

Ninth Annual Report
of the
TEACHERS' RETIREMENT SYSTEM
of the
State of Kentucky
1948-49



November, 1949

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COMMONWEALTH OF KENTUCKY
DEPARTMENT OF EDUCATION
FRANKFORT

BOSWELL B. HODGKIN
SUPERINTENDENT PUBLIC INSTRUCTION

FOREWORD

Increased life expectancy, low interest returns on secure investments, and the desire to avoid dependence upon others after the productive years of life have caused the American people to become more and more interested in retirement and annuity plans. Everyone now is retirement conscious.

Industry, yielding to this demand and observing the desirable effects upon employees, has initiated more than 11,000 retirement plans in the United States. Governmental units, states, cities, counties, and other agencies of government, likewise, have in large measure provided a plan for retirement for their respective employees and in many cases for elected officers.

The Federal Government, in 1936, in addition to its older Civil Service Pension System initiated an Old Age and Survivors Insurance Program covering about half of the privately employed in the United States. Congress is now expected to further extend this Program.

The Teachers' Retirement System of the State of Kentucky was set up by the State and largely financed by it in order to improve the public schools of Kentucky. It is a vital part of the State Educational Program, and as such commands the interest of teachers and trainers of teachers throughout Kentucky.

Annual Reports provide a means of acquainting citizens and teachers with the administration and results of the Retirement Act of 1940. It is far-reaching in its influence upon public education, but should be more effective if better understood. With these thoughts in mind, we hope you will study this the Ninth Annual Report.

BOSWELL B. HODGKIN
Superintendent of Public Instruction

LETTER OF TRANSMITTAL

COMMONWEALTH OF KENTUCKY TEACHERS' RETIREMENT SYSTEM FRANKFORT

Honorable Earle C. Clements
Governor of Kentucky
Frankfort, Kentucky

Dear Governor Clements:

We have the honor to respectfully submit to you this the Ninth Annual Report of the Board of Trustees of the Teachers' Retirement System of the State of Kentucky prepared in accordance with KRS 161.320, and covering the period July 1, 1948, to June 30, 1949, the last fiscal year.

The last actuarial valuation of the assets and liabilities (July 1, 1948), the last balance sheet (July 1, 1949), accumulated cash and securities of the System, membership, service, withdrawals, deaths, and other pertinent information are all included in this Report in proper form.

The Retirement System is actuarially sound and in excellent financial condition due to your budget recommendations and favorable action by the General Assembly.

Record of the proceedings of the Board of Trustees is maintained in good order, the funds of the System safely invested, and the Law faithfully carried out.

Respectfully yours,

MARY J. MAGUIRE
Chairman, Board of Trustees

N. O. KIMBLER
Secretary, Teachers' Retirement System

INTRODUCTION

This the Ninth Annual Report of the Teachers' Retirement System of the State of Kentucky is for the year beginning July 1, 1948, and ended June 30, 1949. It is submitted in compliance with KRS 161.320 and with the hope that it will be the means of better acquainting the public and those directly interested with the activities of the agency.

In this report there will be certain references to activities and conditions of the preceding year and of the succeeding year for purposes of clarification. The reader is respectfully referred to previous Annual Reports, all of which may be found in the office of the Board of Trustees, School Libraries, and libraries specializing in this field. Annual Reports are distributed widely in Kentucky and generally to other states.

Copies of the Retirement Act, in convenient pamphlet form, may be had from the office in the State Capitol Building, Frankfort, Kentucky.

The original Porter-Rayburn Act of 1938 may be found in Chapter 1 of the First Extraordinary Session. This Act was substantially amended and passed during the Regular Session 1940. It was further amended in 1946 and is now known as the Teachers' Retirement Act.

It is desirable, in some cases especially, that those who suggest amendments to the present Act know something of the legislative background and be familiar with the provisions of the present Law.

The **Rules and Regulations** of the Board of Trustees, enacted by authority of KRS 161.310, are available upon request and are published regularly by the Kentucky Codification Board in **Kentucky's Administration Code**. Unpublished Rules and Regulations (too recent to be included) are filed, when adopted, in the office of the Secretary of State as required by the Statutes.

Since it is essential that participants know what they already have in the way of coverage before logical thought can be given to further improvement, the above references are given.

Due to present economic conditions of the nation and to certain spending habits of the citizens, there is great interest in pension and annuity systems. Not only is protection desired from the hazards of disability and old age, but there seems to be a desire on the part of many for protection from indigency as the result of careless spending, gambling, wastefulness, living beyond one's means, and a failure otherwise to provide for retirement age. In brief, a protection from one's self. The vast majority, however, are no doubt moved by higher motives and more worthy intentions.

At any rate, pension and annuity plans are sweeping the United States at this time. The most recent tabulation of voluntary pension plans in the United States is that of the Bureau of Internal Revenue* which rules upon the tax status of contributions of the employer to stock bonus, pensions, profit-sharing, and annuity plans. As of June 30, 1948, the Bureau had ruled upon 11,742 such private plans. The most recent classification of such plans show 6,862 to be pension plans and 2,508 profit-sharing, and 2,372 other plans. Of the pension and other plans, 2,528 are joint-contributory and 6,842 noncontributory.

The Congress, by such legislation as H.R. 6000 being considered by the 81st Congress, may cover 11,000,000 employees and self-employed in addition to the 35,000,000 now covered by Social Insurance. As we say, there is a "trend" toward annuity systems in the United States today.

There is also a "trend" toward constant improvement of existing systems as to benefits and actuarial soundness. Teacher retirement systems are no exception and during the last year many states have adopted amendments increasing contributions and retirement allowances. Kentucky has made no such improvement, since its legislative body meets in even numbered years. It will have an opportunity to do so at the next General Assembly meeting January, 1950.

Table Z is presented as a cross section to indicate what is being done in other states. Two years ago Kentucky ranked sixteenth from the top in the forty-eight states; today Kentucky is considerably below the median.

*Letter Sept. 21, 1949, Acting Director Social Security Administration, Washington, D. C.

The 12.9% contribution from employer (State of Kentucky) includes the special appropriation of \$2,439,606.64 to make the System actuarially sound. The states of Washington and New Jersey had a similar experience.

A supplementary budget will be filed in October, 1949, for the purpose of providing a basis for a lifting of contributions and retirement allowances. Suggestions on legislation will appear later in this report.

Administration

Continuity of administration is provided by KRS 161.250.

"The general administration and management of the retirement system, and the responsibility for its proper operation and for making effective the provisions of KRS 161.220 to 161.710, are vested in a board of trustees to be known as the "Board of Trustees of the Teachers' Retirement System of the State of Kentucky." The members of the board of trustees shall be the Superintendent of Public Instruction, the Attorney-General, the State Treasurer, and four other members elected as provided in KRS 161.260. Three of the elective members shall be members of the retirement system, to be known as teacher members, and one shall be a person who is not a member of the teaching profession to be known as the lay member."

Judged by business standards, the administration of the Teachers' Retirement System has been of a high order. Membership on the Board of Trustees has been fairly stable, and no person has used it as a stepping stone to other interests. The Board meets quarterly and attendance is usually 100%. The Chairman has been a member of the Board since the first election held under the Porter-Rayburn Act in 1939. Minutes of meetings are in complete and acceptable form, well bound and kept safe from fire or other hazards. Minutes, reports, and all records are subject to public inspection and annual audit by the State Auditor.

In the nine years no decision of the Board has been questioned or contested in the Courts; a record very few retirement boards can equal.

The responsibility of the Trustees to members and retirants has always been recognized by the Board and also the obligation to the pupil

Table Z.* Comparison of Future Benefits Payable as a Life Annuity by the State Teachers' Retirement System of Kentucky: Certain Other State Teachers' Retirement Systems: Federal Civil Service: and Federal Social Security
January, 1949

System	Members' Rate %	Salary Maximum	SERVICE AND SALARIES Begins at age 24 at \$2400.00 salary and 125.00 annual increases to \$3400.00.			TOTAL EMPLOYERS' RATE	
			AGES AT RETIREMENT			Year	%
			55	60	65		
Ohio	5	\$3,000	\$1,357	\$2,000	\$2,926	1948-49	7.5
Connecticut	5	Total	(c)	1,904	2,074		
Florida							
Plan "A"	4.89	3,600		1,700	1,942	1948-49	7
Plan "B"	6.03	3,600	1,457				
Illinois	5	3,500	1,525	1,731	2,100(a)	1948-49	7
Indiana	\$125.76 per member		1,016	1,458	1,458		
KENTUCKY		2,400	826	959	1,200	1948-49	12.9
Louisiana	6	7,500	1,471	1,986	2,241	1948-49	8 (Est.)
Massachusetts	5	Total	1,518	2,132	2,720		
Michigan	5	3,600	(c)	1,512	1,662	1948-49	6.56
New Jersey	6.2	Total	(c)	1,749	1,991	1948-49	14
New York							
Plan "A"	4	Total		1,618	1,989	1948-49	8
Plan "B"(b)	5	Total		1,572	1,898		
North Carolina	5	5,000	(c)	1,811		1947-48	7.98
Pennsylvania	4.22	Total	(d)	(d)	1,714	1948-49	5.97
Washington	5	3,600	1,564	1,902	2,215	1948-49	11.4
West Virginia	4	2,500	(c)	1,052	1,521	1947-48	6
Federal Civil Service	6	Total	1,555	2,124	2,419	Avg.	8.53
Federal Social Security	1	3,000	(e)	(e)	671(f)		(g) 1

(a) Maximum allowance; (b) Members entering 7-1-48 and thereafter; (c) Minimum retirement age 60; (d) Minimum retirement age 62; (e) Minimum retirement age 65; (f) Wife of retired worker; if 65 or older, may receive a benefit of one-half the amount paid to her husband; (g) Not reported.

*Table Z prepared from data gathered by Ohio Retirement System

children and general public. These obligations have found expression in the administrative policies and procedures of the Board through its staff of employees.

Many systems envy Kentucky's plan of administration, as provided in the Law, and consider it the most likely to succeed without interruption or serious difficulty. The members of the system are urged to acquaint themselves with the work of the Board and to exercise the right of suffrage given them in the election of a Board Member each year.

Members of the Board

Miss Mary J. Maguire, Chairman, Teacher Henry Clay High School, Lexington.

Mr. L. C. Curry, Vice-Chairman, Superintendent Bowling Green Public Schools, Bowling Green.

Mr. William S. Milburn, Principal Louisville Male High School, Louisville.

Mrs. Anna H. Settle, Lay member, Attorney, Louisville.

Hon. Boswell B. Hodgkin, Superintendent of Public Instruction, Ex officio member, Frankfort.

Hon. A. E. Funk, Attorney General, Ex officio member, Frankfort.

Hon. Edward F. Seiller, State Treasurer, Ex officio member, Frankfort.

Office Personnel

N. O. Kimbler, B.S., M.A., Executive Secretary

Vera Beckham, A.B., Assistant

F. L. Phillips, B.C.S., A.B., M.A., Accountant

Lora Mae Blandford	Alean McDonald	Jean Lillis Pulliam
Helen Meade	Dorothy Lathrem	Anna Mae Connelly
Wilma Landrum	Lois Kerby	Sophia Johnson
William O. Springate	Margie Gabbard	Jo Anne Lutkemeier
Edward K. Martin, M.D., Medical Director		

Personnel is employed and salaries fixed by the Board of Trustees under authority of KRS 161.340. Names of prospective employees are secured from the Division of Personnel of the State, if they have any available. If not, employees are sought in the open market. Salaries are in line with the State Schedule provided by the Division of Personnel for all state employees. Due to low salaries, it has often been necessary to employ persons who have established homes in this section of the state and who commute to work. Some drive considerable distances. With better salaries employees could be drawn from all sections of the state. A person cannot room and board on some salaries paid.

The morale and efficiency of the office staff is of a high order. We challenge the statement that a governmental office cannot do the work that a private office can do.

Retirement Office

Office quarters and location are determined by KRS 161.290. A space 30' x 50' on the first floor of the State Capitol is provided. It is too small due to the accumulation of records and to a corresponding increase of

work requiring more workers. The entire wall space is taken up by filing cabinets, all of which must be referred to constantly during working hours. Since the last annual report, the office has been painted and fluorescent lighting fixtures installed. The improvement is very satisfactory.

The office budget is provided under KRS 161.330 and 161.420. A comparative table of cost of administration is presented in this report under **Financial**.

From July 1, 1940, to July 1, 1949, members have filed 35,458 individual service records. It is estimated that 11,736 additional persons have taught under the Retirement Act, more or less, but have filed no service record. However, an account must be set up and maintained for each, and such so-called teachers require more effort and attention to serve than those who provide proper information.

Turnover among teachers has increased the work of the office, but it is believed they are settling down somewhat. Everything is handled by mail. During the year 41,462 pieces of mail were sent out and a large number, including many reports, were received. Stenographers typed 19,953 letters, mostly answering questions or furnishing information to members. We have encouraged teachers to write for information.

Each member has an individual account to which her contributions and accumulating interest are posted each month during her active service and for three years after she may have quit teaching. During the year there were 19,962 contributing members and about 10,000 accounts still receiving interest only. Including for transfers, withdrawals, deaths, retirements, and other changes requiring financial entries about 500,000 lines of machine posting were made during the years. The Teachers' Savings Fund is the largest savings bank in Kentucky and no banking institution in the state approaches the number of lines of machine posting performed. Our Trial Balance Sheet shows \$14,913,104.87 funds handled during the year.

Two employees are preparing key-sort cards for members with prior service. Eventually such cards will be made for all members. This work had to be deferred until recently because no one could be employed for it. Three additional workers are needed in the office for this and current work.

Since it is impossible to adequately cover the activities of the System in one annual report, effort is made to avoid repetition of what has been previously reported; and for this reason reference is respectfully made to previous annual reports.

STATISTICAL

Membership as defined in 161.470, "Consists of all new teachers, and all present teachers except those who filed statements declining membership as provided in 1938 1st ex. s. c. 1 sec. 29 and did not withdraw the statement within the time allowed. . . ." The turnover being what it has been, this partially explains a membership of 34,679 as shown in Table I. The provision of the Law permitting an absence of six years during which the member may hold her service credit further indicates

a large membership, even though only 19,962 members paid contributions during 1948-49.

The number without service records—that is, Form A-1 or A-2, is estimated from the accounts set up for such people. The number in this class is becoming smaller and should be practically eliminated in a few years.

In some systems contributions received from members who have not filed enrollment forms are segregated and handled in bulk, but in the Kentucky System an account is set up and maintained for every member, regardless of the absence of enrollment. Contributions received from nonmembers are returned.

