

**Twenty-third Annual Report**  
**of the**  
**TEACHERS' RETIREMENT SYSTEM**  
**OF THE**  
**STATE OF KENTUCKY**

**1962-63**



**DECEMBER, 1963**

December 28, 1963

Honorable Edward T. Breathitt  
Governor of Commonwealth of Kentucky  
Frankfort, Kentucky

Dear Governor Breathitt:

We transmit herewith in accordance with the provisions of Section 161.320 of the Kentucky Revised Statutes the Twenty-third Annual Report of the Teachers' Retirement System of the State of Kentucky.

In this report we present the biennial audit covering the 1961-62 and 1962-63 fiscal years. Also included is the Valuation Balance Sheet and comments of the actuary on the Actuarial Valuation just concluded. While this has been completed only very recently it values the system as of June 30, 1962. We conduct our actuarial valuation on a biennial basis but because of the great amount of statistical data to be collected it is not practical to make it on the year just closed. Both the Audit and the Valuation reveal the fiscal soundness of the system.

As you are aware, we are proposing extensive improvements to the Retirement System, a program to which you have pledged your support. We deeply appreciate your interest in the educational advancement of our State and of course more particularly the Retirement System. We look forward to four years of progress in your administration.

Respectfully yours,

Edna Lindle  
Chairman, Board of Trustees

James L. Sublett  
Executive Secretary  
Teachers' Retirement System  
of the State of Kentucky

## CONTENTS

	Page
BOARD OF TRUSTEES.....	1
STAFF .....	1
PART I. FINANCIAL .....	2
PART II. INVESTMENTS .....	11
PART III. ACTUARIAL VALUATION .....	13
PART IV. AUDIT REPORT .....	22

TEACHERS' RETIREMENT SYSTEM  
STATE OF KENTUCKY

BOARD OF TRUSTEES

Elected by members:

Mrs. Edna Lindle, Chairman.....Henderson  
Mrs. James Sheehan, Vice Chairman.....Danville  
Millard Tolliver .....Jackson  
Ted L. Crosthwait.....Bardstown

Ex-officio:

Wendell P. Butler, Superintendent of Public Instruction...Frankfort  
Thelma L. Stovall, State Treasurer.....Frankfort  
John B. Breckinridge, Attorney General.....Frankfort

STAFF

James L. Sublett, Executive Secretary  
Vera Beckham, Assistant Secretary  
William Ray Holt, Administrative Officer  
L. C. Cortright, Actuary

Anna Jean Blackwell	Edna Inman	Isabelle Royalty
Joan Burke	Susan Leathers	Martha Sudduth
Polly Casey	Alean McDonald	Doris W. Ward
Betty Cohorn	Helen N. Meade	William D. Wentworth
Anna Mae Connelly	Elizabeth Merchant	Dorothy L. Wood
Nancy G. Cosby	Amanda Owens	Frances Wright
Wilma Gaines	Jean L. Pulliam	

## **PART I. FINANCIAL**

The Balance Sheet and Statement of Receipts and Disbursements included here reflect the continued financial stability of the Teachers' Retirement System. The actuarial Balance Sheet in a later chapter indicates that contribution rates and benefits are in balance for the future.

Administrative costs, as a percentage of receipts, increased slightly but with the increase were lower than in twenty of the twenty-three years of operation.

Regular refunds of account declined slightly. It appears that barring some very drastic change in the education system, this figure will remain fairly stable at about the level of 2,000-2,300 per year.

**BALANCE SHEET****Teachers' Retirement System**

June 30, 1963

**ASSETS**

Cash, Unencumbered, All Funds .....	\$ 837,132.98	
Cash, Encumbered .....	56,367.21	\$ 893,500.19
Investments .....		102,938,003.29

**Deferred Charges:**

Unamortized Premium on Investments .....	\$896,503.54	
Accrued Interest Purchased .....	33,851.10	
Sub-total .....	\$ 930,354.64	
Unamortized Discount on Investments .....	450,398.75	479,955.89
TOTAL ASSETS .....		<u>\$104,311,459.37</u>

**LIABILITIES AND  
FUND BALANCES**

Expense Fund Encumbrances and Escrow Items.....	\$ 56,367.21
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**Fund Balances:**

Expense Fund .....	\$ 1,738.99	
Teachers' Savings Fund....	48,196,661.12	
State Accumulation Fund..	48,196,661.12	
Guarantee Fund .....	6,890,077.77	
Voluntary Contributions, Active Members .....	134,294.64	
Allowance Reserve Fund....	835,658.52	
Total Fund Balances.....		<u>\$104,255,092.16</u>
TOTAL LIABILITIES AND FUND BALANCES..		<u>\$104,311,459.37</u>

# STATEMENT OF RECEIPTS AND DISBURSEMENTS

## Teachers' Retirement System

for the Period July 1, 1962-June 30, 1963

CASH BALANCE, ALL FUNDS JULY 1, 1962..... \$ 762,008.45

### Receipts:

Teachers' Savings .....	\$6,765,354.48	
Regular Reinstatements .....	10,320.01	
Partially Matched		
Reinstatements .....	100,676.21	
Voluntary Unmatched		
Contributions .....	30,315.89	
Total from Members.....		\$ 6,906,666.59

### State Contributions:

"Permanent"—to match		
Teachers' Savings .....	\$6,763,615.18	
"Temporary"—to reduce		
Prior Service Obligation....	950,175.82	
Administrative Expense .....	196,846.00	\$ 7,910,637.00
Interest Collected, Bonds		
Redeemed or Sold .....	22,860,423.59	
Annuity Checks Returned,		
Benefit Adjustments .....	18,258.83	
Total Receipts .....		37,695,986.01

