

● Commonwealth of Kentucky ●
EDUCATIONAL BULLETIN

DISCUSSION
TEACHERS' RETIREMENT SYSTEM
and
FOURTH ANNUAL REPORT

June 30, 1944

*Miss Elizabeth Hanson
Periodical Librarian
University of Kentucky
Lexington, Ky.*



Published by

DEPARTMENT OF EDUCATION

JOHN FRED WILLIAMS

Superintendent of Public Instruction

ISSUED MONTHLY

Entered as second-class matter March 21, 1933, at the post office at
Frankfort, Kentucky, under the Act of August 24, 1912.

Vol. XII

December, 1944

No. 10

CONTENTS

	Page
Foreword	378
Membership of Board of Trustees and Office Personnel	379
PART I. BULLETIN	380
Introduction	381
Local Systems Liquidate	381
First Appropriation	382
Administration	383
Rules and Regulations	384
Teachers' Savings Fund	387
Annuities Will Increase	390
A Long-Time View	392
Additional Contribution	396
Out of State Service	396
Problems	398
First Actuarial Report	405
Losses by Death	408
Discussion	409
Suggestions for Reporting Teachers' Contributions	412
Principles	414
Some Good Features of the Kentucky Retirement Law.....	416
The Following Propositions Have Been Suggested for Study....	417
Method of Calculating Annuity	419
Bibliography	422
PART II. FOURTH ANNUAL REPORT	425
Letter of Transmittal	426
General Balance Sheet.....	434
General Statement of Receipts and Disbursements	435
Schedule 1. Investments Held June 30, 1944.....	436
Schedule 2. Teachers' Savings Control Ledger June 30, 1944....	436
Schedule 3. Cost of Administration	436
Schedule 4. Refunds to Teachers	437
Comments—State Auditor	439
Consolidated Balance Sheet—All Funds	440
Consolidated Statement of Operations	441

LIST OF TABLES

Page		Page
	PART I.	
	Table A. Distribution of Appropriations 1940-46	382
378	Table B. Standard Annuity Mortality Table 1937	389
379	Table C. Compound Interest and Discount Table Three Per Cent	392
380	Table D. Contribution of State and Member Compared with Required Reserve	393
381	Table E. Membership, State Contributions and Annuities of Certain States With Teacher Retirement Systems July 1, 1944	399
382		
383	Table F. Normal and Deficiency Contribution by Certain States and Their Members' Contributions Ex- pressed in Percentage of Salary Where Possible....	402
384		
387	Table G. Biennial Budget Requests for the Kentucky Teach- ers' Retirement System by Years	404
390		
392	Table H. Valuation Balance Sheet July 1, 1941	406
396		
396	Table J. Number of Withdrawals, Deaths and Disabilities Per 1,000 Active Members by Age Groups.....	408
398		
405	Table K. Age, Service, Salary, Contribution, Annuity and Necessary Reserve of Members Retired July 1, 1944	420
408		
409		
412	PART II.	
414	Table I. Net Membership 1943-44	427
416	Table II. Number of Members, Prior Service and Salaries to the End of Fourth Year June 30, 1944.....	428
417		
419	Table III. Distribution by Age Groups of 1,424 New Entrants Without Prior Service 1943-44.....	428
422		
425	Table IV. Distribution by Age Groups of 805 New Entrants With Prior Service 1943-44	429
426		
434	Table V. Distribution by Age Groups, Showing Prior Service and Salary of Members Who Died Before Retirement 1943-44	430
435		
436	Table VI. Distribution by Age Groups, Showing Prior Service and Salary of Members Who Died Before Retirement 1940-44	430
436		
436	Table VII. Distribution by Age Groups of Members Who Have Withdrawn Their Accounts 1940-44	431
437		
439	Table VIII. Distribution by Age Groups of Membership Hav- ing Prior Service July 1, 1944	432
440		
441	Table IX. Number of Teachers Retired and Retirement Benefits Paid July 1, 1942, to June 30, 1944.....	433
	Table X. Distribution of Present Annuities With Intervals of Fifty Dollars July 1, 1944	433

FOREWORD

The continued success of the Teachers' Retirement System depends upon the interest of the participants. The purpose of this bulletin is to stimulate interest and constructive thinking; to serve as a point of departure in directing study and thought in terms of a permanent long-time program of retirement, which when taken as a whole will serve our public school system, both teachers and pupils, to the best interest of all.

No effort is made to reach conclusions or to present solutions of problems, real or imaginary. Further study is deemed necessary. At the end of the fifth fiscal year a thorough actuarial study will be made. Needed amendments may then be recommended with safety.

Our Retirement Law is a good one, but it is not perfect. In amending it we must realize the Retirement System is like a huge balance wheel; to add a little here, take off a little there will certainly throw it out of balance. Whatever may be done, it must be left in "balance."

The Fourth Annual Report of the Teachers' Retirement System is included.

JOHN FRED WILLIAMS
Superintendent of Public Instruction

Membership of the Board of Trustees

MARY J. MAGUIRE, Chairman, Henry Clay High School, Lexington

*W. F. O'DONNELL, Vice Chairman, Eastern Kentucky State Teachers
College, Richmond

MORTON WALKER, duPont Manual High, Louisville, Kentucky

EDWARD L. CAWOOD, The Bank of Harlan, Harlan, Kentucky

HON. J. F. WILLIAMS, Superintendent of Public Instruction, Frankfort

HON. T. W. VINSON, State Treasurer, Frankfort

HON. ELDON S. DUMMIT, Attorney General, Frankfort

*L. C. CURRY, Bowling Green Public Schools, succeeded W. F. O'Don-
nell on July 1, 1944.

Office Personnel

N. O. KIMBLER, Executive Secretary

VERA BECKHAM, Assistant

F. L. PHILLIPS, Accountant

WELDON JONES, Bookkeeper

LORA MAE BLANFORD, Stenographer

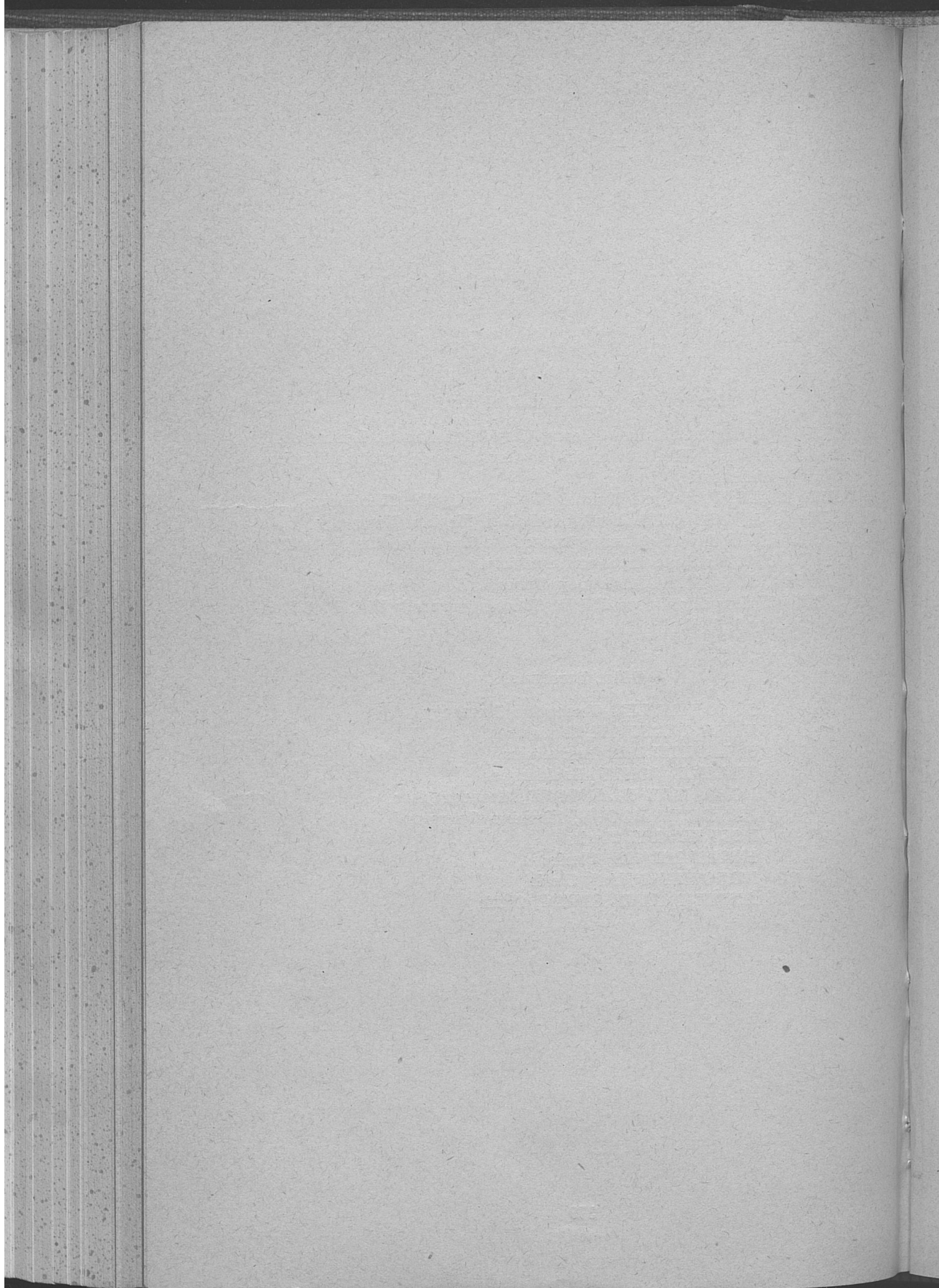
KATHRYN BOONE, Machine Operator

LOIS KERBY, Clerk

HELEN MEADE, Clerk

DOROTHY O'NAN, Clerk

ANNIE LAURIE SMITH, Clerk



PART I.
A DISCUSSION OF STATE TEACHER RETIREMENT
KENTUCKY TEACHERS' RETIREMENT SYSTEM

Introduction

Since early in the present century, the teachers of the public schools of Kentucky have shown varying degrees of interest in a plan of retirement. In May, 1912, the Teachers' Annuity Fund of Louisville was established in accordance with the Act of the Legislature of 1912¹. In September of that year teachers began to contribute to it. Contributions were limited. Teachers with fifteen years or less of service paid one per cent, but not more than \$10.00 per year; with more than fifteen years of service, two per cent, but not more than \$20.00 per year. The annuity to be paid any teacher was \$400.00 for forty years of service or more and a proportionate amount for less than forty years of service. There was great interest and enthusiasm in the retirement plan.

Under other Acts² of the Legislature, retirement systems were set up in Bowling Green, Covington, Frankfort, Hopkinsville, Lexington, Newport, and Paducah.

Statewide Systems. Interest continued to increase among teachers and citizens, culminating in the establishment of a statewide retirement system under an Act passed by the General Assembly in 1938³, amended and made effective by a substantial appropriation in 1940⁴.

As provided in the Act of 1938, a Board of Trustees of the Teachers' Retirement System of the State of Kentucky was elected and qualified.

This Board as a continuous body has met and handled the business of the Retirement System since July 8, 1939, the date of the first meeting.

The State Teachers' Retirement System became operative as to membership and receipt of contributions July 1, 1940. It became operative as to retirement and payment of annuities July 1, 1942.

Retirement Office. The Board of Trustees employed personnel and opened an office in the State Capitol Building July 1, 1940.

Local Systems Liquidate. As provided in Section 4506b-49, Ky. Stat., the local retirement systems about over the state merged with the State System by petition signed by a majority of their members. The assets of the local systems were not turned over to the State Systems, but were held in trust by the local board of education for the purpose of paying the annuities of teachers who had previously retired under the provisions of the local retirement system. Any surplus was returned to the teachers who held local membership in proportion to the amount contributed to the fund by each up to July 1, 1940.

¹ Acts of 1912, sec. 2978d-1 to sec. 2978d-18.

² Acts of 1914, c. 17, p. 62; amended 1926, c. 88, p. 301.

³ Acts of 1938, 1st ex. s. c. 1.

⁴ Acts of 1940, c. 192, p. 742.

All Equal. Former members of local retirement systems came into membership in the State System on the same basis in every respect as other teachers.

The advantages of the new State Teachers' Retirement System were quickly recognized by the teachers, and by the close of the first year of operation approximately 96% of all teachers eligible were in active participation. Under Section 4506b-28, Ky. Stat., any teacher could "decline" membership, but comparatively few did so, and apparently only those not expecting to remain in the profession.

Service Records. No state has been more successful in having its teachers file the service form, giving the necessary data. By July 1, 1941, 17,393 teachers had filed the information on Form A-1 and Membership and Prior Service Certificates were issued as of July 1, 1941. Form A-1 or A-2 should be promptly filed by each teacher coming into active service. Accurate experience tables depend upon the filing of these forms. During this first year of operation, 18,530 teachers paid contributions into the Teachers' Savings Fund of the Retirement System. This attests further to the interest of teachers, administrators of school systems, and colleges.

First Appropriation. The Retirement Act of 1938 was passed after the state budget had been made and no appropriation was made to implement it.

Upon amendment of the Act of 1938 in 1940 at the regular session, one million dollars was appropriated for the Retirement System for the ensuing biennium.

This and subsequent appropriations have been used as shown in Table A.

Table A. Distribution of Appropriations 1940-46

Year (1)	Amount (2)	Expense Fund (3)	State Accumulation Fund For	
			Subsequent Service (4)	Prior Service (5)
1940-41	\$500,000.00	\$23,669.88	\$476,089.49	\$-----
1941-42	500,000.00	18,232.93	481,713.03	-----
1942-43	650,000.00	22,319.39	559,672.38	68,007.63
1943-44	650,000.00	24,464.74	546,396.68	79,138.58
1944-45	799,000.00	28,000.00*	655,000.00*	116,000.00*
1945-46	823,000.00	28,000.00*	660,000.00*	135,000.00*

* Estimates.

For the biennium 1942-44, \$1,300,000.00 was appropriated, and for the biennium 1944-46, the last General Assembly appropriated a total of \$1,622,000.00.

Future Appropriations. Because of the wide participation of the teachers coming under the purview of the Retirement Act, these generous appropriations are barely sufficient to "match" the teachers' contributions and pay for the prior service of the teachers now retired. As salaries increase and as additional teachers reach retirement age and

retire, larger appropriations will be absolutely necessary to keep the Retirement System a going concern, financially sound.

If, for example, only three-fourths of the teachers participated, that is, one-fourth "declining" in the beginning as many people had anticipated, the obligation of the state for prior service would have been one-fourth less. As it is, the full benefit of the Retirement System is being realized by the teachers and the state. Approximately 212,000 years of prior service credit has been given the experienced teachers now in service.

Management and Control. Teachers have also participated in the control of their Retirement System. The Board of Trustees consists of seven members, four of whom are elected by the teachers and three of whom are ex-officio. By means of a mail ballot, the active members elect one member each year to serve for a term of four years. Three of the elected trustees must be members of the profession who hold membership in the Retirement System. One elected trustee must be a layman and not a member of the profession. The ex-officio members are the Superintendent of Public Instruction (who is always a member), the Attorney General, and the State Treasurer.

A greater number of teachers receiving the mail ballot should vote. By the exercise of this right, they will retain and strengthen it.

One of the teacher-elected members of the Board is Chairman and another is Vice Chairman.

Faithful Service. All members of the Board of Trustees serve without pay. They have a keen interest and make a conscientious effort to serve faithfully and well. It is often necessary for trustees to make a sacrifice in order to attend the meetings and perform other duties in line with this service. A better board could not be chosen for this work.

Administration. With the opening of the office of the Retirement System, it was necessary to prepare forms to be used in its operation; to fit its financial transactions into the routine required by the State Budget Law, the Division of Accounts and Control, and the office of the State Treasurer. This has been done.

It was also necessary to prepare the general books to receive the credits and debits of the five funds in which the assets of the Retirement System are held. The whole office routine had to be worked out to handle a large volume of business, all handled by mail. Because of the many funds and accounts, the calculation of interest on individual, as well as fund accounts, the matching of contributions, the transfer of funds from one fund to another, the calculation of annuities, the making of refunds, the reinstatement of withdrawn teachers, the investment of surplus in all funds excepting the Expense Fund, the bookkeeping is intricate and technical and so is much of the other work in the office.

Adequate general books, ledger accounts, and bond registers are maintained. Also, an extensive and carefully worked out filing system for teachers' documents, whether active or inactive, and card indices containing more than 50,000 cards.

The Board of Trustees found it necessary to adopt the following rules and procedures not inconsistent with the Retirement Act for the guidance of all interested persons.

RULES AND REGULATIONS
of the
Teachers' Retirement System of the State of Kentucky

I. Rules and Educational Units:

Independent districts, county districts, institutions and departments having teachers participating in the State Retirement System are requested to modify their respective rules, if necessary, so as to bring them into harmony with the Teachers' Retirement Act. (Sec. 4506b-1 to and including Sec. 4506b-51, Ky. Stat.)

II. Fractional Year:

Fractions of a year of service shall be indicated to the nearest tenth.

III. Substitute Teachers:

Substitute teachers when legally employed may have contributions deducted from the salary in the usual manner and receive service credit for the fraction of a year taught and paid for.

