHEET

The following valuation balance sheet shows the assets and liabilities of the Retirement System as of July 1, 1988.

The liabilities of the funds are equal to the actuarially determined present values of benefits payable. The assets of \$3,181,750,060 in the Employers' Trust Fund reflect the transfer of \$25 million made to the Health Care Stabilization Fund.

TABLE V

VALUATION BALANCE SHEET SHOWING THE PRESENT
AND PROSPECTIVE ASSETS AND LIABILITIES OF THE
STATE TEACHERS RETIREMENT SYSTEM OF OHIO
PREPARED AS OF JULY 1, 1988

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VALUATION BALANCE SHEET SHOWING THE PRESENT
AND PROSPECTIVE ASSETS AND LIABILITIES OF THE
STATE TEACHERS RETIREMENT SYSTEM OF OHIO
PREPARED AS OF JULY 1, 1988

LIABILITIES		
Present value of benefits payable on account of present retirees and beneficiaries from the following funds:		:
Annuity and Pension Reserve Fund		:
[See Note (4)]	\$ 7,689,832,325	:
Survivors' Benefit Fund	<u>242,721,097</u>	:
Total liabilities for retirees and beneficiaries		:
		: \$ 7,932,553,422
Reserves held in the Health Care Stabilization Fund		:
		: 354,502,202
Reserves for employers' cost on account of future purchases of service by members and additional members' benefits		:
		: 300,000,000
Present value of benefits payable on account of active and inactive members from contributions to the Teachers' Savings Fund and Employers' Trust Fund:		:
Superannuation allowances	\$ 17,035,229,329	:
Disability allowances	1,208,889,470	:
Survivor benefits	581,016,493	:
Refunds	800,740,234	:
Retirement death benefits	<u>5,925,833</u>	:
Total liabilities for active and inactive members		:
		: \$ 19,631,801,359
Total Liabilities		:
		: \$ 28,218,856,983

Note (4): Includes \$121,711,317 less an amount of \$16,353,726, or a net amount of \$105,357,591 attributable to dedicated bond portfolio I, and \$52,774,755 attributable to dedicated bond portfolio II.

SECTION V - COMMENTS ON VALUATION

The valuation balance sheet gives the following information in regard to the funds of the System as of July 1, 1988.

Annuity and Pension Reserve Fund

The Annuity and Pension Reserve Fund is the fund from which is paid all retirement allowances for which reserves have been transferred from the Teachers' Savings Fund and the Employers' Trust Fund. The present assets credited to the fund as of July 1, 1988 amounted to \$7,681,442,552, which included \$121,711,317 attributable to dedicated bond portfolio I which was established July 1, 1985, and \$52,774,755 attributable to dedicated bond portfolio II which was established July 1, 1988. In addition, future state appropriations to finance House Bills 204 (1979) and 248 (1971) amounted to \$39,664,447. Therefore, the present and future assets amounted to \$7,721,106,999. The liabilities of the fund amounted to \$7,689,832,325 as of July 1, 1988. The difference between the assets and liabilities, or \$31,274,674, represents the surplus in the fund as of July 1, 1988. It should be noted that this surplus represents the effect of inter-fund transfers within STRS in excess of the amount actually required to meet the liabilities of the fund. It is recommended that periodic ad hoc transfers be continued out of the fund into the Employers' Trust Fund in order to bring the fund more closely into balance. Such transfers would have a neutral effect on the unfunded accrued liability of STRS, since any surplus in the fund is applied to reduce the unfunded in the Employers' Trust Fund.

Survivors' Benefit Fund

The Survivors' Benefit Fund is the fund from which is paid the benefits to survivors of members who die in active service or after disability retire-

ment. The liabilities of the fund were equal to \$242,721,097 as of July 1, 1988. The present assets credited to the fund as of July 1, 1988 amounted to \$241,537,054 and future state appropriations to finance House Bills 204 (1979) and 248 (1971) amounted to \$1,184,043. Therefore, the total present and future assets were also equal to \$242,721,097. Thus, the Survivors' Benefit Fund is in balance as of July 1, 1988.

Health Care Stabilization Fund

The assets of the Health Care Stabilization Fund as of July 1, 1988 are equal to \$354,502,202, including a transfer of \$25,000,000 from the Employers' Trust Fund. Provisions are made at the rate of 2.00% of payroll to be applied against the one year term cost of health care.

Teachers' Savings Fund

The Teachers' Savings Fund is the fund to which members' contributions are credited and from which is paid all refunds of members' contributions upon withdrawal or upon death where no other survivor benefit is payable. Upon retirement a member's contributions are transferred from this fund to the Annuity and Pension Reserve Fund and upon death where a benefit is paid to a survivor, his contributions are transferred to the Survivors' Benefit Fund.

The present assets credited to the Teachers' Savings Fund amounted to \$3,153,950,326 as of July 1, 1988.

Employers' Trust Fund

The Employers' Trust Fund is the fund to which the employers' contributions are credited. At retirement or death the reserves necessary to provide the benefits payable less the members' contributions are transferred from this

fund to the Annuity and Pension Reserve Fund, or to the Survivors' Benefit Fund. The assets in the Employers' Trust Fund amounted to \$3,181,750,060 as of July 1, 1988.

The Board has directed that a portion of the investment income of the Fund for the year ended June 30, 1988 equal to \$225 million be set aside for specific purposes. The amount of \$225 million, which without the Board action would have been credited to the Employers' Trust Fund to meet future benefit payments from the System, is to be specifically utilized as follows:

- (i) \$25 million is to be used to pay health care benefits. As a result, the current balance of the Employers' Trust Fund reflects a transfer of \$25 million to the Health Care Stabilization Fund.
- (ii) \$200 million is to be established as an additional reserve in the Employers' Trust Fund, bringing the total reserves in the Employers' Trust Fund to \$300 million, to assist in covering the cost to the employers on account of future purchase of service transactions by the members and additional members' benefits.

The balance of the assets in the Employers' Trust Fund are available to pay for any and all benefits of the System without any special provision.

Employers' Future Contributions

The present value of the liabilities to be covered by contributions to the Teachers' Savings Fund and Employers' Trust Fund amounts to \$19,631,801,359 for active and inactive members, plus \$300,000,000, as previously mentioned, to cover the cost of future purchase of service transactions and additional members' benefits, or a total of \$19,931,801,359. If the present assets of

\$3,153,950,326 in the Teachers' Savings Fund plus \$3,181,750,060 in the Employers' Trust Fund, or a total of \$6,335,700,386, are subtracted from these liabilities, there remains \$13,596,100,973 to be met by future contributions of members and employers. The present value of members' future contributions was \$4,173,440,418 as of the valuation date, leaving \$9,422,660,555 to be met by future contributions of the employers. The normal rate payable based upon the entry age of members with less than two years of service is equal to the rate of 14.28%, determined as of July 1, 1985, plus an additional rate of .02% attributable on account of the modifications in the survivor benefit provisions incorporated under the amended Section 3307.49 of the Code. This results in a total normal rate payable equal to 14.30%, of which 8.77% of payroll is to be met by members' contributions and the remainder, or 5.53% of payroll, is to be met by the employers. A detailed breakdown of the normal contribution rate by liability category is presented below.