TOTAL CASH AVAILABLE..... \$38,457,994.46

### Disbursements:

Administrative Expenses		
Current Year .....	\$ 188,502.76	
Liquidation of Prior		
Year Encumbrances .....	4,863.31	\$ 193,366.07
Refunds for Withdrawal		
from Membership .....	\$ 944,478.60	
Death Benefit Payments—		
members deceased		
before retirement .....	31,500.00	
Death Benefits for		
Retired, Deceased .....	74,000.00	
Retirement Allowances,		
Final Settlements and		
Survivor Benefits .....	3,810,911.57	4,860,890.17
Purchase of Investments.....	32,510,238.03	
Total Disbursements .....		\$37,564,494.27

CASH BALANCE, ALL FUNDS—JUNE 30, 1963..... \$ 893,500.19

# ANALYSIS OF RECEIPTS

## Teachers' Retirement System

Fiscal Years 1940-41 through 1962-63

Date	Teachers' Savings*	Rein- statements	State Matching Contribution	State Prior Service Contribution	State Contribution for Expenses	Interest and Profit	Total Receipts
7/1/40-6/30/44 ..	\$ 2,063,716.64	\$ 675.28	\$ 2,063,636.92	\$ 147,146.21	\$ 89,216.87	\$ 161,182.57	\$ 4,525,574.49
7/1/44-6/30/48 ..	3,184,177.52	8,138.74	3,039,017.44	363,594.56	131,388.00	680,795.86	7,407,112.12
7/1/48-6/30/52 ..	4,951,457.55	9,880.10	5,090,847.83	3,374,273.81	198,335.00	1,676,157.12	15,800,951.41
1952-53 .....	1,470,569.81*	3,887.05	1,460,497.62	640,267.38	59,039.00	610,139.97	4,244,400.83
1953-54 .....	1,509,971.81*	6,262.44	1,503,190.97	144,949.03	62,860.00	688,046.72	3,915,280.97
1954-55 .....	1,606,795.76*	5,240.32	1,600,512.20	151,231.80	70,000.00	776,485.87	4,210,265.95
1955-56 .....	2,706,333.97*	5,730.97	1,929,901.00	.....	70,355.00	908,548.21	5,620,869.15
1956-57 .....	3,409,800.55*	6,946.98	3,396,749.24	611,125.76	89,000.00	1,082,779.34	8,596,401.87
1957-58 .....	3,533,508.21*	4,583.72	3,523,551.57	612,278.43	125,225.00	1,557,061.91	9,356,208.84
1958-59 .....	3,877,031.28*	7,026.22	3,858,543.67	479,306.33	129,350.00	1,638,554.23	9,989,811.73
1959-60 .....	4,198,829.94*	10,015.71	4,184,427.58	281,225.77	178,146.65	2,045,440.74	10,898,086.39
1960-61 .....	5,826,133.35*	391,207.80	5,790,585.89	1,173,039.11	161,375.00	2,537,175.78	15,879,516.93
1961-62 .....	6,344,302.54*	120,331.07	6,309,696.04	1,119,118.96	171,185.00	2,902,788.98	16,967,422.59
1962-63 .....	6,795,670.37*	110,996.21	6,763,615.18	950,175.82	196,846.00	3,866,534.20	18,683,837.78
	<u>\$51,478,299.30</u>	<u>\$690,922.61</u>	<u>\$50,514,773.15</u>	<u>\$10,047,732.97</u>	<u>\$1,732,321.52</u>	<u>\$21,131,691.50</u>	<u>\$135,595,741.05</u>

\*Includes Voluntary Unmatched Contributions.



# SOURCE OF ALLOWANCE RESERVE FUND PAYMENTS

## Teachers' Retirement System

June 1 1942, through June 30, 1963

Year	Total Benefits	Paid from Teachers' Contributions	Paid from State Funds: Matching Contribution	Prior Service Contribution	Percentage Paid from State "Temporary" Funds
1942-43	\$ 63,865.92	\$ 15,791.10	\$ 15,215.22	\$ 32,859.60	51.5%
1943-44	83,077.79	9,491.37	8,345.75	65,240.67	78.5%
1944-45	104,451.85	14,258.05	11,527.58	78,666.22	75.3%
1945-46	133,861.43	24,692.91	13,686.44	95,482.08	71.3%
<b>Minimum \$10/year (limit 30 years)</b>					
1946-47	215,390.17	40,215.35	28,118.59	147,056.23	68.3%
1947-48	252,374.54	38,185.99	31,348.35	182,840.20	72.4%
1948-49	289,568.15	46,017.03	29,902.32	213,648.80	73.8%
1949-50	331,367.57	57,683.56	36,823.79	236,860.22	71.5%
<b>Minimum \$16/year (limit 30 years)</b>					
1950-51	517,542.72	90,904.36	66,228.19	360,410.17	69.6%
1951-52	574,212.32	86,685.31	68,091.54	419,435.47	73.0%
1952-53	647,085.26	120,169.70	67,935.42	458,980.14	70.9%
1953-54	725,196.28	137,788.76	93,637.63	493,769.89	68.1%
<b>Minimum \$18/year (limit 35 years)</b>					
1954-55	909,023.42	155,608.13	123,280.98	630,134.31	69.3%
1955-56	982,596.56	164,026.16	130,416.71	688,153.69	70.0%
1956-57	1,049,427.01	184,815.47	119,989.90	744,621.64	71.0%
1957-58	1,138,397.08	235,990.95	126,817.43	775,588.70	68.1%
<b>Minimum \$25/year (years not limited)</b>					
1958-59	1,819,873.84	395,932.80	233,975.69	1,189,965.35	65.4%
1959-60	1,950,244.95	430,754.17	271,427.76	1,248,063.02	64.0%
<b>Minimum \$40/year for career teachers</b>					
1960-61	3,015,564.82	529,515.82	424,639.95	2,061,409.05	68.4%
1961-62	3,259,235.55	579,979.44	381,099.15	2,298,156.96	70.5%
1962-63	3,793,152.74	856,809.14	440,755.58	2,495,588.02	65.8%
<b>TOTALS</b>	<b>\$21,855,509.97</b>	<b>\$4,215,315.57</b>	<b>\$2,723,263.97</b>	<b>\$14,916,930.43</b>	<b>68.3%</b>

For the period only 19.3% of aggregate benefit payments have been derived from teachers' individual savings accounts.