If a substitute teacher teaches a semester (or half school term) or more, she is a regular teacher during that year, and membership is compulsory.

IV. New Entrant:

Professional Service Form A-1 or A-2 shall be completed and filed with the chief school officer of the educational unit at the time the new (entrant) teacher signs her first annual contract with the employing board.

V. A Special Teacher; Definition:

A special teacher is one legally employed at a fixed salary and who performs duties within the purview of the Retirement Act, and membership is required.

Salary and certificate are subject to the approval of the Department of Education.

VI. Member with Thirty (30) Years of Service Credit:

A member with thirty (30) years or more of acceptable service is not required to teach consecutively the last five (5) years before retirement. (Secs. 4506b-41 and 4506b-42, Ky. Stat.)

VII. To Retain Membership:

In all cases excepting those designated in Section 4506b-42, Ky. Stat., a teacher to retain membership shall teach at least three years of each six-year period, provided the Board of Trustees reserves the right to extend this time in such cases as may, in its judgment, warrant such extension and, provided further, teachers in military service are excepted.

VIII. Prior Service:

No credit for prior service shall be given unless and until the present teacher shall have been a contributing member for at least one scholastic year.

Prior service shall be granted upon the following additional conditions:

1. To members who taught at any time during 1939-40, (a) and who become members during 1940-41, and (b) who did not decline membership. (Sec. 4506b-31, Ky. Stat.)
2. To members who have taught three years or more of the six-year period ending July 1, 1940. (Sec. 4506b-32, Ky. Stat.)
3. To members who taught a full year during 1940-41.

(By order of the Board (January 26, 1942) the following modification of Rule VIII is made effective:

That the benefit of Prior Service Credit be extended to all teachers who return to their profession during the war emergency, and that at the close of one year of active service for which the required contributions have been made the Prior Service Certificate be issued in the same manner as for "present" teachers.

This rule shall be in force for the duration of the emergency unless sooner revoked by the Board).

IX. Credit for Service:

In all cases where any member having a legal right to pay contributions to the Retirement System pays the same according to Law, the amount of service credit paid for shall be added annually to his service record and in no other cases. Sec. 4506b-42, Ky. Stat.)

X. Individual Contributions:

Members on leave of absence and on military duty may pay their contributions, based upon their last annual contract, directly to the Teachers' Retirement System during such period of leave of absence or military duty. In such cases, receipt shall be given the member as and when payment is made.

XI. Leave of Absence:

No leave of absence shall be granted for a longer period than one scholastic year, provided the employing board may extend any leave of absence annually, but in no case for more than three years in any ten-year period.

Written notice of the granting of leave of absence and the extension of the same shall be filed in the office of the Board of Trustees within two weeks after such action is taken by the employing board and shall be subject to the approval of the Secretary or Board of Trustees before such leave shall be effective for retirement purposes.

XII. Membership:

No Membership Certificate and/or Prior Service Certificate shall be issued to any teacher who has not complied with the requirements of legal employment and paid contributions for at least one full school term, or the equivalent, excepting in those districts or other employing units in which the annual salary for the school term is paid in eleven (11) or twelve (12) equal instalments.

In such cases, ten (10) monthly contributions must have been paid currently, and the remaining instalments shall be paid not later than August 31 .

XIII. Refunds:

Refunds to beneficiaries or administrators on account of death of members and refunds to former members who have withdrawn from the teaching profession may be made upon approval of applications for the same by the Secretary.

It is the policy of the Board of Trustees that such refunds shall

be made not later than during the calendar month following the date of approval.

The Secretary shall report to the Board of Trustees upon such refunds at each quarterly meeting; i. e., four times per year.

XIV. Remittance of Contributions:

Employing boards, through their respective treasurers, shall remit promptly to the Retirement System all contributions due to be deducted from teachers' salaries, as and when deducted, as required by Section 4506b-38, Ky. Stat. Since failure to do so affects the teacher's account and service record adversely, boards so offending are liable to the Commonwealth and to the teachers affected for any and all such losses sustained by reason of violation of said section.

XV. Report of Contributions:

Employing boards shall cause to be submitted to the office of the Board of Trustees with each check for teachers' contributions for any and every payroll a detailed report by school months on a form approved by the Department of Education. Teachers' names shall, as far as practical, be entered on said form in alphabetical order. In case any teacher's name appears on the payroll more than once, said teacher's name shall be listed on consecutive lines to facilitate the posting of his account and calculating of interest.

As far as practical, the teachers' names should appear in the same order from month to month.

XVI. Inactive Accounts:

Regular interest shall be credited to all inactive accounts annually for a period of three (3) years, after which no interest shall be credited with respect to any year until the account becomes active, after which date the regular interest shall be credited annually. (Sec. 4506b-33, Ky. Stat.)

XVII. Service Benefits:

Prior service benefits shall be based upon the average annual salary for the last five years of prior service. (Sec. 4506b-31, Ky. Stat.)

Subsequent service benefits shall be based upon the average annual salary for the last five years of subsequent service.

In either case, when there is less than five years of prior service or subsequent service, the average of such years shall be taken as the factor in determining annuities.

XVIII. Application for Retirement:

No retirement benefits shall be granted without written application filed on blanks furnished by the Teachers' Retirement System. Data requested on such forms shall be furnished in complete and acceptable form.

Applications for retirement July 1, 1942, may be filed with the Secretary at any time during the year 1941-42. (Obsolete).

Applications for retirement during subsequent years may be filed at any time during the preceding year.

XIX. Annuities:

Annuities shall be based upon three factors:

1. Age of retirement. (Sec. 4506b-43, Ky. Stat.)
2. Years of accredited service. (Sec. 4506b-31, Ky. Stat.)
3. Salary as defined in the Law and as designated in the rules of the Board of Trustees. (Sec. 4506b-2, paragraph 10, Ky. Stat.)

XX. Payment of Annuities:

Annuities shall be paid quarterly in the months of September and/or October, December and/or January, March and/or April, and June and/or July.

No annuity shall be retroactive, but shall be paid in the first designated month for payments of annuities after the application has been approved and payment authorized.

No annuity shall be paid without the approval of the Secretary and the express authorization of the Board of Trustees, which authorization shall appear in the minutes of the Board, provided that, after the application has been approved and the annuity authorized as provided above, the Secretary shall, without further authorization, cause the quarterly checks to be issued regularly during the life of the annuitant.

The last quarterly check shall be issued for the amount of the accrued annuity to and including the date of the death of the annuitant. (Sec. 4506b-46, Ky. Stat.)

XXI. Annuitant's Account:

For each annuitant, the Secretary shall set up and maintain an account, showing the accumulated contributions of the annuitant, the amount contributed by the State on his behalf to the State Accumulation Fund and the amount contributed by the State in its temporary appropriation for "prior service."

Regular interest shall be credited to these accounts.

XXII. Statement of Account:

Upon written request, the Secretary shall, as soon as practical, mail to any member or annuitant requesting the same a statement of his account for the preceding or current fiscal year.

XXIII. Retired Teachers Teaching:

In no case shall a superannuated teacher, who has been granted an Emergency Certificate, receive an annuity during the scholastic year, or fraction of a scholastic year that he teaches; and waiver thereof shall be signed as a condition of employment and the right to teach.

Such teacher shall not pay his usual contribution and shall not receive subsequent service credit for the time taught.

The Secretary of the State Board of Education is requested to certify the names and location of such teachers who have been granted Emergency Certificates so that annuities may be suspended during the period of employment.

Teachers' Savings Fund. On July 1, 1944, the Teachers' Savings Fund held assets of \$2,029,435.46 distributed to approximately 29,000 individual ledger account cards. Each teacher's account is individualized and handled as it might be in a savings bank. The ledger account cards are kept in fireproof containers when not being used. Each active account is credited with 3% interest each month of the year and interest is compounded on July 1.

During 1943-44 the aggregate amount of interest credited to teachers' accounts was \$49,252.62. This amount will increase constantly and rapidly if the teacher remains in the profession. The amount of one dollar per annum at 3% compound interest is in thirty years \$49.00.

A contribution for each teacher for each month of employment is certified to the Retirement System when he is paid at the end of the month. This monthly contribution is immediately credited to his account

and it begins to draw interest on the first day of the next month. If such contributions and the check for the aggregate amount deducted on the pay roll are delinquent in any month, it necessitates about three times as much work on the part of the bookkeepers to make the proper entries and adjust the interest. Also, the teacher loses interest on the monthly payment or payments for the period of delinquency. Prompt handling in the office of origin would obviate these losses of time and interest.

The state does not match teachers' contributions until they are received in the Retirement office.

Withdrawals. When a teacher leaves the profession, he may withdraw his account and the accumulated interest. He must surrender his retirement certificate for purposes of identification. No funds can be paid to the wrong person, hence the need for positive identification in writing.

Comparatively few teachers have "permanently" left the profession and withdrawn their accounts. Teachers' accounts are credited with interest during three consecutive years of absence. There are approximately 2,000 accounts on which interest has stopped for this reason.

In case of death before retirement, the account is paid to the beneficiary, if one has been previously designated; if not, to the administrator of the estate of deceased upon proper appointment by the court and qualification to the satisfaction of the court.

Transfers. Each participating unit, as Adair County or Eastern Kentucky State Teachers College, constitutes a control in the handling of teachers' contributions. The teachers' ledger account cards are grouped under county and other units for convenience in handling. When a teacher transfers from one school system to another, it is necessary that the Retirement office have this information so that his ledger account card may be transferred likewise. This notice of transfer prevents the setting up of a new account in the school system or college to which the teacher transferred. Some teachers have transferred four or five times since entering the Retirement System. If notice of transfer has not been sent each time, such a teacher may have several accounts in the Teachers' Savings Fund.

It is the responsibility of the administrative office of the unit and it is the responsibility of the teacher whose account is involved to give notice of the transfer. An individual carrying life insurance notifies his life insurance company when he changes his address. The same care should be exercised by the teacher when he moves from one school system to another.

The Teachers' Savings Fund and its operation and control will compare favorably with that of the largest savings banks in the state.

Control accounts are maintained and the fund balanced monthly, quarterly and annually.

State Accumulation Fund. Interest is also credited to the State accumulation Fund and the amount in this fund balances with the total of the Teachers' Savings Fund. Assets are drawn from the appropriation monthly.

Allowance Reserve Fund. When a teacher retires, his account is transferred to the Allowance Reserve Fund. A like amount deposited concurrently by the state is transferred from the State Accumulation

Fund to the Allowance Reserve Fund. The sum of these amounts plus the amount necessary to pay his prior service benefits constitute the reserve from which his annuity is paid. The reserve divided by the life expectancy gives the annuity, roughly speaking. The earlier the teacher retires, the greater the life expectancy and the less the reserve; therefore, other factors being equal, the earlier the retirement, the less the annuity.

Compulsory retirement at 65 would in no way increase annuities; it would on the contrary greatly reduce average annuities because:

1. The teacher's reserve would receive contributions for five years less, from 65 to 70, in many cases.
2. A teacher retiring at 65 will receive more annual payments than a teacher retiring at 70; and, therefore, each payment would have to be smaller than if she retired at 70.

Table B., upon the recommendation of the Actuary, has been accepted as our Annuity Mortality Table. It is for select groups like teachers and is a 3% table. The columns under "age" mean 'age at retirement' and other column is the amount necessary to pay an annuity of \$1.00 per year for the life of the retirant. It is a dollars and cents column.

**Table B. Teachers' Retirement System of the State of Kentucky
Standard Annuity Mortality Table 1937**

Age		3% "x"
Male	Female	
X	50	17.84964
X	51	17.50283
X	52	17.15249
X	53	16.79884
X	54	16.44204
50	55	16.08243
51	56	15.72020
52	57	15.35566
53	58	14.98909
54	59	14.62080
55	60	14.25107
56	61	13.88028
57	62	13.50872
58	63	13.13677
59	64	12.76477
60	65	12.39309
61	66	12.02211
62	67	11.65224
63	68	11.28381
64	69	10.91726
65	70	10.55296
66	71	10.19131
67	72	9.83271
68	73	9.47754
69	74	9.12620

**Table B. Teachers' Retirement System of the State of Kentucky
Standard Annuity Mortality Table 1937—(Continued)**

Age		3% ax
Male	Female	
70	75	8.77904
71	76	8.43646
72	77	8.09883
73	78	7.76647
74	79	7.43975
75	80	7.11896
76	81	6.80441
77	82	6.49642
78	83	6.19521
79	84	5.90105
80	85	5.61416
81	86	5.33473
82	87	5.06292
83	88	4.79888
84	89	4.54273
85	90	4.29454
86	91	4.05435
87	92	3.82214
88	93	3.59792
89	94	3.38154

Life expectancy at age of retirement is greater for females than for males. In calculating the necessary reserve, we use the appropriate column, but in all other actuarial calculations we consider all membership as female. Our Retirement Act makes no distinction between male and female members and it is assumed that the male members pay slightly more than the female and draw slightly less, but since many positions pay better salaries to men than to women, it is on the whole equalized.

Annuities Will Increase. The Retirement System cannot be evaluated and judged by the annuities paid at this time; it must be evaluated by the annuities it will be able to pay fifteen or twenty-five years hence.

The 415 members who have retired have been in membership from one to four years and at best have made only "token" contributions to their respective reserves. This may be illustrated by taking two cases, one drawing the present maximum annuity of \$690.00 and the other the minimum of \$100.00.

The annuitant drawing \$690.00 contributed \$80.00 a year for four years and has an accumulated total account of \$337.69. This will be exhausted in two quarterly payments. The reserve required, (on the average), to pay this annuity is \$7,282.00. From this it is clear that he has contributed less than 5% of the amount necessary to pay his annuity.

The annuitant drawing the \$100.00 per year may have contributed as little as \$16.80, which plus interest would be \$17.08. This will be more than exhausted in one quarterly payment. The reserve required to pay

lucky

his annuity is \$1,055.30 and he has contributed 1.6% of the amount. All other cases fall between these two.

The foregoing described condition will in the years ahead be greatly improved. As teachers who will retire accumulate larger reserves and more years of subsequent service credit, the annuity due them will increase until, in 1954 and thereafter, teachers under optimum circumstances can retire on half pay or \$1,000.00, whichever is the smaller. It is noted, however, that such will have contributed fourteen years and there will be an accumulation of compound interest for fourteen years on the teacher's and state's contribution. For the average teacher in this class, the state's obligation for prior service will still be quite considerable, being approximately the present worth of \$5,802.72, the difference between the total of his contribution plus the state's contribution and the reserve required to pay his annuity.

Obligation for Prior Service. The state's obligation for prior service is measured by an annual appropriation of 2% of the aggregate of all prior service salaries as defined. There is now approximately 212,000 years of prior service credit outstanding. The aggregate of all prior service salaries is in round numbers \$16,000,000. Two per cent of \$16,000,000 is \$320,000.00. In no year yet has the state been able to make its appropriation large enough to cover this amount as permitted in the law.

All teachers with prior service will not retire; some will die, others withdraw. Making due allowance for this contingency, not less than a present worth value of \$3,863,715.65 will be needed to pay these teachers' prior service benefits. Of this amount, the state has appropriated \$147,146.21 to July 1, 1944, and an estimated \$398,146.21 to July 1, 1946.

Appropriations for this purpose must be increased temporarily in the future.

Time a Factor. Table C illustrates the rate at which contributions increase at 3% compound interest. In the end, the teacher's annuity must depend upon the amount of his contribution and the regularity with which it is paid over a period of years comparable to a life spent in his profession.

Any joint contributory retirement system has a period of comparatively low annuities for the first several years.

Improvements in the basic law should be made only after consideration from the long-view standpoint.

Minimum Annuity. It is quite evident that the minimum annuity is too low. It is also evident that the state is not at this time meeting its obligation for prior service fast enough.

Somewhere between the two concomitant forces is the proper place to set the minimum annuity and to see that the General Assembly and the public are informed as to the necessity for taking care of it.

The extra burden of a higher minimum annuity should become less as each year passes, just as the burden for prior service should become less with each passing year, ending at the retirement of the last teacher having credit for prior service.

Adequate salaries for teachers will go a long way in guaranteeing

**Table C. Compound Interest and Discount Table
Three Per Cent**

Years	Amount of \$1 in N Years @ 3%	Present Value of \$1 Due N Years Hence	Amount of \$1 Per Annum in N Years	Present Value of \$1 Per Annum for N Years
1	1.030	.9709	1.03	1.000
2	1.061	.9426	2.09	1.971
3	1.093	.9151	3.18	2.913
4	1.126	.8885	4.31	3.829
5	1.159	.8626	5.47	4.717
6	1.194	.8375	6.66	5.580
7	1.230	.8131	7.89	6.417
8	1.267	.7894	9.16	7.230
9	1.305	.7664	10.46	8.020
10	1.344	.7441	11.81	8.786
11	1.384	.7224	13.19	9.530
12	1.426	.7014	14.62	10.253
13	1.469	.6810	16.09	10.954
14	1.513	.6611	17.60	11.635
15	1.558	.6419	19.16	12.296
16	1.605	.6232	20.76	12.938
17	1.653	.6050	22.41	13.561
18	1.702	.5874	24.12	14.166
19	1.754	.5703	25.87	14.754
20	1.806	.5537	27.68	15.324
21	1.860	.5376	29.54	15.877
22	1.916	.5219	31.45	16.415
23	1.974	.5067	33.43	16.937
24	2.033	.4919	35.46	17.444
25	2.094	.4776	37.55	17.936
30	2.427	.4120	49.00	20.188
35	2.814	.3554	62.28	22.132
40	3.262	.3066	77.66	23.808
45	3.782	.2644	95.50	25.254
50	4.384	.2281	116.18	26.502

adequate annuities. Whatever the percentage of increase in average salaries, until \$2000 is reached, there follows the same percentage of increase on subsequent service benefits. Increase in salaries now does not increase prior service benefits.