During 1948-49 new accounts were set up for 2,996 members, somewhat less than for the preceding year. This indicates that a significant number of inactive accounts became active by reason of members returning to teaching after a permissible absence. Absence is shortened to three years in case the member withdraws her account, and if she returns to teaching later, it must be as a new member. During 1948-49, 2,987 accounts became inactive, but a majority of these members will teach again before three more years. During the year 29,086 accounts were posted regularly.

The aggregate in 8,580 accounts including 2,987 becoming inactive July 1, 1949, is \$293,980.00. This is invested and the System receives the interest while the inactive account receives no interest.

There will always be minor discrepancies in some of these statistical tables, but the tables will be accurate enough for valid calculations. For example, there are some members who have two accounts; service credit must be estimated for those who do not file Form A-1; twelve members teaching in 1940-41 filed Forms A-1 in 1948-49; and 27% of members withdrawing in 1948-49 had not filed Form A-1 or A-2. For the older ones prior service had to be estimated.

Table I. Membership 1940-49

	SERVICE RECORDS			Members Without Service Records	Totals All Members
	With Prior Service	Without Prior Service	Total With Records Filed		
Members	23,524	9,688	33,212	11,013	44,225
Added during 1948-49 ..	279	1,967	2,246	750	2,996
Total	23,803	11,655	35,458	11,763	47,221
Withdrawn	6,141	2,568	8,709	2,311	11,020
Deceased	349	18	367	54	421
Retired	1,101	0	1,101	0	1,101
	7,591	2,586	10,177	2,365	12,542
Total June 30, 1949..	16,212	9,069	25,281	9,398	34,679

Table II shows the years of prior service outstanding. It is significant that the State's obligation for prior service is reduced materially by withdrawals of experienced teachers. If a withdrawing member does not reinstate her account before she is absent from teaching more

than three years and do so in the semester in which she returns to teaching, her prior service and also her subsequent service to date of withdrawal are cancelled.

In calculating the obligation for prior service, any individual salary less than \$1,174.00 is increased to \$1,174.00. This is because of the minimum of \$10.00 per service credit year, it requiring 1% of such a salary at the average age of retirement to produce \$10.00 by the formula.

In Table II the actual salary is used. It is getting smaller; in 1940-41 the average prior service salary was \$894.83; whereas, July 1, 1949, it is \$863.74. The prior service held by retired teachers has been paid for by the State and it is liquidating the prior service of active members at the rate of about \$300,000.00 per year.

Table II. Members With Prior Service End of Ninth Year

From July 1, 1940 Thru June 30, 1949	Number	Prior Service Years		Prior Service Salary	
		Total	Average	Total	Average
Members with Prior Service					
Records Filed	23,803	248,465.6	10.4	\$21,173,507.33	\$ 889.53
Deductions					
Withdrawn	6,141	44,927.3	7.3	5,704,456.12	928.91
Deceased	349	6,539.1	18.7	418,012.52	1,197.45
Retired	1,101	29,802.5	27.1	1,048,042.20	951.90
Totals and Averages					
June 30, 1949	16,212	167,196.7	10.3	\$14,002,996.49	\$ 863.74

Comparatively few accounts are reinstated each year. When a member withdraws she is usually through teaching; however, members should guard against withdrawal unless it is comparatively certain that withdrawal will be permanent. A considerable number of such teachers have had to come into membership as "new" teachers as provided in 161.520. A few members have, by a greater absence than six years and until the opening of school on the seventh year, lost their service credit. In such cases the old account is returned, the retirement number cancelled and upon the filing of Form A-2 a new Certificate issued.

The unliquidated balance of prior service is approximately \$6,000,-000.00 and it will be liquidated by 1970 at the rate of \$300,000.00 per year. A new evaluation will be made after the next General Assembly and any new legislation affecting prior service will be taken into consideration.

Since in 1948-49 a special appropriation of \$2,439,606.64 was made to liquidate the matured obligation of prior service, Table IIA is omitted from the Ninth Annual Report. The total amount appropriated for prior service is \$4,139,245.76 of which \$2,403,669.83, including interest, is still unexpended and in the Allowance Reserve Fund. This amount is calculated to be sufficient. It is a present-worth amount, 3% compound interest to be added each year.

Table III distributes by ages recruits to the teaching profession for 1948-49. The number is 1,967, only 28 more than for 1947-48. Attention is directed to the great number below the age for College graduation;

Table III. Distribution by Ages of 1,967 New Entrants without Prior Service who have Filed A-2's after Tables were made July 1, 1948

Entrance Age	Number	SALARIES	
		Total	Average
18	244	\$ 262,824.91	\$1,077.15
19	169	203,222.66	1,202.50
20	158	220,082.05	1,392.92
21	173	265,989.07	1,537.50
22	173	285,728.77	1,651.61
23	101	171,562.25	1,698.64
24	102	174,757.51	1,713.30
25	97	177,825.63	1,833.25
26	90	158,068.92	1,756.32
27	77	140,809.76	1,828.70
28	55	97,944.92	1,780.82
29	46	81,584.00	1,773.57
30	43	70,912.81	1,649.14
31	45	77,277.33	1,717.27
32	41	69,961.56	1,706.38
33	40	62,107.94	1,552.70
34	30	50,858.94	1,695.30
35	34	57,688.29	1,696.71
36	25	39,965.17	1,598.61
37	18	30,417.80	1,689.88
38	32	34,676.44	1,083.63
39	22	36,073.00	1,666.95
40	17	31,652.65	1,861.92
41	22	34,585.09	1,572.05
42	16	26,991.35	1,686.96
43	10	16,525.59	1,652.56
44	13	20,471.40	1,574.72
45	12	20,890.99	1,740.92
46	6	10,891.92	1,815.32
47	8	15,190.60	1,898.83
48	4	5,128.00	1,282.00
49	4	5,768.60	1,442.15
50	4	7,050.60	1,762.65
51	5	10,775.00	2,155.00
52	3	4,724.00	1,574.67
53	2	2,500.20	1,250.10
54	8	14,048.59	1,756.07
55	5	8,927.20	1,785.44
56	4	7,385.54	1,846.39
57	3	6,073.60	2,024.53
58	1	1,000.00	1,000.00
59	0	0.00	0.00
60	2	4,157.10	2,078.55
61	0	0.00	0.00
62	2	4,800.00	2,400.00
63-65	0	0.00	0.00
66	1	1,135.00	1,135.00
67-70	0	0.00	0.00
Totals and Average	1,967	\$3,031,612.75	\$1,541.24

approximately 50%. The average salary \$1,541.24 is roughly 10% better than for 1947-48.

In regard to those entering after the age of 50 years, it should be stated that even though they do not serve 20 years, they will be entitled to an annuity at compulsory retirement age—70 years. The formula is applied in such a case and if it produces less than \$10.00 per service credit year, this minimum applies; but in no case shall it be less than \$100.00 per year. For example, the member who is 62 would retire at 70 with eight years of service credit and be entitled to 12% of \$2,400.00, an annuity of \$288.00. It will have cost her \$768.00 and have an actuarial value of \$4,039.00. Life expectancy at 70 is 14.4 years.

Taking into consideration her retirement rights and a normal length of life, her remuneration is \$2,780.00 instead of \$2,400.00. During 1948-49 there were 40 new entrants age 50 or more. The Retirement System treats them fairly; according to years of service.

For those age 22 and younger, if we compare withdrawals for 1948-49 with new entrants, the net gain is only 319; the turnover being approximately two-thirds; that is, 917 new entrants and 598 withdrawals for 1948-49 in these age brackets. The holding power of the System is not very significant at these ages.

Twelve members filed Forms A-1 in 1948-49 who should have filed same in 1940. An additional 267 filed this form and received an average of 6.6 years of prior service credit. Their average prior service salary is \$709.10. In all cases the Retirement Certificate is back dated to include the member's first contribution. This requires the careful auditing of every such account.

It is not practical to include all tables in each annual report. The reader is respectfully referred to the Sixth Annual Report for Table J, Assumed Withdrawal, Death, and Disability Rates per 1,000 Members and for Table V which is a comparison with the experience of the System. These tables will appear again in the Tenth Annual Report.

The Standard Mortality Table in use is in the Eighth Annual Report, page 16.

The space saved by the omission is used for Table K, Annuity Values and Expectancies. Column (2) is what is commonly referred to as "life expectancy"; column (3) the amount necessary to pay an annuity of \$1.00 at the respective age in column (1) and assuming reserve earns 3% compound interest. Column (4) provides the age factor used with the formula for calculating the retirement allowance.

Since there are several teachers over age 84, this table will have to be extended; however, there is little demand for "life expectancy" after age 70. This table is for women. The factor for age 60 is used in case of retirement for disability. From July 1, 1942, to June 30, 1949, ninety-three members have been retired for disability. Of this number, the disability of 5 has been removed and they are teaching again; 14 have died; 18 have attained age 60 and are classified as superannuates, and the remaining number, 74, are still disabled. The death rate for members retiring for disability is little, if any, higher than that for those retiring for age.

It is possible that all deaths are not reported, especially in cases where the member has not died in actual service. (Table VI).

Of this number 54 had not filed an enrollment form and prior service is not known. A separate column is not maintained for those having no prior service, but there are only 18 such deceased members. The amount of prior service credit shown as liquidated by this Table VI is accurate.

Table IV. Distribution by Ages of 279 New Entrants with Prior Service who have Filed A-1's after Tables were made July 1, 1948

Entrance Age	Number	PRIOR SERVICE		SALARIES	
		Total	Average	Total	Average
18-22	0	0.0	0.0	0.00	0.00
23	1	2.0	2.0	\$ 600.80	\$ 600.80
24	1	6.0	6.0	858.90	858.90
25	2	8.0	4.0	1,342.65	671.33
26	0	0.0	0.0	0.00	0.00
27	4	17.6	4.4	2,001.72	500.43
28	4	15.6	3.9	2,752.78	688.20
29	5	21.3	4.3	3,055.80	611.16
30	6	13.6	2.3	3,358.56	559.76
31	5	10.7	2.1	2,637.50	527.50
32	8	34.9	4.4	4,534.40	566.80
33	12	67.0	5.6	6,713.40	559.45
34	8	37.8	4.7	4,907.27	613.41
35	12	57.1	4.8	9,010.55	750.88
36	18	75.2	4.2	10,125.35	562.52
37	14	62.2	4.4	9,366.15	669.01
38	16	91.5	5.7	12,493.85	780.87
39	18	102.2	5.7	12,049.10	669.39
40	17	79.8	4.7	11,707.45	688.67
41	17	124.0	7.0	12,538.04	737.53
42	13	80.1	6.2	9,330.76	717.75
43	12	96.5	8.0	10,231.30	852.61
44	11	42.9	3.9	8,150.50	740.95
45	11	68.8	6.3	11,244.00	1,022.18
46	10	104.5	10.5	9,411.74	941.17
47	8	68.6	8.6	9,543.50	1,192.94
48	7	52.4	7.5	4,727.50	675.36
49	6	47.7	8.0	3,656.65	609.44
50	4	33.7	8.4	3,040.65	760.16
51	1	8.0	8.0	445.00	445.00
52	3	18.4	6.1	1,680.00	560.00
53	3	29.7	9.9	1,660.20	553.40
54	6	93.2	15.5	5,406.00	901.00
55	1	4.5	4.5	787.50	787.50
56	0	0.0	0.0	0.00	0.00
57	2	29.0	14.5	1,005.00	502.50
58	4	69.7	17.4	2,018.73	504.68
59	0	0.0	0.0	0.00	0.00
60	2	37.3	18.7	770.00	385.00
61	0	0.0	0.0	0.00	0.00
62	2	25.3	12.7	1,200.00	600.00
63	1	19.7	19.7	546.00	546.00
64	2	39.5	19.8	1,090.80	545.40
65-66	0	0.0	0.0	0.00	0.00
67	1	25.9	25.9	378.00	378.00
68	1	16.2	16.2	462.00	462.00
69-70	0	0.0	0.0	0.00	0.00
Totals and Averages ...	279	1,838.1	6.6	\$196,840.10	\$ 709.10

The number deceased age 70 to 78 before retirement include those deceased before July 1, 1942, the date of earliest retirement. During the year 1948-49 there were reported 69 deaths; 15 more than for 1947-48. However, in some cases death occurred before the year in which the report was received.

**Table K. Annuity Values and Expectancies. Factor Table 1946
Recommended by Actuary and Adopted by Board July 1, 1946
(1937 Standard Annuity Table, Modified)**

(1)	(2)	(3)	(4)	(5)
Age	o e x	3% a x	Discount Factors Equal to 70 a 3%	Discount Factors Equal to 70 a 3%
50	28.78	17.84964	.59121	Retirants for Disability use Factor Age 60
51	27.96	17.50283	.60293	
52	27.15	17.15249	.61524	
53	26.35	16.79884	.62820	
54	25.56	16.44204	.64183	
55	24.78	16.08243	.65618	
56	24.01	15.72020	.67130	
57	23.24	15.35566	.68724	
58	22.49	14.98909	.70404	
59	21.75	14.62080	.72178	
60	21.02	14.25107	.74050	.74050
61	20.30	13.88028	.76028	.76028
62	19.60	13.50872	.78119	.78119
63	18.90	13.13677	.80331	.80331
64	18.22	12.76477	.82672	.82672
65	17.55	12.39309	.85151	.85151
66	16.90	12.02211	.87779	.87779
67	16.25	11.65224	.90565	.90565
68	15.62	11.28381	.93523	.93523
69	15.01	10.91726	.96663	.96663
70	14.40	10.55296	1.00000	1.00000
71	13.81			
72	13.24			
73	12.68			
74	12.14			
75	11.60			
76	11.09			
77	10.59			
78	10.10			
79	9.63			
80	9.17			
81	8.73			
82	8.30			
83	7.89			
84	7.49			