**COST OF ADMINISTRATION**  
**Teachers' Retirement System**  
**July 1, 1940 through June 30, 1963**

Year	Receipts of State Accumulation Fund (for Matching & Prior Service)	Administration Expenses	Percentage of Receipts
1940-41 .....	\$ 476,089.49	\$ 23,669.88	4.97%
1941-42 .....	481,713.03	18,232.93	3.79
1942-43 .....	627,680.61	22,317.03	3.56
1943-44 .....	625,300.00	24,633.20	3.94
1944-45 .....	772,866.80	25,908.68	3.35
1945-46 .....	791,641.32	31,390.43	3.97
1946-47 .....	919,490.57	36,039.67	3.92
1947-48 .....	919,960.33	36,409.41	3.96
1948-49 .....	1,434,834.59	41,059.78	2.90
	2,439,606.64*		
1949-50 .....	1,434,315.22	43,396.76	3.03
1950-51 .....	1,577,988.24	52,324.68	3.32
1951-52 .....	1,580,070.32	58,303.98	3.69
1952-53 .....	2,102,681.02	57,490.72	2.73
1953-54 .....	1,649,688.28	61,165.65	3.71
1954-55 .....	1,753,438.35	68,889.71	3.93
1955-56 .....	2,693,326.38	69,548.14	2.58
1956-57 .....	4,008,681.86	88,407.80	2.21
1957-58 .....	4,261,055.00	111,868.14	2.62
1958-59 .....	4,337,850.00	128,489.00	2.97
1959-60 .....	4,465,653.35	164,768.85**	3.68
1960-61 .....	6,963,625.00	170,103.70	2.44
1961-62 .....	7,428,815.00	170,691.00	2.30
1962-63 .....	7,739,140.00	193,366.07	2.49

\*Special appropriation for prior service is not reflected in administrative expense computations.

\*\*Includes non-recurring capital outlay expenditure of \$33,500 for accounting machines charged off in one year instead of being amortized over the life of the equipment.

**COMPARISON OF BUDGET REQUESTS  
WITH APPROPRIATIONS RECEIVED  
July 1, 1940, through June 30, 1963**

Biennium	Budget Request	Appropriations	Not Appropriated
1940-42 .....	\$ 1,500,000.00	\$ 1,000,000.00	\$ 500,000.00
1942-44 .....	1,719,600.00	1,300,000.00	419,600.00
1944-46 .....	1,945,250.00	1,622,000.00	323,250.00
1946-48 .....	2,340,000.00	1,912,000.00	428,000.00
1948-50 .....	5,393,456.64	5,393,456.64	.....
1950-52 .....	3,258,540.00	3,270,000.00	(11,460.00)
1952-54 .....	4,254,340.00	3,870,804.00	383,536.00
1954-56 .....	4,439,605.00	3,822,000.00	617,605.00
1956-58 .....	8,356,705.00	8,356,705.00	.....
1958-60 .....	9,343,215.00	9,111,000.00	232,215.00
1960-62 .....	14,725,000.00	14,725,000.00	.....
1962-64 .....	15,902,769.00	15,902,769.00	.....
Totals .....	\$73,178,480.64	\$70,285,734.64	\$2,892,746.00

# REFUNDS

## Teachers' Retirement System

July 1, 1940, to June 30, 1963

Date	Withdrawals		Deceased		Special		Total	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount
7/1/40-6/30/44 .....	2,654	\$ 106,474.07	148	\$ 11,447.66	21	\$ 231.76	2,823	\$ 118,153.49
7/1/44-6/30/48 .....	6,455	415,929.56	205	34,386.65	52	1,184.73	6,712	451,500.94
7/1/48-6/30/52 .....	9,079	816,505.87	267	89,957.65	71	1,443.47	9,417	907,906.99
1952-53 .....	2,954	288,013.06	72	24,405.01	4	53.51	3,030	312,471.58
1953-54 .....	2,268	278,483.49	51	32,243.80	9	155.22	2,328	310,882.51
1954-55 .....	2,164	313,019.33	47	37,659.91	13	292.38	2,224	350,971.62
1955-56 .....	2,102	324,571.79	67	53,222.51	13	226.68	2,182	378,020.98
1956-57* .....	1,832	381,015.98	67	63,100.03	10	502.87	1,909	444,618.88
1957-58* .....	2,183	422,166.84	60	63,459.52	11	176.36	2,254	485,802.72
1958-59* .....	2,153	432,917.49	59	66,659.22	198	4,946.17	2,410	504,522.88
1959-60* .....	2,642	599,648.10	69	94,122.66	66	2,053.57	2,777	695,824.33
1960-61* .....	1,672	517,682.44	53	79,564.69	52	2,145.72	1,777	599,392.85
1961-62* .....	2,170	724,240.16	69	113,975.25	42	1,769.95	2,281	839,985.36
1962-63* .....	2,106	826,457.63	66	115,303.28	48	1,718.89	2,220	943,479.80
<b>TOTALS</b> .....	<b>42,434</b>	<b>\$6,447,125.81</b>	<b>1,300</b>	<b>\$879,507.84</b>	<b>610</b>	<b>\$16,901.28</b>	<b>44,344</b>	<b>\$7,343,534.93</b>

\*Does not include Refunds of Voluntary Unmatched Contributions.