A Long-Time View

The time will come when all service will be subsequent service and all teachers, practically, will have come into membership under the age of 30 and will, therefore, contribute 2%, but not more than 2% of \$2000, which is \$40.00 per year.

At that time the state will have no obligation for prior service, and if 2% is found to be too small to provide the benefits the typical teacher desires, the state should be able to match a larger percentage.

The state may be able now to match a larger percentage of contribution if the need is properly presented. Recent increases in salaries have required an increase in the state's matching contribution from \$479,061.24 in 1940-41 to \$546,804.72 in 1943-44. If the \$3,000,000 deficiency appropriation had not been exempted from the Retirement Law, the latter figure would have been \$85,500 larger, a total of \$632,304.72. From this it is obvious that it will require a further increase in 1944-45, since the amount spent for instruction cannot be less according to law.

Table D indicates that a contribution of 2% is not sufficient to pay the annuity now provided by law. This does not necessarily mean the Retirement System will be unsound.

Table D. Contribution of State and Member Compared with Required Reserve

Age at retirement	60	65	70
Per cent of salary due as annuity at retirement	28½%	48¾%	50%
Annuity at specified age	\$ 427.50	\$ 725.63	\$ 750.00
Accumulated contribution by member and state	4,273.80	5,283.00	6,452.40
Reserve required for a man	5,298.05	7,657.54	6,584.28
Reserve required for a woman	6,092.33	8,992.80	7,914.72
Life expectancy (A.E.T. of M.)	14.10	11.10	8.48
Amount necessary to pay \$1.00 per annum—man	12.39309	10.55296	8.77904
Amount necessary to pay \$1.00 per annum—woman	14.25107	12.39309	10.55296
Age at retirement	60	64	69
Per cent of salary due as annuity at retirement	28½%	31½%	50%
Annuity at specified age	\$ 427.50	\$ 472.50	\$ 750.00
Accumulated contribution by member and state	4,273.80	5,068.80	6,204.60
Reserve required for a man	5,298.05	5,157.41	6,844.65
Reserve required for a woman	6,092.33	6,032.35	8,187.95

Table D applies to a new member, entrance age 22 (paying 2%), with a constant salary of \$1500 per year

The amount paid in by the member and the state plus interest accumulations at 3% does not appear to be sufficient to pay the annuity. However, an actuarial study might find such payments sufficient due to the influence of other factors, such as withdrawals and deaths. The purpose of this table is to show that apparently the amount contributed currently by the teacher and the state does not equal the amount required to be set up in the reserve for the payment of the annuity at retirement.

Table D may be reconstructed as shown in Table DX. It is known that all present members will not retire; however, the percentage is indeterminate at this time. The State Accumulation Fund, therefore,

contains an indeterminate amount of assets that may later be made available to supplement the teachers' contribution and the "normal" contribution of the state. Under the present plan of accounting, the amounts available would be transferred to the Guarantee Fund and make a probable surplus in that fund, to be transferred to the Allowance Reserve Fund.

The deficits indicated in Table D are provided for in Table DX by taking them out of the State Accumulation Fund. For example, the teacher referred to will contribute \$2,641.50 by reaching the age of 65, but if she retires at that time, it will be necessary to draw \$6,351.30 instead of \$2,641.50 from the State Accumulation Fund in order to pay the aggregate of her annuity at 65, which is \$8,992.80. KRS 161.420, paragraph 3 reads as follows:

"The state accumulation fund shall consist of the state's appropriations to the retirement system, excluding money assigned to the expense fund, together with interest assigned by the board of trustees from the guarantee fund. At the time of the retirement of a member by reason of superannuation or disability there shall be transferred from the state accumulation fund an amount which together with the sum transferred from the teachers' savings fund will be sufficient to provide the member the allowance granted in KRS 161.620 and 161.660."

The Actuary is of the opinion the Retirement System will, in this way, be able to meet the annuity payments without any increase in the contribution for subsequent service, either by the teacher or state; and therefore, in case such increases are made by amendment to the present Law, such increases would buy proportionately larger annuities.

The first actuarial report substantiates this view. Table D and Table DX are given as a basis for further thinking or investigation on this point.

Table D provides some information on which to evaluate the soundness of the present Retirement Law after the obligation for prior service no longer obtains. It is not conclusive. It considers subsequent service only and the contribution of a teacher entering the Retirement System at the age of 22 and teaching without loss of time until she retires. Since \$1500 is arbitrarily taken as her salary from the beginning, she would contribute \$30.00 per year and so would the state. At age 60 her accumulated contribution plus that of the state is \$4,273.80; her annuity is \$427.50 and life expectancy, according to our table, is 14.1 years. The reserve required to pay her annuity is \$6,092.33, which is \$1,818.53 larger than the amount provided for that purpose. The condition is worse if she teaches five years longer, retiring at 65; but is improved somewhat if she teaches until 70 because of the 50% maximum.

It apparently was assumed by those who wrote the Retirement Bill that this deficiency would be made up by interest earnings in excess of 3% and a surplus created by the transfer of funds caused by withdrawals. Under present economic conditions, 2.5% is the maximum a retirement system can make on investments. Those realizing a greater return are doing it on investments made in the 1930's or earlier.

If she retires at 64 rather than at 65, which very few will do because

Table DX. Contribution of Retirement System and a Member Entering as a New Teacher Age 22 With a Constant Salary of \$1500 Per Year¹

Age at retirement	60	65	70
Per cent of salary due as annuity at retirement	28½%	48¾%	50%
Annuity at specified age	\$ 427.50	\$ 725.63	\$ 750.00
Accumulated contribution by member.....	(2,136.90)	(2,641.50)	(3,226.20)
From State Accumulation Fund for a man	(3,161.15)	(5,016.04)	(3,358.08)
Total	\$ 5,298.05	\$ 7,657.54	\$ 6,584.28
Reserve required for a man	\$ 5,298.05	\$ 7,657.54	\$ 6,584.28
Accumulated contribution by member.....	(2,136.90)	(2,641.50)	(3,226.20)
From State Accumulation Fund for a woman	(3,955.43)	(6,351.30)	(4,688.52)
Total	\$ 6,092.33	\$ 8,992.80	\$ 7,914.72
Reserve required for a woman	\$ 6,092.33	\$ 8,992.80	\$ 7,914.72
Life expectancy (A.E.T. of M.).....	14.10	11.10	8.48
Amount necessary to pay \$1.00 per annum—man	12.39309	10.55296	8.77904
Amount necessary to pay \$1.00 per annum—woman	14.25107	12.39309	10.55296

Age at retirement	60	64	69
Per cent of salary due as annuity at retirement	28½%	31½%	50%
Annuity at specified age	\$ 427.50	\$ 472.50	\$ 750.00
Accumulated contribution by member.....	(2,136.90)	(2,534.40)	(3,102.30)
From State Accumulated Fund for a man	(3,161.15)	(2,623.01)	(3,742.35)
Total	\$ 5,298.05	\$ 5,157.41	\$ 6,844.65
Reserve required for a man	5,298.05	5,157.41	6,844.65
Accumulated contribution by member.....	(2,136.90)	(2,534.40)	(3,102.30)
From State Accumulation Fund for a woman	(3,955.43)	(3,497.95)	(5,085.65)
Total	\$ 6,092.33	\$ 6,032.35	\$ 8,187.95
Reserve required for a woman	\$ 6,092.33	\$ 6,032.35	\$ 8,187.95

¹The amount provided from State Accumulation Fund to make up the reserve required for a man or woman will be larger than the amount provided by the member's accumulated contributions. The State Accumulation Fund should be sufficient to meet these excesses for retiring members since the matching contributions by the State on account of members dying and withdrawing augment this fund.

of the disproportionate difference in the annuity, her deficit will be \$963.55, the lowest for any year at which she may retire.

If the teacher's contribution is 3% instead of 2%, the reserve in each case will be increased 50%—at 60, \$6,410.70; at 65, \$7,924.50, and at 70, \$9,678.60. Since the teacher retiring at 70 would not be able to draw all of his reserve, that surplus would automatically go to liquidate the deficit in the case of a teacher retiring at 65. It, therefore, appears

that a contribution of 3% would be sufficient to provide the annuity to be paid under the present law, without taking into consideration the factors of death and withdrawal.

The only factor used that could cause error in these calculations is the table of life expectancy, which is a modified table based upon the American Experience Table of Mortality with adjustments to conform to the experience of certain older teachers' retirement systems.

The salary taken here is a constant salary. In practice salaries increase from the beginning of service to the end. There is no appreciable reduction in salary just before retirement, although there is the possibility of it. This being true, the deficits described would tend to be greater in actual experience.

Any modification of the Retirement Law should take this into consideration.

Additional Contribution. There is some demand for the privilege of paying an additional contribution over and above that matched by the state for the purpose of purchasing an additional annuity at retirement. This is practical. Such payments would be credited to the member on a separate ledger account and would be invested in the same manner as other funds of the Retirement System. The net interest earned would be credited to the account of the individual and compounded on July 1 of each year. This should be done without cost to the member and an insignificant cost to the state.

Upon retirement, the additional annuity bought would be added to the regular quarterly annuity check during the life of the retired member. Upon withdrawal or death before retirement, the accumulated amount of the account should be refunded.

The annuity should be increased by a proper factor so that none of this additional account would be refundable upon death after retirement.

There are advantages to the teacher in the higher salary bracket in such a privilege. Private life insurance companies can and do provide excellent service for people so situated. The cost is a little greater, but life insurance and annuity companies can provide for a definite number of annuity payments "certain" to be paid even though the annuitant is deceased, and this a retirement system cannot practically do.

Options. After the Teachers' Retirement System has been in operation long enough for members to have adequate individual reserves built up, provision can be made under Section 161.630, KRS, for one or more dependants. The retiring member options a smaller annuity at time of retirement, leaving a predetermined annuity for his beneficiary or beneficiaries. The total of all annuities would equal the actuarial value of his benefits under Section 161.620, KRS.

Out of State Service. Present teachers have 8,356 years of out of state service. This is not quite .04 of all prior service and if equally distributed, would not constitute a problem. It is, however, held by a comparatively few members and in many cases it tends to deprive them of the benefits of the Retirement System. Such members should at last have the privilege of validating this service, or as much thereof as they

may, by paying the present worth of the calculated increase in annuity at age 60. Such costs would be comparatively high, but not prohibitive. Such validated service should be treated as prior service. The advantages, to the member, of such service are great, over and beyond the increase in annuity that such validation would provide. Such a plan would cost the state no outlay of money. A more liberal plan may be found desirable.

Disability. There is the same service requirement, twenty years, for retirement for permanent disability as for superannuation. The only difference is in the minimum age; 50 for disability, 60 for superannuation. This requirement is high because such cases are treated in the same manner as cases retiring for superannuation so far as annuity, contributions, and reserve are concerned. No additional contribution seems necessary as long as the minimum service requirement is 20 years. If the minimum remains at 20 years, the age requirement of 50 years might be reduced or eliminated.

The disability annuity ranges from 10% of average salary as defined in the law to about 21%. A majority of disability annuitants at this time draw the minimum of \$100 per year.

Some retirement systems have a sickness, accident, and disability feature for which its members make an additional contribution. It is difficult of administration. Our permanent disability retirement feature is easy of administration and costs nothing extra.

Out of 415 retirements, 24 have been for permanent disability.

Superannuation. The minimum service requirement of a majority of the states is 30 or more years. For Kentucky it is 20 years. The states are practically agreed that 60 is the correct minimum age for voluntary retirement. Taking the United States as a whole, the average age for voluntary retirement is near 66. For Social Security retirement, it is 65. It is observed that members who are well and vigorous do not want to retire even at age 70. When our Retirement Act went into effect, we had teachers as old as 85 teaching regularly. The average age of members retiring July 1, 1942, was 71.125 years. There were 168 teachers 70 or over in active service.

If a member accumulates 30 years of service credit before reaching the age of 60, he may, if he so desires for any reason, withdraw from the profession, but not withdraw from the Retirement System, continuing to pay his usual contribution direct to the Retirement office until he reaches the minimum retirement age, at which time he would be retired.

A member with 30 years or more of service credit is not required to teach the last five years, immediately before retirement, consecutively. He remains eligible to retire during an absence of nonpayment of contributions for not more than three years.

Membership is maintained by teaching three (3) years out of each 6-year period.

With the member with less than 30 years of service credit, application for retirement must be filed within one scholastic year after he quits teaching in order to be eligible for retirement.

In any case dues may be paid under "leave of absence." If dues are so paid, it has the same effect as teaching. The Retirement System will recognize three (3) years of "leave" during each 10-year period.

The board of trustees has the authority to validate service credit for not more than 6 years of absence from the profession. If the member may pay contributions, no such validation is necessary.

Service Credit. Many members place too low a value upon their service credit. Recently a member surrendered her credit of 24 years in order to draw out her account of less than \$50.00. Her reason being that she could not teach for three years. In reality she could have arranged for an absence of 6 years and retain her service credit, which at age 60 would have a retirement value of \$1400. No arrangement was necessary for an absence of 3 years.

Members should write the Secretary for advice, when in doubt. The interest of the member will be fully and promptly explained.

Members in regular service who have reached retirement age have from one to three years in which to decide whether they want to voluntarily retire. Once the application for retirement is approved, it is assumed by the Retirement Law that the member cannot return actively to the profession. An exception is made for emergency conditions, but the Retirement System is not an unemployment plan, but is a retirement plan.

Problems. At this time there are two major problems facing the Retirement System:

1. What is an adequate retirement allowance?
2. Can the members and the state maintain this allowance?

The first should be answered by the profession, and the obligation under the second equitably divided between the members and the state.

The trend is toward the determination of the teacher's contribution; the state's contribution, and the teacher's annuity by exact actuarial calculations.

The teacher's contribution could be determined by calculation from the annuity which is considered adequate and desirable, fixed arbitrarily. The state's contribution could then be determined therefrom by calculating the amount needed to supplement the teacher's contribution in order to make the predetermined annuity possible. When the teacher retires, the annuity would then be determined by dividing the reserve built up by teacher and state by the proper factor of life expectancy at age of retirement.

All other ways of calculations are mere devices for reaching the same conclusion.

What other state retirement systems are doing may indicate what we may undertake to do.

Tables E and F show roughly what others are doing.

The data given in Table E were collected recently by means of a questionnaire suggested by Mr. John W. Brooker of the Kentucky Education Association. Thirty-one states sent replies to one or more of

Table E. Membership, State Contributions and Annuities of Certain States With Teacher Retirement Systems July 1, 1944

State	No. of Active Members	State or District Contribution 1943-44	Annuities Paid			Remarks
			Minimum	Maximum	Median or Average	
Arkansas	11,800	\$ 540,000	\$ 180.00	\$ 600.00	\$ 324.00	Annuity not reported. Average not reported. No annuities paid until 1949.
Arizona	3,500	100,000				
California	54,000	1,000,000	240.00	1,350.00		
Colorado	4,922	23,862				
Connecticut	9,982	1,324,165	500.00	3,733.02	664.97	
Florida	14,240	100,000	64.92	1,009.20	392.28	Not included in totals and averages.
Illinois	35,000	2,429,200	132.00	1,500.00	500.00	
KENTUCKY¹	27,859	650,000	100.00	690.00	276.36	
Kansas	18,000	60,000	24.00	204.00	180.00	
Louisiana	17,569	949,182	8.16	2,335.17	419.69	
Maine	35,000	143,473				{Annuities on actuarial basis. Not reported.
Maryland	7,000	710,650	69.60	6,339.43	600.00	
Massachusetts	21,245	1,805,544	177.52	1,972.68	1,174.04	
Michigan	28,000	750,000	600.00	1,200.00	800.00	
Minnesota	8,014	264,872	80.00	2,206.32	736.16	
Montana	6,085	150,000	120.00	750.00	390.00	Annuities paid on actuarial basis.
New Hampshire	474	38,000	51.05	51.05	51.05	
New Jersey	30,762	6,512,601	152.28	5,263.80		
Nevada	800	44,630	600.00	816.00	600.00	
North Carolina	56,000	2,000,000	11.52	1,500.00	300.00	
North Dakota	12,000	100,000	238.00	510.00		Counties pay 20c a child. {Superannuation. Teachers do not contribute.
New Mexico	3,985		450.00	1,500.00	678.00	
Ohio	44,000	2,760,000	44.88	1,555.08	791.67	

¹ Not included in totals and averages.

