

SCHOOL EMPLOYEES RETIREMENT SYSTEM
OF OHIO

ACTUARIAL VALUATION
JULY 1, 1976

HUGGINS
& COMPANY, INC.

CONSULTING ACTUARIES • EMPLOYEE BENEFIT PLAN CONSULTANTS

PHILADELPHIA

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& COMPANY, INC.

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December 30, 1976

The Retirement Board
School Employees Retirement System of Ohio
88 East Broad Street
Columbus, Ohio 43215

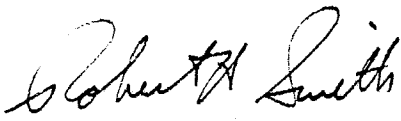
Gentlemen:


We are pleased to present herein the report on our actuarial valuation of the School Employees Retirement System of Ohio as of July 1, 1976.

We wish to take this opportunity of expressing our appreciation for the very fine cooperation which we received from Mr. Brennan, Mr. Wilson and the other members of the staff.

Respectfully submitted,

HUGGINS & COMPANY, INC.

By 
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PART I - ACTUARIAL BALANCE SHEET

Using the various monetary tables developed in connection with the 1975 Investigation and the data prepared by the staff and submitted to us, a complete valuation of the system was made as of July 1, 1976 in which the present and prospective assets and liabilities were calculated, based on legislation enacted by that date, including House Bill 268. The results are shown in the actuarial balance sheet on the following page.

It will be noted that the assets in the balance sheet consist of not only the present assets but also future assets represented by prospective contributions and future State appropriations to fund House Bill 284. The various fund balances included in the total present assets of \$639,476,744 obtained from the financial reports of the Board are shown in the balance sheet and the physical distribution of the present assets according to cash, investments, accrual items and furniture and equipment is shown in the footnote. The present value of future contributions of the present members and the present value of future employer contributions is shown in a combined total of \$1,028,834,591. In Part II we discuss the proper allocation of this total between the normal and deficiency contributions.

On the liability side of the balance sheet the major components of the total liability of \$1,679,001,254 are the liability for the benefits currently payable on account of present retirants and beneficiaries amounting to \$477,177,647 and the liability for present active and inactive members amounting to \$1,201,678,257. In addition, there is a minor reserve of \$145,350. An analysis of the various liability items and a comparison of liabilities with the corresponding fund balances follow the balance sheet, beginning on page 3.

Liability related to present retirants and beneficiaries \$477,177,647

A breakdown of the \$477,177,647 of liability related to present retirants and beneficiaries according to the type of benefit payment is shown in the following table. The costs of providing the Death Benefit and the Health Care Benefit are shown separately.

	<u>Liability for Retirants and Beneficiaries</u>			
	<u>Total Allowance</u>	<u>Death Benefit</u>	<u>Health Care</u>	<u>Total</u>
Superannuation retirants ...	\$319,966,598	\$4,820,445	\$44,967,690	\$369,754,733
Beneficiaries receiving optional allowances	12,780,081	-	2,056,347	14,836,428
Disability retirants	<u>31,775,325</u>	<u>352,806</u>	<u>5,150,000</u>	<u>37,278,131</u>
Sub-total	\$364,522,004	\$5,173,251	\$52,174,037	\$421,869,292
Survivors' Benefit Fund beneficiaries	<u>48,682,650</u>	<u>-</u>	<u>6,625,705</u>	<u>55,308,355</u>
Total Liability	\$413,204,654	\$ 5,173,251	\$58,799,742	\$477,177,647

Included in the \$364,522,004 of liability for present retirants and beneficiaries is \$3,576,233 related to House Bill 268 increases effective September 1, 1976 ^{\$86 only and future 29% increases in it.} for those retired prior to 1971 and \$10,124,611 related to past cost-of-living increases. Included in the \$48,682,650 of liability for present survivors is \$1,270,626 related to past cost-of-living increases. The Health Care liability includes the cost of Medicare B reimbursement starting January 1, 1977.

It is informative to compare the above liabilities with the corresponding fund balances shown in the actuarial balance sheet. The liabilities charged against the Annuity and Pension Reserve Fund result from the allowances payable to superannuation and disability retirants, the optional allowances payable to surviving beneficiaries of deceased retirants and retirant death benefits. The total of these liabilities is \$369,695,255 related to benefits to be paid from the Annuity and Pension Reserve Fund, which compares with

\$223,267,198 (the total of the A & PRF balance of \$212,577,279 and the anticipated House Bill 284 state appropriation), leading to a deficiency of \$146,428,057. The corresponding deficiency a year earlier was \$95,167,552 so there was an increase in this deficiency during the year of \$51,260,505.

It will also be noted that the Survivors' Benefit Fund had a fund balance of \$41,475,884 as compared with the liability of \$48,682,650 indicating a deficit of \$7,206,766 in that Fund compared with a deficit of \$6,908,657 a year earlier, an increase of \$298,109.

The total deficiency in these two Funds is \$146,726,166.

A similar analysis of the Health Care Fund is not possible, since that fund covers liabilities of retirants, survivors and active members.

However, we discuss the status of that Fund in Part II of this report.

The number of retirants and beneficiaries and their annual allowances as of July 1, 1976, corresponding to the liabilities shown on the previous page, are shown in the following table:

Category	Number	ANNUAL ALLOWANCE		
		Basic as of July 1, 1976	HB 268 Increases Effective 9/1/76	C-O-L Increases
Superannuation retirants	17,282	\$28,706,561	\$326,232	\$1,095,283
Beneficiaries receiving optional allowances	1,037	1,521,212	11,952	78,083
Disability retirants	<u>1,349</u>	<u>2,754,900</u>	<u>15,456</u>	<u>70,550</u>
Sub-Total	19,668	\$32,982,673	\$353,640	\$1,243,916
Survivors' Benefit Fund beneficiaries	<u>2,289</u>	<u>4,241,578</u>	<u>-</u>	<u>149,209</u>
Total Allowances on July 1, 1976	<u>21,957</u>	<u>\$37,224,251</u>	<u>\$353,640</u>	<u>\$1,393,125</u>