**ANALYSIS OF ACCOUNTS REFUNDED 1962-63**  
**Teachers' Retirement System of the State of Kentucky**

<b>REASONS FOR WITHDRAWAL</b>	<b>Males</b>	<b>Females</b>	<b>TOTAL</b>
<b>Other Teaching Employment:</b>			
State of Ohio.....	62	49	111
State of Florida.....	13	17	30
State of Indiana.....	14	22	36
Other States .....	87	92	179
Outside Limits of U. S. A.....	4	10	14
Kentucky College or School not covered by Teachers' Retirement System.....	24	35	59
<b>Non-Teaching Employment:</b>			
Entered Business or Industry.....	168	44	212
Church-Related Profession .....	48	14	62
Medical Profession .....	5	2	7
Legal Profession .....	2	1	3
Military Service .....	31	....	31
Further Training & Education.....	60	55	115
Homemaking, Family Duties, Children.....	....	313	313
Husband Transferred Within Kentucky.....	....	5	5
Husband Transferred Out of Kentucky.....	....	86	86
Moved Residence to Another State.....	75	340	415
Emergency Teacher, Lack of Training, Not Re-Employed .....	44	106	150
Salary Too Low.....	26	2	28
Needed the Money.....	6	11	17
Disliked Teaching .....	3	3	6
Personal Reasons .....	63	73	136
Illness of Member.....	11	49	60
Death of Member.....	16	50	66
Absent From Profession 4-6 Years.....	3	21	24
Lost Service Credit, Absent 7 or More Years	1	6	7
<b>TOTALS.....</b>	<b>766</b>	<b>1,406</b>	<b>2,172</b>

## **PART II. INVESTMENTS**

As a result of enabling legislation and a flexible and realistic investment policy adopted by the board of trustees, the average yield on the retirement system's investment portfolio continues to increase. The Kentucky teachers' system ranks in the upper twenty percent of all public retirement funds in respect to rate of return on investment. This is being accomplished and at the same time the portfolio is of very high quality.

Amendments to the law in 1962 permitted the purchase of government guaranteed mortgages. As a result nearly five million dollars was invested in single family mortgages as of June 30, 1963. As a matter of policy the board limits investment in these single family mortgages to Kentucky. Thus, five million dollars had been invested in the state's economy.

# ANALYSIS OF INVESTMENTS HELD AT JUNE 30, 1963

to show annual yield rate

## Teachers' Retirement System of the State of Kentucky

	Percentage of Total	Par Value	Interest Income/Year	Annual Yield
U. S. Treasury Bills & Bonds.....	21.81%	\$22,447,000.00	\$ 715,510.10	3.188%
Obligations Secured by U. S. Treasury.....	1.98%	2,042,000.00	96,113.74	4.707%
Capehart Mortgages .....	9.53%	9,807,632.31	444,256.82	4.530%
FHA & VA Mortgages.....	4.57%	4,706,603.63	233,575.32	4.963%
Other Mortgages .....	.73%	748,612.96	38,554.09	5.150%
Corporate Bonds .....	50.18%	51,656,000.00	2,302,437.68	4.457%
School & Municipal Bonds.....	4.08%	4,195,000.00	162,864.44	3.882%
Kentucky Obligations .....	.09%	100,000.00	3,533.54	3.534%
<b>TOTALS.....</b>	<b>92.97%</b>	<b>\$95,702,853.90</b>	<b>\$3,996,845.73</b>	

### NET YIELD RATE:

$$\$3,996,845.73 \div \$95,702,853.90 = 4.17630\%$$

### Not Included Above:

113,759 shares Common Stocks.....	5.72%	5,884,650.49		
Two Permanent Mortgage Loans (5¼%, less servicing) which are still in construction status, Face Value .....	1.31%	1,350,498.90		
<b>TOTAL INVESTMENTS .....</b>	<b>100.00%</b>	<b>\$102,938,003.29</b>		

### PART III. ACTUARIAL VALUATION

The Teachers' Retirement Law requires that at two year intervals an actuarial valuation of the projected assets and liabilities of the Retirement System. This report is submitted by the Actuary, Mr. L. C. Cortright, M.C.A., Springfield, Illinois, in compliance with the statutory provision.

The study was made during the months following the close of the fiscal year on June 30, 1963. However, because of the voluminous statistics which must be accumulated the report is based on the system as of June 30, 1962.

Because it is used only in arriving at the balance sheet and conclusions, certain statistical data is omitted from the report.



L. C. CORTRIGHT  
ACTUARY  
529 South Seventh Street  
SPRINGFIELD, ILLINOIS

November 25, 1963

Members of the Board of Trustees  
Teachers' Retirement System  
of the State of Kentucky  
Frankfort, Kentucky

Ladies and Gentlemen:

I have the honor to submit herewith a report on an actuarial valuation of the Teachers' Retirement System of the State of Kentucky. The basis of this valuation and the procedures thereof are fully described herein. Statistics pertinent thereto are presented, in summary form, to illustrate the characteristics of the active and retired membership of the system.

The courtesy and cooperation of the administrative staff of the system, headed by James L. Sublett, Executive Secretary, in making available, in excellent form, the necessary statistical and financial data for this report, is hereby acknowledged.

Respectfully submitted,

L. C. Cortright, M.C.A.  
Actuary

**REPORT ON AN ACTUARIAL VALUATION  
OF THE  
TEACHERS' RETIREMENT SYSTEM OF THE  
STATE OF KENTUCKY**

**As of June 30, 1962**

The results of an actuarial valuation of the assets and liabilities of the Teachers' Retirement System of the State of Kentucky, as of June 30, 1962, are presented herewith.