Table E. Membership, State Contributions and Annuities of Certain States With Teacher Retirement Systems July 1, 1944—Continued

State	No. or Active Members	State of District Contribution 1943-44	Annuities Paid			Remarks
			Minimum	Maximum	Median or Average	
Oklahoma	10,750	100,000				No one retired until 1947.
Pennsylvania	85,564	3,335,000	173.24	2,755.45	1,215.00	
Rhode Island	485	339,600	500.00	700.00		No contributions by teachers. Not in operation yet.
South Dakota						
Utah	5,000	431,200	360.00	1,200.00	750.00	Average for disability \$389.16.
Vermont	482	27,500	192.00	1,200.00		
Washington	13,000	1,125,000	120.00	600.00	468.00	
West Virginia	18,324	1,300,000	50.00	1,274.84	453.95	{ Benefits on Actuarial basis. Not reported.
Wisconsin	17,284	2,370,472				
	541,767	\$30,654,951	\$5,138.17	\$42,626.09	\$11,518.81	
$\$30,654,951.00 \div 537782 =$		57.00				{ Average contribution by the State per teacher. ²
$5,138.17 \div 25 =$			205.52			Minimum average annuity.
$42,626.09 \div 25 =$				1,705.00		Maximum average annuity.
$11,518.81 \div 20 =$					575.94	Median average annuity.

Source of data: Questionnaires returned by secretaries of retirement systems.

² The average in Kentucky in 1943-44 was $\$650,000.00 \div 27859 = \23.33 .

the questions asked. The data are for the last fiscal year of the state reporting.

The active membership reported may include members not teaching at this time, but still in membership. For example, Kentucky has about 18,250 teaching positions in which the teacher holds membership, but we have 27,859 teachers holding membership as defined in the law.

With the exception of five states, no apparent effort is made to keep the minimum annuity up to a definite standard. In nine states the minimum annuity granted for last year was less than \$100.00.

The maximum annuity for any retirement system is not highly important unless it is comparatively near to the average or median annuity. Only a few teachers receive the maximum annuity in cases where it is comparatively high, as in Maryland. The true measure of the value of the Maryland Retirement System is in the average or median annuity of \$600. In Connecticut, for example, the minimum annuity of \$500.00 and the average or median annuity of \$664.97 are both highly significant, while their maximum of \$3,733.02 is not.

In Michigan, for example, the maximum annuity is significant of the value of their retirement system because many teachers can and will receive this maximum.

The maximum annuity is highly important in Kentucky because it is based upon half pay of all individual salaries of \$2,000 or less and is in the reach of all teachers, not now, but when the Retirement System reaches its maturity.

In comparing the maximum annuity granted in Kentucky with that for other states, it should be kept in mind that the maximum in Kentucky is not yet reached and will not be until 1954. This is also true in the case of some of the other states. A high percentage of teachers in Kentucky will be able to receive the maximum annuity when their Retirement System becomes fully effective.

The average maximum annuity for the states reporting, excluding Kentucky, is \$1,705.00.

The average minimum is \$205.52, a little more than twice that of Kentucky which is \$100.00. The case of Kentucky is in a class by itself. About 15% of the retired teachers in Kentucky are receiving this minimum.

More than 46% of our retired teachers are at this time receiving less than \$205.52, the average minimum for all the states. The number receiving this low annuity is decreasing, but this does not help those who are on the annuity roll or who will be placed thereon in the near future.

The number retiring to receive the minimum is by years: 1942, twenty-five; 1943, twenty-six; and 1944, eight. The number receiving between \$100.00 and \$200.00 is by years: 1942, eighty; 1943, forty-three; and 1944, fifteen.

This low annuity in Kentucky is due to the low salaries paid, the maximum limit of 30 years credit for prior service and the small amount of subsequent service earned.

Salary increases such as recently obtained and the further accumulation of subsequent service will ameliorate the condition.

Table F. Normal and Deficiency Contributions By Certain States And Their Members' Contributions Expressed in Percentage of Salary Where Possible

State	Per Cent State Contributions		Per Cent Member Cont.	Maximum Salary Base	Explanation
	Normal	Def'y.			
Alabama	2.55	3.44	3.5		
Arizona	2.56	a	a	\$2800	a. Actuarially determined.
Arkansas	4.00	1.5	4	2500	
California	b		4		b. \$12 per teacher per year plus 5% of inheritance and transfer tax.
Colorado ¹	3.5		3.5		
Connecticut	c	c	5		c. Amount needed to make reserve sufficient.
Florida	2.82	3.65	a		
Georgia	2.73	4.10	5		
Illinois	e	e	4		e. Actuarially determined. Member pays for prior service.
Indiana	f	f	a		
Kansas	g		4	3000	f. Proceeds of certain taxes.
Kentucky ²	3—	2	3—	2000	g. Transfers from school fund.
Louisiana	2.57	2.90	4		
Maine	5		5		
Maryland	3.18	3.83	a		
Massachusetts	a	a	5		
Michigan	h		3	3000	h. \$300,000 per year.
Minnesota	i		5	2000	i. Maximum \$250,000 per year.
Montana	a	a	5	2000	
Nevada	j		5		j. 3c tax on \$100 assessment.
New Hampshire	5		5	2000	
New Jersey	3.58	5.33	a		
New York	a	a	4		
North Carolina	a	a	4	3000	
North Dakota	k		1 to 2		k. 20c per child per year.
Ohio	2.5	1.5	4	2000	
Oklahoma	1		4		l. 1943-1945 \$100,000 per year.
Pennsylvania	*	3.2	5		* 2.13 to 4.14.
South Dakota	m	m	n		m. State will appropriate funds.
Texas	5		5	3600	n. Members may elect annuity of \$100 to \$300 and pay accordingly.
Utah	5		6	2500	
Vermont	5		5	2000	
Virginia	2.57	3	a	2000	
Washington	m	m	a	2000	
West Virginia	4		4	2500	
Wisconsin	f		5		
Wyoming	1 to 2		1		

Data presented in Table F are compiled from Statutory Analysis of Retirement Provisions for Teachers and Other School Employees. N. E. A. Bulletin, January, 1944.

¹ With the exception noted, states like Colorado and New Hampshire make the normal contribution sufficient to include the funds for the deficiency appropriation. We are not able to segregate the percentages.

² Statutory provisions. Two per cent, three per cent, or four per cent according to age of entrance. Average member's contribution slightly less than three per cent and the state matching said contribution.

And
In the meantime if the minimum annuity is placed at \$200.00, a sufficient appropriation should be obtained to pay the difference and to make it apply also to those already retired. As the years pass, the necessary additional appropriation would decrease. The cost could be definitely calculated and included in the obligation for prior service.

The median annuity is a better figure to use than the average annuity, but this could not be obtained from all the states, hence the necessity of using either as reported. The average of the median or average annuities as reported by twenty states is \$575.94. The average for Kentucky is at this time for all teachers who have retired \$276.36.

The average for those retiring July 1, 1944, is \$343.27. The average for Kentucky will increase as salaries increase and as the teachers accumulate subsequent service credit. As in the case of average minimum annuities, this average for Kentucky is less than half the average for the states reporting. In time the average for Kentucky may be expected to compare favorably with that of Illinois, Ohio, Maryland and others of the older retirement systems.

State support figures large in each of the state teachers retirement systems. In New Mexico the state pays the entire annuity, the teacher making no contribution. For the states reporting, the average contribution per member by the state for 1943-44 was \$57.00; on the same basis the average for Kentucky was \$23.33. If we consider the teaching and contributing membership of Kentucky as 18,250 instead of 27,859, the average contribution per member by the state is \$35.62. If we use the appropriation for 1944-45, the per member average is \$43.78. The average contribution paid by Kentucky teachers during 1943-44 was \$30.00.

Compared with the average of all other states, Kentucky is low in either case.

If Kentucky had appropriated during 1943-44 the full amount allowed by law, it should have been \$50.00 per member for 18,250 members, an increase of \$14.38 per teaching member.

There are certain factors such as salary, teacher turnover, health, average retirement age which might make a smaller per member appropriation for Kentucky sufficient.

It is to be noted, however, that on the three points of comparison; average minimum annuity, average median annuity, and per member support, Kentucky is low in comparison with the average of the states studied.

Roughly defined, the normal contribution is the contribution for subsequent service, and the deficiency contribution is the contribution for prior service. As in Texas, for example, some states make one contribution which in practice includes both the normal and deficiency appropriation.

For Kentucky, the normal contribution is the one which "matches" the teacher's contribution held in the State Accumulation Fund account number one; and the deficiency contribution is 2% of members' aggregate prior service salaries. The normal contribution is a little less than 3%, and the total statutory state contribution is therefore approximately 5%. This percentage compares more or less favorably with percentages paid by other states, as for example, Ohio. The tendency is toward determining these percentages actuarially at stated intervals. However,

when this is done the combined percentages of state support is about the same as that for Kentucky. It is obvious that the deficiency contribution gradually decreases as the state's obligation for prior service is paid. In Kentucky the percentage is constant, but the base decreases each year as teachers with prior service die, withdraw, or retire. The percentage provided for in the Kentucky Law seems to be sufficiently high to meet the standard for actuarial soundness if the 2% is promptly and regularly paid.

In a joint contributory system like that of Kentucky and thirty-six other states, the normal contribution should approximate the contribution paid by the teacher. Table F seems to indicate that in many states the teachers' contribution is greater than the normal contribution paid by their respective states. In Kentucky the normal contribution has been paid regularly, promptly and in the exact amount due each month since July 1, 1940.

If in Kentucky the teachers' contribution is increased in per cent, it would seem fair to increase the state's percentage of normal contribution; especially during present conditions under which the Guarantee Fund must depend heavily upon the State Accumulation Fund in order to meet interest requirements of 3%.

In normal times, if and when, 3% can be earned on investments, the state's normal contribution might be reduced with safety and the System remain actuarially sound. Such action does not appear to be advisable at this time.

The data indicate that in round numbers 10% properly distributed as to normal contribution, deficiency contribution and teachers' contribution is a maximum amount necessary in any state. No doubt 8% would be found sufficient after the burden of the prior service obligation is sufficiently reduced. The percentage for Kentucky is at this time slightly under 8%.

Table G. Biennial Budget Requests For The Kentucky Teachers' Retirement System By Years

Year	Total Requested	Minimum Specified	Appropriation
1940-41	\$ 500,000.00*	\$ 500,000.00	\$ 500,000.00
1941-42	500,000.00*	500,000.00	500,000.00
1942-43	865,320.00	650,000.00	650,000.00
1943-44	854,280.00	650,000.00	650,000.00
1944-45	972,625.00	799,000.00	799,000.00
1945-46	972,625.00	823,000.00	823,000.00
Totals	\$4,664,850.00	\$3,922,000.00	\$3,922,000.00

* Amount specified in Act of 1940, Sec. 4506b-37.

Those charged with the responsibility of preparing the state budget must require the services and agencies of the State Government to submit budget request in November before the General Assembly meets in January. The Retirement budget is determined principally by the amount needed to match teachers' contributions and to pay for the prior service of those who retire.

To estimate these amounts eight months and twenty months in advance of the beginning of the fiscal year for which appropriations are sought is precarious business to say the least. Eight months and twenty months, respectively, before the per capita allotments can be determined, the amount needed to match contributions based thereon must be arrived at.

The number of members who will retire during the biennium must be estimated and the part of their total annuities derived from prior service credit calculated.

These two subtotals plus the amount needed for administrative expenses, which amount cannot exceed a sum equal to 4% of the receipts of the "matching" fund, make the total budget.

These figures must be justified before the Legislative Council and other budget officers. Their questions relative to the need of a specific amount must be answered satisfactorily.

The Retirement System each biennium has been requested to submit for consideration two budgetary amounts: (1) the maximum amount provided for in Section 161.550, KRS., and (2) the amount required to match teachers' contributions and pay the annuities of retired teachers for the biennium. Appropriation has always been made for an amount not less than (2), but never near enough to (1) for the best interest of the Retirement System.

However, each appropriation has been increased over the preceding one, and this is another factor in the constant gradual improvement of the Retirement System.

First Actuarial Report. At the close of the first year of operation, an actuarial study was made and a balance sheet prepared for the Retirement System. It is presented as Table H. While it appears to be accurate, it can scarcely be expected to be as accurate a guide as the one which is to be prepared at the close of the fifth fiscal year.

It should be recalled that before the Retirement Bill was written a careful and detailed study covering tenure, teacher-turnover, ages of present teachers, average salaries of teachers, and related factors was made by the K. E. A. and the University of Kentucky.

This study was actuarially interpreted, and upon the findings the present Retirement Law was based.

The actuarial study made at the end of 1940-41 in all principal points verified the former study.

In order to prepare this balance sheet, it was necessary to prepare fundamental tables on at least four factors affecting termination of active membership. Since the membership has a high percentage of women, all members were treated as women in preparing these four tables. This results in a margin of safety, since life expectancy for men is the lower.

The four factors are withdrawal, death, disability, and superannuation.

The termination of membership by leaving the profession is a highly important factor in making calculations with reference to our Retirement System. Table J is based upon the experience of other retirement systems. It appears that the number indicated as withdrawing per 1000 in

**Table H. Valuation Balance Sheet Approximate Liabilities and Assets
of the Teachers' Retirement System of Kentucky¹
as of July 1, 1941**

3% Interest Rate

PRIOR SERVICE

Liabilities

Present Value of:

Benefits Mandatory by Reason of Prior Service.....	\$2,517,718.37
Benefits Mandatory by Reason of Prior Service for members eligible to retire	1,345,997.28
Total Liabilities by Reason of Prior Service.....	\$3,863,715.65

Assets

Present Value of:

State's Accrued Obligations for Prior Service Credits	\$3,863,715.65
Total Assets by Reason of Prior Service	\$3,863,715.65

In accordance with Section 4506b-37 of the Law, the State undertakes to contribute a temporary amount annually "in order to cover the obligation assumed by the State for Prior Service Credits." The obligation of the State is equivalent in amount to the liabilities for prior service credits. The law attempts to measure this temporary annual appropriation by an amount equal to two per centum of the salaries of all present teachers. Using the current salary scale of all present teachers as a guide, and obtaining a present value based upon 2% thereof, we find that such approximate present value is apparently insufficient to discharge the State's accrued obligations. It also appears that a measure of the present value based upon salaries of present teachers will result in a diminishing return, thus weakening the dependability of the approximate present value. The indicated deficiency is not of immediate concern, but should be taken into consideration in future valuations.

State's accrued obligations for Prior Service....	\$3,863,715.65
Approximate present value of State's tempo- rary annual appropriation	3,669,282.23
Indicated deficit	\$194,433.42

¹ From Actuarial Report on the Teachers' Retirement System of Kentucky, September 26, 1941, L. C. Cortright, Actuary.

SUBSEQUENT SERVICE

Liabilities

Present Value of:

Benefits Mandatory by Reason of Subsequent Service	\$10,438,139.10
Estimate to cover Members' withdrawable funds funds (Prior to 60)	2,304,999.53
Total Liability by Reason of Subsequent Service.....	\$12,743,138.63

Table H. Valuation Balance Sheet Approximate Liabilities and Assets of the Teachers' Retirement System of Kentucky¹ as of July 1, 1941—(Continued)

Assets

Present Value of:

Members' Contributions by Reason of Subsequent Service, including funds subject to return in event of death or withdrawal prior to age 60.....	\$ 7,390,242.61
State's Contributions by Reason of Subsequent Service, none of which is subject to return by reason of death or withdrawal of members prior to 60	5,352,896.02
Total Assets by Reason of Subsequent Service.....	\$12,743,138.63

The law specifies that in the event of withdrawal from the system, or death of the member prior to age 60, a member's contribution shall be refunded, together with interest accumulations thereon at 3%. Accordingly, in calculating the present value of members' contributions as a part of assets by reason of subsequent service, due allowance has been made for this contingency. Likewise an equivalent allowance as an estimate has been given consideration in connection with Liabilities by Reason of Subsequent Service.

CONSOLIDATED VALUATION BALANCE SHEET

Liabilities

Total Liabilities by Reason of Prior Service.....	\$ 3,863,715.65
Total Liabilities by Reason of Subsequent Service ..	12,743,138.63
Total Liabilities	\$16,606,854.28

Assets

Total Assets by Reason of Prior Service	\$ 3,863,715.65
Total Assets by Reason of Subsequent Service	12,743,138.63
Total Assets	\$16,606,854.28

Table J is smaller than the present experience indicates; however, our tables of experience covering the war period may not reflect conditions in normal times. A high withdrawal rate favorably affects the balance sheet of the Retirement System. Since the contribution of the withdrawing teacher only is lost, the remainder in the retirement system funds is increased per member. It leaves a larger amount with which to discharge the obligations of the Retirement System to the remaining membership.

Table J may be read as follows: out of a group of 1,000 active teachers ages 20 to 24, 7.65 will withdraw, 2.2 will die, and 0.5 will become disabled during any given year.

Our members may withdraw their accounts upon leaving the profession and surrendering their Retirement Certificates. They must, of course, certify that they are leaving the profession permanently. Allowance must be made for changes in circumstances over which the individual has no control, so there is provision for the re-establishment of the

Table J. Number of Withdrawals, Deaths, and Disabilities Per 1,000 Active Members by Age Groups

Age	Withdrawal	Death	Disability
20	7.65	2.2	0.5
25	9.60	2.5	0.6
30	8.28	3.0	0.9
35	4.27	3.5	1.4
40	.96	4.4	2.5
45	.40	5.6	4.9
50	.15	7.3	11.2
55	.03	10.6	19.3
60	-----	19.3	29.8
65	-----	35.5	45.2
70	-----	62.3	66.0

account of the withdrawing teacher if she returns to the profession without an absence of more than three scholastic years. In order to bring her account up to where it would have been had it not been withdrawn, 3% compound interest must be returned with the principal.