Age distributions of the retirants and beneficiaries in the various categories are shown in schedules at the end of this report, as follows:

	<u>SCHEDULE</u>
Superannuation retirants - men	A
Superannuation retirants - women	B
Beneficiaries receiving optional allowances	C
Disability retirants - men and women	D
Survivor beneficiaries:	
Receiving allowances	E
Entitled to deferred allowances	F

Liability related to present active and inactive members \$1,201,678,257

The \$1,201,678,257 of liability related to the active and inactive members of the system compares with \$1,058,956,085 one year earlier and is based on the data summarized briefly in the table below:

	<u>M e n</u>	<u>W o m e n</u>	<u>T o t a l</u>
Active members:			
Number	28,339	67,186	95,525
Salaries	\$180,764,896	\$226,184,793	\$406,949,689
Present value of 1% of future salaries	16,883,141	25,694,836	42,577,977
Number of inactive members:			
(a) Eligible for pensions	2,452	3,035	5,487
(b) Eligible for refunds only.	22,053	36,217	58,270

Age distributions of the members are shown at the end of this report in Schedule G for active members and in Schedule H for inactive members.

Reserve for contingencies; miscellaneous \$ 145,350

This is the Investment in General Fixed Assets.

Total liabilities \$1,679,001,254

The total liability represents the present value of all obligations of the System for all future benefits, both those related to service prior to July 1, 1976 and those that will be related to subsequent service, based on legislation enacted by that date, including House Bill 268, summarized in Schedule I.

The actuarial assumptions used in this valuation are summarized in Schedule J at the end of this report.

PART II - RATES OF CONTRIBUTIONS

In connection with the 1976 valuation, a New Entrant study was made (based on members with less than two years of service) in order to determine the normal contribution rate. The results of that study, adjusted for changes in benefits and assumed future interest, indicate a total normal rate of 15.87% of salary, with the breakdown shown in the table below:

Superannuation retirement benefit	9.14%	9.92
Disability retirement benefit67	.38
Survivor benefit	1.15	1.10
Refund of contributions	3.15	3.68
Health care	1.63	1.66
Retirant death benefit13	.18
Total normal contribution rate	<u>15.87%</u>	

This total normal cost of 15.87% of payroll is slightly higher than the corresponding rate of 15.49% determined in the valuation as of June 30, 1975. The age distribution of the new entrants used in our study appears in Schedule G(2). This schedule shows the number and total salaries of these new entrants separately for men and women. In the following summary we show the totals from that schedule along with the total present value of 1% of their future salaries.

	<u>Men</u>	<u>Women</u>	<u>Total</u>
Number	8,274	18,058	26,332
Salaries	\$21,535,122	\$23,873,127	\$45,408,249
Present Value of 1% of Future Salaries	2,326,404	3,316,947	5,643,351
Average Salary ...	2,603	1,327	1,724
Average Age	34.5	37.0	36.2

In our 1975 valuation, the average salary of the new entrants was \$2,385 for men and \$1,353 for women, so the average increased for men but decreased for women this year. Last year the average age of men was 34.9 years and for women, 37.1 years so these average ages both decreased slightly this year.

In order to determine what portion of the future asset item of \$1,028,834,591 will be funded by the total normal contribution rate of 15.87% of salary, we have determined that the present value of 1% of the present members' future salaries is \$42,577,977. The present value of future normal contributions is, therefore, 15.87 times \$42,577,977, or \$675,712,495. This leaves a deficiency of \$353,122,096 to be funded by the remainder of the future contributions. The corresponding figure a year earlier was \$262,323,392, which means that the total system deficiency increased by \$90,798,704.

In order to analyze the deficiency funding, let us start with the present total contribution rate of 20.50% of payroll, of which the member pays 8.00% and the State 12.50%. If we deduct the normal contribution rate of 15.87%, we are left with a balance of 4.63% available for funding the deficiency. The question to be answered is over how long a period will this rate of 4.63% be required in order to fund the deficiency of \$353,122,096.

Before making this calculation, we should be aware of the consistently large increases in total payroll of the members in recent years, which have been as shown below.

<u>Year Ending June 30</u>	<u>Total Payroll of Members</u>	<u>Percentage Increase</u>
1967	\$176,442,000	18.3
1968	199,733,000	13.2
1969	220,278,000	10.3
1970	247,774,000	12.5
1971	276,782,000	11.7
1972	305,167,000	10.3
1973	323,600,000	6.0
1974	342,400,000	5.8
1975	382,000,000	11.6
1976	416,600,000	9.1

These increases, which have averaged over 11% annually during the past ten years, have generally reflected both the effect of inflation on individual compensation and an increase in the membership. This year, however, there was actually a 3% decrease in the number of active members.

We have made our calculations on three different bases at substantially lower rates than those listed above, as follows:

1. Assuming that payrolls will continue at the 1975 - 1976 level of approximately \$416,600,000.
2. Assuming that payrolls will increase in the future at the rate of 3% per annum, compounded annually.
3. Assuming that payrolls will increase in the future at the rate of 5% per annum, compounded annually.

Our calculations indicate that, for the present total contribution rate of 20.50% of payroll, of which 15.87% is on account of the normal cost and 4.63% is on account of the deficiency, the funding periods on the three different assumptions as to future payrolls are as follows:

<u>Assumptions as to Future Payrolls</u>		
<u>No</u>	<u>3% Annual</u>	<u>5% Annual</u>
<u>Increase</u>	<u>Increase</u>	<u>Increase</u>

Period of deficiency funding ...	50.6 years	25.5 years	20.1 years
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These calculations indicate that the total employer rate of 12.50% of payroll, along with a member contribution rate of 8.0%, will fund the normal cost each year and complete the funding of the deficiency in periods varying from 20.1 years to 50.6 years, depending on the assumption as to future payroll increases. These periods are higher than the corresponding periods determined in the valuation as of June 30, 1975, primarily because of the liberalizations in House Bill 268.

In connection with this valuation, we made an actuarial valuation of the Health Care Benefits. Based on the present benefit provisions including Medicare "B" reimbursement starting January 1, 1977, we have determined that the normal contribution rate for Health Care Benefits should be 1.63% of payroll, and this figure is included in our total normal contribution rate of 15.87%.