TABLE VI

NORMAL CONTRIBUTION RATE

CATEGORY	:	RATE AS % OF PAYROLL
Superannuation Allowances	:	10.96%
Disability Allowances	:	1.28
Survivor Benefits	:	.63
Refunds	:	1.42
Retirement Death Benefits	:	.01
Total	:	14.30%

Future normal contributions by employers have a present value of \$2,631,599,699. If this amount is subtracted from \$9,422,660,555, the present value of future contributions by employers, there remains \$6,791,060,856 as the total amount of unfunded accrued liability exclusive

of the surplus in the Annuity and Pension Reserve Fund. If the surplus of \$31,274,674 in the Annuity and Pension Reserve Fund is subtracted from the amount of \$6,791,060,856, the resulting net unfunded accrued liability is equal to \$6,759,786,182. Employers pay 14.00% of payroll, of which 5.53% is payable toward the normal contribution and 2.00% is payable for health care, leaving 6.47% of payroll available to liquidate the unfunded accrued liability. Based upon an assumed increase in payroll of 5.50% per annum, the unfunded accrued liability would be liquidated in exactly 35 years.

SECTION VI - GAIN AND LOSS ANALYSIS

The expected unfunded accrued liability as of July 1, 1988 amounts to \$6,600 million, based on an expected deficiency period equal to last year's period of 35 years less 1 year, or 34 years. The actual unfunded accrued liability amounts to \$6,760 million, reflecting the special reserves established as of July 1, 1988 by the Board of \$225 million. Thus, there is an increase of \$6,760 million minus \$6,600 million, or \$160 million in the expected deficiency. The sources of this decrease are analyzed below.

(i) Investment Income

Income on investments during the year ended June 30, 1988, net of expenses, was earned at a rate of 11.43% based on book value of assets, but excluding the effect of the dedicated bond portfolios I and II.

The Board has directed that \$225 million of the investment income, after meeting the valuation rate of 7.75%, be used as a reserve for the specific purposes described under the Employers' Trust Fund subsection of Section V.

There was investment income of \$474 million earned in excess of the valuation interest rate of 7.75% during the year ended June 30, 1988.

The investment income in excess of the required rate of 7.75% less the special reserves of \$225 million amounts to \$249 million. Of this excess investment income, approximately \$36 million will be paid out to eligible retirees and beneficiaries in December, 1988, leaving a net gain of \$213 million.

(ii) Salary Increases

Salary increases to active members were in excess of those expected and increased the unfunded accrued liability by approximately \$196 million.

(iii) Retiree Mortality

Mortality and termination experience among retirees and beneficiaries resulted in a gain of approximately \$5 million.

(iv) Separation Experience Among Active Members and New Entrants

The actual number of members who retired on account of both service and disability was greater than expected. In addition, the actual number of withdrawals and deaths was less than expected. This overall experience resulted in net losses to the System of approximately \$116 million.

There was a loss of approximately \$15 million from new entrants.

(v) Purchase of Service

The purchase of service by members during the year ended June 30, 1988 produced an additional liability to the System not covered by the premiums paid by the members of approximately \$51 million.

A summary of the gain and loss analysis is presented on the following page.

Summary of Gain and Loss Analysis

	<u>Amount in Millions</u>
Items that <u>increased</u> the unfunded accrued liability:	
Salary increases above those expected	\$ 196
Separation experience	116
New entrants	15
Purchase of service	<u>51</u>
Total increases	\$ 378
Items that <u>decreased</u> the unfunded accrued liability:	
Excess investment earnings	\$ 213
Experience among retirees and beneficiaries	<u>5</u>
Total decreases	<u>218</u>
Net increase in unfunded accrued liability	\$ 160

Deficiency Period

If there had been no actuarial gains or losses during the year ended June 30, 1988, the expected remaining period to fund the unfunded accrued liability as of July 1, 1988 would have been 34 years, i.e., one year less than the period of 35 years as of June 30, 1987.

The net actuarial loss of \$160 million described above has the effect of increasing the funding period by approximately 1.4 years. In addition, because the payroll of the total membership increased at a rate (6.0%) greater than the expected rate of 5.5%, the application of the accrued liability rate of 6.47% to the increased payroll base will generate contribution income greater than expected in the future. This actuarial gain in the form of increased income has the effect of reducing the required funding period by approximately .4 years. The net effect of these two factors is to

increase the expected funding period by 1.4 years less .4 years, or 1.0 years. This produces a funding period as of July 1, 1988 of 34.0 years plus 1.0 years, or 35.0 years.

These points may be summarized as follows:

	<u>Funding Period</u>
Expected period as of July 1, 1988	34.0 years
Increase due to actuarial loss of \$160 million	1.4
Decrease due to additional accrued liability contribution income	<u>(.4)</u>
Actual funding period	35.0 years

SECTION VII - PENSION BENEFIT OBLIGATION INFORMATION

1. Statement No. 5 of the Governmental Accounting Standards Board (GASB) requires in part that a computation and disclosure of a standardized measure of the pension obligation for public employee retirement systems, and state and local governmental employers be made for purposes of assessing the funding status and funding progress of these systems and employers.

This measure is the actuarial present value (APV) as of the valuation date of credited projected benefits prorated on service, which is referred to in Statement No. 5 as of the "pension benefit obligation" (PBO).

2. The determination of the pension benefit obligation as of July 1, 1988 includes an adjustment for the effects of projected salary increases, estimated to be payable in the future as a result of employee service to July 1, 1988.

Significant actuarial assumptions used to determine the pension benefit obligation as of July 1, 1988 include the following:

- (1) An assumed rate of return on the investment of present and future assets of 7-3/4% per annum, compounded annually.
- (2) Assumed projected annual salary increases ranging from 10.50% at age 20 to 4.50% at age 65, which reflect an allowance for inflation and merit or seniority increases.
- (3) Assumed annual post-retirement benefit increases equal to 3% of the member's benefit at retirement, based on the assumption that the change in Consumer Price Index will equal or exceed 3% each year in the future.

The relevant amounts as of July 1, 1988 are shown below:

Pension benefit obligation:

Retirees and beneficiaries currently receiving benefits	\$ 7,920,979,064
Terminated vested members not yet receiving benefits	<u>772,426,055</u>
Sub-total	\$ 8,693,405,119
Current members -	
Accumulated member contributions with interest	\$ 2,970,254,458
Employer-financed vested	2,115,627,571
Employer-financed non-vested	<u>5,545,310,227</u>
Sub-total	\$10,631,192,256
Total pension benefit obligation	\$19,324,597,375

The actuarial present value of credited projected benefits for active members is the portion of the total projected benefits allocated to the accrued liability using the unit credit actuarial cost method.

EXHIBIT A

STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

INTEREST RATE: 7-3/4% per annum, compounded annually.