L. C. Cortright, Actuary
Springfield, Illinois

Table VI. Members Deceased Before Retirement 1940-49

Attained Age at Death	Number			Prior Service		Salaries	
	Male	Female	Total	Total	Average	Total	Average
20 and under	1	1	2	2.0	0.0	\$1,010.35	\$505.18
21	2	0	2	2.0	1.0	921.21	460.61
22	1	1	2	4.0	2.0	1,001.35	500.68
23	0	7	7	9.0	1.3	5,923.55	658.18
24	2	2	4	9.5	2.4	3,149.34	787.34
25	5	3	8	16.6	2.1	6,304.35	788.04
26	2	3	5	15.5	3.1	3,898.45	799.69
27	5	4	9	27.0	3.0	6,543.93	727.10
28	1	2	3	18.0	3.0	1,891.05	630.35
29	11	3	14	45.1	3.2	10,605.08	757.51
30	7	5	12	54.0	4.5	8,618.13	718.18
31	4	6	10	65.7	6.6	7,594.20	759.42
32	2	4	6	38.7	6.5	4,178.57	696.43
33	5	2	7	47.9	6.8	7,942.07	1,134.58
34	8	6	14	143.4	10.3	12,094.61	863.90
35	3	6	9	74.0	8.2	7,760.61	862.29
36	3	4	7	69.8	10.0	6,831.71	975.96
37	2	5	7	70.6	10.1	7,152.92	1,021.85
38	6	7	13	148.9	11.5	12,219.23	939.94
39	1	5	6	42.0	7.0	5,747.38	957.89
40	2	10	12	143.1	11.9	10,369.03	864.09
41	3	6	9	108.0	12.0	7,512.51	834.72
42	2	4	6	92.5	15.4	6,946.90	1,157.82
43	2	7	9	131.2	14.6	8,006.82	889.65
44	3	7	10	136.2	13.6	8,323.72	832.37
45	3	6	9	132.4	14.7	11,803.25	1,311.47
46	4	6	10	163.9	16.4	6,173.69	617.37
47	3	3	6	105.5	17.6	7,965.21	1,327.53
48	3	9	12	188.4	15.7	12,248.82	1,020.75
49	2	3	5	98.8	19.8	3,494.08	698.82
50	6	3	9	192.5	21.4	9,600.41	1,066.71
51	1	4	5	110.6	22.1	4,360.80	872.16
52	2	9	11	214.0	19.5	10,772.79	979.34
53	1	4	5	116.2	23.2	5,016.52	1,013.30
54	4	4	8	164.9	20.6	10,726.25	1,340.78
55	2	4	6	140.0	23.3	7,622.15	1,270.36
56	2	6	8	139.2	17.4	8,225.00	1,028.24
57	2	2	4	83.0	10.8	6,529.45	1,632.36
58	2	8	10	261.6	26.2	11,626.20	1,162.62
59	1	8	9	259.0	28.8	8,300.50	922.28
60	4	9	13	328.9	25.3	16,478.87	1,267.60
61	6	8	14	372.9	26.6	18,654.15	1,332.44
62	2	8	10	263.6	26.4	12,688.45	1,268.85
63	9	6	15	330.0	22.0	16,656.65	1,110.44
64	0	0	0	0.0	0.0	0.00	0.00
65	5	0	5	83.7	16.7	5,793.08	1,158.61
66	0	7	7	171.1	24.4	8,231.60	1,175.94
67	8	4	12	301.4	25.1	14,539.45	1,211.62
68	4	11	15	345.4	23.0	16,009.90	1,067.27
69	5	7	12	300.1	25.0	13,031.18	1,085.93
70-78	2	6	8	159.5	19.9	8,917.00	1,114.62
Totals & Averages	166	255	421	6539.1	15.5	\$418,012.52	\$ 992.90

The modal age is 48. A record of cause of death is maintained, and reference is made to the Seventh Annual Report, pages 18 and 19, for a discussion of this important subject.

The attention of interested citizens is respectively directed to the data in Table VII and Table VIIA. The withdrawal of 11,048 teachers, 2,032 during 1948-49, is indicative of something. We believe it is due to lack of training, and to low salaries. Many of them, 6,141, had experience before 1941. During 1948-49 almost 1,000 experienced teachers withdrew, depriving the schools of an aggregate of 5,871.5 years of experience gained to 1941, and almost as much gained thereafter. While this is favorable to the annuity system, it is very unfavorable to the State School System. Of the 2,032 withdrawing in 1948-49, 557 had failed to file enrollment Forms A-1 or A-2; 27%.

Table VII is made by adding gains and deducting losses with adjustment for 2,311 former members who failed to file enrollment Forms A-1 or A-2. For this reason these tables will not check with each other. Our tables will be more perfect when we are able to secure from the profession the necessary information.

These withdrawals cancel approximately 45,000 years of prior service credit and a significant number of years of subsequent service credit.

The refunding of inactive accounts is requiring too much of the time and attention of the office staff. The teaching staff of the Commonwealth needs stabilization. While it is not significant, 220 members have re-entered and withdrawn at least once, and a few three or four times. Of 11,048 withdrawn members, only 808 have returned to membership on anything like a permanent basis.

It is essential that we use the age and prior service credit of many members in calculating the State's obligation for prior service. These data are presented in Table VIII, which shows a distribution of 14,017 such members. If a member taught in 1940-41 at the earliest legal age, he would now be 27. The modal age is 37, there being 634 members in this age group. The typical amount of prior service, 11 years, is found among the members age 41. On the average these members entered the profession at age 22 or younger, and now have 19 years of service credit. They constitute the backbone of the teaching staff.

Two per cent of the aggregate prior service salaries of this group, Table VIII, is \$261,245.61, but the State finds it necessary to appropriate \$300,000.00 per year in order to make up for and guarantee the minimum of \$10.00 per service credit year. At the average age of retirement, if the prior service salary of the member is below \$1,174.00, she is likely to require extra funds to bring her retirement allowance up to \$300.00; however, her subsequent service credit tends to continually reduce the extra amount needed. The average prior service salary for this group of members is \$931.89 and 30% of this is \$279.57, not far below the minimum of \$300.00.

The balance of the State's obligation, not yet matured, on this prior service is approximately \$6,000,000.00. Any increase in the minimum retirement allowance will increase this obligation, but if it is the means of holding teachers with a low prior service salary, it would be justifiable.

Table VIII will be carefully revised before the Actuarial Valuation after the close of the second five-year period, KRS 161.400.

Table Xa is a calculation based upon the age of living retired teachers as of September 1, 1949, and it includes 125 members retiring

Table VIA. Members Deceased Before Retirement 1948-49

Attained Age at Death	Number			Prior Service		Salaries	
	Male	Female	Total	Total	Average	Total	Average
18-22	0	0	0	0.0	0.0	\$ 0.00	\$ 0.00
23	0	3	3	0.0	0.0	3,465.50*	1,155.16*
24	0	0	0	0.0	0.0	0.00	0.00
25	1	0	1	1.6	1.6	455.00	455.00
26	1	0	1	3.0	3.0	773.65	773.65
27	0	1	1	3.0	3.0	1,074.72	1,074.72
28-29	0	0	0	0.0	0.0	0.00	0.00
30	0	1	1	10.0	10.0	600.00	600.00
31	0	1	1	4.9	4.9	481.25	481.25
32-33	0	0	0	0.0	0.0	0.00	0.00
34	1	0	1	3.0	3.0	630.00	630.00
35	0	1	1	10.0	10.0	630.00	630.00
36	0	0	0	0.0	0.0	0.00	0.00
37	0	1	1	8.5	8.5	728.55	728.55
38	0	0	0	0.0	0.0	0.00	0.00
39	0	1	1	10.0	10.0	397.25	397.25
40	0	0	0	0.0	0.0	0.00	0.00
41	1	2	3	29.4	9.8	2,754.66	918.22
42	0	0	0	0.0	0.0	0.00	0.00
43	0	1	1	13.9	13.9	655.00	655.00
44	1	0	1	0.0	0.0	760.80*	760.80*
45	0	2	2	35.0	17.5	2,405.80	1,202.90
46	1	4	5	70.9	14.2	3,344.65	668.93
47	0	1	1	17.0	17.0	2,000.00	2,000.00
48	3	5	8	139.7	17.5	8,302.80	1,037.85
49	0	0	0	0.0	0.0	0.00	0.00
50	0	1	1	25.0	25.0	634.06	634.06
51	0	1	1	12.0	12.0	558.00	558.00
52	1	2	3	57.0	19.0	2,140.00	713.33
53	1	1	2	42.0	21.0	1,920.00	960.00
54	3	0	3	58.2	19.4	2,656.25	885.42
55	0	0	0	0.0	0.0	0.00	0.00
56	0	1	1	22.0	22.0	1,640.00	1,640.00
57	1	0	1	18.0	18.0	1,697.40	1,697.40
58	1	1	2	35.0	17.5	1,467.15	733.58
59	0	1	1	28.0	28.0	900.00	900.00
60	2	1	3	79.7	26.6	5,445.00	1,815.00
61	1	1	2	48.8	24.4	1,723.25	861.63
62	0	0	0	0.0	0.0	0.00	0.00
63	1	1	2	54.0	27.0	1,855.80	927.00
64-65	0	0	0	0.0	0.0	0.00	0.00
66	0	2	2	53.1	26.2	1,176.00	588.00
67	1	1	2	60.0	30.0	2,600.00	1,300.00
68	0	2	2	48.0	24.0	2,333.00	1,166.50
69	2	3	5	110.0	22.0	3,949.25	789.85
70	1	2	3**	69.5	23.2	2,958.40	986.13
Totals & Averages	24	45	69	1180.2	17.1	\$65,113.19	\$ 943.67

* Subsequent service salary.

** Would have retired as of July 1, 1948. Died before receiving first quarterly check.

Table VIIA. Members who have Withdrawn before Retirement 1948-49

Entrance Age	Number Without P. S.	Number With P. S.	PRIOR SERVICE		P. S. SALARIES	
			Total	Average	Total	Average
18	133	5	6.0	1.2	\$ 2,324.87	\$ 464.98
19	114	13	15.7	1.2	6,807.63	523.66
20	110	17	22.4	1.3	9,794.73	576.17
21	132	41	76.4	1.9	26,506.25	646.49
22	109	29	74.7	2.6	18,919.18	652.39
23	56	45	132.7	2.9	32,772.90	728.29
24	49	53	213.5	4.3	37,469.55	706.97
25	42	45	218.2	4.8	33,771.34	750.47
26	43	42	235.4	5.6	32,074.05	763.62
27	39	45	255.3	5.7	36,614.56	813.66
28	23	42	259.1	6.2	34,590.46	823.58
29	21	43	293.9	6.8	34,604.12	804.75
30	25	39	230.9	5.9	31,357.62	804.04
31	20	32	262.4	8.2	25,217.72	788.05
32	23	42	330.0	7.9	32,867.51	782.56
33	8	42	293.1	7.0	32,669.91	777.86
34	16	48	395.0	8.0	38,700.68	806.26
35	21	35	279.5	8.0	26,666.50	761.90
36	14	25	239.7	9.6	22,873.04	914.92
37	13	28	267.5	9.6	24,057.84	859.21
38	15	24	184.3	7.7	21,172.28	882.18
39	5	18	156.1	8.7	15,814.26	878.57
40	8	20	191.2	9.6	14,807.61	740.38
41	5	18	142.2	7.9	15,645.40	869.19
42	10	20	166.7	8.3	15,130.30	756.52
43	6	9	105.1	11.7	7,037.35	781.93
44	9	11	97.3	8.8	6,886.83	626.08
45	7	6	46.8	7.9	5,075.92	845.99
46	3	7	52.8	7.5	5,117.93	731.13
47	7	8	67.6	8.5	7,221.67	902.78
48	1	7	45.0	6.4	4,706.59	672.37
49	2	10	87.7	8.8	8,927.82	892.78
50	6	10	76.0	7.6	6,072.84	607.28
51	1	5	40.2	8.0	4,797.00	959.40
52	6	3	37.0	12.3	2,021.00	673.67
53	3	4	22.0	5.5	2,834.55	708.64
54	1	1	10.0	10.0	700.00	700.00
55	1	6	43.0	7.2	4,359.00	726.50
56	0	2	2.0	1.0	1,763.00	881.50
57	1	4	33.0	8.3	3,286.25	821.56
58	0	4	32.2	8.1	4,256.60	1,064.15
59	0	5	54.0	11.0	3,000.00	600.00
60	0	3	16.3	5.4	2,650.00	883.33
61	0	0	0.0	0.0	0.00	0.00
62	0	4	45.6	11.4	3,673.40	918.35
63-65	0	0	0.0	0.0	0.00	0.00
66	1	0	0.0	0.0	0.00	0.00
67	1	1	4.0	4.0	800.00	800.00
68	0	1	12.0	12.0	600.00	600.00
69-70	0	0	0.0	0.0	0.00	0.00
Totals and Averages	1110	922	5871.5	6.37	\$709,018.06	\$ 769.00

as of July 1, 1949. Attention is directed to the large proportion of men compared to total number of active members. All counties excepting one have one or more retired teachers; some in excess of 10% of present teaching staffs. On the average, 5.5% of the active membership have

Table VII. Members who have Withdrawn before Retirement 1940-49

Entrance Age	Number Without P. S.	Number With P. S.	PRIOR SERVICE		P. S. SALARIES	
			Total	Average	Total	Average
20 and under	969	294	321.2	1.1	\$ 174,248.37	\$ 592.68
21	488	303	572.2	1.9	210,860.85	695.91
22	386	337	781.1	2.3	254,491.55	755.20
23	298	359	1,126.4	3.1	279,589.49	778.80
24	210	423	1,706.3	4.0	328,726.58	800.77
25	176	407	1,901.1	4.7	338,220.09	831.01
26	147	432	2,156.5	5.0	353,191.17	817.57
27	137	394	2,391.9	6.1	336,083.38	853.00
28	111	369	2,561.7	6.9	313,135.77	848.61
29	116	331	2,501.2	7.5	275,961.40	833.72
30	141	372	3,014.4	8.1	330,607.22	766.01
31	119	312	2,676.1	8.6	284,954.58	913.31
32	101	310	2,835.1	9.1	281,425.14	907.82
33	94	256	2,284.0	8.9	240,711.51	940.28
34	77	243	2,415.2	9.9	231,872.93	895.42
35	71	232	1,282.8	5.5	217,588.41	937.88
36	64	180	1,855.2	10.3	185,286.51	1,029.37
37	67	168	1,849.6	11.0	166,744.85	992.53
38	70	138	1,385.1	10.0	138,858.50	1,006.22
39	48	95	1,058.4	11.1	88,744.64	934.16
40	50	103	1,060.0	10.3	89,599.18	869.89
41	37	95	1,021.3	10.8	91,800.28	966.32
42	50	77	855.3	11.1	73,210.43	950.78
43	34	47	580.1	12.3	42,066.87	895.04
44	33	49	499.1	10.2	39,210.61	800.22
45	23	43	464.2	10.8	41,611.80	990.97
46	27	49	443.2	9.0	43,495.87	806.22
47	24	27	301.6	11.2	24,956.02	924.30
48	15	31	238.1	7.7	24,905.89	803.42
49	23	42	476.3	11.3	37,663.63	896.75
50	25	32	392.3	12.3	21,354.84	667.34
51	19	24	255.3	10.6	22,860.16	952.51
52	23	24	271.0	11.3	22,108.91	921.20
53	10	18	138.9	7.7	13,422.15	745.67
54	15	17	185.8	10.9	10,954.86	644.40
55	9	20	188.4	9.4	10,485.40	524.27
56	8	10	92.8	9.3	6,533.00	653.30
57	11	15	166.3	11.1	11,489.82	756.99
58	6	16	145.8	9.1	12,277.78	767.36
59	6	10	106.6	10.7	7,291.00	729.10
60	7	9	111.4	12.4	7,088.00	787.56
61	5	5	70.1	14.0	2,837.78	567.56
62	5	8	70.9	8.9	2,075.90	1,009.49
63	2	3	27.0	9.0	2,799.00	933.00
64	3	3	39.0	13.0	1,441.00	480.33
65	3	3	35.1	11.7	2,213.00	737.66
66-70	8	2	16.0	8.0	1,400.00	700.00
Totals and Averages	4311	6737	44,927.31	6.7	\$5,704,456.12	\$ 846.73

retired, a total of 1,101 retirants of whom 914 are on the annuity roll for retirement allowances.