We have also determined that the liabilities for these benefits are as follows:

	<u>Liability 7/1/76</u>
Retirants and other beneficiaries	\$ 58,799,742
Active and inactive members	<u>132,621,214</u>
Total liabilities	\$191,420,956
Health Care Fund balance	<u>6,902,408</u>
Unfunded liability for Health Care	\$184,518,548
Present value of 1.63% future Normal Contributions	<u>69,402,103</u>
Deficiency for Health Care benefits	<u>\$115,116,445</u>

When this deficiency of \$115,116,445 for future Health Care benefits is funded in the same manner as the total deficiency (over a period of 25.5 years assuming 3% annual increases in total payroll) we arrive at a deficiency contribution rate for Health Care of 1.51% of payroll.

To summarize, we find that the total employer cost for Health Care benefits included in the overall employer rate of 12.50%, is as follows:

Normal contribution rate for Health Care	1.63%
Deficiency contribution rate	<u>1.51</u>
Total employer rate for Health Care	<u>3.14%</u>

When the Health Care Fund was established as of January 1, 1974, the Board was crediting 0.75% of payroll to it each month, charging it with premiums paid to Aetna and crediting the premium paid by the beneficiaries.

During the past year this Fund was established on an actuarial basis and credited with the total rate determined from time to time. This rate is 3.14% as shown above and is subject to change upon subsequent valuation. The Fund should also be credited with interest at 5% annually in the same manner as the other funds.

In our valuation of future Health Care benefits, we have taken into account a number of factors, as follows:

1. We have assumed that active members becoming covered in the future will, on the average, be eligible for Medicare benefits to the extent of 90% for males and 85% for females.
2. We have arrived at a composite monthly rate of \$24.72 taking into account a number of variables such as sex, the age at retirement, the percentage of members electing joint pensions and the percentage not eligible for Medicare benefits.
3. By expressing \$24.72 as a percent of the average monthly superannuation pension for new retirees (we used the figure \$165.99 applicable for retirees from July 1975 through June 1976) we calculated liabilities as 14.89% of the liabilities for superannuation, disability and survivor benefits. Since our liability for superannuation allows for future increases in the average pension due to salary increases prior to retirement and cost-of-living increases after retirement, our method provides a built-in adjustment for future premium increases.

As compared with this 1976-1977 total contribution rate for Health Care benefits, we should point out that the 1975-1976 cost after the change in assumptions included in the total employer rate of 12.50% was as follows:

Normal contribution rate	1.56%
Deficiency contribution rate	<u>1.80</u>
Total employer rate for Health Care	<u>3.36%</u>

PART III - SUMMARY

This valuation reveals a continuing expansion of the retirement system due to the continued increases in payroll.

Using the results for the deficiency funding period based on assumed 3% annual increases in total payroll of covered members in the future, we find that the funding period for the deficiency increased from 16.7 years to 25.5 years going from 1975 to 1976.

The total increase in the deficiency during this period was \$90,798,704, broken down as follows:

	<u>Increase</u>
Annuity and Pension Reserve Fund	\$ 51,260,505
Survivor Benefit Fund	298,109
Employers' Trust Fund	<u>39,240,090</u>
Total	<u>\$ 90,798,704</u>

A major portion of the increase in the deficiency resulted from the enactment of House Bill 268 and the decision to pay cost-of-living increases on ad hoc benefit increases.

The balance in the Employers' Trust Fund has increased in the past year from \$152,295,385, to \$177,447,247 and is approximately 88% of the balance of \$200,928,576 in the Employees' Savings Fund. This means that, on the average, the System has a reserve of \$1,757 in addition to the employees' personal account, for each of the 101,012 out of the 159,282 active and inactive members entitled to pensions in the future. It is important, therefore, to continue to build up this reserve. Consequently, we recommend that, unless changes are made by 1975-1976 legislation, the contribution rates be continued at present levels, namely:

Rate of member contribution	8.00%
Rate of employer contribution	<u>12.50</u>
Total rate of contribution	<u>20.50%</u>

SUPERANNUATION RETIRANTS - JULY 1, 1976 - MEN

Age	Straight Life		Options		Total	
	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance
50	-	\$ -	-	\$ -	-	\$ -
51	-	-	-	-	-	-
52	-	-	1	9,651	1	9,651
53	-	-	1	6,063	1	6,063
54	1	5,421	4	33,010	5	38,431
55	-	-	1	4,165	1	4,165
56	5	13,723	8	26,968	13	40,691
57	7	24,107	6	23,615	13	47,722
58	6	27,001	9	42,887	15	69,888
59	7	36,991	17	69,212	24	106,203
60	19	37,046	22	70,533	41	107,579
61	40	80,287	64	119,449	104	199,736
62	73	144,375	88	172,348	161	316,723
63	102	186,131	136	290,884	238	477,015
64	138	263,159	172	333,868	310	597,027
65	148	265,475	168	375,713	316	641,188
66	214	392,416	213	460,694	427	853,110
67	233	437,285	238	520,777	471	958,062
68	236	436,543	234	543,120	470	979,663
69	217	396,390	218	470,274	435	866,664
70	263	517,789	213	450,551	476	968,340
71	225	413,572	208	456,624	433	870,196
72	230	420,817	166	317,739	396	738,556
73	259	454,027	154	360,863	413	814,890
74	188	353,534	131	261,106	319	614,640
75	161	265,423	97	187,560	258	452,983
76	153	284,642	96	240,536	249	525,178
77	160	306,812	94	191,956	254	498,768
78	154	299,147	69	148,990	223	448,137
79	141	325,085	60	125,380	201	450,465
80	131	257,678	47	105,358	178	363,036
81	113	246,821	53	112,892	166	359,713
82	119	249,071	29	63,709	148	312,780
83	110	220,092	22	45,403	132	265,495
84	101	219,960	25	48,852	126	268,812
85	74	166,460	24	45,953	98	212,413
86	70	159,463	19	45,687	89	205,150
87	47	102,385	12	26,565	59	128,950
88	40	92,351	14	24,320	54	116,671
89	34	65,346	14	30,475	48	95,821
90	26	59,990	13	27,201	39	87,191
91	21	38,405	1	905	22	39,310
92	12	24,117	5	9,689	17	33,806
93	8	19,347	2	5,118	10	24,465
94	6	10,821	-	-	6	10,821
95	2	4,834	-	-	2	4,834
96	3	9,701	-	-	3	9,701
97	1	2,003	-	-	1	2,003
98	-	-	-	-	-	-
99	3	9,906	-	-	3	9,906
101	-	-	2	2,390	2	2,390
Total	<u>4,301</u>	<u>\$8,345,949</u>	<u>3,170</u>	<u>\$6,909,053</u>	<u>7,471</u>	<u>\$15,255,002</u>