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

<u>Age</u>	<u>Withdrawal</u>	<u>Death</u>	<u>Disability</u>	<u>ANNUAL RATES OF</u>			<u>Salary Increase</u>
				<u>Superannuation</u>			
				<u>30</u> <u>Years</u> <u>Service</u>	<u>25-29</u> <u>Years</u> <u>Service</u>	<u>Under</u> <u>25 Years</u> <u>Service</u>	
<u>MEN</u>							
20	.0855	.0009	-	-	-	-	.1050
30	.0655	.0010	.0003	-	-	-	.0850
40	.0295	.0016	.0009	-	-	-	.0650
50	.0150	.0035	.0054	.2250	-	-	.0530
55	.0153	.0054	.0077	.2070	.0495	-	.0500
60	.0163	.0096	-	.2475	.0675	.0765	.0475
65	.0163	.0177	-	.3825	.3600	.2565	.0450
70	-	.0309	-	.3600	.3600	.3150	.0450
<u>WOMEN</u>							
20	.0566	.0003	-	-	-	-	.1050
30	.0599	.0004	.0005	-	-	-	.0850
40	.0248	.0007	.0012	-	-	-	.0650
50	.0149	.0016	.0048	.2250	-	-	.0530
55	.0126	.0029	.0070	.2250	.0900	-	.0500
60	.0117	.0054	-	.2610	.1305	.1440	.0475
65	.0123	.0099	-	.4050	.3600	.2970	.0450
70	-	.0174	-	.3600	.3150	.2700	.0450

DEATH AFTER RETIREMENT: According to the 1955 American Annuity Table with ages set back two years for men and seven years for women. Special mortality tables are used for the period after disability retirement.

VALUATION METHOD: Projected benefit method with level percentage entry age normal cost and open-end unfunded accrued liability. Gains and losses are reflected in the accrued liability.

ASSET VALUATION METHOD: Cost value.

PAYROLL GROWTH: Assumed to grow at 5.50% per annum for purposes of determining the liquidation period of the unfunded accrued liability.

EXHIBIT A

STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

(Continued)

PENSION BENEFIT OBLIGATION: The measure of the actuarial present value (APV) as of the valuation date of credited projected benefits prorated on service, or pension benefit obligation (PBO) as referred to in Statement No. 5 of the Governmental Accounting Standards Board (GASB), includes an adjustment for the effects of projected salary increases, estimated to be payable in the future as a result of employee service to July 1, 1988. Significant actuarial assumptions used to determine the pension benefit obligation as of July 1, 1988 include the following:

- (1) An assumed rate of return on the investment of present and future assets of 7-3/4% per annum, compounded annually.
- (2) Assumed projected annual salary increases ranging from 10.50% at age 20 to 4.50% at age 65, which reflect an allowance for inflation and merit or seniority increases.
- (3) Assumed annual post-retirement benefit increases equal to 3% of the member's benefit at retirement, based on the assumption that the change in Consumer Price Index will equal or exceed 3% each year in the future.

EXHIBIT B

SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS

Eligibility for membership Immediate

Service Retirement

 Eligibility Age 60 with 5 years of service, or age 55 with 25 years of service, or 30 years of service regardless of age.

 Benefits Greater of 2% of average annual salary for the three highest paid years or \$86, multiplied by years of service credit and adjusted by the following percentage:

<u>Attained</u> <u>Age</u>	or	<u>Years</u> <u>of Ohio</u> <u>Service</u> <u>Credit</u>	<u>% of</u> <u>Base</u> <u>Amount</u>
58		25	75%
59		26	80
60		27	85
61		28	88
62		28	90
63		28	91
63		29	94
64		29	95
64		29	97
65		30 or more	100

Maximum benefit - 90% of average annual salary for three highest paid years.

Minimum benefit - the sum of the annuity provided by the member's accumulated contributions, a pension equal to the annuity and an additional pension of \$40 multiplied by the number of years of prior and military service.

Optional Forms of Benefit

Option 1 - 100% joint and survivorship. If the beneficiary dies before the member or if the beneficiary is the spouse and the marriage is terminated the member will receive the benefit before optional modification.

Option 2 - A joint and survivorship annuity payable during the lifetime of the member, with the designated beneficiary to receive a lesser annuity if living at the death of the

EXHIBIT B

SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS

(Continued)

member. If the beneficiary dies before the member or if beneficiary is the spouse and marriage is terminated the member will receive the benefit without optional modification.

Option 3 - A life annuity payable during the lifetime of the member, with a guarantee that at least an elected number of monthly payments will be paid in any event.

Option 4 - Any other benefit arrangement approved by the Board and certified by the actuary to be an actuarially equivalent benefit.

Disability Retirement

Eligibility

Completion of 5 or more years of service, under age 60 and permanently incapacitated for the performance of duty.

Benefits

- (1) Annuity with a reserve equal to the member's accumulated contributions plus
- (2) The difference between (1) and the greater of 2% of the average salary during the 3 highest paid years or \$86 times total service plus years and months from date of disability to age 60. Maximum allowance is 75% of final average salary. Minimum allowance is 30% of final average salary.

Death after Retirement

Lump sum payment of \$500 upon death after service or disability retirement.

Survivor's Benefit

Eligibility

Upon death after at least 1-1/2 years of credit for Ohio service with at least 1/4 year of such service in the 2-1/2 years preceding death or upon death of a disability retiree.

Benefits

If member eligible for retirement, spouse or other sole dependent beneficiary may elect to receive option 1 benefit in lieu of return of contributions.

EXHIBIT B

SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS

(Continued)

If member not eligible for retirement certain designated beneficiaries may elect to receive following benefits in lieu of return of contributions.

<u>Number of Qualified Dependents</u>	<u>% of Average Annual Salary for 3 Highest Paid Years</u>	<u>Minimum Annual Benefit</u>
1	25%	\$1,152
2	40	2,232
3	50	2,832
4	55	2,832
5 or more	60	2,832

Qualified beneficiaries are spouse, dependent children and/or dependent parents over age 65.

Refund of Contributions

A member's contributions are refunded upon termination of employment where no other benefit is payable. Upon death after retirement or upon death of a survivor in receipt of benefits, the member's accumulated contributions at retirement less payments made are returned to the designated beneficiary.

Cost-of-living Benefits

The basic benefit is increased by 3% each year provided the change in Consumer Price Index equals or exceeds 3%.

Health Care

Retirants, their spouses and dependent children are covered by comprehensive medical expense health care plan.

Contribution:

By Members

8.77% of salary.

By Employers

14.00% of salaries of their employees who are members.