This valuation is made pursuant to a directive embodied in Section 161.400 of the KRS governing the operation of the system. This directive requires that

"At least once in each two-year period the actuary shall make an actuarial valuation of the retirement system."

**PURPOSE**

A retirement system represents a long term operation with a persistent upward trend in benefit payments. The system experiences a relatively small outlay during its early years but the expenditures increase continuously until considerably higher levels of payments are attained as the system expands its operations and reaches its full potential. A periodic actuarial valuation is undertaken for the purpose of establishing its liabilities under the prescribed benefit schedule and determining if these liabilities will be met adequately by the expected revenues under the prescribed method of financing.

This valuation is made with the use of actuarial functions developed in a survey of operating experience in prior years. A survey and investigation was completed as of June 30, 1959 covering the period of the system's operations from July 1, 1941 to June 30, 1959. Therefore, the resulting reserves, liabilities and costs have been established on a realistic and practical basis reflecting the characteristics of the system and the condition peculiar to the membership comprising the system.

In formulating the actuarial functions from the statistics compiled for the survey, it was assumed that operations with respect to the principal factors such as rates of mortality among active and retired members, rates of retirement, rates of separation from the system with refunds, salary increments and investment earnings in effect during previous years, will persist in the future. It is the duty and responsibility of the actuary to properly evaluate the results of prior years as disclosed by these factors with the view of recommending rates for future valuations which will reflect the probable experience of the system in future years.

Long range valuations, or cost estimates, regardless of how they are determined, cannot be precise no matter how accurately they may be calculated. A number of assumptions are made with respect to probable future experience that may not be fully confirmed during actual operations. Differences may arise between the results of actual operations over the long term and the assumptions made with respect to some of the actuarial functions used in arriving at a forecast. Nevertheless, periodic valuations and cost determinations must be made in order that an indication may be had, based upon the latest operating data, regarding the accrued and accruing obligations of the system and the current cost significance of its benefit schedule as amended from time to time. This is especially important where either a change in the basic characteristics of the membership or a revision in the benefit schedule may have a marked effect on costs in future years.

The purpose of an actuarial valuation, therefore, may be said to be three-fold. First, it permits the disclosure of the true financial condition of the retirement system from the technical standpoint at the latest possible date, and thereby provides dependable information concerning liabilities and costs. Secondly, it enables the actuary to make the necessary adjustments in the application of the major actuarial functions, based upon the latest available experience data, pending the next complete actuarial survey and investigation of the system's operating experience as required by the law governing the system. Third, it makes it possible to give effect to any current revisions in the benefit schedule or additions thereto involving an element of cost.

#### **TYPES OF VALUATIONS**

Two different methods are currently employed for making a valuation of a retirement system. These methods may both be applied in certain circumstances. Generally, however, either one of the two is used.

One method consists of projecting the income and expenditures of the system for a period of years taking into account membership trends, separations from service, mortality among members and retirants, salary trends, and other relevant factors bearing upon the future course of the operations of the system.

The second method contemplates the presentation of the assets and liabilities of the system in a balance sheet form, as of a certain specified date, giving effect to all accrued and prospective liabilities. By this method, contribution rates are established which should be sufficient to discharge the benefit liabilities as they accrue during the expected working lifetime of the members, so as to provide the reserves necessary for the liabilities when the annuities to the members mature, that is, when the members attain the assumed ages for retirement.

Each of these methods has certain advantages and disadvantages. The principal feature of the first method, that is, the projection method, is that a graphic presentation of what may happen in the future in the

way of expenditures for annuities and benefits is possible. The second method involves the preparation of a balance sheet showing the assets and the accrued and prospective liabilities as of a given date. This method is easier to apply because of the fewer assumptions that must be made as to the probable future experience.

Under either of these two methods costs are figured into perpetuity on the assumption that a continuous flow of new members will be experienced to take the place of those who retire, die or otherwise become separated from the service. The projection method takes into account possible increases in total membership in future years. The balance sheet method does not since it is concerned with a relatively stable membership and assumes that the present members will be replaced by those who retire or withdraw from the system.

The balance sheet method includes the presentation of a technical financial statement reflecting actuarial criteria. The method sometimes provokes comment to the effect that the figures, which are embodied in the balance sheet, are theoretical liabilities and do not represent real liabilities. This viewpoint is erroneous, of course, since the figures constitute actual liabilities and costs, actuarially computed with the use of certain compound discount factors, mortality expectancies, rates of retirement, rates of employment turnover and a number of other factors.

In the interpretation of the balance sheet method, it must be assumed that the system will continue in existence at least until it has discharged, in full, its obligations to all members, both active and retired, disregarding for the moment future entrants. The erroneous interpretation of the so-called valuation balance sheet, or actuarial balance sheet, as it is frequently described, probably arises from the fact that the ultimate cost figures and the accumulated assets of the system as compared with current benefit expenditures are so much larger than the amounts of benefits currently being paid. If properly explained in the light of the foregoing facts, the actuarial balance sheet method of presentation is the most acceptable and the most useful in reflecting the current financial condition of a retirement system and interpreting its progress. This is why the great majority of public retirement systems are valued periodically according to the balance sheet method.

An actuarial valuation of the Teachers' Retirement System of the State of Kentucky has been completed as of June 30, 1962, according to the balance sheet method and the results are presented in the succeeding pages.

#### **BASIS OF VALUATION**

The valuation has been made employing the actuarial functions developed by the survey and investigation of the system's operating experience for the period from July 1, 1941 to June 30, 1959. They may be described as the "Kentucky Teachers' Actuarial Functions, 1959". The rate of interest used is 3% per annum.