Since July 1, 1940, 2,656 members have withdrawn their accounts and 20 of this number have re-entered the profession within three years and returned their accounts. Our Retirement System has approximately 1,500 accounts of teachers who have not taught for three school terms, and approximately 9,000 who have been absent from teaching less than three years. In the four years of its existence, the Kentucky Retirement System has held the membership and account of not less than 30,000 different individuals, almost two for each teaching position in the State.

The Board of Trustees may upon request extend the period of absence to six years, but this does not apply to a member who has withdrawn his account.

Losses by Death. The mortality rates used in making the foregoing valuation balance sheet of liabilities and assets are derived from experience tables of select groups of annuitants. Modification has been made for recent trends. From July 1, 1940, to June 30, 1944, 151 deaths have been reported to the Retirement office. Many have not been reported. These figures do not include deceased retired teachers.

Upon the death of a member before retirement, his account consisting of his contributions and interest at 3% compounded annually is returned to his beneficiary. The contribution of the state plus its interest is transferred to the Guarantee Fund.

Upon the death of a retired member, the unused balance, if any, of his own account is paid to his beneficiary; and the accrued part of his quarterly benefit payment is paid to his estate. Both amounts should be paid either to his beneficiary or to his estate.

After a retired teacher's account is transferred to the Allowance Reserve Fund, it accumulates no additional interest for the prospective beneficiary. Interest earned after this transfer remains in the Allowance Reserve Fund. Three per cent interest is credited to the Allowance Reserve Fund each July 1 from the Guarantee Fund.

000

When the Retirement System has reached its maturity, the retiring teacher's accumulated account alone will be sufficient to pay the annuity for approximately four years. A retirement system does not well perform the function of life insurance.

Conclusions. It is not advisable to try to formulate conclusions on the basis of the data presented here. These will be greatly augmented as a result of the thinking of interested members and friends and to a greater extent by the results of the actuarial study provided for in Section 161.400, KRS, which will be made at the end of the fifth fiscal year.

Discussion

The presentation and discussion of the following numbered statements have been requested.

1. A 100% reserve basis with reference to our Retirement System.

To be on a 100% reserve basis, there must be in the Allowance Reserve Fund a sufficient amount of assets to pay the annuities of all retired teachers for their aggregate life expectancies. The amount now needed to pay the annuities of all retired teachers is \$796,871.96. There is now in the Allowance Reserve Fund \$24,913.50, and the Allowance Reserve Fund will receive about \$116,000.00 during 1944-45 as a minimum. Depending upon a very liberal interpretation of the Law, the amount contributed by the state for prior service during 1940-41 and now in the State Accumulation Fund may be considered or thought of as a credit to the Allowance Reserve Fund, reducing the deficit in the Allowance Reserve Fund to \$217,958.46.

No new legislation is needed to correct this condition. It can be corrected under authority of Section 161.550, KRS.

2. The annuity of the typical teacher retiring at age 65.

Based upon the average prior service salary for the state, which is \$902.00, and a subsequent service salary of \$1,208.00, the average for 1943-44, (unofficial estimate) the annuity will be \$523.00, or 43% of the subsequent service salary.

The typical teacher will retire 25 years hence.

A teacher retiring July 1, 1944, age 65, prior service 30 years, subsequent service 3 years, would receive \$243.72, less than half as much as the teacher retiring in 25 years.

The solution of this problem, "How to increase annuities arbitrarily until the Retirement Law becomes fully effective?" is not readily apparent.

If this teacher continues teaching until 70, retiring July 1, 1949, she would receive \$395.56, an increase over the age 65 annuity of about 60%.

If prior service counted as much as subsequent service, she would receive at 65, \$345.19, and at 70, half pay.

3. The question of "out of state service."

There is no provision for validating out of state service for retirement benefits in Kentucky.

A teacher who comes to Kentucky with years of experience is due some consideration. Since all members do not have out of state service,

the state should not be expected to pay the whole increase of annuity based upon validated out of state service. All validated out of state service should have the value of prior service.

Out of state service, if validated or counted, will increase the annuity. The teacher, or the state and the teacher, should deposit in the Retirement System the present worth of such increase. Members have 8,356 years of out of state service.

Teachers in county districts have 3,019 years, and teachers in independent districts and colleges, 5,337.

The validation of out of state service is worth more than the increase of annuity it makes. It may be the only means by which a teacher may secure sufficient years of service credit to qualify for retirement.

Under varying conditions, 23 states give more or less credit for out of state service. Indiana allows a maximum of 8 years of such service, but the member must make up contribution at 4%; Illinois, 10 years, for which member must have made payments; and Ohio by full payment for any reasonable number of years.

4. Investments.

To date all investments have been made in U. S. Government bonds. At this time interest rates on good bonds of any sort are very low. Triple AAA municipal bonds yield about 2%, often less. U. S. Government bonds yield on the average about 2½%. On June 30, 1944, the amount so invested was \$4,061,207.23, on which the average net yield was 2.475%.

The Kentucky Retirement System may invest in voted bonds issued by first, second, and third class cities of Kentucky, and in bonds of other states. It cannot purchase revenue bonds of any kind, nor county bonds of any kind or classification.

No investment shall be made unless authorized by the Board of Trustees. The Board of Trustees has a Finance Committee consisting of the Chairman, the State Treasurer, and the lay member who is a banker. The Secretary recommends amount, time and manner of investment to the Board and to the Finance Committee. After authority is given, the Secretary makes the investment. The Finance Committee has an advisory group of five leading bankers and brokers of Kentucky.

Since the interest return is supplemented heavily by transfers from the State Accumulation Fund, due to withdrawing members, the present rate of interest is sufficient to enable the Retirement System to operate as a 3% annuity system.

5. Transfers to Fort Knox school, the Schools of Reform at Greendale, the Laboratory School of the University of Kentucky, and Lincoln Institute.

Members transferring to these above named schools cannot pay their contributions while teaching there, but hold membership for three years. Since the schools employ public school teachers, they should be included by the Retirement Act.

Many members of these faculties want retirement privileges.

6. Increasing the 2% contribution to 3%.

It is doubtful that a 2% contribution by the member plus a 2% con-

tribution by the state will provide the annuity expected by the teacher. This does not require immediate attention. It might be found that 2.5% would be sufficient. Careful consideration from every standpoint, not only actuarial, should be given.

At the present time the teacher's income tax is very high; there are fewer people coming into the profession as a life work; and Congress may pass a Social Security Act requiring a further outlay of contributions.

It is possible that a social security program might be acceptable to teachers and effectively supplement their retirement programs. In any case, a social security program, destined for the benefit of the public at large, cannot meet the needs of teachers and other specially skilled groups, but it may provide a floor to their retirement program.

After the state has more fully met its obligation for prior service, there would be time to consider such a modification. At that time the state might be able to make a proportionately larger normal contribution, that is, larger than the contribution made by the teacher.

7. The last five years of subsequent service salary as a base for annuities.

All teachers' salaries fixed on the salary schedule make no reference to age, and we find that there is no general reduction in the older teachers' salaries.

If the subsequent service salary is reduced during all or part of the last five years of service immediately before retirement, and such reduction makes the salary lower than \$2,000.00, this would disproportionately reduce the annuity based thereon. This could happen for the whole state at large or for any school system, as well as for an individual in some particular position, like that of principal.

On the whole, subsequent service salaries are larger than prior service salaries. The average increase for teachers retiring July 1, 1944, was \$75.24 per year, exclusive of the increase given by the \$3,000,000.00 deficiency appropriation.

It is doubtful that any law could be devised that would prevent a decrease in the annuity, since the contribution is based upon the salary, and the reserve would therefore be less. However, the decrease in annuity in extreme cases could be lessened by averaging more than the last five years; say ten years. In 99 cases out of a 100 under the present law, the teacher gains by averaging the last five years only; it is the exceptional case that suffers. Averaging ten years would equalize the differences in annuities.

If the annuity could be determined by dividing the reserve by the amount necessary to pay an annuity of \$1.00 from the age at retirement, the annuity determined would still be lower than if there were no reduction in salary.

Most boards of education are mindful of this problem and take care of it for teachers with long local tenure; the teacher who has had to transfer gets no such consideration, usually.

The same problem of "individual cases" obtains in other phases of the law: If a teacher with one year less than the minimum of service

credit required becomes permanently disabled, she is deprived of retirement benefits.

It is always difficult to provide for certain individual cases, which are exceptional, under any general law. This problem will, however, not be as severe, even in exceptional cases, as appears at first. In some cases the member may find it is more profitable to retire than reduce his salary base by teaching. If he has 30 years of service credit and is not yet 60, he could be allowed by proper authority to pay on his old salary base until aged 60.

8. Delinquent monthly pay roll reports.

The teachers are penalized when boards, treasurers, or administrators are delinquent in sending in the teachers' contributions. The teacher is helpless to remedy this condition.

Section 161.560, KRS., is specific, but there is no penalty for violation and no interest charged the district for the time it holds the teachers' money.

On the whole, this phase of the work is handled in a most satisfactory manner, but sometimes an administrative unit has not realized the importance of prompt and accurate reporting of the money due each teacher's account.

Suggestions for Reporting Teachers' Contributions.

- (1.) Use Form F-40, supplied free by the State Department of Education and the teachers' Retirement System, or a form that conforms in size and information given.
- (2.) In the preparation of the report, see that names of the teachers are written legibly. Use typewriter if possible.
- (3.) List the names of teachers in *alphabetical order* according to the last name of the teacher. This will be found to be very easy if a card list of teachers is kept. These cards can be arranged in alphabetical order in a very few minutes just before preparing the pay roll. In the larger school systems, it may often be a good plan to list the teachers in alphabetical order according to the school in which they teach. The report should show the name of the school at the head of the list.
- (4.) Be careful and consistent in naming the teachers on your report. The Retirement System must handle many thousands of accounts for the teachers with no way of knowing that Mary Smith appearing on one report and Mrs. John W. Smith on another are one and the same person. Give the former as well as the present name of a newly married teacher. Do not use her title and husband's name; that is, use Mrs. Jane Wilson Moore rather than Mrs. John C. Moore. Use a complete rather than an abbreviated or abridged name. "Mac" for McGump and "Sister Mary" for Sister Mary S. Barton may be perfectly clear to the administrator in whose schools they teach, but are wholly inadequate to enable the Retirement System to handle the accounts of these teachers with accuracy along with many thousands of others.
- (5.) If a teacher receives more than one check during any month, list the checks together on the report rather than at widely separated places. To say the same thing in a different way—if it is necessary to repeat a teacher's name on a report, place the repetitions close together without intervening names. If your system pays its teachers twice a month, it will be much better if the teacher's

total deduction for that month be taken from one payment rather than half from each of the two payments.

- (6.) Make reports of teachers' contributions promptly and regularly, one each month for teachers and administrators paid during that month. Include all contributions in one monthly report, and not part of them in each of several reports. Do not let reports accumulate. To do so increases very greatly the time and difficulty in handling them, and causes the teachers to lose interest on their contributions.
- (7.) Indicate salary changes. This is necessary in order to assure that the teacher will receive retirement benefit to which she will be entitled.
- (8.) Indicate the names of teachers who will no longer appear on your payroll and new teachers who are appearing for the first time. For new teachers please indicate where they taught before coming to your system. This is of great importance in enabling the Retirement System to handle the teachers' accounts accurately and cannot be overemphasized.
- (9.) Check carefully the calculations of deductions from teachers' salaries and the addition for total deduction. We shall be glad if you will send us the adding machine tape.
- (10.) Write check for the total amount of deductions from teachers' salaries. Make the check payable to T. W. Vinson, State Treasurer, and attach it to the report. Mail the report and check to N. O. Kimbler, Secretary, Teachers' Retirement System, Frankfort, Kentucky.

Cooperation in following these foregoing suggestions will enable us to render a superior service to your teachers and all the teachers of Kentucky.

9. The one year between age 64 and age 65 and between age 69 and age 70 makes too much difference in the respective annuities.

A teacher now 64 years old with 30 years prior service, 3 years subsequent service, and salary of \$1,000 would receive \$172.50; at 65, \$270.00; at 69, \$315.00; and at 70, \$435.00.

The result is that teachers make too great an effort to teach to 65 or to 70, not wanting to retire at 64 or 69.

This could be best corrected by smoothing the curve of increase in value of service. At 60 each year of prior service is .5 of one per cent. For each year of age, this could be increased $\frac{1}{20}$ of one per cent. At 65 it would be $\frac{3}{4}\%$ and at 70, 1%, which is the amount in the present law.

Likewise the value of subsequent service could be increased $\frac{3}{40}$ or .075 of one per cent per year and at 65 it would be $1\frac{1}{8}\%$, and at 70 $1\frac{1}{2}\%$ as in the present law.

This would be cumbersome to calculate, but it would make a smooth increase. It would cost considerably more.

10. Pension or annuity.

With reference to retirement systems, "pension" usually refers to that part of the benefit paid wholly by the state. In Kentucky it is, roughly speaking, the part of the retirement "annuity" based upon prior service.

"Annuity" refers to the part of the retirement benefit based upon subsequent service and paid for currently by the member and the state.

At this time the retired teacher's "annuity" in Kentucky is 94% or more "pension." At some time in the future it will all be "annuity." (The year 1940-41 is a prior service year, but members and the state both contributed).

Principles

The Board of Trustees has formulated the following principles for the guidance of all citizens who are interested in the Retirement System. Most retirement systems accept these principles:

1. That the benefits of the Retirement System are a part of the consideration for which a teacher trains himself and remains in the teaching profession.
2. That the percentage of salary paid by a teacher and matched by the State should be held in trust, intact and properly invested until that particular teacher dies, leaves the profession, or retires.
3. That when a teacher retires, the present worth of the whole amount of his annuities, based upon life expectancy, should immediately be set up in the Allowance Reserve Fund and held for his benefit until death.
4. That in consideration of the advantages and provisions of the Retirement Act, the teacher-member make a definite contribution of salary monthly or annually.
5. 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 like contribution of the teacher.
6. That the Membership and Prior Service Certificate, legally issued, constitute a valid contract with definite considerations by both parties—the teacher and the Commonwealth of Kentucky.
7. That the Retirement System shall be so supported and operated that it will be actuarially sound according to the best standards at all times.
8. 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 or death or until his retirement.
9. 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.
10. 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.
11. That unless the State complies fully with Section 161.550, Kentucky Revised Statutes, the State will become delinquent in its obligation for Prior Service.

The future of the Retirement System may be considered in the "frame of reference" of the following:

Retirement on half pay at 65 or 66 is usually taken as satisfactory.

It is customary and best for the state to supplement the annuity until teachers have had 15 to 20 years in which to build up individual reserves.

This is usually done by paying for "prior service" or setting a minimum annuity, the excess cost of which is paid by the state.

The teacher's accumulated contributions plus the state's matching contribution make the reserve for the individual.

The reserve divided by the life expectancy at time of retirement should give the annuity, approximately. (The annuity is not calculated by this method).

There must be some relation between the teacher's contribution and his annuity.

It is assumed that the state is economically able to support a satisfactory retirement system not only for teachers, but for all state workers.

We should determine the maximum amount the state can contribute for retirement without decreasing the amount available for the per capita distribution. We should keep our needs below such a maximum. Our requests for appropriations should be supported by actuarially sound data.

The annuities of many teachers in the lower salary ranges is a savings to the Welfare Department.

Our \$100.00 minimum annuity may be too low. However, many good retirement systems have no legal minimum.

The annuities of our retired teachers follow roughly the normal curve of distribution in the same pattern as their respective salaries. Increased salaries will increase annuities.

Any actuarially sound retirement system puts a premium on late retirement.

Of two teachers, age 60, one retires at 60 and the other teaches until she is sixty-five. The latter is continuing to build up her reserve, while the other is drawing out her reserve. Late in life the compound interest accumulations increase more rapidly than at the beginning of contributions. There will be a considerable difference in benefits for this reason.

The maximum percentage of salary due at 60, 65, and 70 for a teacher with 30 years prior service is respectively 22%, 34 $\frac{1}{8}$ %, and 50%. If all the prior service were subsequent service, the percentages would be 28 $\frac{1}{2}$ % at 60, 48 $\frac{3}{8}$ % at 65, and 50% at 70. If the average salary is \$1,500, the reserve required for a man teacher is as follows:

Retiring at 60, reserve \$5,298.05; at 65, \$7,657.54, and at 70, \$6,584.28. The amount of his contributions plus state's contribution, both at 3% compound interest, are as follows: At age 60, \$4,273.80; at age 65, \$5,283.00; at age 70, \$6,452.40.

The account of an active teacher cannot be used to pay the annuity of a retired teacher. Teachers' accounts are kept individually and the aggregate constitutes the Teachers' Savings Fund, which is a trust fund.

The State Accumulation Fund which "matches" the Teachers' Savings Fund is also a trust fund. Assets of these trust funds are available to pay annuities as, and to the extent of, the credits of teachers who retire, only.