EXHIBIT C

DISTRIBUTIONS OF
ACTIVE MEMBERS, INACTIVE MEMBERS,
RETIRED MEMBERS AND BENEFICIARIES

TABLE 1
THE NUMBER AND ANNUAL SALARIES
OF ACTIVE MEMBERS DISTRIBUTED BY
AGE AS OF JULY 1, 1988

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
19	1\$	18,665	2\$	23,928
20	1	2,435	2	23,469
21	1	1,186	5	63,876
22	11	104,058	56	504,512
23	162	2,158,454	767	10,100,180
24	391	5,780,962	1,330	19,012,874
25	508	8,444,928	1,586	25,344,924
26	626	11,058,307	1,735	29,413,124
27	687	13,182,163	1,833	32,516,861
28	740	14,684,243	1,753	31,888,735
29	738	15,574,919	1,734	33,037,270
30	847	19,470,680	1,903	38,280,352
31	1,075	26,384,056	2,187	45,972,743
32	1,158	29,615,032	2,308	50,196,737
33	1,330	35,036,650	2,691	61,706,650
34	1,404	39,074,031	2,845	65,514,713
35	1,641	46,935,505	3,175	75,814,377
36	1,964	58,366,191	3,875	95,351,146
37	2,212	68,969,689	4,232	106,823,752
38	2,269	72,258,148	4,445	113,078,596
39	2,573	84,576,966	4,657	117,780,122
40	2,598	86,719,866	4,425	114,541,910
41	3,154	108,816,875	4,929	128,028,403
42	2,652	93,742,092	4,102	107,826,931
43	2,148	76,470,959	3,219	85,785,726
44	2,052	74,712,139	3,124	84,231,916
45	2,245	82,730,018	3,332	90,882,176
46	2,141	80,895,513	3,233	89,521,049
47	1,911	73,268,373	2,781	77,145,720
48	1,712	66,369,120	2,437	68,941,366
49	1,601	62,855,032	2,293	65,467,681
50	1,523	61,556,063	2,312	67,127,615
51	1,406	56,482,204	2,081	60,575,984
52	1,343	53,763,408	1,921	56,548,014
53	1,148	47,483,095	1,661	48,702,158

TABLE 1
THE NUMBER AND ANNUAL SALARIES
OF ACTIVE MEMBERS DISTRIBUTED BY
AGE AS OF JULY 1, 1988

CONTINUED

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
54	1,054	42,406,341	1,576	46,563,286
55	880	35,930,086	1,299	38,413,446
56	836	34,518,001	1,302	39,548,627
57	801	32,672,168	1,285	38,737,944
58	740	30,754,844	1,266	37,852,874
59	624	25,620,408	1,027	31,163,772
60	523	21,387,683	934	28,760,702
61	447	17,930,009	825	25,214,981
62	326	13,174,301	621	18,980,573
63	303	12,525,102	515	16,258,882
64	237	10,178,934	385	12,225,270
65	183	8,087,038	286	9,319,224
66	124	5,134,892	188	5,944,485
67	97	4,013,123	119	3,644,297
68	69	2,843,140	98	2,785,249
69	35	1,552,533	67	2,134,975
70	31	1,204,282	45	1,363,269
71	15	464,423	35	1,074,100
72	5	50,874	5	149,083
73	3	52,623	6	136,711
74	8	110,011	9	126,762
75	2	66,972	4	66,910
76	4	57,712	1	40,067
77	3	21,224	1	4,904
78	2	7,018	1	4,404
79	3	62,993		
84	1	43,870		
TOTAL	55,329	\$1,878,432,630	96,871	\$2,458,290,387

TABLE 1A
THE NUMBER AND ANNUAL SALARIES
OF ACTIVE MEMBERS DISTRIBUTED BY
AGE AS OF JULY 1, 1988

AGE	NUMBER	AMOUNT
19	3 \$	42,593
20	3	25,904
21	6	65,062
22	67	608,570
23	929	12,258,634
24	1,721	24,793,836
25	2,094	33,789,852
26	2,361	40,471,431
27	2,520	45,699,024
28	2,493	46,572,978
29	2,472	48,612,189
30	2,750	57,751,032
31	3,262	72,356,799
32	3,466	79,811,769
33	4,021	96,743,300
34	4,249	104,588,744
35	4,816	122,749,882
36	5,839	153,717,337
37	6,444	75,793,441
38	6,714	85,336,744
39	7,230	102,357,088
40	7,023	101,261,776
41	8,083	36,845,278
42	6,754	101,569,023
43	5,367	162,256,685
44	5,176	158,944,055
45	5,577	173,612,194
46	5,374	170,416,562
47	4,692	150,414,093
48	4,149	135,310,486
49	3,894	128,322,713
50	3,835	128,683,678
51	3,487	117,058,188
52	3,264	110,311,422
53	2,809	96,185,253
54	2,630	88,969,627
55	2,179	74,343,532

TABLE 1A
THE NUMBER AND ANNUAL SALARIES
OF ACTIVE MEMBERS DISTRIBUTED BY
AGE AS OF JULY 1, 1988

CONTINUED

AGE	NUMBER	AMOUNT
56	2,138 \$	74,066,628
57	2,086	71,410,112
58	2,006	68,607,718
59	1,651	56,784,180
60	1,457	50,148,385
61	1,272	43,144,990
62	947	32,154,874
63	818	28,783,984
64	622	22,404,204
65	469	17,406,262
66	312	11,079,377
67	216	7,657,420
68	167	5,628,389
69	102	3,687,508
70	76	2,567,551
71	50	1,538,523
72	10	199,957
73	9	189,334
74	17	236,773
75	6	133,882
76	5	97,779
77	4	26,128
78	3	11,422
79	3	62,993
84	1	43,870
TOTAL	152,200	\$4,336,723,017

TABLE 2

THE NUMBER AND ANNUAL SALARIES
OF ACTIVE MEMBERS DISTRIBUTED BY
YEARS OF SERVICE AS OF JULY 1, 1988

YEARS OF SERVICE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
0	674\$	7,375,160	1,592\$	13,795,662
1	3,223	55,862,599	7,133	88,581,415
2	2,557	57,453,350	5,980	98,694,313
3	2,286	58,341,648	5,188	95,330,719
4	1,978	53,360,907	4,755	94,647,301
5	1,612	46,278,394	4,038	82,917,122
6	1,272	38,884,162	3,214	66,833,938
7	1,283	40,198,732	3,101	67,369,281
8	1,558	50,199,597	3,713	86,963,003
9	1,650	53,753,142	3,971	98,590,792
10	1,802	60,857,255	4,268	110,278,190
11	1,725	58,192,796	4,005	107,963,808
12	1,800	61,707,510	3,684	101,699,117
13	1,854	64,374,499	3,716	106,945,226
14	1,949	68,340,514	3,830	113,402,056
15	2,066	74,639,639	4,066	123,418,079
16	2,384	87,537,951	3,778	118,060,018
17	2,112	78,859,527	3,237	101,797,759
18	2,086	79,468,284	3,243	103,755,537
19	2,536	97,458,256	3,085	100,349,203
20	2,279	88,034,900	2,642	85,912,991
21	2,076	82,496,052	2,300	75,354,288
22	1,838	72,448,035	1,998	66,272,715
23	1,575	63,292,146	1,776	59,214,185
24	1,473	59,010,101	1,486	49,689,807
25	1,329	53,434,329	1,325	44,550,012
26	1,117	45,414,015	1,147	38,437,703
27	1,005	41,056,938	1,032	34,773,940
28	841	34,623,617	810	27,410,181
29	763	31,913,736	730	24,916,585
30	660	27,336,988	624	21,277,363
31	484	21,246,588	396	13,552,099
32	377	16,074,293	283	9,783,081
33	263	11,321,790	190	6,614,618