## ACTUARIAL VALUATION

As previously stated, the valuation was completed by the application of the actuarial functions and standards developed in the actuarial survey and investigation of the operating experience of the system covering the period from July 1, 1941 to June 30, 1959. The period in question was sufficiently long so as to provide reliable actuarial data for use in a valuation of the assets and liabilities of the system based upon its own experience. The system's own experience is the most satisfactory basis for measuring the possible future effect of the several factors previously described and making a proper valuation of its financial condition.

The actuarial criteria thus developed formed the basis of the Valuation Balance Sheet presented in the following pages. In the preparation of this statement, the technique used was similar to procedure generally followed by accountants in the preparation of the usual financial balance sheet dealing with accounts other than those of actuarial import. The statement prepared by the actuary, however, is more extensive in scope. It includes, in addition to the present assets and current or fixed liabilities, the actuary's evaluation of the accrued and prospective assets reflecting his calculations according to actuarial requirements.

The accompanying Valuation Balance Sheet includes, among other things, (a) the actuarial value of the annuities and benefits being paid by the system at the balance sheet date, (b) the accrued liability for service rendered by the members from July 1, 1941 to the balance sheet date, (c) the actuarial value of the benefits to be earned by the members during the remainder of their assumed periods of service subsequent to the balance sheet date, (d) the present and prospective assets, and (e) the unfunded accrued liability for service prior to July 1, 1941 which is subject to systematic amortization.

A sound financial condition exists and the concept of full funding is fulfilled when the present assets of the system are equal to the difference between (a) the total of all liabilities, both accrued and prospective, and (b) the present value of future contributions on the part of the members and the State. Full funding means that all liabilities are fully and adequately financed in accordance with accrued and accruing requirements.

VALUATION BALANCE SHEET—JUNE 30, 1962

ASSETS

PRESENT ASSETS

Fund Balances:

Expense Fund .....	\$ 3,753.53
Teachers' Savings Fund .....	42,012,131.69
State Accumulation Fund .....	42,012,131.69
Guarantee Fund .....	4,760,384.55
Voluntary Contributions, .....	
Active Members .....	116,243.60
Allowance Reserve Fund:	
Teachers' Contributions and State	
"Permanent" Contributions .....	1,720,012.74

Total Fund Balances .....\$ 90,624,657.80

PROSPECTIVE ASSETS

Deferred Obligations of Teachers and  
the State of Kentucky for service  
subsequent to June 30, 1962:

Present value of future teachers'	
contributions .....	\$ 60,041,633.54
Present value of prospective State	
matching contributions .....	60,041,633.54

Total Prospective Assets ..... 120,083,267.08

DEFERRED ASSETS—Obligation of  
the State of Kentucky—

Present value of accrued obligation  
for service period to July 1, 1941:

Active Members .....	\$ 7,715,406.00
Retired Teachers—.....	\$28,209,813.26
Less:	
Guarantee Fund ....	4,760,384.55
Allowance Reserve	
Fund .....	1,720,012.74
	21,729,415.97

Total Deferred Assets ..... 29,444,821.97

TOTAL ASSETS .....\$240,152,746.85

# VALUATION BALANCE SHEET—JUNE 30, 1962

## LIABILITIES AND RESERVES

### ACCRUED LIABILITIES

#### Reserve Requirements:

Retirement Annuities ..\$24,391,186.00		
Less: Allowance		
Reserve Fund .....	1,720,012.74	\$ 22,671,173.26
Disability Annuities .....	3,960,905.00	
Survivors' Benefits in Force.....	1,484,070.00	
Death Benefit .....	93,665.00	\$ 28,209,813.26

#### Prior Service:

Present Value of Benefits Mandatory to Active Members on account of Service prior to July 1, 1941.....	7,715,406.00
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#### Subsequent Service:

Present Value of Benefits Mandatory on account of Subsequent Service—		
July 1, 1941 to June 30, 1955.....	\$ 22,424,331.00	
July 1, 1955 to June 30, 1962.....	35,799,755.00	58,224,086.00

Reserve for Future Refunds of Member Contributions— .....	14,240,340.08
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Reserve for Mortality and Turnover Fluctuations, and Future Salary In- crements— .....	11,559,837.30
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#### Special Reserves:

Expense Fund .....	\$ 3,753.53	
Voluntary Contributions by Members..	116,243.60	119,997.13

### PROSPECTIVE LIABILITIES

#### Present Value of Benefits on Account of Subsequent Service, i.e. service after June 30, 1962:

Pension Benefits .....	\$115,997,700.11	
Disability Benefits .....	4,085,566.97	120,083,267.08

#### TOTAL LIABILITIES AND RESERVES .....

\$240,152,746.85

## INTERPRETATION OF FOREGOING VALUATION BALANCE SHEET

The financial condition reflected in the Valuation Balance Sheet evidences continued improvement in the stability of the system. Present assets have shown a substantial increase for the year. While liabilities have also increased due to the additional pension credits earned by the members, every sector of the system's operations reveals progress. The increases in liabilities include not only the requirements for the additional benefit credits earned by the members but include provision for certain contingent factors affecting mortality, turnover and salary increments as protection against possible adverse developments in future operations.

Adequate provision has been made for the actuarial reserve requirements for all annuities and benefits in force after giving due credit for the amount accumulated in the Allowance Reserve Fund. Effect has been given to the \$40 per year of service credit, including prior service and subsequent service, as the minimum rate of retirement allowance for all pension credits. Any variations in liabilities that may be apparent in a comparison of the figures between this year's results and the preceding fiscal year are due principally to adjustments in the basic assumptions to give effect to underlying trends in mortality, salary increments and other factors affecting the calculation of annuity reserves and liabilities.

By the adjustments made in each annual actuarial valuation, one of the principal purposes of the valuation is fulfilled. The assets and liabilities of the system are valued and appraised in the light of current conditions and possible prospective developments in fundamental factors. Thus an up to date financial condition from a technical standpoint is obtained after taking into account current factors affecting every area of the system's operations.