Table Xa and Table Xb should be considered together. The latter shows age at retirement, while the former shows attained age. In Table Xb the second column shows the ages of teachers still in service in June, 1942, and who were compulsorily retired July 1, 1942. There were 150 such members with ages ranging from 71 to 87. The mode is, of course, age 70, and 37.2% of the members retire at that age.

Table VIII. Distribution of 14,017 Members who have Prior Service Credit into One-Year Intervals According to Attained Age July 1, 1949

Attained Age	Number of Members	PRIOR SERVICE YEARS		PRIOR SERVICE SALARY	
		Total	Average	Total	Average
27	474	850.5	1.8	\$ 333,883.40	\$ 704.40
28	294	553.9	1.9	226,948.10	771.93
29	383	878.2	2.4	277,534.23	724.63
30	376	1,099.8	2.9	262,255.59	697.49
31	398	1,426.9	3.6	286,707.81	720.37
32	429	1,349.1	3.1	315,559.71	735.57
33	508	2,188.8	4.3	388,061.68	763.90
34	525	2,483.3	4.7	406,177.53	773.67
35	571	3,342.7	5.9	453,038.17	793.41
36	626	4,122.3	6.6	505,620.52	807.70
37	634	4,732.8	7.5	533,392.19	841.31
38	613	5,492.9	8.9	542,895.01	885.64
39	599	5,929.5	9.9	543,300.78	907.01
40	615	6,480.1	10.5	562,962.98	915.39
41	574	6,295.9	11.0	549,274.96	956.93
42	538	6,444.6	12.0	534,302.59	993.13
43	521	6,445.8	12.4	512,116.72	982.95
44	455	5,932.5	13.0	468,267.19	1,029.16
45	390	5,504.4	14.1	406,913.31	1,043.37
46	366	5,358.0	14.6	402,499.68	1,099.73
47	349	5,150.3	14.8	381,787.69	1,093.95
48	302	4,785.5	15.8	337,557.37	1,117.74
49	287	4,767.7	16.6	316,619.11	1,103.20
50	252	4,575.6	18.2	293,454.85	1,164.50
51	241	4,444.3	18.4	274,717.10	1,139.90
52	225	4,321.6	19.2	250,875.55	1,115.00
53	245	4,188.3	17.1	275,479.67	1,124.40
54	249	4,566.9	18.4	260,726.69	1,047.10
55	246	4,589.7	18.7	271,152.22	1,102.24
56	227	4,431.6	19.5	251,620.00	1,108.46
57	226	4,544.0	20.1	254,659.57	1,126.81
58	174	3,427.9	19.7	195,970.02	1,126.27
59	181	3,799.6	21.0	195,667.99	1,081.04
60	136	2,791.4	20.5	148,460.69	1,091.62
61	118	2,491.8	21.1	126,405.38	1,071.23
62	125	2,778.2	22.2	115,947.49	927.58
63	99	2,340.3	23.6	114,236.09	1,153.90
64	91	2,171.5	23.9	105,472.28	1,059.04
65	93	2,145.2	23.1	95,482.97	1,026.70
66	75	1,894.0	25.3	90,599.93	1,208.00
67	89	2,143.7	24.1	96,423.51	1,083.75
68	49	1,275.7	26.0	52,917.21	1,079.94
69	49	1,190.7	24.3	44,330.91	904.71
70	0	0.0	0.0	0.00	0.00
Totals and Averages	14,017	155,727.5	11.1	\$13,062,280.44	\$ 931.89

Of the total number retiring, 9.9% retired for disability, and 90.1 for age. Even though the bulk of members retire at age 70, the curve of ages soon is distributed as shown in Table Xa which is fairly uniform with the mode at 70 or 71.

Life expectancy is shown in Table K. The general life expectancy is increasing, and while the greatest increase is for early ages, there

Table Xa. Living Retired Teachers by One-Year Intervals and Attained Ages September 1, 1949

Attained Age	Living Retired Teachers			Average Aggregate Annuity	Needed to Pay Annuity of \$1.00	Cost for Life Expectancy
	Men	Women	Total			
50	0	2	2	\$ 538.00	17.84964	\$ 9,603.11
51	2	1	3	848.80	17.50283	14,856.40
52	2	3	5	1,316.00	17.15249	22,572.67
53	2	5	7	2,121.56	16.79884	35,639.75
54	2	5	7	1,951.96	16.44204	32,094.21
55	3	8	11	2,899.52	16.08243	46,631.33
56	1	4	5	1,675.60	15.72020	26,340.77
57	5	3	8	2,378.88	15.35566	36,529.27
58	3	4	7	1,806.00	14.98909	27,070.30
59	7	4	11	3,253.36	14.62080	47,566.72
60	9	12	21	6,874.20	14.25107	97,964.71
61	12	13	25	7,518.36	13.88028	104,356.94
62	17	9	26	8,307.44	13.50872	112,222.88
63	10	10	20	6,629.92	13.13677	87,095.73
64	14	14	28	8,162.20	12.76477	104,188.61
65	9	21	30	10,427.35	12.39309	129,227.09
66	11	12	23	8,013.53	12.02211	96,339.54
67	10	20	30	9,687.72	11.65224	112,883.64
68	17	19	36	12,385.64	11.28381	139,757.21
69	14	32	46	18,156.00	10.91726	198,213.77
70	24	57	81	32,683.19	10.55296	344,904.40
71	34	47	81	32,593.64	10.19131	332,171.89
72	32	42	74	30,055.83	9.83271	295,530.26
73	27	37	64	26,355.36	9.47754	249,783.98
74	29	43	72	27,314.04	9.12620	249,273.39
75	13	30	43	17,656.60	8.77904	155,008.00
76	16	25	41	15,045.92	8.43646	126,934.30
77	6	24	30	11,549.60	8.09883	93,538.25
78	5	11	16	5,789.76	7.76647	44,966.00
79	7	9	16	5,881.32	7.43975	43,755.55
80	4	9	13	4,764.52	7.11896	33,918.43
81	7	2	9	3,228.84	6.80441	21,970.35
82	1	3	4	1,435.72	6.49642	9,327.04
83	3	4	7	2,430.00	6.19521	15,054.36
84	0	4	4	1,424.76	5.90105	8,407.58
85	0	1	1	300.00	5.61416	1,684.25
86	2	1	3	973.96	5.33473	5,195.81
87	1	0	1	300.00	5.06292	1,518.88
88	0	0	0	0.00	0.00000	0.00
89	1	2	3	900.00	1.59298	1,433.69
	362	552	914	\$335,635.10		\$3,515,531.07

is a significant increase for retirement ages. Retirement makes a great change in life routine and there is great need for adjustment at that time. Most teachers make the adjustment with less difficulty than that experienced by other professions and crafts. We find it necessary, however, to advise many teachers who retire at 70 that they should plan for fifteen years, at least, and that for most, if not all, of these years an active life is indicated.

A recent survey by means of a questionnaire mailed to retirants,

Table Xb. Teachers Retired by Age Groups; Retired Teachers now Living; and Aggregate Current Annuity

Age at Retirement	Number Retired	Deceased or Withdrawn*	Number Living	Aggregate Annuity
50	13	4	9	\$ 3,159.72
51	12	2	10	3,471.32
52	15	1	14	3,911.96
53	7	0	7	2,094.52
54	9	3	6	2,769.00
55	16	1	15	4,529.60
56	5	1	4	1,203.36
57	9	3	6	2,379.00
58	9	1	8	2,270.00
59	14	3	11	4,185.96
60	65	8	57	20,781.40
61	31	1	30	9,618.04
62	31	1	30	9,268.24
63	31	9	23	9,599.32
64	35	3	32	11,376.44
65	62	10	52	21,466.92
66	49	9	40	15,793.40
67	46	6	40	16,273.04
68	35	3	32	11,664.04
69	47	6	41	18,290.89
70	410	49	361	172,298.27
71	38	14	24	13,113.24
72	30	15	15	10,314.80
73	18	3	15	6,008.76
74	14	5	9	5,382.12
75	9	4	5	3,249.56
76	13	6	7	4,544.60
77	8	4	4	2,851.80
78	7	6	1	3,002.32
79	3	0	3	973.96
80	3	2	1	1,072.84
81	1	1	0	630.00
82	4	1	3	1,134.84
83	1	1	0	300.00
87	1	1	0	276.28
	1,101	187	914	\$399,259.56

*Five teachers retired and withdrew to return to teaching; 4 disability recovered, 1 on waiver.

and to which 72% responded, it is revealed that the percentage taking an active part in life is almost as great as that for the general adult population. Fifteen per cent are employed for pay, but many more contribute to the ongoing of society by free work. Some hold public office, several write for publication regularly, a few have a private business, and about half continue to read and study for the accumulation of knowledge. A majority have a garden, 54% have hobbies, 53% are active club members, 86% attend church regularly and 84% help with housekeeping.

Many contribute to the welfare of others. Thirty-six per cent directly, 71% toward the support of the household; 81% through the payment of taxes. Seventy-four per cent own their homes or have a life interest in a home.

About 50% are enjoying reasonably good health, and comparatively few at this time are shut-ins. Only about 30% report that they are entirely dependent upon this retirement allowance; however, several have only a small supplement from savings which may be exhausted soon.

The aggregate annuity shown in Table Xa for living retirants to be \$335,635.10 is \$63,624.46 per year less than the amount calculated at retirement—\$399,259.56. This is an indication 15.9% favorable to the System. This influences the \$3,515,531.07 calculated to be the amount necessary to pay the retirement allowances of teachers retired at this time for life. There is a balance in the Allowance Reserve Fund of \$2,469,310.94 with \$300,000.00 to be added during the succeeding year and which is already appropriated for members retired July 1, 1949, and who are included in Table Xa and Table Xb. It should be noted that the balance in the Allowance Reserve Fund increased during 1948-49 by reason of interest in the amount of \$62,310.73, the transfer of funds from the Teachers' Savings Fund and State Accumulation Fund, for retiring teachers, plus the State's contribution for prior service; this in addition to the special appropriation of \$2,439,606.64 recommended by the Governor for the deficiency. The Funds and actuarial position of the System will be presented later in this Report under the heading **Financial**.

LEGISLATIVE

It is to be expected that there will be a great deal of proposed legislation dealing with retirement, tenure, and related subjects during the next General Assembly. There is plenty of "room for improvement" with reference to the Teachers' Retirement Act; but proposed legislation does not necessarily mean better conditions on the whole, although that may be the intention of the sponsor. The test of proposed legislation is in the question, "Does this proposed change ultimately benefit the pupil children of Kentucky?" If the answer is "no," the change is not justified; if the answer is "yes," further consideration, including probable cost, may be given to it.

If given the opportunity to do so, the Retirement Board, through its office staff and other resources, will evaluate proposed retirement legislation. The Board has approved the following principles as a guide:

1. That the benefits of the Retirement System are a part of the consideration for which a teacher trains herself and remains in the teaching profession.
2. That when a teacher retires, the present worth of the whole amount of her annuities, based upon life expectancy, should immediately be set up in the Allowance Reserve Fund and held for her benefit until death.
3. That in consideration of the advantages and provisions of the Retirement Act, the teacher-member make a definite contribution of salary monthly or annually.
4. That the State's contribution is not a gift or a pension, but a consideration for which the public gets "value received" due to the provisions of the Retirement Act and the contribution of the teacher.
5. That the Retirement Certificate, legally issued, constitute a valid contract with definite considerations by both parties—the member and the Commonwealth of Kentucky.
6. That the Retirement System shall be so supported and operated that it will be actuarially sound according to the best standards at all times.
7. That individual accounts be maintained for each teacher-member and that same together with aggregate matching contribution be held in trust for said teacher-member until his severance with the Retirement System by withdrawal of death or until his retirement.
8. That the account of one teacher cannot be used to pay the annuity of another teacher, but that maintenance of annuity payments shall be made through the Allowance Reserve Fund.
9. That if a greater annuity than the one now provided in the Retirement Act be authorized by the General Assembly, same be accompanied by an appropriation (temporary) sufficient to pay the increase.
10. That unless the State complies fully with Section 161.550, Kentucky Revised Statutes, the State will become delinquent in its obligation.

Ill-advised and "special case" legislation should not be allowed to "slip" through the General Assembly. No general law should be expected to take care of special cases. Care should be exercised that the features of the Act considered desirable and found to be practical remain intact. The fact that in nine years of operation no question has had to be referred to the Courts for settlement is evidence that the members and the State feel that the Law is just and applies with equity to all concerned; and that its administration has been reasonable. Many of the good points of the Law are not recognized by the profession. Some few are stated below:

1. The teachers elect four members of the Board of Trustees. Three of these members are teachers. The Superintendent of Public Instruction is the fourth professional (teacher) member. The teachers, through the Board, control the operation of the Retirement System. The State Treasurer and Attorney General, two important officers of the State, are also members of the Board of seven. This makes a strong and effective Board of Trustees, sympathetic toward the teachers; advised as to the law; and the safety of the retirement securities and funds.
2. Investments are made by the Board of Trustees. Since they are interested and directly responsible, the wisdom of this should be apparent.
3. All new teachers must come into membership. This gives strength through numbers and volume. The future of the young teacher is protected. The profession is practically 100% covered.
4. Our older teachers receive up to 30 years of prior service credit. If all had to enter the Retirement System without prior service credit, or to buy it, it would be many years before the System would be effective.
5. The state matches the teacher's contribution. This enables the teacher's contribution to be lower than it would be otherwise. The total of the teachers' and the state's current contributions is, therefore, 4%, 6%, and 8% of the salaries of the respective age groups, plus the state's 2% for prior service. For teachers in the 4% bracket, for example, approximately 10% is contributed.
6. The state assumes the obligation for prior service. For example, a certain teacher age 70 receiving \$400.00 per year paid to the Retirement System \$110.20. If she lives a normal length of life, she will receive \$4,221.00 plus interest. The state pays \$4,000.00 for her prior service.
7. If a teacher dies or leaves the profession before retirement, her contributions and interest are refunded.
8. The state pays all the cost of administration. This saves the teacher money.
9. After a teacher has 30 years of service credit, she may continue to pay her contribution, regardless of kind of employment, and receive an annuity from the age of 60 during life. This protects the faithful teacher who began teaching early in life.