TABLE 2
THE NUMBER AND ANNUAL SALARIES
OF ACTIVE MEMBERS DISTRIBUTED BY
YEARS OF SERVICE AS OF JULY 1, 1988

CONTINUED

YEARS OF SERVICE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
34	231	10,037,148	126	4,531,379
35	153	6,519,642	109	3,966,114
36	129	5,758,277	83	3,008,858
37	92	4,053,118	69	2,357,674
38	82	3,793,929	38	1,383,354
39	53	2,504,992	26	892,074
40	46	2,099,278	24	875,261
41	21	1,074,168	14	516,880
42	12	628,210	19	672,408
43	11	559,137	6	200,436
44	3	182,549	4	158,296
45	6	258,883	7	227,459
46	1	50,160	5	178,804
47	2	65,689		
48			1	36,391
49			3	96,173
51			1	36,719
TOTAL	55,329	\$1,878,432,630	96,871	\$2,458,290,387

TABLE 2A

THE NUMBER AND ANNUAL SALARIES
OF ACTIVE MEMBERS DISTRIBUTED BY
YEARS OF SERVICE AS OF JULY 1, 1988

YEARS OF SERVICE	NUMBER	AMOUNT
0	2,266	\$ 21,170,822
1	10,356	144,444,014
2	8,537	156,147,663
3	7,474	153,672,367
4	6,733	148,008,208
5	5,650	129,195,516
6	4,486	105,718,100
7	4,384	107,568,013
8	5,271	137,162,600
9	5,621	152,343,934
10	6,070	71,135,445
11	5,730	66,156,604
12	5,484	63,406,627
13	5,570	71,319,725
14	5,779	81,742,570
15	6,132	98,057,718
16	6,162	105,597,969
17	5,349	80,657,286
18	5,329	83,223,821
19	5,621	97,807,459
20	4,921	173,947,891
21	4,376	157,850,340
22	3,836	138,720,750
23	3,351	122,506,331
24	2,959	108,699,908
25	2,654	97,984,341
26	2,264	83,851,718
27	2,037	75,830,878
28	1,651	62,033,798
29	1,493	56,830,321
30	1,284	48,614,351
31	880	34,798,687
32	660	25,857,374
33	453	17,936,408

TABLE 2A

THE NUMBER AND ANNUAL SALARIES
OF ACTIVE MEMBERS DISTRIBUTED BY
YEARS OF SERVICE AS OF JULY 1, 1988

CONTINUED

YEARS OF SERVICE	NUMBER	AMOUNT
34	357	\$ 14,568,527
35	262	10,485,756
36	212	8,767,135
37	161	6,410,792
38	120	5,177,283
39	79	3,397,066
40	70	2,974,539
41	35	1,591,048
42	31	1,300,618
43	17	759,573
44	7	340,845
45	13	486,342
46	6	228,964
47	2	65,689
48	1	36,391
49	3	96,173
51	1	36,719
TOTAL	152,200	\$4,336,723,017

TABLE 3

THE NUMBER OF INACTIVE MEMBERS ELIGIBLE FOR
 FUTURE ALLOWANCES DISTRIBUTED BY
 AGE AS OF JULY 1, 1988

AGE	MEN	WOMEN
28	3	14
29	3	50
30	10	114
31	22	174
32	43	227
33	43	282
34	59	360
35	78	380
36	96	477
37	97	500
38	139	539
39	143	529
40	170	529
41	215	530
42	206	417
43	145	353
44	186	358
45	210	401
46	189	403
47	166	384
48	155	325
49	153	330
50	191	316
51	162	358
52	158	299
53	153	325
54	162	280
55	151	262
56	144	290
57	156	278
58	167	333
59	142	301
60	112	227
61	38	68
62	34	43
63	20	39
64	24	28

TABLE 3
THE NUMBER OF INACTIVE MEMBERS ELIGIBLE FOR
FUTURE ALLOWANCES DISTRIBUTED BY
AGE AS OF JULY 1, 1988

CONTINUED

AGE	MEN	WOMEN
65	15	24
66	9	10
67	10	10
68	3	5
69	1	9
70		6
71	2	
72	3	2
73		1
74		1
75		1
76	2	
78	1	1
80		1
82		1
86		1
TOTAL	4,391	11,196

TABLE 3A
THE NUMBER OF INACTIVE MEMBERS ELIGIBLE FOR
FUTURE ALLOWANCES DISTRIBUTED BY
AGE AS OF JULY 1, 1988

AGE	NUMBER
28	17
29	53
30	124
31	196
32	270
33	325
34	419
35	458
36	573
37	597
38	678
39	672
40	699
41	745
42	623
43	498
44	544
45	611
46	592
47	550
48	480
49	483
50	507
51	520
52	457
53	478
54	442
55	413
56	434
57	434
58	500
59	443
60	339
61	106
62	77
63	59
64	52

TABLE 3A
THE NUMBER OF INACTIVE MEMBERS ELIGIBLE FOR
FUTURE ALLOWANCES DISTRIBUTED BY
AGE AS OF JULY 1, 1988

CONTINUED

AGE	NUMBER
65	39
66	19
67	20
68	8
69	10
70	6
71	2
72	5
73	1
74	1
75	1
76	2
78	2
80	1
82	1
86	1
TOTAL	15,587

TABLE 4

THE NUMBER OF INACTIVE MEMBERS ELIGIBLE
FOR REFUNDS ONLY DISTRIBUTED BY
AGE AS OF JULY 1, 1988

AGE	MEN	WOMEN
19	3	1
20	2	5
21	5	9
22	29	127
23	100	343
24	189	537
25	239	682
26	318	770
27	358	950
28	347	1,043
29	432	1,128
30	453	1,194
31	572	1,321
32	591	1,281
33	627	1,336
34	738	1,503
35	720	1,671
36	842	1,869
37	857	1,950
38	906	1,864
39	968	1,963
40	980	1,956
41	1,081	2,249
42	847	1,916
43	656	1,518
44	630	1,436
45	590	1,487
46	573	1,415
47	480	1,149
48	396	1,007
49	389	832
50	355	739
51	337	743
52	327	679
53	311	555
54	293	569
55	260	464
56	282	477

TABLE 4

THE NUMBER OF INACTIVE MEMBERS ELIGIBLE
FOR REFUNDS ONLY DISTRIBUTED BY
AGE AS OF JULY 1, 1988

CONTINUED

AGE	MEN	WOMEN
57	234	426
58	276	447
59	226	386
60	227	380
61	205	302
62	176	278
63	161	229
64	146	219
65	155	157
66	109	145
67	113	134
68	102	127
69	86	104
70	66	98
71	54	74
72	44	63
73	39	70
74	37	59
75	27	40
76	30	43
77	17	32
78	15	38
79	13	35
80	15	28
81	16	17
82	6	22
83	10	20
84	2	20
85	5	18
86	4	16
87	6	7
89	3	11
90	3	8
91	4	5
92	3	4
93		2
TOTAL	20,718	44,802

TABLE 4A
THE NUMBER OF INACTIVE MEMBERS ELIGIBLE
FOR REFUNDS ONLY DISTRIBUTED BY
AGE AS OF JULY 1, 1988

AGE	NUMBER
19	4
20	7
21	14
22	156
23	443
24	726
25	921
26	1,088
27	1,308
28	1,390
29	1,560
30	1,647
31	1,893
32	1,872
33	1,963
34	2,241
35	2,391
36	2,711
37	2,807
38	2,770
39	2,931
40	2,936
41	3,330
42	2,763
43	2,174
44	2,066
45	2,077
46	1,988
47	1,629
48	1,403
49	1,221
50	1,094
51	1,080
52	1,006
53	866
54	862
55	724
56	759