## CONCLUSION

The policies and procedures in force in the management and direction of the system's affairs on the part of the Board of Trustees reflect a constructive and conscientious approach to all problems arising in its operations. The policies and procedures are in accord with the principles of good management and give promise that the effective operation of the system will be consistent with accepted standards and concepts in fulfillment of its stated objectives.

The administration of the system under the direction of James Sublett, Executive Secretary, is being conducted with competence and ability. The Board of Trustees is to be congratulated with respect to its choice of Executive Management.

Respectfully submitted,  
L. C. Cortright, M.C.A.  
Actuary



#### **PART IV. AUDIT REPORT**

The Board of Trustees has adopted a policy of conducting audits of the financial condition of the System on a biennial basis. Following is the audit of the System's funds for the years 1961-62, and 1962-63. The audit was conducted by the firm of Mitchell and Sullivan, Certified Public Accountants, Frankfort, with the assistance of a staff member of the State Auditor's office.

TEACHERS' RETIREMENT SYSTEM  
OF THE STATE OF KENTUCKY

REPORT OF EXAMINATION FOR THE FISCAL  
YEARS ENDED JUNE 30, 1962 AND JUNE 30, 1963

November 27, 1963

Board of Trustees,  
Teachers' Retirement System of the  
State of Kentucky

Commissioner of Finance,  
Commonwealth of Kentucky  
Frankfort, Kentucky

Gentlemen:

We have examined the balance sheets and related statements of cash receipts and disbursements of the Teachers' Retirement System of the State of Kentucky for the fiscal years ended June 30, 1962 and June 30, 1963. Our examination was conducted in accordance with generally accepted auditing procedures and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying balance sheets and related statements of cash receipts and disbursements present fairly the financial position of the Teachers' Retirement System of the State of Kentucky at June 30, 1962 and June 30, 1963 and the results of operations for the years then ended, in conformity with generally accepted governmental accounting principles applied on a consistent basis.

Respectfully submitted,  
MITCHELL & SULLIVAN

## **GENERAL COMMENTS**

### **CONDUCT OF EXAMINATION**

The entire audit was conducted jointly with the Office of the Auditor of Public Accounts. In this respect, personnel from the State and from our office cooperated in all phases of the work from planning through completion of the examination.

### **REMITTANCES FROM SCHOOL BOARDS**

In some cases, the amounts withheld from teachers' salaries are not being timely remitted to the Teachers' Retirement System by the School Board. Such remittances should be received monthly. Since any other use of the funds by a School Board, however temporary, represents a violation of trust and loss of interest credit in the individual teacher's account, it is suggested that penalty provisions or other punitive measures be considered.

## TEACHERS' RETIREMENT SYSTEM BALANCE SHEET

JUNE 30, 1963

### ASSETS

Cash—Unencumbered, All Funds.....	\$ 884,912.98	
Cash—Encumbered .....	8,587.21	\$ 893,500.19
Investments (Note 1) .....		\$102,938,003.29
Deferred Charges:		
Unamortized Premium on Investments.....	\$ 896,503.54	
Accrued Interest Purchased.....	33,851.10	
Sub-Total .....	\$ 930,354.64	
Less: Unamortized Discount on		
Investments .....	450,398.75	479,955.89
Total Assets .....		<u>\$104,311,459.37</u>

### LIABILITIES AND FUND BALANCES

#### Liabilities

Escrow—Insurance Premiums and Other		
Deposits For Caphart and FHA Mort-		
gages .....	\$ 49,736.19	
Expense Fund Encumbrances .....	8,587.21	
Total Liabilities .....		\$ 58,323.40

#### Fund Balances

Teachers' Savings Fund .....	\$48,196,655.20
State Accumulation Fund .....	48,196,693.81
Guarantee Fund .....	6,889,724.95
Voluntary Contributions, Active Members	134,294.64

#### Allowance Reserve Fund (Note 2):

Teachers Contribution....	\$ 576,066.12	
State "Permanent"		
Contributions .....	1,935,502.45	
State "Temporary"		
Contributions .....	(1,675,801.20)	835,767.37

Total Fund Balances ..... 104,253,135.97

Total Liabilities and Fund Balances.....\$104,311,459.37

# TEACHERS' RETIREMENT SYSTEM BALANCE SHEET

JUNE 30, 1962

## ASSETS

Cash—Unencumbered, All Funds.....	\$ 757,145.14	
Cash—Encumbered .....	4,863.31	\$ 762,008.45
Investments (Note 1) .....		89,652,215.07
Deferred Charges:		
Unamortized Premium on Investments....	\$ 851,976.90	
Accrued Interest Purchased .....	37,185.45	
Sub-Total .....	\$ 889,162.35	
Less: Unamortized Discount on Investments .....	590,779.49	298,382.86
Total Assets .....		\$ 90,712,606.38

## LIABILITIES AND FUND BALANCES

### Liabilities

Escrow—Insurance Premiums and Other Deposits for Caphart and FHA Mort- gages .....	\$ 86,832.44	
Expense Fund Encumbrances .....	4,863.31	
Total Liabilities .....		\$ 91,695.75

### Fund Balances

Teachers' Savings Fund .....	\$42,012,137.02	
State Accumulation Fund .....	42,012,130.66	
Guarantee Fund .....	4,760,386.61	
Voluntary Contributions, Active Members .....	116,243.60	
Allowance Reserve Fund (Note 2):		
Teachers Contributions....	\$ 447,761.00	
State "Permanent" Contributions .....	1,430,971.43	
State "Temporary" Contributions .....	(158,719.69)	1,720,012.74
Total Fund Balances .....		90,620,910.63

Total Liabilities and Fund Balances.....	\$ 90,712,606.38
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#### **NOTES TO THE BALANCE SHEETS**

NOTE 1: Bonds and mortgages are carried in this accounts at maturity value. Differences between the purchase price and maturity value of bonds are entered in either the "Unamortized Premium" account or the "Unamortized Discount" account, as appropriate. Premiums are amortized to the earliest date of call without penalty; discounts are amortized to the maturity date of the bonds. Stocks are carried in the "Investments" account at cost.