10. By action of the Board of Trustees, optional plans of annuities may be provided for the aid of the retired teacher's dependents. The retired teacher would draw a smaller annuity, leaving a part of her reserve for someone designated by her and surviving her.
11. The funds of the Retirement System are in the hands of the Retirement System currently. The state matches teachers' contributions monthly. The appropriation is drawn upon quarterly for prior service.
12. The Retirement System is statewide in its scope and operation. This is cheaper and better than having many local retirement systems. A teacher can freely move from one school system to another in the state without loss of service credit or membership. The state accepts a reasonable amount of out-of-state service for credit.
13. The State Accumulation Fund is the same size as the Teachers' Savings Fund. Not all teachers will retire. The Matching Funds held for those who die or withdraw before retirement are paid into the Guarantee Fund instead of being a credit to the State's General Fund. This is a great advantage to the Retirement System and one many other systems do not have.
14. The Membership or Membership and Prior Service Certificate held by the teacher is a contract with the State.
15. Annuities of teachers retiring from year to year increase with accumulation of subsequent service credit until the maximum is reached in seventeen years of operation. This keeps the burden of cost from being too great for the state to pay its share in the early years of the Retirement System. If the maximum began at once, the liability of the state and Retirement would be so great as to make the Retirement System insolvent.
16. A teacher may retire for permanent disability at age 50 to 59 instead of the minimum age for superannuation.
17. The set up of the Retirement System is such that there can be no favoritism in the matter of granting annuities, or in the amount of the annuity granted. The impact of political patronage is eliminated. This makes for an efficient office staff, some of whom must be experts or specialists, and gives confidence to the individual member.
18. Individual (member) accounts are maintained in the Retirement Office. They are exempt from any tax and from attachment, garnishment, or assignment; thus guaranteeing that they will not be reduced or dissipated, but held for the benefit of the teacher, or his beneficiary, or estate.
19. If a member leaves her account in the System, she may be absent six full scholastic years. If a member withdraws and returns by age 36, she may reach the maximum retirement allowance by age 70. The young teacher may reach the maximum by age 64.
20. The Kentucky System is a reserve system and is actuarially sound.

Since the Kentucky General Assembly last met, many states have improved their Teachers' Retirement Systems. Already in nine years the Kentucky System has been greatly improved by legislation. This is reflected (1) in the increase in the state's obligation for prior service from \$3,863,715.65 in 1941 to \$8,807,026.17 in 1948. This is significant for the experienced teachers of the state. At this time it is being liquidated regularly. (2) In the change of amount of benefits which emphasized retirement at certain ages to a smooth curve of benefits actuarially equal for all ages. (3) In the increase in the percentage of contribution upon reaching age 30 and age 40; fully matched by the state and supporting better retirement allowances. (4) In the return to Kentucky of teachers who have gone to other states by reason of the excellent reciprocity feature of the Law. These enactments (amendments) came in 1946. In 1948 the System received a special appropriation of \$2,439,606.64.

So far, the Kentucky General Assembly has seen fit to make substantial improvements in the System.

Another measure of the progress made is in the Actuarial Valuation of 1941 as compared with that of 1948; they being respectively \$16,606,854.28 and \$46,682,907.09, an increase of 281%. Teachers who remark that the Retirement System is twice as good as in the beginning are correct in their evaluation.

In anticipation of proposed legislation, the Board has caused certain studies and calculations to be made. In the meeting February, 1949, the items so designated below were approved in principle by the Board. This indicates that the Retirement Board is of the unanimous opinion that legislation of these items is desirable.

1. That the minimum retirement allowance for 30 years of service be increased from \$25.00 per month (rate) to \$40.00 per month, for all retired teachers and all who will retire in the future. This means a minimum retirement allowance of \$16.00 per service credit year up to 30 years instead of the present \$10.00; a retirement allowance of \$480.00 for the present \$300.00. The proviso stated by the Board is "if and when the Legislature makes provision on an actuarially sound basis." In order that the Legislature may have a sound basis for action, the cost for 1950-52 has been calculated to be for 1950-51 an increase of \$120,000.00 and for 1951-52 an increase of \$130,000.00.

On September 30, 1948, there were 381 annuitants receiving exactly \$300.00 and 81 annuitants receiving between \$300.00 and \$401.00 per year. If this legislation had been in force in 1948-49, 81% of all retired teachers would have received at least some increase in their retirement allowances. During these economically inflated conditions, \$25.00 per month is in many cases too low. An increase to \$40.00 appears to be justified and especially since (1) the annual aggregate cost is not so great, and (2) in course of time fewer and fewer retirants will receive allowances below \$480.00 as calculated by the formula. This would, of course, increase the state's obligation for prior service above the present contribution of \$300,000.00 per annum. This could be taken care of as a special item in the succeeding Biennial Budgets, or by increasing the \$300,000.00 by the calculated requirement.

Since many who are not career teachers can, under the present Law, qualify for a retirement allowance, no blanket minimum should be set. It would be far more expensive and would have other undesirable results. The minimum should be predicated upon the years of service and with a maximum number of years as a basis. This also makes for fairness among the teachers; they expect years of service to have dominant influence. This item is first on the basis of need.

2. That the larger retirement allowance be provided by increasing the members' contributions; the amount upon which she may contribute, and by increasing the state's contribution to match this greater amount contributed by members. Calculations of current cost have been made on the basis of an increase of 1% in each age bracket and upon a maximum of \$3,000.00 instead of upon \$2,400.00 the present maximum.

For the member under age 30 the proposed annual contribution would be 3%, but not over \$90.00; for those 30 to 39, inclusive, 4%, but not over \$120.00; for those age 40 and older 5%, but not over \$150.00; all to be matched by the state as at present.

At the beginning increases in the retirement allowances would be larger proportionably than the corresponding reserve consisting of accumulated accounts of member and state, but in course of time the reserve behind each annuity granted would be substantially increased.

The maximum retirement allowance would be increased from \$1,200.00 to \$1,500.00; and there would be a similar increase all along the line by means of a new value for subsequent service greater than 1½% per year. At the proper time the Actuary can determine these values. This proposal together with the proposal for increasing the minimum to \$480.00 would constitute an improvement beyond the greatest expectations of teachers of a few years ago.

It would place Kentucky in a comparable position with regard to annuities paid by the states around her. Since the state of Kentucky does not compete in salaries with other states, it is all the more imperative that more attractive retirement allowances be provided if possible. A few million dollars so invested should have a marked effect.

For such an improvement the cost to the state must be taken into consideration. Any general increase in salaries would, of course, result in increased contributions and a larger requirement for matching same.

To provide for raising the ceiling on contributions from \$2,400.00 to \$3,000.00 with present percentage rates, the cost to the state for "matching" would be \$74,334.00 annually, under present salary schedules.

The cost to the state for "matching" an increase of 1% in all brackets would be \$345,000.00 per year under present salary schedules. If the per capita or local revenue for teachers' salaries

is increased, the above costs would be \$44,000.00 too low per million dollars of increase. All the calculations are based upon present salary conditions; if conditions change, adjustment at the rate of \$44,000.00 for each million dollars of change should be made. It has been requested by many teachers and their organizations that the contributions of all be increased to the amount required to provide \$1,200.00 per year at age 65. For young teachers coming into the profession now the maximum of \$1,200.00 will be reached by age 64, under the present Law. For teachers with prior service credit, the maximum is reached later in life and often not attainable since retirement is compulsory at age 70.

The above proposals would greatly alleviate the situation for the experienced members allowing a greater percentage of them to receive \$1,200.00 upon retirement, and those under the age of 53 July 1, 1940, and who have taught regularly, to receive \$1,500.00 at 70 and earlier, to age 64 depending upon the relationship of subsequent service to total amount of service.

It is not possible to present this in satisfactory general terms since each teacher's case is different. Suffice it to say that these above proposals approved in principle by the Board have been given thoughtful consideration and much study and are calculated to be within the financial reach of members and state and at the same time meet the needs of teachers on all the essential points raised by them.

3. The Board of Trustees also approved in principle the lowering of the required age for retirement for disability. The present age is 50. The present service requirement is 20 years with the last five years taught consecutively. In thinking of this proposition, permanent retirement should be kept in mind and not sick benefits. No contribution is made for sick benefits. Such coverage does not come within the scope of an annuity system.

It appears to us that if the service requirement of 20 years is held, the age requirement of age 50 might be eliminated. This would increase the member retiring for disability about 10%, that is, instead of 100 retirants for disability there would be 110.

A cross-section of other states shows service requirements only (no age requirement) to be as follows: Alabama 10 years; Arizona 15 years; Colorado 15 years; Connecticut 10 years; Florida 10 years; Georgia 15 years; Illinois 10 years; Indiana 10 years; Kansas 15 years; Louisiana 10 years; North Carolina 10 years; Ohio 10 years; Tennessee 10 years; and Virginia 20 years.

Oklahoma has no provision for retirement for disability and Missouri only an age requirement of 40 years.

There are several proposals that have been brought to the attention of the Board or Secretary which merit a more detailed discussion than space will permit.

The most popular one is retirement after 30 years with an annuity of \$1,200.00. A teacher entering the profession at age 23 or younger would have served 30 years by age 53. Her accumulated account under the present Law at age 53 would be \$3,541.85; twice her account \$7,083.70. This is the amount available under present rate of contributions to pay

an annuity of \$1,200.00 which at age 53 would require a reserve of \$20,-158.61. To accumulate a reserve of the required amount would require contributions at approximately three times the rate in the present Law. Almost all teachers enter the profession before age 24. At age 53 the life expectancy is 26.35.

If teachers entered the profession at say age 36, taught 30 years, and retired at age 66, the problem would not be so difficult. Twice the member's accumulated account would be \$8,955.48 compared with a needed reserve of \$14,426.53 for an annuity of \$1,200.00. It is the early retirement—retirement during the productive years—that is expensive. This is mainly because of two factors: 1. Great life expectancy at early years. 2. A professional career cut shorter than normal by early retirement.

Teachers entering the profession at age 23 or younger and teaching regularly to age 64 will be eligible to receive \$1,200.00 under the present Law and with reasonable contributions. The natural and normal thing that is done makes attainable the desired goal of \$1,200.00 before the average age for retirement.

There has been great interest in including nonprofessional and non-certificated employees in the Teachers' Retirement System merely by defining them as teachers. In Kentucky there is one such employee for every three teachers. No doubt such employees, previously deprived of Social Security coverage, should have protection from some source.

The idea that they may now, nine years after, be included in the Teachers' Retirement System by calling them "teachers" should be further considered. They are not teachers and the same set of principles do not apply to such cases, as apply to teachers. If these employees are taken into the Teachers' Retirement System, it should be as a separate section, or membership group, with contribution rates and retirement benefits more suitable to their needs.

Lowering the compulsory retirement age to 65 is often mentioned as a desirable change. Six states have compulsory retirement at age 65, but in every case extension may be had to age 70. It is not really compulsory in any of the six states. This should answer this question. Life expectancy at age 65 is 17.55 years. Long periods of forced inactivity are detrimental to the individual and to the social order. It is difficult to finance normal retirement; very difficult to finance a retirement arbitrarily made longer than necessary.

Twelve states have no compulsory retirement age. This is not recommended either. The modal compulsory retirement age for all states is 70; the same as for Kentucky.

The term "reciprocity" is a little unfortunate as now used to describe the relationship of state retirement systems. They are no more related than the many life insurance companies in the United States.

This is so little understood by teachers that many are not able to profit by the laws of those states accepting out-of-state service for credit.

The "transfer" of service credit concerns only the state receiving it. It is not a "transfer" at all. The state giving credit must have a certified report of the service. It does not usually come from a retirement system, but from school authorities.

The "arrearages" or contributions to be paid for the validation of the service have no connection with the member's contribution in the

state of her previous service. In some cases the old account should not be withdrawn. If there are vested interests, or if interest will vest at a certain age, it is usually best to leave the account in and accept the annuity in lieu of the refund. This does not prevent the acceptance of such service for credit elsewhere. In every case the teacher should investigate by writing the retirement systems concerned.

The Kentucky Law is considered one of the best.

Some members suggest that the member's accumulated account for subsequent service be returned to her upon retirement on a strictly actuarial basis instead of at the rate of 1½% of salary per year of service. If this were done at this time, or in the near future, it would reduce considerably the retirement allowances now payable. The greatest accumulated account for subsequent service for any recently retired teacher is \$765.53. This divided by \$10.55296, the amount needed to pay an annuity of \$1.00, gives \$72.54; whereas, under the present Law such a teacher receives an annuity of \$268.80 for her subsequent service credit.

**Table A. Showing the Age at Which the Accumulated Accounts Equal Necessary Reserve: Contributions 2%, 3%, and 4%;
Age 23, Salary \$2400.00**

Age	Annual Contribution	Twice Accumulated Account	Retirement Annuity	Reserve Needed
23-30	\$48.00	\$ 757.44		
30-40	72.00	2,718.64		
50	96.00	5,921.37	\$ 719.77	\$12,852.00
55		7,913.00	853.06	13,719.00
60		10,221.53	986.35	14,057.00
65		12,896.99	1,200.00	14,872.00
66		13,475.90	1,200.00	14,427.00
67		14,078.51	1,200.00	13,983.00
68		14,695.87	1,200.00	13,541.00
69		15,331.39	1,200.00	13,101.00
70		15,985.97	1,200.00	12,664.00

By entering the profession at age 23, the maximum retirement allowance is reached at age 64; at age 24, at age 65; entering at age 30, at age 67; entering at age 36, \$1200.00 at age 70.

The accumulated accounts equal the necessary reserve, in case the member enters under age 24, at age 67.

If the \$1200.00 limit is removed, the allowance at 70 would be \$1692.00 on a salary of \$2400.00; smaller amount for preceding ages down to \$1200.00 at age 64.