TABLE 4A

THE NUMBER OF INACTIVE MEMBERS ELIGIBLE
FOR REFUNDS ONLY DISTRIBUTED BY
AGE AS OF JULY 1, 1988

CONTINUED

AGE	NUMBER
57	660
58	723
59	612
60	607
61	507
62	454
63	390
64	365
65	312
66	254
67	247
68	229
69	190
70	164
71	128
72	107
73	109
74	96
75	67
76	73
77	49
78	53
79	48
80	43
81	33
82	28
83	30
84	22
85	23
86	20
87	13
89	14
90	11
91	9
92	7
93	2

TOTAL 65,520

TABLE 5
THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1988

SUPERANNUATION RETIREES

AGE	MEN		WOMEN	
	NUMBER	ANNUAL ALLOWANCE	NUMBER	ANNUAL ALLOWANCE
48			1	\$ 18,295
49	3	\$ 72,524		
50	4	76,169	6	108,724
51	36	784,931	40	746,301
52	126	2,779,285	93	1,718,128
53	207	4,398,500	138	2,547,328
54	288	5,975,211	176	3,191,742
55	369	7,689,728	203	3,749,632
56	461	9,577,132	267	4,735,028
57	505	10,647,212	346	5,735,898
58	543	11,076,679	383	6,342,514
59	586	11,919,589	458	7,392,354
60	638	12,520,247	565	7,618,987
61	799	14,397,640	861	9,841,523
62	817	14,306,496	941	10,492,259
63	883	15,242,427	1,004	11,182,973
64	840	14,262,564	1,003	10,889,637
65	797	12,961,745	1,072	10,950,494
66	766	12,083,288	1,172	12,787,631
67	740	11,595,878	1,307	13,419,978
68	695	10,438,785	1,296	13,265,122
69	511	7,636,418	1,249	12,254,904
70	573	8,235,759	1,407	13,680,737
71	554	7,329,838	1,371	12,629,008
72	460	5,810,849	1,358	12,397,130
73	491	6,516,766	1,313	11,882,427
74	456	5,557,850	1,330	11,597,502
75	434	5,494,523	1,354	11,270,836
76	385	4,512,657	1,414	11,469,488
77	370	4,182,573	1,274	9,898,538
78	333	3,690,129	1,363	10,953,468
79	350	3,892,645	1,303	10,211,435
80	336	3,592,568	1,465	11,012,009
81	323	3,282,593	1,322	10,001,181
82	271	2,755,783	1,219	8,864,810
83	250	2,461,903	1,236	9,093,957
84	207	1,959,189	1,050	7,539,651
85	182	1,824,939	948	6,734,595

TABLE 5

THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1988

SUPERANNUATION RETIREES

CONTINUED

AGE	MEN		WOMEN	
	NUMBER	ANNUAL ALLOWANCE	NUMBER	ANNUAL ALLOWANCE
86	136	\$ 1,254,671	785	\$ 5,367,171
87	138	1,343,999	636	4,501,990
88	77	721,452	501	3,624,590
89	64	595,687	383	2,672,616
90	56	535,297	345	2,493,834
91	37	338,660	244	1,882,473
92	25	232,592	209	1,572,373
93	32	259,190	154	1,128,813
94	20	159,097	113	841,969
95	6	57,535	97	728,177
96	10	89,695	70	463,476
97	10	56,728	41	283,076
98	9	79,742	33	230,072
99	4	20,699	22	167,900
100			10	58,822
101	1	7,208	3	23,702
102			5	31,045
103			1	6,912
TOTAL	17,214	\$267,295,264	36,960	\$344,305,235

SUMMARY

NO OPTION	4,369	\$ 56,064,595	27,112	\$243,546,606
OPTION 1	6,773	107,518,464	3,821	33,269,800
OPTION 2	5,488	94,497,411	4,916	56,792,312
OPTION 3	584	9,214,794	1,111	10,696,517

TABLE 5A

THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1988

SUPERANNUATION RETIREES

AGE	NUMBER	AMOUNT
48	1 \$	18,295
49	3	72,524
50	10	184,893
51	76	1,531,232
52	219	4,497,413
53	345	6,945,828
54	464	9,166,953
55	572	11,439,360
56	728	14,312,160
57	851	16,383,110
58	926	17,419,193
59	1,044	19,311,943
60	1,203	20,139,234
61	1,660	24,239,163
62	1,758	24,798,755
63	1,887	26,425,400
64	1,843	25,152,201
65	1,869	23,912,239
66	1,938	24,870,919
67	2,047	25,015,856
68	1,991	23,703,907
69	1,760	19,891,322
70	1,980	21,916,496
71	1,925	19,958,846
72	1,818	18,207,979
73	1,804	18,399,193
74	1,786	17,155,352
75	1,788	16,765,359
76	1,799	15,982,145
77	1,644	14,081,111
78	1,696	14,643,597
79	1,653	14,104,080
80	1,801	14,604,577
81	1,645	13,283,774
82	1,490	11,620,593
83	1,486	11,555,860
84	1,257	9,498,840
85	1,130	8,559,534

TABLE 5A

THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1988

SUPERANNUATION RETIREES

CONTINUED

AGE	NUMBER	AMOUNT
86	921 \$	6,621,842
87	774	5,845,989
88	578	4,346,042
89	447	3,268,303
90	401	3,029,131
91	281	2,221,133
92	234	1,804,965
93	186	1,388,003
94	133	1,001,066
95	103	785,712
96	80	553,171
97	51	339,804
98	42	309,814
99	26	188,599
100	10	58,822
101	4	30,910
102	5	31,045
103	1	6,912

TOTAL 54,174 \$611,600,499

SUMMARY

NO OPTION	31,481	\$299,611,201
OPTION 1	10,594	140,788,264
OPTION 2	10,404	151,289,723
OPTION 3	1,695	19,911,311

TABLE 6
THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1988

DISABILITY RETIREES				
MEN				
WOMEN				
AGE	NUMBER	ANNUAL ALLOWANCE	NUMBER	ANNUAL ALLOWANCE
29			1	\$ 13,667
30			1	13,841
31			4	46,868
32			7	92,260
33	2	\$ 27,591	9	122,898
34	1	16,149	17	240,966
35	3	37,871	10	131,634
36	4	63,300	27	353,252
37	6	99,597	22	336,382
38	11	176,009	20	294,990
39	14	241,400	42	591,862
40	22	340,912	29	400,525
41	20	318,133	40	567,536
42	19	331,033	34	484,905
43	18	330,388	32	501,596
44	22	376,436	31	448,682
45	33	507,189	51	734,054
46	28	498,680	51	746,482
47	28	457,741	38	546,048
48	21	344,472	39	543,354
49	33	673,668	55	779,354
50	33	581,255	53	755,489
51	31	554,772	62	846,550
52	42	721,504	47	715,581
53	51	982,547	63	931,703
54	53	912,175	75	1,007,624
55	58	1,016,956	59	844,044
56	66	1,183,967	73	1,030,532
57	68	1,267,652	88	1,100,125
58	75	1,375,156	86	1,066,883
59	65	1,082,444	97	1,051,928
60	80	1,283,215	99	1,186,340
61	69	1,144,038	119	1,349,369
62	81	1,211,788	102	1,070,127
63	79	1,223,145	95	1,012,546
64	63	960,275	87	872,077
65	49	762,960	82	800,705