There is no surplus in the Retirement System. There will be a surplus when the income of the Guarantee Fund is greater than required to pay 3% to the teachers' accounts, the State Accumulation Fund, and the Allowance Reserve Fund.

Assets on July 1, 1944, were \$4,192,525.14. Assets should increase at

about a million dollars a year for perhaps twenty to twenty-five years. At that time disbursements should equal receipts from all sources.

Teachers should be expected to retire at the average rate of about 100 per year until there are 1800 approximately, on the annuity roll. This includes disability retirements. Due to death, the maximum of 1800 will not be reached in 18 years.

The experience of our Retirement System is the best guide.

No general law will take care of special cases.

There has been a gradual improvement of all state teachers' retirement systems.

A retirement system does not take the place of life insurance.

Some Good Features of the Kentucky Retirement Law

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, 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 otherwise be. The total of the teacher's 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, 10% is contributed.

6. The state assumes the obligation for prior service. For example, a teacher age 70 receiving \$400.00 per year paid to the Retirement System \$110.20. If he lives a normal length of life, he will receive \$3600.00. The state pays \$3379.60 for his prior service.

7. If a teacher dies or leaves the profession before retirement, his 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, he may continue to pay his 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 his reserve for someone designated by him and surviving him.

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.

13. The State Accumulation Fund is the same size as the Teachers' Savings Fund. Not all teachers will retire. The 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 fifteen 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 System 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 practically 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.

The Following Propositions Have Been Suggested for Study

1. The increase of the minimum annuity from \$100.00 to \$200.00 or some other amount.
 - a. Influence on reserve and appropriations.
 - b. Cost per year and in the future.
 - c. Retroactive provisions.
2. Retirement privileges for non-members who have passed the age of 70 and who have 30 years or more of service.

3. Basis for handling additional contributions from members for the purpose of purchasing an additional annuity at time of retirement.
 - a. State not to "match" such payments.
 - b. Number of members interested.
 - c. Withdrawal of such funds.
 - d. Rate of compound interest.
 - e. Cost of such additional annuity compared with cost from private life insurance companies.
4. The advisability of raising the minimum salary base from \$2,000.00 to a higher figure.
 - a. Advantages of this over No. 3.
 - b. Cost to the state; cost to the member.
 - c. Number of members interested.
5. The validation of out of state service.
 - a. Basis for such validation.
 - b. Cost to member and state.
 - c. Definition as to prior service or subsequent service.
 - d. Other service which might be included; such as for military service, service in University of Kentucky, etc.
 - e. Time limit; limit on account of service, etc
6. Increase in percentage of contributions.
 - a. Desires of the profession.
 - b. Ability of member and state to make the proposed contributions.
 - c. Increase in annuity that such increase in contributions will provide.
 - d. Is a minimum contribution desirable.
 - e. If both cannot be done now, should this take precedence over larger payments by the state toward the obligation for prior service.
7. Federal Social Security
 - a. Policy toward acceptance or rejection of any social security program which may be enacted by Congress.
 - b. Cost to members.
 - c. Increase in retirement benefits compared with costs to the member.
 - d. The ability of the Federal Government to maintain its program without reduction of benefits.
 - e. Distribution of costs between members in low salary and high salary brackets; between withdrawing and life members; between members with and without dependents; etc.
8. Graduating the increases in annuity from age 60 to age 70 making the increases more uniform.
 - a. Is there any valid basis for present increases from age 64 to age 65; age 69 to 70.
 - b. The probable cost of change recommended.

9. Lowering the age at which the maximum annuity can be received
 - a. The most practical age.
 - b. Contribution of member and state required to pay the annuity earlier.
 - c. Whether member shall pay contributions after age at which maximum annuity is available.
 - d. Date, or approximate date, on which the new maximum annuity will be available to retiring teachers.
 - e. Comparison of proposed change with provisions of present law after present law becomes fully effective.
10. Schedule of appropriations needed to pay the state's obligations for prior service by a given date.
11. The maximum amount the state may be expected to appropriate for the Retirement System under normal economic conditions.
 - a. The best way to use the funds thus provided.
 - b. The maximum amount in per cent of salary the member may be expected to pay for retirement
12. Will contributions of member and state, as provided in present law, provide the reserve necessary to pay annuities granted in present law.
 - a. Surplus or deficit, if any.
 - b. Disposition of surplus or deficit, if any.
13. Investments to include securities in addition to U. S. Government bonds, State bonds, and voted bonds of Kentucky cities of the first, second, and third classes.
 - a. Security and safety first consideration.
 - b. What is permitted under trust and insurance laws.
 - c. Minimum interest return required by Retirement System.
 - d. What other retirement systems invest in or buy.
14. Would it be better to have the teachers' contributions, by age groups, and the state's normal contribution fixed by actuarial study at stated intervals; the state to pay at the present rate for prior service.

Method of Calculating Annuity

The annuity of a retired member is calculated as follows:

1. Any certain teacher age 70 as of July 1, 1944, with 30 years prior service and 3 years subsequent service: salary 1940-41, \$1280.; 1939-40, \$1230; 1938-39 one half year, \$600.; 1937-38, 1200.; 1936-37, \$1175.; 1935-36, none; 1934-35, \$1156. Total the salary for the equivalent of five scholastic years, amounting to \$6,063.00 and divide by 5, which gives an average of \$1,212.60, the prior service salary base. At age 70, thirty (30) years of prior service credit gives 30% of \$1,212.60, which is \$363.78, the annuity for prior service.
2. The annuity for subsequent service is found as follows: Salary

1943-44, \$1500.; 1942-43, \$1400.; and 1941-42, \$1300., the average of which is \$1400. Each year of subsequent service at age 70 is 1½%; 3 years 4½%. Four and one-half per cent of \$1400. is \$63.00.

3. The annuity is therefore \$363.78 plus \$63.00, which is \$426.78.

For a teacher retiring at 65 to 69, each year of prior service is valued at ¾ of 1%; each year of subsequent service, 1½%.

For a teacher retiring at 50 to 64, each year of prior service is valued at ½ of 1%, and each year of subsequent service at ¾ of 1%.

Please refer to Section 161.620, KRS.; Rule XII; Rule XIX; Section 161.220, KRS, paragraph 7 to 11 inclusive.

Table K includes all teachers retired as of July 1, 1944. The most significant data in this table are the ratio of teachers' contributions to the required reserve necessary to pay their annuities through life. All

Table K. Age, Service, Salary, Contribution, Annuity, and Necessary Reserve of Members Retired July 1, 1944

No.	Age	P.S.	S.S.	P.S. Sal.	S.S. Sal.	Contri- bution*	Annuity	Reserve
21772	67	30	2	\$ 490.96	\$ 525.25	\$ 43.23	\$122.28	\$ 1,202.00
654	67	30	3	622.80	698.67	112.42	163.72	1,610.00
1557	70	30	3	729.40	789.00	131.94	254.32	2,684.00
1782	64	25.7	2	611.50	694.13	85.23	100.00	1,276.00
21602	70	30	1	433.70	420.00	16.99	136.40	1,197.00
2466	60	30	3	1,648.92	1,464.00	248.05	280.28	3,474.00
3049	67	25	3	1,900.00	1,900.00	320.82	421.80	4,147.00
3146	61	30	2	528.99	545.00	69.59	100.00	1,202.00
3556	60	30	0	555.36	-----	25.80	100.00	1,425.00
3779	69	30	1.7	441.99	500.44	54.98	109.08	1,193.00
4220	70	30	3	518.00	526.67	87.36	179.12	1,890.00
4417	63	30	2	619.64	659.38	42.13	102.84	1,160.00
5132	65	30	3	536.00	537.60	89.44	138.76	1,464.00
21211	70	30	1	850.40	1,404.00	56.78	276.20	2,425.00
5370	70	30	3	424.30	543.67	86.39	151.76	1,332.00
5463	60	26.5	3	1,107.40	1,266.00	206.62	175.20	2,497.00
19765	70	19.7	3	481.60	594.53	74.25	121.64	1,068.00
7207	65	30	3	591.93	783.50	127.33	159.64	1,685.00
7435	69	30	2.6	603.46	670.67	99.29	155.24	1,417.00
19462	70	23.6	3	432.17	527.33	65.98	125.72	1,104.00
9491	70	30	3	630.08	730.40	120.41	221.88	2,341.00
4021	63	30	1.5	878.40	810.17	87.44	140.88	1,590.00
11402	70	30	3	707.40	753.42	126.09	247.08	2,169.00
11746	70	30	3	846.00	878.33	147.47	293.32	2,575.00
11773	70	30	3	476.20	436.92	71.32	162.52	1,715.00
11888	70	30	3	743.86	842.13	138.84	261.04	2,755.00
11895	70	30	3	913.28	971.10	154.81	317.68	3,352.00
11638	66	30	3	816.85	651.91	81.56	205.80	2,474.00
12478	68	30	2.4	380.45	514.58	66.86	100.00	948.00
12861	70	30	3	1,518.07	1,575.34	243.74	526.32	5,554.00

Table K. Age, Service, Salary, Contribution, Annuity, and Necessary Reserve of Members Retired July 1, 1944 (Continued)

No.	Age	P.S.	S.S.	P.S. Sal.	S.S. Sal.	Contri- bution*	Annuity	Reserve
13393	69	30	3	875.88	1,273.33	192.42	240.04	2,621.00
13402	70	30	3	1,059.30	1,333.33	207.16	377.80	3,987.00
13580	70	30	3	928.80	1,034.33	169.98	325.20	3,432.00
13696	70	30	3	831.60	926.09	152.68	291.16	3,073.00
13341	70	30	3	2,000.00	2,000.00	337.62	690.00	7,282.00
14404	67	30	3	1,200.00	1,200.00	202.87	310.48	3,618.00
14744	70	30	3	1,432.00	1,585.00	263.86	500.92	5,286.00
14875	70	27.5	2.1	883.80	918.57	121.69	271.96	2,870.00
19719	70	28.6	3	882.00	863.75	95.36	291.12	3,072.00
15428	70	27	3	2,000.00	2,000.00	337.50	630.00	5,531.00
15893	70	30	3	1,756.00	2,000.00	313.99	616.80	6,509.00
16195	70	30	3	1,890.00	1,926.67	323.53	653.72	6,899.00
16653	66	30	3	1,650.00	1,763.33	296.56	429.84	5,168.00
16208	70	30	3	1,985.00	2,000.00	337.86	685.52	7,234.00
17046	70	30	3	2,000.00	2,000.00	337.81	690.00	7,282.00
16309	70	30	3	1,800.00	1,975.00	325.61	628.88	6,637.00
16936	70	30	3	1,400.00	1,743.33	278.91	498.44	5,260.00
16911	70	30	3	1,710.00	1,766.67	295.59	592.52	6,253.00
15918	68	30	3	1,800.00	1,916.67	318.21	469.68	5,300.00
16820	70	30	3	2,000.00	2,000.00	337.68	690.00	7,282.00
15952	70	29.4	3	2,000.00	2,000.00	337.69	678.00	7,155.00
15703	70	30	3	2,000.00	2,000.00	337.67	690.00	7,282.00
17564	70	30	3	2,000.00	2,000.00	330.09	690.00	7,282.00
17632	70	26	3	1,704.00	1,680.00	273.97	518.64	5,473.00
17775	70	23	3	815.40	970.87	159.16	231.24	2,440.00
17810	70	30	3	851.40	1,014.37	166.04	301.08	3,177.00
17865	70	29	3	1,266.30	1,422.18	229.05	431.24	4,551.00
18432	70	30	3	815.51	932.00	152.82	286.60	3,024.00
18488	68	30	3	2,000.00	2,000.00	338.41	517.48	4,904.00
18595	60	30	3	921.60	1,061.50	173.27	162.84	2,081.00
18696	70	30	3	981.74	1,097.83	180.54	343.92	3,629.00
18983	70	30	3	1,284.00	1,440.00	243.25	450.00	4,749.00
19269	70	24	3	1,706.40	1,514.52	247.86	477.68	4,194.00
19273	70	18	3	1,440.56	1,050.00	188.52	306.56	2,691.00
3045	50	17	3	556.90	612.27	101.86	100.00	1,785.00
11813	57	19	3	676.00	557.58	93.26	100.00	1,536.00
15413	55	19	3	1,605.00	1,640.00	275.66	189.40	3,046.00
18524	54	22	2	649.16	695.13	59.60	100.00	1,644.00
Averages and totals				\$1,108.79	\$1,163.73	\$12,418.77	\$328.08	\$236,164.00

* Table K includes all contributions received to July 1, 1944. An insignificant amount will be received for certain teachers after this date and separately transferred to the Allowance Reserve Fund. The final contribution of retiring teachers should reach the Retirement office in June preceding retirement.

joint-contributory retirement systems pass through this period, during which the state must contribute largely to the reserve. It will require

\$236,164.00 to pay the annuities of these sixty-eight (68) teachers during their life expectancy. The contributions of other teachers may not be used for this purpose.

These teachers have contributed \$12,418.77 and the state has currently contributed a like amount. For the year 1944-45, there will be a minimum of \$116,000.00 contributed by the state on its obligation for prior service. These retired teachers will, therefore have to depend upon future appropriations for their annuities. However, it should be noted that their annuities and the annuities of all retired teachers could and would be paid during life, even though the state should never make any additional contribution or in case the Retirement System should be for any reason liquidated. Stated in another way, the state is not paying its obligation for prior service rapidly enough, but the Retirement System is solvent.

The average contribution for these 68 teachers was \$182.04 during the whole time of their membership; the average annual benefit is \$328.08. If we leave out the 4 who retired for disability, the average contribution is \$185.76, and the average benefit \$340.78.

If each of these teachers could have accumulated one additional year of subsequent service, the average annuity would have been increased by \$17.00 in round numbers.

The ratio of the number of voluntary retirements to the number of compulsory retirements is also of interest to the membership. Present conditions are abnormal, but the well and active individual seldom prefers retirement to active duty. Correspondence reveals that middle-aged teachers plan to retire early, but as they approach retirement, the date of voluntary retirement is from time to time deferred.

Bibliography

Kentucky Common School Laws 1942, p. 798 to p. 815, Bulletin, Department of Education, Frankfort, Kentucky, September, 1942.

Kentucky Revised Statutes 1942, Sections 161.220—161.710.

Statutory Analysis of Retirement Provisions for Teachers and Other School Employees, N. E. A. Bulletin, January, 1944, 1201 Sixteenth Street, N. W., Washington 6, D. C.

Status of Teacher Retirement, N. E. A. Bulletin January, 1941.

Analysis of Local Provisions for Teacher Retirement, N. E. A. Bulletin, May, 1940.

Retirement Systems for State and Local Government Employees, U. S. Department of Commerce, Bureau of Census, Special Study No. 17, October, 1943, Washington D. C.

Report of the Superintendent of Public Instruction, December, 1941, John W. Brooker, State Board of Education, Frankfort, Kentucky.

Report of the Superintendent of Public Instruction, December, 1943, John W. Brooker, State Board of Education, Frankfort, Kentucky.

Analysis of Statutory Provisions for State Teachers Retirement Systems, Research Division and National Council on Teacher Retirements, N. E. A. Bulletin, January, 1939.

How to Establish a Sound Teachers' Retirement System, A Report, National Council on Teacher Retirement, N. E. A. Bulletin, March, 1938.

Teacher Retirement Systems and Social Security, Research Bulletin Vol. 15 N. E. A. Bulletin May, 1937.

State School Finance Systems, Research Division, N. E. A. Bulletin November, 1942

Public Employees Retirement, Papers given at 1944 Conference, Municipal Finance Officers Association, A. A. Weinberg, Chairman, Chicago, Illinois.

Supplement to Kentucky Common School Laws, Department of Education Bulletin Vol. VI, No. 2, April, 1938.

Kentucky School Journal, May Issue 1940; April, 1943; February, 1944; April, 1944.

Throckmorton's Ohio Code, Title V, chap. 9, sec. 7896-1 to 7896-63.

Burn's Indiana Statutes, Title 28, chap. 45.