Under the present Law the accumulated accounts would support an allowance of \$1514.83; \$176.17 under the 1½% per year feature of the Law.

The credit of 1½% per year (of salary) far exceeds the actuarial value of the contribution and interest at this time. At sometime in the future such a change might be desirable.

For the teacher paying an a small annual contribution, the loss for her would be still greater.

In every case the member who retires early, or with a short membership, even though she receives a comparatively small retirement allow-

ance, is expensive for the Retirement System and the State. Time, in which to accumulate interest, is essential to the actuarial soundness of the System or any annuity system.

Reference is made to the Eighth Annual Report for a further discussion of proposals for changes in the Law.

ACTUARIAL

Since at the close of 1949-50, the end of the second five-year period, a thorough investigation of the Retirement System is to be made under Section 161.400, by the Actuary, no evaluation was made for 1948-49. However, the Actuary of the System was available for consultation and his advice was sought as needed.

With his permission the last Valuation Balance Sheet of July 1, 1948, is revised to show cash balances in Current Assets; but no revision is made in Deferred Assets. The purpose of this is to show the present cash position of the System July 1, 1949, in relation to Deferred Liabilities as of July 1, 1948. The reader is respectfully referred to the Eighth Annual Report, pages 31 to 37, inclusive. The financial position of the System improved during 1948-49. This is the second year during which members' contributions exceeded one million dollars.

In a recent study made by the Faculty Council Committee on Retirement, Western Michigan College, the following states are reported as operating Teachers' Retirement Systems on a full-reserve basis and at full actuarial strength: Arizona, Georgia, Kentucky, Louisiana, Maine, New Jersey, New York, North Carolina, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, and Washington. This should not, however, be taken to mean that states not listed are operating unsound retirement systems.

The Valuation Balance Sheet, herein discussed, prepared as of July 1, 1948, reflects a very satisfactory financial outlook, and shows a very substantial improvement in the financial soundness of the Retirement System as compared with the last preceding Balance Sheet made as of December 31, 1946. The figures going into the makeup of this Valuation Balance Sheet have, of course, increased substantially due to the changes that have occurred in the membership characteristics, statistical data, and the element of elapsed time since December 31, 1946. However, the financial showing, from a technical standpoint, is very much more satisfactory, which fact should be gratifying indeed to those responsible for the administration of the System, as well as to the members and beneficiaries whose future interests are so dependent upon the financial stability of the plan of operation underlying the Retirement System. The manifest interest shown and the very real help extended to the Retirement System by the Governor of the Commonwealth of Kentucky and the General Assembly with respect to the special appropriation to supplement the State's accrued Prior Service obligation due retired teachers was very outstanding. It is a source of gratification to your actuary to see that many of the recommendations made in previous reports have been favorably acted upon.

Respectfully submitted,

L. C. CORTRIGHT

Actuary

L. C. CORTRIGHT, ACTUARY

Kentucky Teachers' Retirement Law as Amended July 1, 1946

VALUATION BALANCE SHEET—JULY 1, 1949

(On basis of assumed retirement at age 65)

ASSETS

Current Assets, (technical position as of 7-1-49)

Cash	\$ 426,751.96
Underpayments due from Districts	6.80
Bond Investments	14,625,000.00
Unamortized Premiums	87,103.36
Accrued Interest on Bonds Purchased	360.31
Furniture and Fixtures	17,661.08

Less—Items Out-		
standing	} See Liabilities \$	\$15,156,883.51
Encumbrances ..		
Due Districts		
Net Current Assets, (Technical position as of 7-1-49)		<u>\$15,156,883.51</u>

Deferred Assets: (Present Value on 3% interest assumption, etc.)

Present Value Teachers' Contributions , mandatory by reason of Subsequent Service, 7-1-48, (A')	\$11,402,536.88
Present Value State's contributions mandatory by reason of Subsequent Service, 7-1-48 (A'')	11,402,536.88
Indicated deficiency from future Subse- quent Service contributions (no covering provision in Act)	<u>4,556,478.04</u>
Deferred Assets mandatory by reason of Subsequent Service	<u>\$27,361,551.80</u>

Actuarial Reserve Deficiency:

Deferred obligations of the Common- wealth of Kentucky. Present Value Accrued obligation mandatory by reason of Prior Service, 7-1-48:	
Active Members	\$ 4,608,727.66
Members eligible to retire	1,281,370.54

\$ 5,890,098.20

Current Asset Deficiency:

Present Value of Accrued Prior Service obligation due retired teachers, 7-1-48	\$ 2,916,927.97
Less: State's Prior Service Contributions (net available 7-1-48)	<u>2,367,816.16</u>

Net Allowance Reserve Fund Deficit, 7-1-48	549,111.81
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Deferred Assets mandatory by reason of Prior Service	<u>\$ 6,439,210.01</u>
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TOTAL ASSETS	<u>\$48,957,645.32</u>
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L. C. CORTRIGHT, ACTUARY

Kentucky Teachers' Retirement Laws as Amended July 1, 1946

VALUATION BALANCE SHEET—JULY 1, 1949

(On basis of assumed retirement at age 65)

LIABILITIES

Current Liabilities, (technical position as of 7-1-49)

Outstanding Items:

Overpayments due Districts	\$ 9.49
Encumbrances	821.23

\$ 830.72
18,071.99

Expense Fund
Teachers' Savings Fund—

Accumulated contributions by reason of Subsequent Service, 7-1-49 ..	6,066,578.79
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State Accumulation Fund—
Accumulated contributions (State) by reason of Subsequent Service, 7-1-49

6,066,485.40

Allowance Reserve Fund:

Retired teachers' S.S. contributions with accumulated interest, 7-1-49—\$	7,515.89
State S.S. contribution, Retired Teachers with accumulated interest, 7-1-49	58,125.22
State P.S. contributions, Retired Teachers, 7-1-49	2,403,669.83
Guarantee Fund, 7-1-49	2,469,310.94
	<u>535,605.67</u>
Current Liabilities, (technical position as of 7-1-49)	<u>\$15,156,883.51</u>

Deferred Liabilities: (Present Value on 3% interest assumption, etc.)

Present Value Benefits mandatory by reason of Subsequent Service active members, 7-1-48, (B')	\$27,202,648.37
Present Value Benefits mandatory by reason of S.S., members eligible to retire 7-1-48, (B''')	158,903.43

Deferred Liabilities mandatory by reason of S.S. (B' plus B''')

\$27,361,551.80

Present Value Benefits mandatory by reason of Prior Service, 7-1-48:

Active Members (B)	\$ 4,608,727.66
Members Eligible to retire (B'')	1,281,370.54
Present Value Benefits mandatory by reason of Prior Service—Retired Teachers (B''')	\$ 2,916,927.97
Less: State's Prior Service Contributions (net available 7-1-48)	2,367,816.16

549,111.81

Deferred Liabilities mandatory by reason of Prior Service

\$ 6,439,210.11

TOTAL LIABILITIES

\$48,957,645.32

FINANCIAL

A teachers' retirement system should have, as an annuity system, two chief characteristics: 1. The creation of reserves during the active career of the teacher (member), and 2. The accumulation of interest on safe investments. Your Retirement System has these characteristics. The member's contribution matched by the state monthly is a very important feature. These funds are promptly invested and in the course of the career of the member the interest should provide approximately 50% of the reserve needed. This is economical for the member and the taxpayer, and is much more desirable than the plan of matching the member's contribution at time of retirement.

A full reserve system kept actuarially sound provides security and at the same time is less expensive. The certainty of the payment of the retirement allowance immeasurably increases its value.

The fiscal management of the Retirement Funds is unchanged from last year. Present conditions are responsible for an accumulation of investments due December 15, 1972. As of June 30, 1949, there were held \$8,200,000.00 U. S. Treasury Bonds due on that date, and more will be added in the future. At this time effort must be made to earn a return of 2.3% and this is the only issue available which will produce so large a return. The average net yield of 2.466% is had now only because of the large amount of such bonds bought at par during the war.

The yield on voted municipal bonds is so low as to preclude their use as investments at this time. The U. S. Treasury Department has been requested to permit a greater amount to be invested annually in Series "G" Bonds and the Department advises that the matter is under investigation. The present ceiling is \$100,000.00 per year.

Schedule I INVESTMENTS HELD Teachers' Retirement System June 30, 1949

Name and Description	Par Value	Net Yield
U. S. Savings Bonds, Series "G"	\$ 1,750,000.00	2.500%
U. S. Treasury 2½%, Series A-1965	250,000.00	2.500%
U. S. Treasury 2½%, 6/15/1962-67	225,000.00	2.500%
U. S. Treasury 2½%, 12/15/1963-68	1,000,000.00	2.500%
U. S. Treasury 2½%, 6/15/1964-69	550,000.00	2.500%
U. S. Treasury 2½%, 3/15/1965-70	700,000.00	2.500%
U. S. Treasury 2½%, 3/15/1966-71	450,000.00	2.500%
U. S. Treasury 2½%, 6/15/1967-72	1,450,000.00	2.490%
U. S. Treasury 2½%, 12/15/1967-72	8,200,000.00	2.442%
Owensboro School Bonds, 1/1/1969	30,000.00	2.350%
Owensboro School Bonds, 1/1/1970	20,000.00	2.350%
Total Par Value	\$14,625,000.00	
Unamortized Premium	87,103.36	
Accrued Interest Purchased	360.31	
Total Invested	\$14,712,463.67	
Average Net Yield		2.466%

**Table A—Distribution of Appropriations
July 1, 1940, to June 30, 1949**

Year	Appropriation	Operating Expense	State Accumulation Fund		Reverted to General Fund
			To Match Teachers' Savings	For Prior Service	
1940-41	\$ 500,000.00	\$ 23,669.88	\$ 476,089.49	\$ 0.00	\$240.63
1941-42	500,000.00	18,232.93	481,713.03	0.00	54.04
1942-43	650,000.00	22,317.03	559,672.98	68,007.63	2.36
1943-44	650,000.00	24,633.20	546,161.42	79,205.38	0.00
1944-45	799,000.00	25,908.68	646,559.38	126,531.94	0.00
1945-46	823,000.00	31,390.43	658,004.24	133,605.33	0.00
1946-47	956,000.00	36,039.67	867,222.82	52,737.51	0.00
1947-48	956,000.00	36,409.41	867,231.00	52,359.59	0.00
1948-49	3,915,581.64	41,500.00	1,247,770.36	2,626,311.28	0.00
	\$9,749,581.64	\$260,101.23	\$6,350,424.72	\$3,138,758.66	\$297.03

List of Applicants to be Approved for Retirement and Annuity
Effective First Quarter 1940-50
July 1, 1949

District or Institution	No.	Age	P. S.	S. S.	P. S. Sal.	S. S. Sal.	Annuity	Member's Contribution	Reserve
COUNTY									
Adair County	78	70	30	8	\$ 1,248.30	\$ 1,310.80	\$ 531.80	\$ 414.10	\$ 5,612.00
Ballard County	298	70	29	8	453.01	1,045.15	300.00	329.04	3,166.00
Ballard County	321	70	30	8	588.92	951.45	300.00	326.91	3,166.00
Bell County	607	69	30	8	511.00	1,080.00	300.00	340.50	3,275.00
Bell County	676	67	24	8	681.66	1,423.45	302.84	444.58	3,529.00
Bracken County	17293	65	30	3	754.40	909.17	300.00	165.81	3,718.00
Breathitt County	21433	67	25	6	532.00	911.50	300.00	220.57	3,496.00
Breathitt County	22989	54	23	5	437.44	668.75	280.00	147.96	4,604.00
Breckinridge County	1119	70	23.3	6.9	540.04	938.75	300.00	279.01	3,166.00
Breckinridge County	23577	60	20	5	596.40	754.00	250.00	159.80	3,563.00
Breckinridge County	23511	64	25	5	471.80	768.80	300.00	162.74	3,829.00
Butler County	1304	50	22	8	504.16	1,100.20	300.00	346.77	5,355.00
Caldwell County	23130	70	8.4	5.1	293.20	651.11	125.00	160.06	1,425.00
Calloway County	1517	59	21	8	434.52	808.55	290.00	272.56	4,240.00
Carter County	20726	58	16.3	6.2	420.80	1,037.90	225.00	259.73	3,373.00
Carter County	23665	70	21	1	513.47	1,080.00	220.00	43.94	2,322.00
Christian County	1915	61	30	8	613.41	1,045.37	300.00	346.40	4,160.00
Clay County	22215	62	21.7	5	414.20	952.55	267.00	202.94	3,607.00
Clay County	2202	58	16.6	6.5	449.44	837.00	231.00	238.68	3,462.00
Daviess County	2455	62	30	8	1,414.60	2,211.65	538.84	750.14	7,279.00
Fleming County	3089	59	25.6	8	525.78	908.23	300.00	317.10	4,386.00
Floyd County	3123	52	22.9	7.6	533.97	938.05	300.00	298.92	5,146.00
Franklin County	22170	65	30	4	1,911.60	1,398.75	559.80	256.73	6,938.00
Gallatin County	21610	70	28	6.6	455.10	943.25	300.00	229.13	3,166.00
Garrard County	3615	70	26	8	579.39	1,546.20	336.20	464.11	3,548.00
Graves County	3835	65	30	6.6	572.22	860.40	300.00	260.89	3,718.00
Grayson County	23833	70	30	7	385.00	859.45	300.00	229.85	3,166.00
Grayson County	21346	70	13.7	6.9	455.00	807.92	206.00	221.85	2,174.00

List of Applicants to be Approved for Retirement and Annuity—Continued
Effective First Quarter 1949-50
July 1, 1949