TABLE 6

THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1988

DISABILITY RETIREES

CONTINUED

AGE	MEN		WOMEN	
	NUMBER	ANNUAL ALLOWANCE	NUMBER	ANNUAL ALLOWANCE
66	52	\$ 683,567	82	\$ 759,108
67	58	740,196	75	719,534
68	25	334,924	74	669,337
69	29	373,335	66	525,004
70	24	280,560	72	547,744
71	24	209,795	44	288,004
72	10	87,736	48	333,821
73	13	102,845	48	303,264
74	10	112,425	26	167,271
75	4	41,824	33	190,951
76	2	11,501	28	177,704
77	3	26,651	17	101,760
78	2	9,813	21	122,738
79	3	26,103	8	47,445
80			10	51,252
81	5	36,917	16	77,174
82	2	8,372	14	60,094
83	2	9,588	12	61,346
84	4	23,144	10	49,910
85	1	9,446	12	69,320
86	4	23,096	6	26,503
87	3	23,945	3	11,749
88			2	6,428
89			2	13,840
90			3	11,925
91	1	3,894	1	2,990
92	1	6,988		
93			1	6,557
95			1	2,867
96	1	5,102		
TOTAL	1,531	\$ 24,296,185	2,582	\$ 29,038,419

TABLE 6A

THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1988

DISABILITY RETIREES

AGE	NUMBER	AMOUNT
29	1 \$	13,667
30	1	13,841
31	4	46,868
32	7	92,260
33	11	150,489
34	18	257,115
35	13	169,505
36	31	416,552
37	28	435,979
38	31	470,999
39	56	833,262
40	51	741,437
41	60	885,669
42	53	815,938
43	50	831,984
44	53	825,118
45	84	1,241,243
46	79	1,245,162
47	66	1,003,789
48	60	887,826
49	88	1,453,022
50	86	1,336,744
51	93	1,401,322
52	89	1,437,085
53	114	1,914,250
54	128	1,919,799
55	117	1,861,000
56	139	2,214,499
57	156	2,367,777
58	161	2,442,039
59	162	2,134,372
60	179	2,469,555
61	188	2,493,407
62	183	2,281,915
63	174	2,235,691
64	150	1,832,352
65	131	1,563,665
66	134	1,442,675
67	133	1,459,730
68	99	1,004,261
69	95	898,339

TABLE 6A

THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1988

DISABILITY RETIREES

CONTINUED

AGE	NUMBER	AMOUNT
70	96 \$	828,304
71	68	497,799
72	58	421,557
73	61	406,109
74	36	279,696
75	37	232,775
76	30	189,205
77	20	128,411
78	23	132,551
79	11	73,548
80	10	51,252
81	21	114,091
82	16	68,466
83	14	70,934
84	14	73,054
85	13	78,766
86	10	49,599
87	6	35,694
88	2	6,428
89	2	13,840
90	3	11,925
91	2	6,884
92	1	6,988
93	1	6,557
95	1	2,867
96	1	5,102
TOTAL	4,113 \$	53,334,604

TABLE 7
THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1988

CONTINGENT ANNUITANTS

AGE	MEN		WOMEN	
	NUMBER	ANNUAL ALLOWANCE	NUMBER	ANNUAL ALLOWANCE
24			1 \$	16,258
26			1	17,320
28	1 \$	5,296		
29			2	56,213
33			2	5,965
34	1	6,973	1	3,095
36	2	14,219	1	1,699
38	1	11,089	3	21,426
39			2	8,570
40			4	28,731
41	3	17,634	1	2,547
42	3	61,787	1	6,121
43			1	8,532
44	2	10,761	1	11,570
45	1	6,104	3	61,270
46			1	8,763
47			2	13,380
48	1	6,263	3	9,496
49			3	35,194
50			1	6,863
51	1	5,085	4	71,463
52	1	6,835	6	44,017
53			5	67,228
54	2	13,666	7	83,790
55			10	143,535
56	4	37,733	9	95,230
57			15	228,833
58			21	299,113
59	6	37,930	21	315,967
60	2	39,129	26	268,737
61	5	17,603	33	376,812
62	6	46,764	39	497,540
63	9	54,878	48	443,421
64	6	53,154	49	585,352
65	5	45,708	49	472,464
66	8	53,073	48	528,156
67	18	117,391	54	615,584
68	21	131,851	73	680,193
69	20	126,305	61	532,898
70	33	194,389	69	568,280

TABLE 7

THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1988

CONTINGENT ANNUITANTS

CONTINUED

AGE	MEN		WOMEN	
	NUMBER	ANNUAL ALLOWANCE	NUMBER	ANNUAL ALLOWANCE
71	24 \$	125,026	81 \$	657,807
72	38	187,393	82	732,896
73	28	132,511	91	714,122
74	33	161,236	91	687,445
75	28	164,799	114	876,027
76	28	183,461	115	854,889
77	24	131,590	107	786,328
78	33	178,442	129	908,978
79	21	108,263	124	915,392
80	28	156,238	122	903,441
81	34	208,737	118	836,718
82	35	176,930	105	748,552
83	32	161,017	129	899,912
84	25	133,208	94	705,103
85	23	122,225	97	723,452
86	12	56,103	84	598,098
87	13	88,075	74	539,814
88	12	64,217	61	463,658
89	8	37,064	60	445,552
90	15	92,697	46	320,880
91	4	21,782	33	237,098
92	1	6,786	25	172,261
93	5	22,410	24	169,933
94	3	16,184	20	128,362
95	1	6,822	16	107,533
96	2	9,388	8	50,749
97	1	2,986	11	78,896
98	1	4,370	4	27,775
99	1	6,824	4	15,138
100			2	7,780
101			1	7,012
103			1	7,018
105			1	7,434
TOTAL	675 \$	3,888,404	2,755 \$	22,577,679

TABLE 7A
THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1988

CONTINGENT ANNUITANTS

AGE	NUMBER	AMOUNT
24	1 \$	16,258
26	1	17,320
28	1	5,296
29	2	56,213
33	2	5,965
34	2	10,068
36	3	15,918
38	4	32,515
39	2	8,570
40	4	28,731
41	4	20,181
42	4	67,908
43	1	8,532
44	3	22,331
45	4	67,374
46	1	8,763
47	2	13,380
48	4	15,759
49	3	35,194
50	1	6,863
51	5	76,548
52	7	50,852
53	5	67,228
54	9	97,456
55	10	143,535
56	13	132,963
57	15	228,833
58	21	299,113
59	27	353,897
60	28	307,866
61	38	394,415
62	45	544,304
63	57	498,299
64	55	638,506
65	54	518,172
66	56	581,229
67	72	732,975
68	94	812,044
69	81	659,203
70	102	762,669