SUPERANNUATION RETIRANTS - JULY 1, 1976 - WOMEN

Age	Straight Life		Options		Total	
	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance
50	-	\$ -	-	\$ -	-	\$ -
51	1	8,732	1	7,194	2	15,926
52	3	11,357			3	11,357
53	1	4,446			1	4,446
54			2	12,369	2	12,369
55	1	7,439			1	7,439
56	6	22,163	2	7,154	8	29,317
57	8	38,681	3	11,599	11	50,280
58	11	46,967	6	13,549	17	60,516
59	15	62,085	3	10,398	18	72,483
60	54	104,408	36	66,892	90	171,300
61	245	341,658	78	89,864	323	431,522
62	315	370,043	98	128,222	413	498,265
63	414	513,074	120	127,185	534	640,259
64	406	509,616	140	148,340	546	657,956
65	411	528,155	135	154,970	546	683,125
66	538	759,381	149	191,009	687	950,390
67	505	700,202	102	123,574	607	823,776
68	515	710,906	97	131,467	612	842,373
69	461	676,570	77	105,720	538	782,290
70	476	703,909	61	107,575	537	811,484
71	441	712,273	43	59,844	484	772,117
72	409	636,793	36	79,270	445	716,063
73	392	590,828	20	28,888	412	619,716
74	352	547,941	33	69,621	385	617,562
75	274	426,117	23	36,641	297	462,758
76	278	460,272	21	40,780	299	501,052
77	231	396,439	12	18,634	243	415,073
78	241	414,003	5	7,782	246	421,785
79	212	368,307	9	15,539	221	383,846
80	194	364,855	7	13,914	201	378,769
81	189	310,017	6	10,040	195	320,057
82	181	297,553	4	6,713	185	304,266
83	144	259,480	2	1,953	146	261,433
84	128	247,458	5	6,464	133	253,922
85	99	204,486	5	9,506	104	213,992
86	64	129,303	2	2,813	66	132,116
87	60	113,921	4	6,490	64	120,411
88	57	107,323	1	3,706	58	111,029
89	37	82,836	-	-	37	82,836
90	33	79,918	1	3,315	34	83,233
91	20	47,929	-	-	20	47,929
92	10	31,925	1	1,301	11	33,226
93	9	19,512	-	-	9	19,512
94	6	15,472	-	-	6	15,472
95	7	14,863	1	2,156	8	17,019
96	2	3,116	-	-	2	3,116
97	3	3,318	-	-	3	3,318
98	1	4,573	-	-	1	4,573
Total	<u>8,460</u>	<u>\$13,010,623</u>	<u>1,351</u>	<u>\$1,862,451</u>	<u>9,811</u>	<u>\$14,873,074</u>

BENEFICIARIES RECEIVING OPTIONAL ALLOWANCES - JULY 1, 1976

Age	Optional Life Pensions				Optional Term Certain Pensions		
	Men		Women		Year of Expiry	Number	Annual Allowance
	Number	Annual Allowance	Number	Annual Allowance			
38	-	\$ -	1	\$ 297			
39	-	-	-	-	76	8	\$ 13,669
40	-	-	-	-			
41	-	-	-	-			
42	-	-	-	-			
43	-	-	-	-	77	16	26,200
44	-	-	-	-			
45	-	-	1	956			
46	-	-	1	1,178			
47	-	-	-	-	78	11	23,720
48	-	-	-	-			
49	-	-	-	-			
50	-	-	-	-			
51	-	-	-	-			
52	-	-	1	665	79	12	27,267
53	-	-	2	2,285			
54	-	-	3	7,655			
55	-	-	-	-	80	13	17,057
56	-	-	-	-			
57	-	-	3	3,137			
58	-	-	2	2,771			
59	-	-	3	3,130			
60	1	1,395	10	10,741	81	11	25,266
61	1	999	4	10,745			
62	3	8,478	3	3,261			
63	2	2,809	12	16,151			
64	7	5,818	11	10,947			
65	7	7,765	16	28,992	82	16	29,679
66	17	10,876	14	15,637			
67	7	13,679	20	20,048			
68	16	23,858	17	29,283			
69	20	22,199	15	19,904			
70	15	15,290	25	37,999	83	20	21,130
71	13	14,584	27	38,293			
72	14	20,988	23	33,543			
73	16	21,655	40	50,440			
74	15	23,112	32	42,072			
75	5	7,617	37	64,683	84	5	10,789
76	16	21,158	5	6,601			
77	16	26,104	25	41,713			
78	8	15,450	36	54,990			
79	8	18,755	35	58,518			
80	4	5,558	27	51,302	85	4	4,811
81	8	12,232	40	69,516			
82	5	6,757	21	38,819			
83	4	5,933	26	44,266			
84	1	762	24	40,079	87	3	7,759
85	4	5,041	20	37,972			
86	3	2,922	17	31,299			
87	5	4,729	8	12,413			
88	5	10,212	12	20,314	88	1	743
89	1	1,584	12	24,783			
90	4	7,270	10	26,400			
91	-	-	9	17,683			
92	2	5,309	4	5,387	90	1	320
93	1	1,282	1	1,818			
94	-	-	1	2,991			
95	-	-	2	4,548			
96	1	4,064	2	3,175	91	1	398
Total	<u>255</u>	<u>\$356,244</u>	<u>660</u>	<u>\$1,050,195</u>		<u>122</u>	<u>\$204,808</u>