NOTE 2: All benefits paid to deceased or retired teachers are channeled through this account. The State of Kentucky is paying its obligation for teachers' service prior to the establishment of the Retirement System by allocating to the System funds sufficient to meet current benefit payments which have not been provided for by teachers' savings and matching State funds. Since the State is liquidating this liability on a current basis, the present value of the actuarially computed annuities necessary for payment of benefits to retired teachers is only partially reflected in the allowance Reserve Fund Balance.

# STATEMENT OF RECEIPTS AND DISBURSEMENTS

## Teachers' Retirement System

For the Fiscal Year Ended June 30, 1963

Cash Balances—All Funds—July 1, 1962.....	\$	762,008.45
Receipts:		
Members Contributions		
Teachers Savings .....	\$6,765,354.48	
Reinstatements .....	10,320.01	
Partially Matched		
Reinstatements .....	100,676.21	
Voluntary Unmatched		
Contributions .....	30,315.89	
Total From Teachers.....		\$ 6,906,666.59
State Contributions		
"Permanent"—To Match		
Teachers' Savings .....	\$6,763,615.18	
"Temporary"—To Reduce		
Prior Service Obligation .....	950,175.82	
Administrative Expense.....	196,924.57	
Total State Contributions .....		7,910,715.57
Investment Income		
Interest .....	\$3,765,079.47	
Net Profit on Sale of		
Investments .....	89,563.59	3,854,643.06
Receipts From Sale or		
Redemption of Bonds,		
Purchased Interest and		
Amortization of Premium .....		19,005,780.53
Annuity Checks Returned and		
Benefit Adjustments .....		18,258.83
Total Receipts .....		<u>37,696,064.58</u>
Total Cash Available.....		<u>\$38,458,073.03</u>
Disbursements:		
Administrative Expenses,		
Current Year .....	\$ 188,581.33	
Liquidation of Prior		
Year Encumbrances .....	4,863.31	\$ 193,444.64
Refund for Withdrawal		
from Membership .....	\$ 944,478.60	
Death Benefit Payments—		
Members deceased before		
retirement .....	31,500.00	975,978.60
Retirement Allowance		
Payments:		
Superannuation .....	\$3,303,142.13	
Disability .....	370,628.62	
Voluntary and Survivor		
Benefit Payments .....	137,140.82	
Death Benefit Payments		
for Annuitants Deceased .....	74,000.00	3,884,911.57
Purchase of Investments.....		<u>32,510,238.03</u>
Total Disbursements .....		<u>\$37,564,572.84</u>
Cash Balance—All Funds, June 30, 1963.....	\$	893,500.19



# STATEMENT OF RECEIPTS AND DISBURSEMENTS

## Teachers' Retirement System

For the Fiscal Year Ended June 30, 1962

Cash Balance, All Funds—July 1, 1961.....\$ 726,503.66

### Receipts:

Members Contributions		
Teachers Savings .....	\$6,311,472.35	
Reinstatements .....	12,715.21	
Partially Matched		
Reinstatements .....	107,615.86	
Voluntary Unmatched		
Contributions .....	32,830.19	
Total From Teachers.....		\$ 6,464,633.61
State Contributions		
“Permanent”—To Match		
Teachers' Savings.....	\$6,309,696.04	
“Temporary”—To Reduce		
Prior Service Obligation	1,119,118.96	
Administrative Expense....	171,185.00	
Total State Contributions		7,600,000.00
Investment Income		
Interest .....	\$3,084,649.01	
Net Loss on Sale of		
Investments .....	(186,740.70)	2,897,908.31
Receipts from Sale or		
Redemption of Bonds,		
Purchased Interest and		
Amortization of Premium		16,763,177.41
Annuity Checks Returned,		
Benefit Adjustments .....		11,715.28
Total Receipts .....		<u>33,737,434.61</u>
Total Cash Available.....		\$34,463,938.27

### Disbursements

Administrative Expenses,		
Current Year .....	\$ 166,321.69	
Liquidation of Prior Year		
Encumbrances .....	4,369.31	\$ 170,691.00
Refund for Withdrawal		
from Membership .....	\$ 840,855.29	
Death Benefit Payments—		
members deceased before		
retirement .....	32,000.00	872,855.29
Retirement Allowance		
Payments:		
Superannuation .....	\$2,869,855.51	
Disability .....	340,282.23	
Voluntary and Survivor		
Benefits Payments .....	60,602.48	
Death Benefit Payments		
for Annuitants Deceased	54,000.00	3,324,740.22
Purchase of Investments.....		<u>29,333,643.31</u>
Total Disbursements .....		<u>33,701,929.82</u>
Cash Balance—All Funds, June 30, 1962.....		\$ 762,008.45

December 6, 1963

Board of Trustees,  
Teachers' Retirement System of  
the State of Kentucky

Commissioner of Finance,  
Commonwealth of Kentucky  
Frankfort, Kentucky

Gentlemen:

Enclosed are copies of our report of audit of the Teachers' Retirement System of the State of Kentucky for the years ended June 30, 1962 and June 30, 1963.

We consider the internal control and the accounting procedures of the Teachers' Retirement System to be excellent, in view of the large volume of individual teachers' contributions which must be accounted for.

Respectfully submitted  
Mitchell & Sullivan