TABLE 7A

THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1988

CONTINGENT ANNUITANTS

CONTINUED

AGE	NUMBER	AMOUNT
71	105 \$	782,833
72	120	920,289
73	119	846,633
74	124	848,681
75	142	1,040,826
76	143	1,038,350
77	131	917,918
78	162	1,087,420
79	145	1,023,655
80	150	1,059,679
81	152	1,045,455
82	140	925,482
83	161	1,060,929
84	119	838,311
85	120	845,677
86	96	654,201
87	87	627,889
88	73	527,875
89	68	482,616
90	61	413,577
91	37	258,880
92	26	179,047
93	29	192,343
94	23	144,546
95	17	114,355
96	10	60,137
97	12	81,882
98	5	32,145
99	5	21,962
100	2	7,780
101	1	7,012
103	1	7,018
105	1	7,434

TOTAL 3,430 \$ 26,466,083

TABLE 8
THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1988

BENEFICIARIES RECEIVING ALLOWANCES
UNDER SURVIVORS BENEFIT FUND

AGE	MEN		WOMEN	
	NUMBER	ANNUAL ALLOWANCE	NUMBER	ANNUAL ALLOWANCE
20			1 \$	18,197
25			1	16,449
26			1	5,650
27			2	9,891
29			1	7,332
30			2	11,745
33	2 \$	7,290	1	6,935
34	1	4,388	2	11,192
35	4	14,066	2	7,525
36	3	9,277	5	34,304
37	4	18,727	7	39,510
38	4	18,230	9	53,451
39	1	4,987	8	76,340
40	3	17,049	13	93,518
41	3	13,669	15	93,981
42	5	16,125	12	86,301
43	2	12,023	21	159,879
44	3	15,018	21	158,705
45	10	38,507	22	155,134
46	6	29,539	20	174,121
47	8	44,369	19	168,757
48	7	35,380	24	227,172
49	4	20,834	26	232,093
50	13	58,782	28	214,364
51	10	57,489	38	330,349
52	6	37,921	35	275,612
53	9	50,095	32	316,755
54	8	43,855	29	268,894
55	10	67,308	26	243,802
56	12	54,880	50	520,476
57	19	121,874	51	508,995
58	15	98,289	39	423,848
59	21	142,791	64	621,384
60	15	118,355	60	516,633
61	20	119,900	63	609,719
62	29	205,336	66	604,102
63	24	142,447	78	548,956
64	27	143,293	57	444,087
65	26	152,896	64	473,290

TABLE 8
THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1988

BENEFICIARIES RECEIVING ALLOWANCES
UNDER SURVIVORS BENEFIT FUND

CONTINUED

AGE	MEN		WOMEN	
	NUMBER	ANNUAL ALLOWANCE	NUMBER	ANNUAL ALLOWANCE
66	27	\$ 167,912	70	\$ 568,487
67	32	178,424	70	577,901
68	36	181,019	55	431,702
69	26	138,054	46	363,990
70	19	150,342	49	321,604
71	24	129,276	58	356,685
72	22	121,487	44	251,374
73	36	199,270	49	258,954
74	17	87,306	49	326,932
75	11	61,989	55	335,283
76	22	98,038	46	264,044
77	16	79,106	55	277,021
78	15	65,763	53	307,560
79	11	64,136	44	256,890
80	13	65,494	67	387,938
81	8	37,710	58	322,416
82	12	60,580	40	214,728
83	9	45,542	36	197,875
84	7	27,517	35	214,323
85	5	34,880	34	202,285
86	5	29,887	19	124,804
87	4	34,762	20	119,470
88	3	11,519	13	95,834
89	5	19,491	9	66,153
90	5	21,106	9	56,689
91			8	52,654
92	1	6,648	5	30,462
93	1	3,072	4	25,867
94			1	8,182
95			3	15,497
96			2	5,846
97			1	7,016
99			1	8,665
TOTAL	726	\$ 4,055,319	2,123	\$ 15,824,579

TABLE 8A

THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1988

BENEFICIARIES RECEIVING ALLOWANCES
UNDER SURVIVORS BENEFIT FUND

AGE	NUMBER	AMOUNT
20	1 \$	18,197
25	1	16,449
26	1	5,650
27	2	9,891
29	1	7,332
30	2	11,745
33	3	14,225
34	3	15,580
35	6	21,591
36	8	43,581
37	11	58,237
38	13	71,681
39	9	81,327
40	16	110,567
41	18	107,650
42	17	102,426
43	23	171,902
44	24	173,723
45	32	193,641
46	26	203,660
47	27	213,126
48	31	262,552
49	30	252,927
50	41	273,146
51	48	387,838
52	41	313,533
53	41	366,850
54	37	312,749
55	36	311,110
56	62	575,356
57	70	630,869
58	54	522,137
59	85	764,175
60	75	634,988
61	83	729,619
62	95	809,438
63	102	691,403
64	84	587,380
65	90	626,186

TABLE 8A

THE NUMBER AND ANNUAL RETIREMENT
ALLOWANCES OF BENEFICIARIES
DISTRIBUTED BY AGE AS OF JULY 1, 1988

BENEFICIARIES RECEIVING ALLOWANCES
UNDER SURVIVORS BENEFIT FUND

CONTINUED

AGE	NUMBER	AMOUNT
66	97 \$	736,399
67	102	756,325
68	91	612,721
69	72	502,044
70	68	471,946
71	82	485,961
72	66	372,861
73	85	458,224
74	66	414,238
75	66	397,272
76	68	362,082
77	71	356,127
78	68	373,323
79	55	321,026
80	80	453,432
81	66	360,126
82	52	275,308
83	45	243,417
84	42	241,840
85	39	237,165
86	24	154,691
87	24	154,232
88	16	107,353
89	14	85,644
90	14	77,795
91	8	52,654
92	6	37,110
93	5	28,939
94	1	8,182
95	3	15,497
96	2	5,846
97	1	7,016
99	1	8,665
TOTAL	2,849 \$	19,879,898

TABLE 9

THE DISTRIBUTION OF THE NUMBER AND ANNUAL ALLOWANCES BY AGE AS OF JULY 1, 1988
CHILDREN WITHOUT AN ELIGIBLE PARENT

AGE OF YOUNGEST CHILD	NUMBER OF CHILDREN AGE																						TOTAL #	ANNUAL ALLOWANCES
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		
1	-																						0	
2		-																					0	
3			-																				0	
4				-																			0	
5					-																		0	
6						1																	11	\$ 46,529
7							1																5	20,841
8								1															7	21,126
9									1														9	48,312
10										1													6	29,397
11											1												24	89,074
12												1											22	89,423
13													1										16	65,628
14														1									19	82,673
15															1								22	97,381
16																1							35	156,874
17																	1						21	93,076
18																		1					37	159,625
19																			1				38	185,384
20																				1			48	222,453
21																					1		28	136,202
22 & OVER																					16		25	125,030
TOTAL																							391	\$1,747,146