SCHEDULE C

DISABILITY RETIRANTS - JULY 1, 1976

Age	M E N		W O M E N	
	Number	Annual Allowance	Number	Annual Allowance
25	1	\$ 4,547	-	\$ -
26	-	-	-	-
27	-	-	-	-
28	-	-	-	-
29	-	-	-	-
30	-	-	-	-
31	-	-	-	-
32	1	5,912	-	-
33	1	893	-	-
34	3	10,784	-	-
35	1	2,343	1	4,321
36	-	-	1	3,260
37	3	11,958	-	-
38	2	9,869	2	7,875
39	5	21,840	-	-
40	-	-	7	16,372
41	2	5,794	2	3,676
42	4	22,539	3	6,296
43	4	19,926	3	6,567
44	5	22,032	7	16,340
45	5	22,424	6	14,214
46	7	21,279	10	17,650
47	14	50,800	7	14,792
48	10	29,079	16	28,726
49	18	44,891	8	15,073
50	17	48,404	26	48,191
51	15	55,516	15	29,423
52	17	46,331	17	32,048
53	33	123,951	22	41,273
54	28	79,047	26	48,100
55	37	80,051	20	34,203
56	38	86,124	37	67,760
57	43	121,567	30	49,009
58	24	70,217	40	63,777
59	38	90,742	51	80,249
60	53	110,475	47	78,042
61	45	92,667	51	72,113
62	45	86,581	34	54,435
63	22	37,736	30	48,915
64	32	52,009	24	39,812
65	22	36,375	16	24,168
66	16	27,084	16	24,530
67	12	26,122	14	23,778
68	15	34,347	19	27,810
69	9	14,754	9	12,820
70	9	16,253	13	22,294
71	5	14,190	8	13,963
72	6	10,720	7	11,310
73	7	12,259	6	10,352
74	2	3,499	2	2,659
75	3	4,309	-	-
76	3	4,164	3	4,089
77	1	2,041	2	3,249
78	-	-	1	1,274
79	-	-	1	1,526
80	1	2,371	3	12,037
81	-	-	2	5,719
Total	<u>684</u>	<u>\$1,696,816</u>	<u>665</u>	<u>\$1,144,090</u>

SCHEDULE D

SURVIVORS' BENEFIT FUND - JULY 1, 1976

BENEFICIARIES CURRENTLY RECEIVING ALLOWANCES - MEN

Age	OPTION 1 OR DEPENDENT PARENT OR SPOUSE WITH NO ELIGIBLE CHILD		SPOUSE WITH ELIGIBLE CHILDREN	
	Number	Annual Allowance	Number	Annual Allowance
17	1	\$ 1,764	-	\$ -
31	1	2,832	-	-
38	-	-	1	2,832
40	1	2,832	-	-
42	-	-	1	2,832
43	-	-	3	8,027
44	-	-	2	5,064
45	1	2,232	1	2,832
46	1	2,232	6	13,629
47	-	-	4	10,872
48	-	-	-	-
49	-	-	6	14,878
50	-	-	2	4,001
51	1	1,319	2	3,296
52	1	1,272	1	1,169
53	1	1,272	4	8,841
54	2	2,797	6	11,656
55	2	2,869	5	11,747
56	-	-	2	4,464
57	-	-	2	4,523
58	3	5,080	5	10,933
59	4	5,267	7	13,510
60	4	6,682	3	7,253
61	1	1,272	-	-
62	4	5,362	-	-
63	8	8,710	1	2,232
64	8	10,743	1	2,832
65	5	6,704	1	2,832
66	11	13,681	-	-
67	7	8,269	-	-
68	4	7,382	-	-
69	11	16,110	1	2,832
70	14	19,074	-	-
71	9	10,420	-	-
72	4	7,233	-	-
73	7	9,846	-	-
74	9	13,777	-	-
75	7	9,863	-	-
76	4	4,425	-	-
77	5	6,808	-	-
78	5	10,149	-	-
79	3	5,392	-	-
80	-	-	-	-
81	2	3,316	-	-
82	7	12,603	-	-
85	1	1,386	-	-
86	5	8,155	-	-
87	1	1,272	-	-
89	1	1,001	-	-
111	1	1,496	-	-
113	1	1,726	-	-
Total	<u>168</u>	<u>\$ 244,625</u>	<u>67</u>	<u>\$ 153,087</u>

SURVIVORS' BENEFIT FUND JULY 1, 1976

BENEFICIARIES CURRENTLY RECEIVING ALLOWANCES - WOMEN

Age	OPTION 1 OR DEPENDENT PARENT OR SPOUSE WITH NO ELIGIBLE CHILD		SPOUSE WITH ELIGIBLE CHILDREN	
	Number	Annual Allowance	Number	Annual Allowance
20	-	\$ -	-	\$ -
21	1	296	-	-
22	1	2,269	-	-
23	-	-	-	-
24	-	-	-	-
25	-	-	1	2,798
26	-	-	-	-
27	-	-	1	2,832
28	-	-	-	-
29	1	6,863	2	6,468
30	-	-	2	6,437
31	-	-	1	2,832
32	-	-	-	-
33	1	8,543	1	3,993
34	-	-	1	3,703
35	1	3,194	-	-
36	-	-	2	6,168
37	1	2,232	1	4,187
38	-	-	3	14,379
39	-	-	4	13,024
40	-	-	5	17,035
41	-	-	3	8,709
42	-	-	6	20,406
43	-	-	6	16,573
44	-	-	7	23,309
45	-	-	4	13,918
46	1	1,907	9	43,157
47	3	9,878	12	41,644
48	2	869	6	23,553
49	1	1,269	10	26,138
50	2	4,950	11	35,812
51	8	21,404	3	7,468
52	11	22,371	11	34,915
53	10	16,292	7	22,067
54	19	33,976	14	43,970
55	13	23,741	23	73,135
56	19	42,325	9	23,929
57	19	34,061	9	29,100
58	27	46,326	14	41,490
59	30	55,021	3	10,177
60	26	51,731	4	11,637
61	40	79,072	4	10,145
62	76	138,336	3	8,796
63	70	109,861	4	12,246
64	69	102,487	-	-
65	61	98,520	-	-
66	68	105,355	-	-
67	68	118,401	-	-
68	72	120,807	1	2,874
69	75	124,153	-	-
70	66	119,837	-	-
71	61	99,988	-	-
72	49	99,118	-	-
73	62	119,365	-	-
74	48	95,350	-	-
75	39	68,549	-	-
76	35	62,608	-	-
77	31	70,648	-	-
78	35	67,445	-	-
79	30	61,597	-	-
80	27	56,904	-	-
81	23	57,203	-	-
82	22	52,281	-	-
83	8	21,943	-	-
84	14	32,390	-	-
85	11	24,699	-	-
86	9	17,871	-	-
87	7	13,226	-	-
88	8	12,797	-	-
89	5	10,694	-	-
90	4	7,113	-	-
91	-	-	-	-
92	2	3,599	-	-
93	1	1,522	-	-
114	1	2,232	-	-
Total	1,394	\$2,565,489	207	\$ 669,024