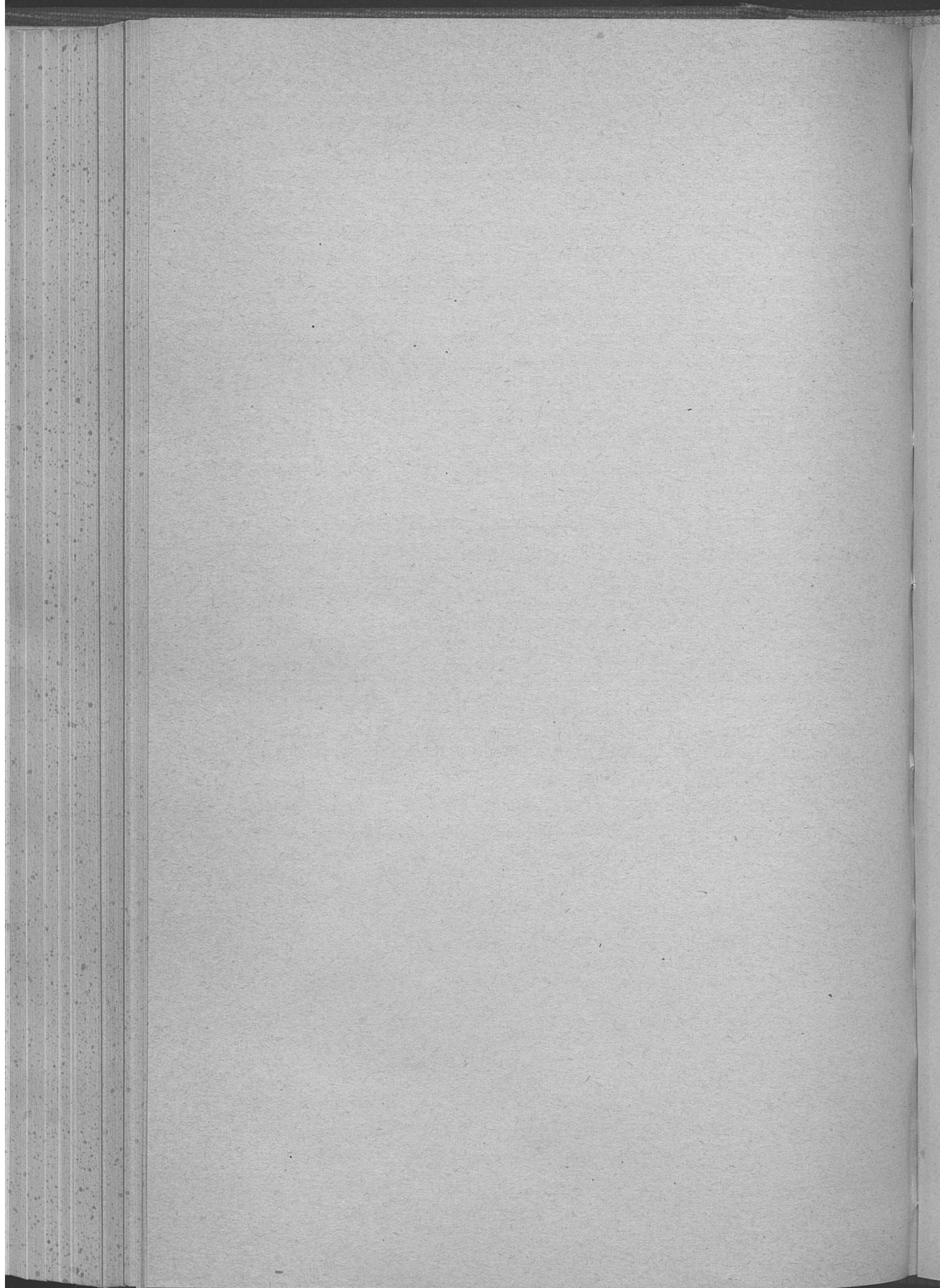
Smith-Hurd Illinois Annotated Statutes, Chap. 122, sec. 578-638.

West Virginia Code of 1943 Annotated, Chap. 18, Art. 7A sec. 1846(1) 1846(31).

Teacher Retirement Legislation for Kentucky, Bureau of School Service, University of Kentucky, Bulletin Vol. IX, No. 1, September, 1936.

National Council on Teacher Retirement of the N. E. A., A Report. Twentieth Annual Meeting March, 1943, Jennie Roch, Secretary-Treasurer, Corondelet Street, New Orleans, La.

National Council on Teacher Retirement of the N. E. A., A Report. Twenty-first Annual Meeting March, 1944. Jennie Roch, Secretary-Treasurer, Corondelet Street, New Orleans, La.



PART II

FOURTH ANNUAL REPORT
TEACHERS' RETIREMENT SYSTEM
OF THE
STATE OF KENTUCKY
1943-44

LETTER OF TRANSMITTAL

COMMONWEALTH OF KENTUCKY TEACHERS' RETIREMENT SYSTEM

FRANKFORT

Honorable Simeon Willis
Governor of Kentucky
Frankfort, Kentucky

Dear Governor Willis:

This, the Fourth Annual Report of the Board of Trustees of the Teachers' Retirement System of the State of Kentucky, in compliance with KRS. 161.320, is respectfully submitted.

MARY J. MAGUIRE, Chairman
Board of Trustees.

N. O. KIMBLER, Secretary
Teachers' Retirement System.

October 15, 1944

Fourth Annual Report of the Teachers' Retirement System of the State of Kentucky covering the period from July 1, 1943, to July 1, 1944.

This report is made in accordance with 161.320, KRS., and covers the activities and operation of the Retirement System, the fiscal transactions, amount of accumulated cash and securities, statistical tables, cost of administration, the Auditor's report, general balance sheet showing financial condition at the close of the fourth fiscal year, and other pertinent information.

Membership of the Board of Trustees July 1, 1944

MARY J. MAGUIRE, Chairman, Lexington
L. C. CURRY, Vice-Chairman, Bowling Green
MORTON WALKER, Louisville
EDWARD L. CAWOOD, Harlan
J. F. WILLIAMS, Superintendent of Public
Instruction, Frankfort
T. W. VINSON, State Treasurer, Frankfort
ELDON S. DUMMIT, Attorney General, Frankfort

Table I. Net Membership 1943-44

Net membership previously reported	20,392	
New members with prior service	805	
New members without prior service	1,424	
		22,621
Total gross membership	22,621	
Withdrawals and deaths 1943-44	912	
Members previously retired	344	
Members retired July 1, 1944	68	1,324
		21,297
Net membership July 1, 1944	21,297	

Table I shows the number of teachers filing service forms. There are approximately 3,388 teachers who have filed Forms A-1 or A-2 and who are not now teaching. On June 30, 1944, the Retirement System had accounts for approximately 29,000 teachers. Of these accounts 1,169 have received no contributions since July 1, 1941, and interest is, therefore, stopped unless the member is in the armed forces.

One hundred and five counties report 1,192 members in the military service, of whom 100 have withdrawn their accounts; and 110 independent districts report 503 in military service, of whom 29 have withdrawn their accounts, leaving a net membership of 1,566 reported in the armed forces. Several of these members continue to pay their contributions while in military service, and a few have returned to the profession after discharge. It appears that many of these teachers expect to return to the profession when discharged. They will hold membership for three scholastic years after discharge, giving them a maximum of three years in which to return to the profession so far as the Retirement System is concerned.

A considerable number of present teachers have not filed Form A-1, and some new teachers neglect to file Form A-2 when employed. They pay their contribution, but the statistical information from the service form is needed.

If we subtract the accounts receiving no contributions for three years, the number remaining is 27,859.

During 1943-44, 2,229 retirement certificates were issued, bringing the total of Prior Service Certificates issued to date to 21,807 and Membership Certificates to 3,717, a total of 25,524. The data on these individuals are compiled for use of the Actuary and present a valid sampling. It would, however, be better if every member had filed a service form upon receiving a contract to teach as required by Section 161.480, KRS.

The service form is filed only once during continuous membership.

As of July 1, there are 269 educational units eligible to participate, and participating in the Retirement System. There are about 18,250 teaching positions coming under the Retirement Act.

Table II. Number of Members, Prior Service and Salaries to the End of Fourth Year June 30, 1944

Items	Number	Prior Service		Prior Service Salary	
		Total	Average	Aggregate	Average
Gross Brought Forward	20,736	212,451.6	10.24	\$16,997,806.67	\$819.72
New with Prior Service.....	805	5,652.8	7.0	619,490.66	769.55
New without Prior Service.....	1,424	None	None	None	None
Sub Total	22,965	218,104.4	9.49	\$17,617,297.33	\$767.14
Withdrawals and Deaths	912	5,683.5	6.23	895,393.36	981.79
Previously Retired	344	9,976.84	29.0	303,937.77	883.55
Totals and Averages.....	21,709	202,544.06	9.33	\$16,417,966.20	\$756.27

Table II includes 1,424 new teachers without prior service and excludes previously retired teachers, and for this reason the average prior service is a lower figure. The state's temporary appropriation is based upon two per cent of the aggregate of prior service salaries. The average prior service salary for all teachers filing service certificates is \$756.27. If teachers without prior service are excluded, the average prior service is 10.12 and the average salary is \$817.87.

Table III. Distribution by Age Groups of 1,424 New Entrants Without Prior Service 1943-44

Age Group	Number	Salaries	
		Total	Average
17-24	895	\$ 641,291.14	\$ 716.52
25-29	209	179,342.76	858.09
30-34	141	121,396.89	860.97
35-39	79	69,040.74	873.93
40-44	47	48,438.90	1,030.61
45-49	29	30,956.91	1,067.47
50-54	11	9,483.14	862.10
55-59	7	9,840.00	1,405.70
60-64	5	3,088.25	617.65
65-69	1	514.50	514.50
70-	None.	None	None
Totals and Averages	1,424	\$1,113,393.23	\$ 781.87

Table III repeats the experience of 1942-43. A high percentage of the 895 teachers in the first age group are just out of high school. Many of these teachers will likely complete their teachers college education later. A teacher can be absent from teaching for three years and still retain membership in the Retirement System, losing no service credit and no interest. As the age of new entrants increase, the average salary increases. This appears to be a reflection of the increase in training.

Some of the older teachers in this table have service in other states, but under the Kentucky Retirement Act they enter the Retirement System without service credit. The average salary for this group is somewhat larger than the average salary reported for 1942-43.

During 1943-44, the number of new entrants without prior service was greater than the number of new entrants with prior service for the first time.

Table IV gives the data for new entrants with prior service. This indicates that the aggregate of prior service will be less annually from this date, new entrants without prior service taking the place of those who are lost by death, withdrawal, and retirement.

Table IV. Distribution by Age Groups of 805 New Entrants with Prior Service 1943-44

Age Group	Number	Prior Service		Salaries	
		Total	Average	Total	Average
-24	5	8.0	1.6	\$ 5,027.70	\$1,005.54
25-29	49	163.2	3.3	44,811.37	914.51
30-34	143	622.0	4.3	110,641.04	773.71
35-39	241	1,481.2	6.1	189,936.60	788.11
40-44	129	924.9	7.1	104,059.05	806.65
45-49	102	878.4	8.6	74,317.37	728.60
50-54	64	658.7	10.2	42,705.76	667.27
55-59	41	448.4	10.9	24,384.48	594.74
60-64	22	289.5	13.1	15,286.85	694.85
65-69	9	178.5	19.8	8,320.44	923.38
70-	None	None	None	None	None
Totals and Averages	805	5,652.8	7.0	\$619,490.66	\$769.55

The average salary of the new entrants with prior service is less than the average salary of the new entrants without prior service. This indicates that even though the new entrants have former teaching experience, the amount of training they have received is not sufficient to bring the average salary up to the salary of the new entrants without prior service. Many of these teachers are merely helping out during the emergency. Those reaching retirement age with less than 30 years of service credit in order to be eligible to receive retirement benefits will be required to teach 5 years consecutively. Those who have reached retirement age who have 30 years of service credit are eligible to draw an annuity upon voluntary retirement if they teach 3 years of each 6-year period.

The aggregate prior service salaries of new entrants with prior service is less than the aggregate prior service salaries of those leaving the profession by withdrawals and deaths. The reduction in aggregate prior service salaries is \$1,199,331.13. It represents a corresponding reduction in the state's obligation for prior service.

Since the Retirement System began, 2,636 teachers have withdrawn from the profession and withdrawn their accounts from the Retirement

Table V. Distribution by Age Groups, Showing Prior Service and Salary of Members Who Died Before Retirement 1943-44

Age Group	Male	Female	Total	Prior Service		Salaries	
				Total	Average	Total	Average
17-24	None	None	None	None	None	None	None
25-29	1	3	4	17.0	4.2	\$ 3,069.70	\$ 767.42
30-34	6	None	6	29.2	4.8	6,978.00	1,163.00
35-39	1	1	2	19.3	9.6	1,618.95	809.47
40-44	None	4	4	57.5	14.3	3,204.65	801.16
45-49	4	3	7	131.4	18.7	7,271.45	1,030.20
50-54	None	2	2	57.1	28.5	2,079.45	1,039.72
55-59	None	3	3	80.0	26.6	3,304.05	1,101.35
60-64	4	3	7	194.3	27.7	9,695.00	1,385.00
65-69	None	3	3	86.0	28.6	3,867.60	1,289.20
70-	1	1	2	60.0	30.0	1,479.00	739.50
Totals and Averages	17	23	40	731.8	18.2	\$42,567.85	\$1,064.19

Table VI. Distribution by Age Groups, Showing Prior Service and Salary of Members Who Died Before Retirement 1940-44

Age Group	Male	Female	Total	Prior Service		Salaries	
				Total	Average	Total	Average
17-24	3	3	6	10.5	1.8	\$ 2,381.75	\$ 396.96
25-29	6	6	12	50.5	4.2	10,220.51	851.71
30-34	11	4	15	120.6	8.0	13,069.99	871.33
35-39	6	9	15	207.1	13.1	17,210.23	1,147.34
40-44	3	13	16	218.4	13.6	13,333.30	833.33
45-49	8	6	14	267.2	19.0	15,699.91	1,119.27
50-54	4	10	14	374.1	26.7	16,703.88	1,193.13
55-59	1	11	12	322.0	26.8	13,308.85	1,109.07
60-64	8	16	24	617.1	25.7	31,558.75	1,314.94
65-69	6	11	17	507.4	29.8	25,893.24	1,523.13
70-	1	5	6	180.0	30.0	7,688.60	1,281.43
Totals and Averages	57	94	151	2,874.9	19.0	\$167,069.01	\$1,106.41

System. The number withdrawing during 1943-44 is 872. As Shown by Table VII, the median age falls in the 25 to 29 age group. This table indicates that the profession has lost many valuable teachers and their return to the profession is not likely. Only 20 members have reinstated their accounts and returned to the teaching profession.

Not all of the individuals indicated on this table have gone into defense work; a considerable number have gone into the ministry, into law, civil service for the U. S. Government, and other white collar positions. In such cases, the usual complaint is that the salary is too small.

A considerable number of those withdrawn are women who have married and established homes to which they desire to give all of their time.

Other states, especially Tennessee, Florida, Ohio, Indiana, and West Virginia, have drawn heavily on our teaching group. Salary differential is usually, but not always, the reason given for withdrawal.

Those who are older than 60 and have withdrawn were not eligible to retire and could not easily become eligible, usually because of some individual circumstance such as expiration of certificate.

The aggregate of their prior service is 16,166.6 years; the aggregate prior service salaries, \$2,513,909.85. Upon their withdrawal from the profession, the state's obligation for their prior service is liquidated. This affects favorably the balance sheet of the Retirement System, but on the whole it does not favorably affect the teaching profession.

The number of such withdrawals is small in comparison with the number who are not now teaching.

Table VII. Distribution by Age Groups of Members Who Have Withdrawn Their Accounts 1940-44

Age Group	Number	Prior Service		Salaries	
		Total	Average	Total	Average
17-24	726	1,494.0	2.0	\$ 590,910.01	\$ 813.92
25-29	773	3,875.3	5.0	717,815.18	928.60
30-34	550	4,342.2	7.8	561,590.47	1,021.07
35-39	332	3,473.8	10.4	362,594.88	1,092.15
40-44	146	1,583.0	10.8	157,713.32	1,080.22
45-49	51	627.6	10.3	59,978.19	1,276.04
50-54	25	348.5	13.9	32,929.90	1,317.19
55-59	22	296.1	13.4	18,485.40	840.24
60-64	8	85.6	10.7	9,361.50	1,170.18
65-69	3	40.5	13.5	2,531.00	843.66
70-	None	None	None	None	None
Totals and Averages	2,636	16,166.6	6.1	\$2,513,909.85	\$ 953.68

Twenty members who withdrew accounts have reinstated their accounts and are not counted in above table.

Table VIII is arrived at by adding to the table presented July 1, 1943, the data for new members with prior service and subtracting the data for members who have retired, withdrawn, or died during the preceding twelve months.

Due to the rapid turnover in many school systems and the delay in receiving some reports, this table is not exactly accurate and does not exactly check in every respect, internally and with other tables. The average prior service for the teachers who have filed Forms A-1 and who are still actively engaged in teaching is accurate and is the same as for last year.

The total amount for prior service salaries, \$17,092,714.46, is not accurate, being about \$1,000,000.00 too large. This figure was obtained by taking the salary for the last year of prior service instead of taking the average salary for the last five years.

The number of members having prior service shows a decrease, and the total amount of prior service a decrease under that for last year.

The decrease in salary is due to the employment of older teachers with less college credit.

At the end of the first five-year period, an accurate table will be developed.

The state's temporary appropriation for prior service is based upon two per cent of the aggregate prior service salaries and for this biennium an adjustment was made by reducing the above total by \$1,092,714.46, leaving a net balance of \$16,000,000.00, two per cent of which is \$320,000.00, the amount requested. This amount is accurate enough for all practical purposes.

The ages shown in Table VIII are entrance ages rather than present ages. The Retirement office has not had a sufficient staff to make these calculations and adjustments as of the present date and, consequently, the data in this table are not exact; however, it is sufficiently accurate for the purposes of this report.