District or Institution	No.	Age	P. S.	S. S.	P. S. Sal.	S. S. Sal.	Annuity	Member's Contribution	Reserve
COUNTY—Continued									
Grayson County	21445	61	14	7	492.80	863.01	210.00	236.00	2,915.00
Greenup County	22610	70	10	4	396.00	831.00	140.00	139.56	1,477.00
Harrison County	4696	70	28.5	8	651.96	1,222.25	332.48	400.83	3,509.00
Harrison County	4726	63	14	8	893.49	1,613.40	256.00	528.72	3,363.00
Hart County	23772	70	29	1	1,063.80	1,600.00	332.52	64.76	3,509.00
Jackson County	5328	70	28	8	420.00	956.25	300.00	305.32	3,166.00
Jackson County	23854	55	28	5.7	431.20	977.05	300.00	229.25	4,825.00
Jefferson County	5692	70	30	8	1,296.00	2,193.60	652.04	748.80	6,881.00
Johnson County	22875	66	16	5	467.32	783.75	210.00	169.46	2,525.00
Knott County	6028	62	28.7	4	508.27	744.88	300.00	153.37	4,053.00
Knox County	6223	62	21.3	8	501.53	900.24	293.00	281.55	3,958.00
Lawrence County	22018	70	26.8	5	490.20	911.75	300.00	136.07	3,166.00
Leslie County	6880	67	30	5.9	485.94	1,173.90	300.00	288.40	3,496.00
Leslie County	23841	51	21.7	5	427.20	688.40	267.00	151.12	4,673.00
Letcher County	23450	60	15	6	666.20	859.20	210.00	210.76	2,993.00
Lincoln County	7388	70	30	8	678.40	1,199.10	347.40	293.48	3,666.00
Livingston County	7504	69	30	8	532.00	952.55	300.00	353.86	3,275.00
Logan County	7539	70	25	8	467.41	809.55	300.00	263.12	3,166.00
Logan County	7657	69	30	8	637.06	1,043.75	305.80	350.13	3,338.00
Madison County	7855	70	30	8	717.92	1,153.60	353.80	388.14	3,734.00
Magoffin County	7873	55	27	8	392.00	730.00	300.00	241.20	4,825.00
Magoffin County	21906	62	25	7.3	602.00	1,260.00	300.00	358.31	4,053.00
McCracken County	23059	60	21.6	5	369.60	789.15	266.00	173.82	3,791.00
McCracken County	23061	52	20	5	630.00	872.85	250.00	192.26	4,288.00
McLean County	8662	55	12.1	8	502.42	1,008.15	201.00	319.61	3,233.00
Menifee County	11664	70	—	1	0.00	1,274.00	100.00	51.51	1,055.00
Morgan County	9171	60	27	6.5	348.60	709.55	300.00	200.51	4,275.00
Nicholas County	9580	70	30	8	689.86	1,072.70	335.68	361.03	3,542.00

Ohio County	19905	69	24.8	8	719.60	1,054.00	300.00	308.58	3,275.00
Owsley County	22120	52	15	6	439.60	837.50	210.00	205.76	3,602.00
Pendleton County	9993	65	29	8	600.00	839.65	300.00	290.46	3,718.00
Pike County	23297	62	22	6	592.80	1,182.50	280.00	283.31	3,782.00
Pike County	10345	50	16.8	7	632.03	1,027.95	238.00	327.16	4,248.00
Pike County	10513	64	30	7.7	645.37	1,513.37	305.20	456.73	3,896.00
Pike County	10515	69	27.1	8	560.84	1,393.60	308.56	406.91	3,369.00
Pike County	10563	57	22.7	5.6	601.74	1,258.40	283.00	310.79	4,345.00
Pulaski County	10834	65	30	8	452.60	917.00	300.00	299.86	3,718.00
Pulaski County	23156	65	20.1	5	386.00	931.52	251.00	198.91	3,111.00
Pulaski County	23331	70	30	7	960.00	1,290.00	423.44	341.59	4,469.00
Rockcastle County	11109	60	17	8	1,280.00	1,632.00	306.16	629.03	4,363.00
Rowan County	11233	70	18.1	8	623.30	1,096.95	261.00	369.70	2,754.00
Rowan County	9230	61	24	6	435.27	695.15	300.00	200.52	4,164.00
Spencer County	21398	70	8.8	6	283.00	960.55	148.00	234.33	1,562.00
Taylor County	22447	61	22	5	363.16	694.70	270.00	149.12	3,589.00
Taylor County	23850	70	22	1	380.60	776.00	230.00	31.22	3,423.00
Trigg County	11769	68	30	8	486.60	834.60	300.00	281.25	3,385.00
Union County	11894	60	30	6	793.81	927.60	300.00	289.48	4,275.00
Whitley County	12574	70	30	8	397.60	1,004.00	300.00	295.76	3,166.00
Wolfe County	9151	68	30	8	398.90	924.50	300.00	282.27	3,385.00
INDEPENDENT									
Bevier-Cleaton	21865	60	15.3	7	640.24	1,262.90	223.00	334.08	3,178.00
Catlettsburg	18723	70	30	8	1,224.00	1,718.70	573.44	613.87	6,051.00
Covington	13335	66	29	8	1,692.30	2,240.00	666.76	815.64	8,016.00
Cynthiana	13917	70	17	8	816.00	1,527.20	322.00	494.94	3,298.00
Dawson Springs	14000	70	30	8	769.20	1,304.95	387.36	442.95	4,088.00
Dayton	14027	65	30	8	1,565.00	2,200.00	624.60	795.86	7,741.00
Falmouth	14185	60	27	8	826.47	1,450.45	300.00	479.38	4,275.00
Fort Thomas	14233	60	29	8	2,000.00	2,240.00	623.52	868.38	8,957.00
Fort Thomas	14248	69	30	8	2,000.00	2,240.00	839.80	868.36	9,168.00
Georgetown	14430	67	30	7	942.59	1,299.00	379.64	431.46	3,796.00
Greenup	14507	70	30	8	734.40	1,347.75	381.04	462.64	4,021.00
Lancaster	15117	70	30	8	850.32	1,297.00	410.76	460.22	4,335.00
Lancaster	3588	66	26.5	8	732.16	1,375.40	315.20	477.26	3,789.00
Lexington	15314	70	6	8	900.00	1,431.60	225.80	496.21	2,383.00
Lexington	15344	69	30	8	1,435.00	2,153.00	665.88	785.46	7,517.00
Lexington	15420	70	27	8	1,640.00	2,193.00	705.96	801.33	7,450.00

Effective First Quarter 1949-50
July 1, 1949

District or Institution	No.	Age	P. S.	S. S.	P. S. Sal.	S. S. Sal.	Annuity	Member's Contribution	Reserve
INDEPENDENT—Continued									
Lexington	15430	67	16	8	746.00	1,098.40	240.00	401.16	2,797.00
Lexington	15464	60	30	8	1,630.00	1,780.00	520.28	719.06	7,415.00
Louisville	16079	70	30	8	1,600.00	2,236.00	748.32	811.22	7,897.00
Louisville	16742	70	30	8	2,000.00	2,240.00	868.80	869.93	9,168.00
Louisville	15626	70	30	8	2,000.00	2,240.00	868.80	869.86	9,168.00
Louisville	15629	70	26.2	8	1,800.00	2,240.00	740.40	847.41	7,813.00
Louisville	15639	70	30	8	1,935.00	2,240.00	849.32	869.95	8,963.00
Louisville	16207	70	30	8	2,000.00	2,240.00	868.80	869.92	9,168.00
Louisville	16671	70	30	8	1,995.00	2,240.00	867.32	869.84	9,153.00
Louisville	16031	70	30	8	1,985.00	2,240.00	864.32	869.84	9,121.00
Louisville	16225	70	30	8	2,000.00	2,240.00	868.80	869.86	9,168.00
Louisville	16590	70	30	8	1,940.00	2,240.00	850.80	869.84	8,978.00
Louisville	15605	63	30	8	1,600.00	2,240.00	601.60	814.35	7,903.00
Louisville	15831	70	30	8	1,980.00	2,240.00	862.80	869.86	9,105.00
Louisville	16392	69	30	8	2,000.00	2,240.00	868.80	855.78	9,168.00
Maysville	17298	70	30	8	1,700.00	2,096.00	761.52	782.04	8,036.00
Mt. Sterling	17488	60	30	8	1,202.80	1,531.00	403.24	564.24	5,747.00
Mt. Vernon	17500	60	29.1	7	1,840.00	2,000.00	552.00	742.01	7,867.00
Newport	17694	69	30	8	1,978.00	2,240.00	833.44	853.95	8,348.00
Owensboro	17725	70	30	8	1,270.00	2,186.50	643.40	748.01	6,790.00
Owensboro	17729	70	24.5	8	795.81	1,227.50	342.28	431.04	3,612.00
Owensboro	17858	66	30	9	984.60	1,757.70	444.44	592.60	5,431.00
Paris	18136	70	30	8	900.00	1,500.00	450.00	502.30	4,749.00
Pikeville	18204	69	25	7	1,143.00	1,593.00	437.92	509.36	4,781.00
Science Hill	18519	59	27.7	8	680.21	1,342.80	300.00	441.75	4,386.00
Sharpsburg	18559	62	30	8	628.95	1,157.50	300.00	388.34	4,053.00
Somerset	18619	70	13	8	857.60	1,350.45	273.56	474.80	2,887.00
Southgate	18670	70	30	8	1,012.00	1,695.20	507.04	572.93	5,351.00
South Portsmouth	18684	67	30	8	444.77	1,336.30	300.00	419.28	3,496.00
Versailles	18808	69	30	8	599.60	1,244.45	318.24	395.40	3,473.00
Ky. School for Deaf	18994	70	30	8	1,284.00	1,827.00	604.44	671.92	6,379.00
Murray State College	19175	65	30	8	2,000.00	2,240.00	739.80	871.69	9,168.00
Grand Total			3,182.9	884.5	\$ 110,382.85	\$ 167,414.32	\$ 49,990.78	\$ 553,692.09	\$ 596,560.00
Grand Average		65.4	25.27	7.03	\$ 883.06	\$ 1,339.31	\$ 399.21	\$ 413.54	\$ 4,772.48

The balance in the Guarantee Fund is \$581,205.67. This is also invested and interest thereon helps to guarantee a 3% system. During the year 1948-49 the Retirement System earned on investments \$318,688.22. Other receipts of the Guarantee Fund aggregated \$169,017.48. The Fund is in excellent condition.

The Teachers' Savings Fund closed the year, June 30, 1949, with a balance of \$6,043,788.79. This includes \$129,798.69 interest added to members' accounts at the rate of 3% per annum on monthly balances. Teachers' Savings, including reinstatements, amounted to \$1,107,273.67. Withdrawals are comparatively large, \$152,877.90; and for deaths over \$18,000.00 aggregating a loss of \$171,151.84 refunded during 1948-49. An account is maintained for each member and interest on the old balance for the preceding month added each month.

The State Accumulation Fund holds in trust a like amount, and surpluses resulting from refunds paid from the Teachers' Savings Fund are transferred monthly to the Guarantee Fund. The balance in the State Accumulation Fund is \$6,043,685.40. Interest in the amount of \$129,798.69 was added to the State Accumulation Fund and it is in balance with the Teachers' Savings Fund.

The Allowance Reserve Fund balance of \$2,469,310.94 on June 30, 1949, was comprised of \$7,515.89 contributed by teachers who have retired; \$58,125.22 contributed by the State as a matching contribution and \$2,403,669.83 contributed by the state for prior service. The balance of the Teachers' contributions is small because retirement allowance checks are charged to the member's contribution first until it is exhausted and then to the matching contribution and last to the contribution for prior service. This is a bookkeeping device to meet the requirements of KRS 161.650.

At this time the accumulated account of the retiring member will pay her retirement allowance for approximately one year. Reference is made to **List of Applicants to be Approved for Retirement and Annuity Effective First Quarter 1949-50**. A study of the data presented should contribute to a better understanding of the Retirement System.

The first retirant on the list is typical. For her contribution of \$414.10, including interest, she receives \$531.80 per year for life. Her life expectancy is 14.40 years. Assuming the unexpended balance of her reserve earns 3% compound interest, it will require at present worth \$5,612.00 to maintain her annuity for life using both principal and interest. This member, as well as all others presented, contributed 4%. It is but a token contribution and the burden of her retirement allowance must be borne by the Retirement System. The member's contribution, in such cases where years of membership are limited, can never pay a substantial part of the cost of an annuity. To do so would be highly impractical. Teachers with a great deal of prior service credit who believe a contribution of 5% or 6% or any reasonable percentage would significantly increase the retirement allowance should study these data.

But this does not hold for the young teacher. An increase in her contribution would greatly affect her reserve and her retirement allowance. For a young teacher coming into the profession upon completion of college, the retirement allowance maximum of \$1,200.00 is available

at age 64, and at that time twice her accumulated account would be \$12,896.99, only \$1,976.01 short of the required reserve of \$14,872.00. If such a member teaches three or more additional years before retirement, twice her accumulated account will be in excess of the reserve required to pay \$1,200.00 the maximum (See Table A).

Early retirement will always be found expensive to the Retirement System. Early retirement cuts short the compound interest which is a great factor in an annuity system; it also precludes further contributions. It is not until age 67 that the 1½% per year times the age factor is equal to the reserve; at earlier ages it is too great and at later ages too small in the case of the career teacher.

This group of 125 members had aggregate accumulated accounts of \$53,692.09; whereas, it will require \$596,560.00 to pay their retirement allowances for life. The average member's account is 413.54; the average reserve needed, in excess of ten times as much, \$4,772.48.

The retirement allowance, though small, is paid almost wholly by the State through its contributions to the Retirement System.

This condition will not always obtain, but it should not be overlooked that annuities of members retiring in the early years of the Retirement System, while large in comparison with cost to the member, are small in comparison with need.

The liberal requirements of service of the Retirement Law will always keep the average retirement allowance small; many who are not career teachers receiving retirement allowances.

The teacher who had a fair salary and a long professional career receives a fairly satisfactory retirement allowance at this time, and one for which she had not had to reduce other assets to provide cash with which to buy prior service credit or to pay for "arrearages."

For this group of 125, the average age of retirement is 65.4 years. There are 51 retiring at age 70; and 16 under age 60. Life expectancy for the average age of retirement is 17.25 years. This brings the total number retired to 1,101.

The Administrative or Expense Fund is set up by the Board of Trustees under KRS 161.420. Four per cent of the receipts of the State Accumulation Fund is adequate, but for this biennium request was made by those officials whose duties require them to review the budget of each state agency and department that the budget be arbitrarily reduced by \$4,000.00. This was done as a matter of administrative policy, but the reduction proved to be a handicap on the office work.

Cost of administration for 1948-49 was 3.29%, well under the 4% permitted under the law. Aggregate funds handled during the year ended June 30, 1949, mounted to \$14,913,104.87; handled at a cost of .285 of 1%. This is less than usual brokerage, even though the record keeping is very detailed and costly in time. Approximately 200,000 monthly contributions of members were received and posted to individual accounts. Monthly interest, new balance, and interest for the year to date of posting is entered on each member's account ledger. It is often said that a government office is not as efficient and economical as a private business office. These facts should place the Retirement Office in the forefront of the most economical, either public or private.

Under general provisions of the Statutes and Section 161.370, the

Auditor of Public Accounts is auditor of the Teachers' Retirement System of the State of Kentucky. At this time no audit has been made of the year ended June 30, 1949, and for that reason the audit for the year ended June 30, 1948, the last audit, is presented in this Report. It reconciles with the financial statements of the Commissioner of Finance, the State Treasurer, and of the Retirement Office.