SURVIVORS' BENEFIT FUND - JULY 1, 1976

BENEFICIARIES CURRENTLY RECEIVING ALLOWANCES - INCOMPETENTS

<u>INCOMPETENT CHILD</u>			<u>SPOUSE WITH INCOMPETENT CHILD</u>		
<u>Age of Incompetent</u>	<u>Number</u>	<u>Annual Allowance</u>	<u>Age of Spouse</u>	<u>Number</u>	<u>Annual Allowance</u>
16	1	\$ 2,673	50	1	\$ 2,622
19	1	2,519	53	1	1,907
26	1	2,670	55	1	3,090
28	1	1,667	57	3	8,885
32	1	1,948	59	1	2,265
39	2	3,139	60	1	2,581
45	1	1,784	61	2	5,896
52	1	1,901	62	4	13,876
55	1	1,901	63	2	6,079
			64	2	5,806
			68	1	2,232
			69	1	2,232
			70	2	6,201
			71	2	4,992
			72	1	3,470
			74	1	3,095
			86	1	3,130
TOTAL	<u>10</u>	<u>\$ 20,202</u>		<u>27</u>	<u>\$ 78,359</u>

SCHEDULE E (4)

SURVIVORS' BENEFIT FUND - JULY 1, 1976

BENEFICIARIES NOW ENTITLED TO DEFERRED ALLOWANCE ONLY

	<u>DEFERRED</u> <u>TO AGE 65</u>		<u>DEFERRED</u> <u>TO AGE 62</u>		<u>DEFERRED</u> <u>TO AGE 50</u>	
19	-	\$ -	1	\$ 2,332	-	\$ -
21	-	-	-	-	1	2,265
22	1	1,152	-	-	-	-
23	-	-	1	2,299	-	-
25	-	-	1	2,457	-	-
40	-	-	-	-	-	-
41	-	-	-	-	-	-
42	-	-	-	-	1	1,999
43	-	-	2	4,926	-	-
44	-	-	1	1,152	-	-
45	1	3,221	1	2,232	-	-
46	-	-	2	4,894	2	7,331
47	1	1,169	4	6,458	-	-
48	-	-	5	12,527	4	5,863
49	-	-	2	4,143	5	8,196
50	3	4,482	4	8,336	-	-
51	3	3,305	7	15,650	-	-
52	1	1,152	9	16,459	-	-
53	1	1,152	11	23,712	-	-
54	1	1,594	6	13,414	-	-
55	3	3,111	8	16,448	-	-
56	1	1,187	17	29,721	-	-
57	3	3,311	21	36,678	1	-
58	2	2,304	25	46,323	1	3,947
59	3	3,924	21	35,114	-	-
60	2	2,304	19	32,793	-	-
61	1	1,204	24	37,779	-	-
62	4	6,572	8	12,019	-	-
63	5	6,144	-	-	-	-
64	5	6,455	1	972	-	-
65	2	2,232	-	-	-	-
97	-	-	1	1,152	-	-
Total	<u>43</u>	<u>\$ 55,975</u>	<u>202</u>	<u>\$369,990</u>	<u>15</u>	<u>\$29,601</u>

SCHEDULE F

CONTRIBUTING ACTIVE MEMBERS - JULY 1, 1976

AGE	MEN		WOMEN	
	NUMBER	SALARIES	NUMBER	SALARIES
17	15	\$ 10,558	5	\$ 2,795
18	58	38,109	76	70,262
19	272	626,569	316	604,187
20	419	1,274,426	450	1,023,074
21	536	2,000,081	514	1,368,387
22	547	1,978,802	588	1,725,006
23	631	2,556,485	722	2,123,074
24	667	2,750,883	671	2,047,394
25	627	2,657,885	676	2,140,943
26	577	2,805,444	693	2,169,640
27	560	2,734,970	729	2,441,002
28	572	2,814,486	817	2,251,283
29	577	2,594,235	973	2,495,069
30	509	2,409,061	1,029	2,586,187
31	407	1,964,414	940	2,299,990
32	412	2,161,513	1,160	2,729,962
33	446	2,354,484	1,418	3,486,726
34	488	2,515,958	1,727	4,251,018
35	447	2,327,275	1,736	4,392,928
36	452	2,407,860	1,864	4,931,367
37	485	2,752,614	1,911	5,212,873
38	496	2,860,638	2,056	5,881,054
39	508	2,860,820	2,160	6,365,923
40	493	3,170,929	2,101	6,172,436
41	560	3,323,307	2,188	6,611,505
42	534	3,250,481	2,069	6,538,035
43	548	3,471,250	2,011	6,540,994
44	509	3,409,748	2,094	6,949,026
45	537	3,781,970	1,991	6,788,116
46	624	4,188,922	2,087	7,235,658
47	605	4,245,205	2,066	7,274,590
48	573	4,032,478	2,119	7,630,924
49	686	4,995,471	2,084	7,808,544
50	622	4,574,936	1,947	7,395,972
51	690	5,110,317	1,886	6,900,058
52	727	5,571,515	1,990	7,924,860
53	756	6,061,332	1,889	7,323,124
54	699	5,743,355	1,916	7,802,234
55	753	5,837,462	1,995	8,183,183
56	817	6,375,041	1,741	7,187,248
57	690	5,534,295	1,472	6,094,011
58	769	6,141,664	1,551	6,665,954
59	705	5,572,684	1,339	5,594,214