Table VIII. Distribution by Age Groups of Membership Having Prior Service July 1, 1944

Age Group	Number	Prior Service		Salaries	
		Total	Average	Total	Average
17-24	2,328	5,356.5	2.3	\$ 1,514,259.93	\$ 650.45
25-29	4,334	24,618.8	5.7	3,294,747.97	760.21
30-34	4,337	40,186.6	9.3	3,794,338.99	874.88
35-39	3,168	39,555.9	12.5	3,118,251.75	984.29
40-44	1,708	27,357.5	16.0	1,788,480.87	1,047.12
45-49	1,249	23,401.6	18.7	1,362,326.08	1,090.73
50-54	838	18,217.0	21.7	907,849.44	1,083.35
55-59	607	14,381.2	23.7	633,580.86	1,043.79
60-64	415	9,249.6	23.6	412,498.55	1,028.67
65-69	177	5,326.2	30.	254,861.02	1,439.89
70-	2	60.0	30.	1,479.00	739.50
Totals and Averages	19,149	207,710.9	10.85	\$17,092,714.46	\$ 892.62

Table IX shows that \$149,112.94 has been paid to retired teachers to June 30, 1944. These annuities will increase from \$84,587.93 to approximately \$106,530.00 during the year 1944-45, and during this fiscal year the aggregate paid to retired teachers will exceed the one quarter million mark. It is expected that at the close of the war a larger number of teachers will retire and that the annual amount needed for annuities will increase sharply. Teachers who are under the age of seventy and who are not incapacitated are urged to continue in the profession due to the shortage of teachers.

Table X gives the distribution in \$50.00 intervals of the annuities of living annuitants on July 1, 1944. There are 12 classes ranging from \$100.00 minimum to \$690.00 maximum. The median of \$205.88 falls in

Table IX. Number of Teachers Retired and Retirement Benefits Paid July 1, 1942, to June 30, 1944

Year	Superannuation		Disability		Total Retired	Total Benefits Paid	Retired Teachers Deceased	Retired Teachers Living
	Number Retired	Benefits Paid	Number Retired	Benefits Paid				
1942-43	233	\$ 63,073.45	12	\$1,451.56	245	\$ 64,525.01	15	230
1943-44	94	82,327.44	8	2,260.49	102	84,587.93	17	315
June 30, effective July 1, 1944	64		4		68		0	383
Total	391	\$145,400.89	24	\$3,712.05	415	\$149,112.94	32	383

Note: It is estimated that during 1944-45 retirement benefits to be paid for superannuation will amount to \$103,768.00, and for disability the amount will be \$2,762.00 or a total of \$106,530.00.

the third class. Since each year of subsequent service increases the annuity of the retiring teacher, the median will move toward the average, which now is \$276.36, at a more or less uniform rate. The average annuity will also increase each year. The minimum increase cannot be determined; the maximum increase is \$30.00 per year.

It is not to be assumed that teachers retiring at this time are entirely dependent upon benefits received from their Retirement System. Teachers whose salaries were large enough to permit them to do so have no doubt made some provision for their security through the purchase of a home, the buying of insurance, etc. It is hardly to be expected however that teachers in the lower salary brackets have been able to do anything significant toward their security in old age. This is an effective argument for increasing the minimum annuity.

Table X. Distribution of Present Annuities with Intervals of Fifty Dollars, July 1, 1944

Number	Number of Annuitants	Amount Received
1	136	\$100.00-\$149.99
2	52	150.00- 199.99
3	34	200.00- 249.99
4	35	250.00- 299.99
5	23	300.00- 349.99
6	14	350.00- 399.99
7	14	400.00- 449.99
8	12	450.00- 499.99
9	20	500.00- 549.99
10	6	550.00- 599.99
11	26	600.00- 649.99
12	11	650.00- 699.99
Total	383	
Median Annuity		\$205.88

Of the 383 teachers now on the annuity roll, 37 receive \$50.00 or more per month; 100 receive \$30.00 or more per month; approximately 100 receive \$15.00 to \$30.00 per month; and the remaining number less than \$15.00 per month.

General Balance Sheet
Teachers' Retirement System
June 30, 1944

Current Assets	
Cash—Unencumbered	\$ 106,991.99
Cash—Reserved for Encumbrances	222.32
<u>Total Cash</u>	<u>\$ 107,214.31</u>
Accrued Interest Receivable	13,125.00
Underpayments—Due from Districts	4.30
Unclaimed Balances of Annuitants Deceased	65.20
<u>Total Current Assets</u>	<u>\$ 120,408.81</u>
Investments ¹	
U. S. Defense Bonds, Series G	\$ 350,000.00
U. S. Treasury Bonds	3,695,000.00
Unamortized Premium	15,597.24
Accrued Interest on Bonds Purchased	610.00
<u>Total Investments</u>	<u>4,061,207.24</u>
Fixed Assets	
Office Equipment	11,172.78
<u>Total Assets</u>	<u>\$4,192,788.83</u>
Current Liabilities	
Encumbrances Outstanding	\$222.32
Less: Known Adjustments	85.00
<u>Net Balance</u>	<u>\$ 137.32</u>
Accounts Payable	52.79
Annuitant Refund Claims Allowed	65.20
Overpayments—Due Districts	8.38
<u>Total Current Liabilities</u>	<u>263.69</u>
<u>Net Assets</u>	<u>\$4,192,525.14</u>
Fund Balances (Surplus)	
Expense	\$ 11,217.93
Teachers' Savings Fund ²	2,029,433.99
State Accumulation Fund—Permanent	2,029,438.07
State Accumulation Fund—Temporary	54,163.58
Allowance Reserve Fund	5,923.61
Guarantee Fund	62,347.96
<u>Total</u>	<u>\$4,192,525.14</u>
	<u>\$4,192,525.14</u>

¹ Schedule No. 1.

² Schedule No. 2.

General Statement of Receipts and Disbursements
Teachers' Retirement System
July 1, 1943, to June 30, 1944

Cash Balance July 1, 1943

Cash—Unencumbered	\$ 63,442.47
Cash—Reserved for Encumbrances	148.70
Total Cash Balance	\$ 63,591.17

Receipts

Teachers' Savings	\$ 546,804.72
State Contribution—Permanent	546,161.42
State Contribution—Temporary	78,838.58
Interest on Investments	69,114.76
Excess Refunds Recovered	4.60
Annuity Checks Returned	1,638.46
Allotment for Expenses	25,000.00
Total Receipts	1,267,562.54
Total Cash Available	\$1,331,153.71

Disbursements

Administrative Expenses

Disbursements for 1942-43	\$ 152.84
Returned to General Fund	2.36
Total	\$ 155.20

Actuarial Expense	50.00
Board of Trustees Expense	594.53
Insurance and Fidelity Bonds	50.00
Medical Expense	37.00
Miscellaneous Expense	180.05
Postage	368.38
Printing and Office Supplies	1,088.53
Salaries and Wages	19,426.71
Telephone and Telegraph Expense	156.06
Travel Expense	378.93
Office Equipment	2,134.55

Total Expenses³	24,464.74
---	------------------

Refund Claims Paid ⁴	51,566.72
Retirement Annuities Paid ⁵	84,587.93
Investments Purchased ⁶	1,063,164.81

Total Disbursements	1,223,939.40
----------------------------------	---------------------

Cash Balance June 30, 1944	\$ 107,214.31
Cash Reserved for Encumbrances	222.32

Net Cash Balance	\$ 106,991.99
-------------------------------	----------------------

³ Schedule No. 3.

⁴ Schedule No. 4.

⁵ Table IX.

⁶ Schedule No. 1.

**Schedule 1. Investments Held
Teachers' Retirement System
June 30, 1944.**

Name and Description	Par Value	Net Yield
U. S. Defense Bonds, Series G.....	\$ 350,000.00	2.50%
U. S. Treasury Bonds, 2½%, 1962-67.....	225,000.00	2.50%
U. S. Treasury Bonds, 2½%, 1963-68.....	1,000,000.00	2.50%
U. S. Treasury Bonds, 2½%, 1964-69.....	1,150,000.00	2.49%
U. S. Treasury Bonds, 2½%, 1965-70.....	500,000.00	2.50%
U. S. Treasury Bonds, 2½%, 1967-72.....	820,000.00	2.39%
Total Par Value	\$4,045,000.00	
Unamortized Premium	15,597.24	
Accrued Interest Purchased	610.00	
Total Invested	\$4,061,207.24	
Average Net Yield		2.475%

**Schedule 2. Teachers' Savings Control Ledger
Teachers' Retirement System
June 30, 1944**

Ledger Section (1)	Teachers' Contributions (2)	Interest 1943-44 (3)	Balance (4)
Counties	\$ 907,001.00	\$22,544.28	\$ 929,545.28
Independent Districts	970,226.09	24,085.11	994,311.20
Institutions	91,981.36	2,348.12	94,329.48
State Department of Education.....	10,966.01	282.02	11,248.03
Total	\$1,980,174.46	\$49,259.53	\$2,029,433.99

This summary was prepared to show the amounts standing to the credit of the different classes of participants in the Teachers' Retirement System. Column 2 shows teachers' credits on June 30, 1944, without regular interest for the fiscal year 1943-44, column 3 shows interest for the year and column 4 shows the teachers' total credit.

**Schedule 3. Cost of Administration
Teachers' Retirement System
June 30, 1944**

Year	Receipts of State Accumula- tion Fund	Administrative Expenses	Per Cent of Receipts State Accumulation Fund
1940-41	\$476,089.49	\$23,669.88	4.97%
1941-42	481,713.03	18,232.93	3.78%
1942-43	627,680.01	22,319.39	3.56%
1943-44	625,000.00	24,464.74	3.91%

Schedule 4. Refunds to Teachers
Teachers' Retirement System
July 1, 1940, to June 30, 1944

Date	Withdrawal		Death		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
Total -----	2,661	\$106,538.16	148	\$11,422.85	14	\$192.48	2,823	\$118,153.49

AUDITOR'S OFFICE

Commonwealth of Kentucky

Frankfort, Kentucky
August 17, 1944

Honorable Simeon Willis
Governor of Kentucky
Frankfort, Kentucky

Dear Governor Willis:

We submit herewith report of our audit of the Teachers' Retirement System of the State of Kentucky for the year ended June 30, 1944.

This examination was made by Bert L. Sparks, under my supervision.

Respectfully submitted,

C. I. ROSS
Auditor of Public Accounts

COMMENTS

Membership. Many changes in membership have been made during the year. Many teachers are leaving the teaching profession for other jobs and are being replaced. The great number of changes throws an added strain on the Retirement System. Many teachers who have withdrawn are leaving their deposits with the idea of returning to the profession after the war, but many others are asking for refunds. About \$50,000.00 was refunded to 920 teachers during the year. Retired teachers are receiving their quarterly retirement checks according to law.

Funds. The Teachers' Savings Fund, the State Accumulation Fund and the Guarantee Fund are in excellent shape, but the Allowance Reserve Fund, out of which annuities are paid, is in a rather strained condition. Appropriations for prior service have never been large enough to allow the setting up of a reserve out of which to pay annuities, but only barely enough to operate on a pay-as-you-go basis. The year ended with \$59,987.19 in the fund or available, and with present life-expectancy obligations of \$749,836.45. Current demands have been met regularly and promptly.

Investment Funds. All funds are now invested in United States Defense Bonds, Series G, and United States Treasury 2½% bonds. Under the present war-time conditions it has seemed wise and patriotic to invest the funds of the Retirement System in Government securities and the yield is comparable to what could be obtained from other legal investments. However, after the war it would seem that both the legal and practical bases of investment should be broadened somewhat to include other safe securities that will be offered.

Accounting. Efficient and accurate accounting is one of the most important functions of the Retirement System. An efficient accounting system must necessarily be intricate and delicate and require system and skill in operation.

The general accounts are set up on a double entry and dual basis, and furnish all necessary information easily and readily. The teachers' accounts, of which there are about 30,000, are posted by machine and are kept in fire-proof tubs. These accounts are classified and grouped according to school districts or institutions, each group of which is kept in balance with a control account. There are 273 control accounts, and these control accounts are kept in balance with the general accounts and with the Division of Accounts and Control.

The accounts appear to be in excellent shape, and those in charge of the accounting system seem to be well qualified by both training and experience for their jobs.

Surety Bonds. The Secretary is under a \$10,000.00 bond with the Aetna Casualty and Surety Company, Hartford, Connecticut. The bond, number 34S5307, expired July 1, 1944, but was renewed and is on file in the Office of the Secretary of State.

Personnel. The Secretary and office force seem to be well qualified for their positions.

Teachers' Retirement System
Consolidated Balance Sheet—All Funds
June 30, 1944

	Expense Fund	Teachers' Savings Fund	State Accumulation Fund	Allowance Reserve Fund	Guarantee Fund	Investment Fund	Totals
Assets:							
Cash	\$ 235.26	\$ 5,436.93	\$ 82,342.12	\$4,016.47	\$ 15,183.53	\$	\$ 107,214.31
Advanced for Investment		1,974,741.61	1,952,000.00		136,000.00		
Accounts Receivable		4.30					4.30
Due from Guarantee Fund		49,259.53	49,259.53	1,907.14			
Accrued Interest Received					11,590.63	1,534.37	13,125.00
Investments—Par Value						4,045,000.00	4,045,000.00
Unamortized Premiums						15,597.24	15,597.24
Accrued Interest Purchased						610.00	610.00
Office Equipment	11,172.78						11,172.78
Unclaimed Balance of Annuitants, Deceased				65.20			65.20
Total Assets	\$11,408.04	\$2,029,442.37	\$2,083,601.65	\$5,988.81	\$162,774.16	\$4,062,741.61	\$4,192,788.83*
Liabilities and Surplus:							
Accounts Payable	\$ 222.32	\$ 8.38	\$	\$ 65.20	\$	\$	\$ 295.90
Due Teachers' Savings Fund					49,259.53	1,974,741.61	
Due State Accumulation Fund					49,259.53	1,952,000.00	
Due Allowance Reserve Fund					1,907.14		
Due Guarantee Fund						136,000.00	
Fund Balances	11,185.72	2,029,433.99	2,083,601.65†	5,923.61	62,347.96		4,192,492.93
Total Liabilities and Surplus	\$11,408.04	\$2,029,442.37	\$2,083,601.65	\$5,988.81	\$162,774.16	\$4,062,741.61	\$4,192,788.83*

* Inter-Fund Accounts omitted.

† Permanent and Temporary contributions.

† Permanent and Temporary contributions.

Consolidated Statement of Operations
Teachers' Retirement System
Year Ended June 30, 1944

	Expense Fund	Teachers' Savings Fund	State Accumulation Fund	Allowance Reserve Fund	Guarantee Fund	Investment Fund	Totals
Fund Balance, July 1, 1943	\$	\$1,494,340.39	\$1,494,352.31	\$ 41,810.56	\$ 34,029.65	\$ 1,089.87	\$3,065,622.78
Net Adjustments		64.91	20.10	(41.54)	3.44		46.91
Net Balance	\$	\$1,494,405.30	\$1,494,372.41	\$ 41,769.02	\$ 34,033.09	\$ 1,089.87	\$3,065,669.69
Revenue:							
Allotment for Expenses	25,000.00						25,000.00
Teachers' Savings		546,787.56					546,787.56
State Contributions—Per.			546,229.41				546,229.41
State Contributions—Temp.			79,138.58				79,138.58
Interest and Investments					79,202.93	1,502.46	80,705.39
Annuity Payment Checks Returned				1,638.46			1,638.46
Interest on Fund Balances		49,264.43	49,264.43	1,907.14			100,436.00
Inter-Fund Transfers			492.73	96,878.54	50,675.84		148,047.11
Advanced For Investment						1,060,572.48	1,060,572.48
Total Revenue and Fund Balances	\$25,000.00	\$2,090,457.29	\$2,169,497.56	\$142,193.16	\$163,911.86	\$1,063,164.81	\$5,654,224.68

Consolidated Statement of Operations—(Continued)
Teachers' Retirement System
Year Ended June 30, 1944

	Expense Fund	Teachers' Savings Fund	State Accumulation Fund	Allowance Reserve Fund	Guarantee Fund	Investment Fund	Totals
Operating Charges:							
Actuarial Expenses	\$ 50.00	\$	\$	\$	\$	\$	\$ 50.00
Board of Trustees	594.53						594.53
Insurance and Fidelity Bond	50.00						50.00
Medical Expenses	37.00						37.00
Miscellaneous Expenses	180.05						180.05
Postage	414.17						414.17
Printing and Office Supplies	1,088.53						1,088.53
Office Salaries	19,426.71						19,426.71
Telephone and Telegraph	156.06						156.06
Traveling Expenses	385.93						385.93
Office Equipment	2,134.55						2,134.55
Inter-Fund Transfers	300.00	61,023.30	85,895.91		1,127.90		148,347.11
Interest Pd. on Fund Balances					100,436.00		100,436.00
Refunds—Regular				50,675.84			50,675.84
Refunds—Special				127.39			127.39
Refunds of Annuitants Dec'd.				128.32			128.32
Interest Paid on Refunds				635.17			635.17
Annuities Paid				84,702.83			84,702.83
U. S. Bonds Purchased						1,063,164.81	1,063,164.81
Total, Operating Charges	\$24,817.53	\$ 61,023.30	\$ 85,895.91	\$136,269.55	\$101,563.90	\$1,063,164.81	\$1,472,735.00
Fund Balances, June 30, 1944	\$ 182.47	\$2,029,433.99	\$2,083,601.65	\$ 5,923.61	\$ 62,347.96	\$	\$4,181,489.68