Minutes of the meetings of the Board of Trustees are complete, approved, and filed in a permanent binder kept in a combination lock fireproof safe in the Retirement Office.

This, the Ninth Annual Report, is prepared by the Secretary and staff of the Teachers' Retirement System of the State of Kentucky in compliance with KRS 161.320, and for the information of all interested persons.

N. O. KIMBLER, Secretary

November 1, 1949

GENERAL BALANCE SHEET
Teachers' Retirement System
June 30, 1949

ASSETS		
Current		
Cash	\$ 426,751.96	
Underpayments (Due from Districts)	6.80	
Total Current Assets		\$ 426,758.76
Investments - Sch. No. I		
U. S. Government Bonds	\$14,575,000.00	
Owensboro School District Bonds	50,000.00	
Unamortized Premium	87,103.36	
Accrued Interest Purchased	360.31	
Total Invested		14,712,463.67
Fixed		
Office Equipment - Sch. No. VI		17,661.08
TOTAL ASSETS		\$15,156,883.51
LIABILITIES		
Current		
Overpayment (Due Districts)	\$ 9.49	
Encumbrances Outstanding - Expense Items	821.23	
TOTAL LIABILITIES		830.72
NET ASSETS		\$15,156,052.79
Fund Balances, June 30		
Expense Fund	\$ 18,071.99	
Teachers' Savings Fund	6,043,778.79	
State Accumulation	6,043,685.40	
Allowance Reserve Fund	2,469,310.94	
Teachers Contribution	\$ 7,515.89	
State Contribution-Per.	58,125.22	
State Contribution-Tem.	2,403,669.83	
Guarantee Fund	581,205.67	
	<u>\$15,156,052.79</u>	<u>\$15,156,052.79</u>

RECEIPTS AND DISBURSEMENTS

Teachers' Retirement System

July 1, 1948, to June 30, 1949

Cash Balance July 1, 1948 \$ 155,366.99

Receipts:

Teachers' Savings	\$1,105,675.19
State Contributions - Permanent	1,247,642.85
State Contributions - Temporary	2,626,798.38
State Contributions - Expenses	41,500.00
Interest Earned	314,288.81
Sale of Investments	623,248.25

Total Receipts 5,959,153.48

Total Cash Available \$6,114,520.47

Disbursements:

Administrative Expenses	\$ 40,784.70
Refunds	172,191.81
Retirement Benefits Paid	288,010.56
Investments	5,186,781.44

Total Disbursements 5,687,768.51

Cash Balance June 30, 1949 \$ 426,751.96

COST OF ADMINISTRATION

Teachers' Retirement System

July 1, 1940, to June 30, 1949

Year	Receipts of State Accumulation Fund	Administrative Expense	Per Cent of Receipts
1940-41	\$ 476,089.49	\$23,669.88	4.97%*
1941-42	481,713.03	18,232.93	3.79%
1942-43	627,680.61	22,317.03	3.56%
1943-44	625,300.00	24,633.20	3.94%
1944-45	772,866.80	25,908.68	3.35%
1945-46	791,641.32	31,390.43	3.97%
1946-47	919,490.57	36,113.58	3.93%
1947-48	919,490.59	36,409.41	3.96%
1948-49	1,247,770.36	41,059.78	3.29%

* 4% limitation not applicable to first year of operation of system.

Schedule II
Receipts From
TEACHERS' SAVINGS AND STATE CONTRIBUTIONS
Teachers' Retirement System
July 1, 1940, to June 30, 1949

Date	Teachers' Savings Regular	Reinstatements	State Contributions Permanent	State Contributions Temporary	Contributions Expenses	Total State Contributions	Total Receipts
1940-41	\$ 476,136.72	\$	\$ 476,089.49	\$	\$ 23,669.88	\$ 499,759.37	\$ 975,896.09
1941-42	481,635.48	77.55	481,713.03		18,232.93	499,945.96	981,658.99
1942-43	559,626.66	105.00	559,672.98	68,007.63	22,317.03	649,997.64	1,209,729.30
1943-44	546,311.99	492.73	546,161.42	79,205.38	24,633.20	650,000.00	1,196,804.72
1944-45	646,738.13	1,532.32	646,559.38	126,531.94	25,908.68	799,000.00	1,447,270.45
1945-46	657,957.16	1,710.26	658,004.24	133,605.33	31,390.43	823,000.00	1,482,667.42
1946-47	867,521.73	2,868.82	867,222.82	52,737.51	36,039.67	956,000.00	1,826,390.55
1947-48	1,010,250.24	2,027.34	867,231.00	52,359.59	36,409.41	956,000.00	1,968,277.58
1948-49	1,105,134.30	537.41	1,247,770.36	2,626,798.38	41,500.00*	3,916,068.74	5,021,740.45
	<u>\$6,351,312.41</u>	<u>\$9,351.43</u>	<u>\$6,350,424.72</u>	<u>\$3,139,245.76</u>	<u>\$260,101.23</u>	<u>\$9,749,771.71</u>	<u>\$16,110,435.55</u>

* Subject to adjustment at end of 90-day period.

Schedule III
REFUNDS
Teachers' Retirement System
July 1, 1940, to June 30, 1949

Date	WITHDRAWALS		DECEASED		SPECIAL		TOTAL	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount
1940-41	151	\$ 2,036.96	12	\$ 235.54		\$	163	\$ 2,272.50
1941-42	738	20,231.70	38	1,878.55	2	29.32	778	22,139.57
1942-43	900	37,563.07	58	4,704.18	4	35.77	962	42,303.02
1943-44	872	46,706.43	40	4,604.58	8	127.39	920	51,438.40
1944-45	914	48,760.45	52	6,567.58	8	168.27	974	55,496.30
1945-46	1,647	103,947.17	62	8,654.01	5	50.64	1,714	112,651.82
1946-47	2,170	135,277.90	37	6,298.25	17	195.16	2,224	141,771.31
1947-48	1,764	128,537.47	53	12,657.50	16	386.54	1,833	141,581.51
1948-49	2,050*	152,877.90*	68	18,146.31	12	127.63	2,130	*171,151.84
	11,206	\$675,939.05	420	\$63,746.50	72	\$1,120.72	11,698	\$740,806.27

* Two refund checks were returned for reinstatement and other adjustments were made thereby reducing the amount of withdrawals by \$500.09 from the figures shown.

Schedule IV
RETIREMENT ALLOWANCES PAID
Teachers' Retirement System
July 1, 1942, to June 30, 1949

Year	Cause of Payment		Funds from which Paid			Total Paid
	Super-annuation	Disability	TSF	SAF-Perm.	SAF-Temp.	
1942-43	\$ 62,439.36	\$ 1,426.56	\$ 15,791.10	\$ 15,215.22	\$ 32,859.60	\$ 63,865.92
1943-44	80,688.98	2,260.49	9,363.05	8,345.75	65,240.67	82,949.47
1944-45	101,452.30	2,862.12	14,120.62	11,527.58	78,666.22	104,314.42
1945-46	129,761.78	3,703.69	24,296.95	13,686.44	95,482.08	133,465.47
1946-47	200,903.68	13,430.52	39,159.38	28,118.59	147,056.23	214,334.20
1947-48	234,185.94	17,893.88	37,891.27	31,348.35	182,840.20	252,079.82
1948-49	267,246.96	20,763.60	44,459.44	29,902.32	213,648.80	288,010.56
	\$1,076,679.00	\$62,340.86	\$185,081.81	\$138,144.25	\$815,793.80	\$1,139,019.86

Frankfort, Kentucky
April 26, 1949

Honorable Earle Clements
Governor of Kentucky
Frankfort, Kentucky
Dear Governor Clements:

We submit herewith report of our audit of the Teachers' Retirement System of the State of Kentucky, for the year ended June 30, 1948.

This examination was made by H. E. Riordan, under my supervision.

Respectfully yours,

(Signed) H. N. JONES

H. N. JONES

Auditor of Public Accounts

COMPARATIVE BALANCE SHEET
Year Ended June 30, 1948

ASSETS

Current Assets:

Cash	\$ 155,209.74
Due from Districts (Underpayments)	8.00

Total	\$ 155,217.74
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Investments:

U. S. Treasury 2½ % Bonds	\$9,075,000.00
U. S. Treasury 2½ % Bonds, Series A, 1965	250,000.00
U. S. Savings Bonds, Series G.	750,000.00

Total	10,075,000.00
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Deferred Charges to Income:

Unamortized Premium	\$ 69,517.41
Accrued Interest on Bonds Purchased	13.66

Total	69,531.07
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TOTAL ASSETS	<u>\$10,299,748.81</u>
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LIABILITIES AND FUND BALANCES

Current Liabilities:

Due to Districts (Overpayments)	\$ 7.21
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Fund Balances:

Expense Fund	\$ 359.59
Teachers' Savings Fund	5,027,284.95
State Accumulation Fund	4,884,383.45

Allowance Reserve Fund:

Teachers' Contributions	3,591.37
State Contribution - Permanent	38,085.99
State Contributions - Temporary	(71,790.48)
Guarantee Fund	417,826.73

Total	10,299,741.60
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TOTAL LIABILITIES AND

FUND BALANCES	<u>\$10,299,748.81</u>
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STATEMENT OF INVESTMENTS

Year Ended June 30, 1948

INVESTMENTS

Balance of Investments beginning of Year:

U. S. Defense Bonds, Series 'G'	\$ 650,000.00
U. S. Treasury Bonds, 2½ %	7,675,000.00

Total \$ 8,325,000.00

Bonds Purchased During Year:

U. S. Defense Bonds, Series "G"	\$ 100,000.00
U. S. Treasury Bonds, 2½ %	1,650,000.00

Total Purchased \$ 1,750,000.00

BALANCE CLOSING OF YEAR \$10,075,000.00

Balance Consists of:

U. S. Defense Bonds, Series "G"	\$ 750,000.00
U. S. Treasury Bonds, 2½ %	9,325,000.00

CHANGES IN UNAMORTIZED PREMIUMS

Balance, Beginning of Year	\$ 60,003.31
Premiums Purchased	12,801.00

Total \$ 72,804.31

Collections 3,286.90

Balance, June 30, 1948 \$ 69,517.41

CHANGES IN ACCRUED INTEREST

Beginning Balance	\$ 54.65
Purchases	6,898.91

Total \$ 6,953.56

Collections 6,939.90

Balance, June 30, 1948 \$ 13.66

INVESTMENTS HELD

TEACHERS' RETIREMENT SYSTEM

June 30, 1948

Name and Description	Par Value	Net Yield
U. S. Defense Bonds, Series G	\$ 750,000.00	2.50%
U. S. Treasury 2½ % 6/15/1962-67	225,000.00	2.50%
U. S. Treasury 2½ % 12/15/1963-68	1,000,000.00	2.50%
U. S. Treasury 2½ % 6/15/1964-69	850,000.00	2.50%
U. S. Treasury 2½ % 12/15/1964-69	300,000.00	2.50%
U. S. Treasury 2½ % 3/15/1965-70	700,000.00	2.50%
U. S. Treasury 2½ % 3/15/1966-71	450,000.00	2.50%
U. S. Treasury 2½ % 6/15/1967-72	1,150,000.00	2.50%
U. S. Treasury 2½ % 12/15/67-72	4,400,000.00	2.42%
U. S. Treasury 2½ %, Series A-1965	250,000.00	2.50%
Total Par Value	\$10,075,000.00	
Average Net Yield		2.47%

SUMMARY STATEMENT OF OPERATIONS BY FUNDS

	Beginning Balance	Receipts	Transfers-in	Charges	Transfers-out	Closing Balance
Teachers' Savings Fund	\$4,069,652.71*	\$1,012,282.86	\$126,867.41	\$141,581.51	\$ 39,937.31	\$ 5,027,284.16
State Accumulation Fund	4,069,652.71	919,231.00	127,306.02	0.00	231,806.28	4,884,383.45
Allowance Reserve Clearing Fund	84,174.74	0.00	167,690.06	0.00	249,492.95	2,371.85
Guaranty Fund	312,812.26	221,023.20	139,888.09	0.00	288,630.20	385,093.35
Expense Fund	0.00	36,769.00	0.00	36,409.41	0.00	359.59
States Temporary Contribution	729.33	0.00	0.00	0.00	729.33	0.00
Allowance Reserve Fund	3,778.46	0.00	248,844.49	252,414.75	0.00	208.20
Totals	\$8,540,800.21	\$2,189,306.06	\$810,596.07	\$430,405.67	\$810,596.07	\$10,299,700.60

*Net after considering \$12.60 underpayments and \$6.53 overpayments.

STATEMENT OF RECEIPTS AND DISBURSEMENTS

PER RECORDS OF TEACHERS' RETIREMENT

Cash Balance, July 1, 1947 \$ 156,144.85

Receipts:

Teachers' Savings	\$1,012,282.86
State Contributions—Permanent	867,231.00
State Contributions—Temporary	52,259.59
State Contributions—Expenses	36,509.41
Interest Earned on Investments	221,023.20

Total Receipts	2,189,306.06
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Total Cash Available	\$2,345,450.91
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Disbursements:

Administrative Expense

Actuarial fees	\$ 600.00
Board of Trustees—Meetings ..	234.57
Board of Trustees—Election	456.99
Fidelity Bond Premium	50.00
Repair to Office Equipment	391.49
Medical Service Expense	42.00
Miscellaneous Expenses	12.00
Office Supplies	425.74
Postage	671.17
Printing and Binding	1,285.79
Salaries—Regular	29,893.14
Salaries—Extra	435.27
Telephone and Telegraph	228.23
Travel Expense	978.04
Office Equipment	704.98

Total	\$ 36,409.41
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Refund to Teachers:

Refunds—Regular	\$ 139,868.97
Refunds—Special	386.54
Interest Paid on Refunds	1,326.00

Total	141,581.51
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Retirement Allowance Payments:

Refund of Annuitants Deceased ..	\$ 294.72
Age Retirement Allowance Paid..	234,185.94
Disable Retirement Allowance Paid	17,893.88

Total	252,374.54
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Investments Purchased:

U. S. Savings Bonds	\$ 100,000.00
U. S. Treasury Bonds	1,650,000.00
Net Premium and Interest on Bonds Purchased	9,473.11

Total	1,759,473.11
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Total Expenditures	\$2,189,838.57
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FIGURE IX. TEACHERS' RETIREMENT SYSTEM OF THE STATE OF KENTUCKY
(Law of 1940)