CONTRIBUTING ACTIVE MEMBERS - JULY 1, 1976

AGE	MEN		WOMEN	
	NUMBER	SALARIES	NUMBER	SALARIES
60	721	\$ 5,844,704	1,176	\$ 4,922,441
61	707	5,932,197	1,047	4,595,960
62	655	5,454,491	828	3,583,932
63	572	4,730,489	632	2,730,592
64	523	4,153,236	510	2,155,813
65	431	3,435,385	391	1,690,191
66	307	2,311,615	239	1,053,453
67	226	1,577,813	182	685,288
68	166	1,153,715	136	512,686
69	154	950,804	97	367,363
70	89	619,762	74	307,829
71	60	309,442	37	136,287
72	35	127,755	24	65,169
73	31	102,595	9	18,232
74	26	78,393	10	19,850
75	17	67,697	3	3,324
76	14	64,871	24	115,553
TOTAL	28,339	\$180,764,896	67,186	\$226,184,793

NEW ENTRANTS

AGE	MEN		WOMEN	
	NUMBER	SALARIES	NUMBER	SALARIES
17	14	\$ 8,917	5	\$ 2,795
18	57	36,426	74	67,567
19	266	599,617	312	590,439
20	372	951,949	372	643,457
21	404	1,118,175	368	654,964
22	402	1,011,334	370	600,051
23	442	1,110,946	472	811,951
24	447	1,159,346	414	726,982
25	371	843,604	391	691,718
26	303	734,212	396	636,198
27	298	713,081	395	670,279
28	279	660,276	480	657,663
29	292	634,584	594	797,535
30	239	586,523	581	745,044
31	194	461,236	519	621,619
32	162	452,061	611	753,906
33	176	457,893	684	867,551
34	183	377,000	777	964,042
35	169	372,779	724	932,290
36	155	410,586	697	860,644
37	143	312,019	672	832,748
38	152	370,080	683	912,481
39	153	404,097	624	829,837
40	133	389,866	576	728,475
41	150	375,239	564	747,080
42	138	346,571	529	629,702
43	137	347,787	453	583,207
44	114	323,374	460	552,085
45	105	330,072	399	470,274
46	108	343,814	408	491,882
47	119	295,780	365	441,070
48	99	316,465	361	459,716
49	113	325,337	328	325,482
50	95	301,514	263	276,990
51	106	350,305	300	319,991
52	93	319,500	246	289,171
53	95	327,958	242	285,774
54	90	369,481	220	240,749
55	110	390,145	225	263,325
56	110	372,202	178	197,305
57	82	325,365	132	132,744
58	90	289,245	125	119,707
59	82	290,600	116	128,491
60	77	213,722	84	79,472
61	69	258,698	67	65,292
62	42	115,129	54	68,138
63	41	89,284	35	19,679
64	49	111,741	25	20,054
65	36	65,081	21	17,103
66	23	46,117	21	15,287
67	25	28,374	14	15,436
68	22	29,659	9	3,471
69	19	22,827	13	8,026
70	7	9,830	6	4,309
71	7	3,154	-	-
72	1	-	2	226
73	4	10,885	-	-
74	6	8,745	1	1,578
75	3	4,291	1	75
76	1	224	-	-
TOTAL	<u>8,274</u>	<u>\$21,535,122</u>	<u>18,058</u>	<u>\$23,873,127</u>
AVERAGE AGE	<u>34.5</u>		<u>37.0</u>	

SCHEDULE G(2)

INACTIVE MEMBERS - JULY 1, 1976

ELIGIBLE FOR FUTURE ALLOWANCE

<u>AGE</u>	<u>MEN</u>	<u>WOMEN</u>	<u>AGE</u>	<u>MEN</u>	<u>WOMEN</u>
24	-	2			
25	-	2	60	95	163
26	-	4	61	72	55
27	-	3	62	64	50
28	4	4	63	54	42
29	6	7	64	42	37
30	6	5	65	28	27
31	7	10	66	17	13
32	8	12	67	15	11
33	18	14	68	19	8
34	12	15	69	8	8
35	27	18	70	6	4
36	16	30	71	7	5
37	26	26	72	6	5
38	38	26	73	3	1
39	30	38	74	2	-
40	37	48	75	3	1
41	46	50	76	<u>10</u>	<u>3</u>
42	67	57			
43	57	56			
44	63	66	Totals	<u>2,452</u>	<u>3,035</u>
45	60	76			
46	80	79			
47	66	92			
48	111	99			
49	85	102			
50	115	109			
51	130	134			
52	125	153			
53	100	164			
54	99	145			
55	108	163			
56	111	184			
57	119	173			
58	107	207			
59	117	229			

SCHEDULE H(1)

INACTIVE MEMBERS - JULY 1, 1976

NOT ELIGIBLE FOR FUTURE ALLOWANCE

<u>AGE</u>	<u>MEN</u>	<u>WOMEN</u>	<u>AGE</u>	<u>MEN</u>	<u>WOMEN</u>
			55	352	746
			56	501	914
17	4	-	57	270	654
18	6	4	58	317	627
19	19	19	59	280	539
			60	254	502
20	78	105	61	240	458
21	160	179	62	221	420
22	226	272	63	198	340
23	298	457	64	216	295
24	477	770			
			65	167	206
25	641	988	66	147	222
26	719	1,045	67	110	180
27	818	1,143	68	94	145
28	867	1,185	69	91	101
29	829	1,356			
			70	76	92
30	722	1,020	71	76	97
31	571	764	72	55	68
32	579	775	73	49	52
33	636	793	74	60	39
34	594	866			
			75	43	35
35	553	832	76 & Over	589	346
36	524	878			
37	549	893			
38	483	927	TOTAL	<u>22,053</u>	<u>36,217</u>
39	486	918			
40	497	916			
41	467	941			
42	454	948			
43	465	844			
44	483	913			
45	483	868			
46	490	934			
47	504	829			
48	444	859			
49	471	852			
50	453	829			
51	429	825			
52	401	875			
53	406	801			
54	361	716			

SCHEDULE H(2)

SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO

Summary of the Benefit Provisions of the Retirement System
as of July 1, 1976

The School Employees Retirement System of Ohio makes provision for retirement, disability, death, survivor and health care benefits to all non-certificated employees of the public school system. The major provisions of the System may be summarized as follows:

I. Service Retirement

A. Eligibility

- (1) Attainment of age 60 and completion of 5 or more years of service; or
- (2) Attainment of age 55 and completion of 25 or more years of service; or
- (3) Completion of 30 or more years of service.

B. Annual Allowance

- (1) Greater of 2% of the average annual compensation during the 3 years (whether or not consecutive) of highest compensation or \$86 times total service. Annuity is reduced unless member has 30 years of service or has attained age 65. Maximum allowance is 90% of the final average compensation, or
- (2) An annuity with a reserve equal to twice the member's accumulated contributions plus \$180 if member had at least ten years of service on October 1, 1956, if larger than (1).

C. Optional forms of annuity

Option 1 - A joint-life annuity payable during the lifetime of the member, with the designated beneficiary to continue to receive 100% thereof if living at the death of the member. If the beneficiary is the spouse and dies before the member or if marriage is terminated by divorce the member will get the same benefit he would have if he had not elected any option.

Option 2 - A joint-life annuity payable during the lifetime of the member, with the designated beneficiary to receive a lesser annuity if living at the death of the member. If the beneficiary is the spouse and dies before the member or if marriage is terminated by divorce the member will get the same benefit he would have if he had not elected any option.

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.

Summary of the Benefit Provisions of the Retirement System
as of July 1, 1976
(continued)

II. Disability Retirement

A. Eligibility

- (1) Completion of 5 or more years of service and less than 60 years of age, and
- (2) Determination by a physician that member is mentally or physically incapable of performing his duty.

B. Annual Allowance

- (1) An 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 compensation during the 3 years of highest compensation 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.

III. Death Benefit

Upon the death of a retirant receiving a service or disability allowance a lump sum payment of \$500 is paid.

IV. Survivor Benefit

- A. If member was eligible for service retirement, surviving spouse or other sole dependent beneficiary may elect to receive the allowance that would have been payable had the member retired on date of death and elected Option 1.
- B. If member had completed at least 1½ years of service with at least ¼ year of contributing service within the 2½ years prior to death or was on disability retirement at date of death survivors may elect to receive an allowance depending on number of eligible survivors as follows:

<u>Number</u>	<u>Benefit as Percent of Final Average Salary</u>	<u>Minimum Benefit</u>
1	25%	\$1,152*
2	40%	2,232
3	50%	2,832
4	55%	2,832
5 or more	60%	2,832

*If recipient is spouse and member had 10 or more years of service minimum is \$1,272.

SCHEDULE I
(continued)

Summary of the Benefit Provisions of the Retirement System
as of July 1, 1976

(continued)

Eligible survivors are:

- (1) Spouse (as long as not remarried) age 62 or age 50 if member had 10 or more years of service or any age if caring for dependent child or adjudged mentally or physically incompetent
- (2) Unmarried child under 18 or 22 if attending school
- (3) Parent age 65 or over who received at least one-half of his support from the member in the year prior to death.

C. Beneficiary may elect to receive the member's accumulated contributions instead of A or B.

V. Cost-of-Living Adjustment

Effective 24 months after receiving or eligible to receive an allowance, such allowance will be increased by 2% of the basic allowance in any year in which the Consumer Price Index has increased at least 2%.

VI. Minimum Payments

If the total benefits paid are less than the member's accumulated contributions, the difference will be paid to the member's beneficiary.

VII. Member's Contribution

Member contributes 8% of his compensation.

VIII. Health Care

Each benefit recipient is provided health insurance which supplements medicare benefits if the recipient is covered and provides comprehensive coverage if not. Premiums for Part B of medicare are reimbursed.

SCHEDULE I
(concluded)

SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO

ACTUARIAL ASSUMPTIONS - JULY 1, 1976

SUPERANNUATION RETIRANTS, BENEFICIARIES,
AND SURVIVOR BENEFICIARIES

INTEREST: 5% per annum, compounded annually.

MORTALITY: 1955 American Annuity Table, with ages set up one year for men and set back three years from women.

DISABILITY RETIRANTS

INTEREST: 5% per annum, compounded annually.

MORTALITY: Rates developed in 1975 Investigation, based on 1970-1975 experience.

ACTIVE AND INACTIVE MEMBERS

INTEREST: 5% per annum, compounded annually.

RATES OF WITHDRAWAL, MORTALITY, DISABILITY, SUPERANNUATION AND COMPENSATION INCREASE: Rates developed in 1975 Investigation, based on 1970-1975 experience. Values at specimen ages are shown in the table below.

	AGE	RATES OF SEPARATION DUE TO:				RATES OF COMPENSATION INCREASE
		Withdrawal	Death	Disability	Superannuation	
<u>MEN</u>	20	.1691	.0008	-	-	.0689
	30	.0826	.0011	.0002	-	.0567
	40	.0581	.0020	.0005	-	.0473
	50	.0394	.0049	.0038	.0002	.0387
	55	.0331	.0083	.0059	.0072	.0347
	60	.0288	.0123	-	.0544	.0307
	65	.0288	.0163	-	.1711	.0267
	70	-	.0203	-	.1436	.0227
	75	-	-	-	1.0000	-
<u>WOMEN</u>	20	.1507	.0002	-	-	.0879
	30	.0858	.0003	-	-	.0823
	40	.0620	.0006	.0002	-	.0691
	50	.0396	.0023	.0015	.0003	.0498
	55	.0315	.0041	.0030	.0016	.0399
	60	.0267	.0060	-	.1171	.0311
	65	.0246	.0072	-	.1406	.0248
	70	-	.0096	-	.1739	.0189
	75	-	-	-	1.0000	-

SCHEDULE J