

# TEACHERS' RETIREMENT SYSTEM OF THE STATE OF KENTUCKY

## Financial Statements June 30, 2023 and 2022

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## Report of Independent Auditors

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

### Report on the Audit of Financial Statements

#### *Opinion*

We have audited the accompanying financial statements of Teachers' Retirement System of the State of Kentucky (TRS), a component unit of the Commonwealth of Kentucky, as of and for the years ended June 30, 2023 and 2022, and the related notes to the financial statements, which comprise the TRS's financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects the fiduciary net position of TRS, as of June 30, 2023 and 2022, and the respective changes in fiduciary net position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

#### *Basis for Opinion*

We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of TRS and to meet our other ethical responsibilities in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

#### *Responsibilities of Management for the Financial Statements*

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about TRS's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

### *Auditor's Responsibilities for the Audit of the Financial Statements*

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgement made by a reasonable user based on the financial statements.

In performing an audit in accordance with generally accepted auditing standards and *Government Auditing Standards*, we:

- Exercise professional judgement and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of TRS's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgement, there are conditions or events, considered in the aggregate, that raise substantial doubt about TRS's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

### *Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that management's discussion and analysis on pages 5 through 8, and the defined benefit pension plan and other postemployment benefit plan supplemental schedules on pages 58 through 69, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audits of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

### *Other Information*

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise TRS's basic financial statements. The additional supporting schedules (pages 70 through 72) are presented for purposes of additional analysis and are not a required part of the basic financial statements. The Schedule of Administrative Expenses, Schedule of Professional Services and Contracts, and Schedule of Contracted Investment Management Expenses are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audits of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Schedule of Administrative Expenses, Schedule of Professional Services, and Schedule of Contracted Investment Management Expenses are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

### Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated November 15, 2023, on our consideration of TRS's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of TRS's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering TRS's internal control over financial reporting and compliance.

*Blue & Co., LLC*

Lexington, Kentucky  
November 15, 2023

## Teachers' Retirement System of the State of Kentucky Management's Discussion and Analysis

This discussion and analysis of the financial performance of Teachers' Retirement System of the State of Kentucky (TRS or system) provides an overview of the Retirement Annuity Trust, the Health Insurance Trust and the Life Insurance Trust for the years ended June 30, 2023, and 2022. It should be read in conjunction with the respective financial statements, which begin on page 9. TRS is the fiduciary of funds held in trust for its members.

### Using This Financial Report

Because of the long-term nature of the retirement annuity, health insurance and life insurance trusts, financial statements alone do not provide the complete scope of TRS. The notes, required supplemental information, supporting schedules and other sections of this annual comprehensive financial report (ACFR) relating to investments, actuarial valuations and statistical measures complete that scope.

Information about the activities of the retirement annuity, health insurance and life insurance trusts and the 403(b) Tax-Sheltered Trust as a whole is provided in the Statement of Fiduciary Net Position and Statement of Changes in Fiduciary Net Position (on pages 9-12). The Notes to the Financial Statements are an essential part of the basic financial statements. They provide important background and detailed information about TRS, the plan and the basic financial statements themselves.

The Required Supplementary Information includes historical trend information about the funded status of the retirement annuity, health insurance and life insurance trusts presented as required by accounting standards. The Schedules of Employer Contributions present historical trend information about the required contributions of employers and the contributions made by employers in relation to the requirement. These schedules provide information that contributes to understanding the changes over time in the funded status of the plans. Separate reports prepared by the actuary using a board-adopted funding policy provide a long-term, ongoing plan perspective and the progress made in accumulating sufficient assets to pay benefits and insurance premiums when due.

### Teachers' Retirement System as a Whole

In the year ended June 30, 2023, the system's combined fiduciary net position increased by \$1.8 billion — from \$25.3 billion in 2022 to \$27.1 billion in 2023. In 2021, the combined net position totaled \$28.3 billion. The following summaries focus on the fiduciary net position and changes in fiduciary net position of TRS's retirement annuity, health insurance and life insurance trusts.

#### Summary of Fiduciary Net Position (In millions)

	Retirement Annuity Trust			Health Insurance Trust			Life Insurance Trust		
	2023	2022	2021	2023	2022	2021	2023	2022	2021
<b>Assets</b>									
Cash and investments	\$ 24,189.3	\$ 22,846.5	\$ 25,879.0	\$2,714.1	\$ 2,229.8	\$2,288.2	\$ 93.9	\$ 88.3	\$107.2
Receivables	128.5	122.8	157.8	66.1	57.8	54.7	0.4	0.3	0.4
Capital assets	7.5	9.3	10.3						
<b>Total assets</b>	<u>24,325.3</u>	<u>22,978.6</u>	<u>26,047.1</u>	<u>2,780.2</u>	<u>2,287.6</u>	<u>2,342.9</u>	<u>94.3</u>	<u>88.6</u>	<u>107.6</u>
<b>Liabilities</b>	<u>(80.7)</u>	<u>(78.6)</u>	<u>(111.3)</u>	<u>(36.8)</u>	<u>(18.5)</u>	<u>(42.4)</u>	<u>(0.3)</u>	<u>(0.2)</u>	<u>(0.1)</u>
<b>Net position</b>	<u>\$ 24,244.6</u>	<u>\$ 22,900.0</u>	<u>\$ 25,935.8</u>	<u>\$2,743.4</u>	<u>\$ 2,269.1</u>	<u>\$2,300.5</u>	<u>\$ 94.0</u>	<u>\$ 88.4</u>	<u>\$107.5</u>

**Teachers' Retirement System of the State of Kentucky  
Management's Discussion and Analysis (Continued)**

**Trust Totals\* \*\***

*(In millions)*

	<u>2023</u>	<u>2022</u>	<u>2021</u>
<b>Assets</b>			
Cash and investments	\$ 26,997.3	\$ 25,164.6	\$ 28,274.4
Receivables	195.0	180.9	212.9
Capital Assets	7.5	9.3	10.3
<b>Total assets</b>	<u>27,199.8</u>	<u>25,354.8</u>	<u>28,497.6</u>
<b>Liabilities</b>	<u>(117.8)</u>	<u>(97.3)</u>	<u>(153.8)</u>
<b>Net position</b>	<u>\$ 27,082.0</u>	<u>\$ 25,257.5</u>	<u>\$ 28,343.8</u>

\* Trust Totals excludes Other Funds, which consists of the 403(b) Tax-Sheltered Trust, the Supplemental Benefit Fund and the Losey Scholarship Fund. Other Funds had a combined fiduciary net position of \$1.3 million for 2023, \$1.1 million for 2022 and \$1.4 million for 2021.

\*\* Amounts above may not agree to the financial statements due to rounding.

The fiduciary net position of the Retirement Annuity Trust increased by 5.9% (\$24.24 billion compared to \$22.9 billion in 2022). The fiduciary net position in 2021 was \$25.94 billion. Net investment income was approximately \$2.27 billion in 2023 versus a negative \$2.73 billion in 2022. This compares to a positive \$6.02 billion in 2021.

The fiduciary net position of the Health Insurance Trust increased by 20.7% (\$2.74 billion compared to \$2.27 billion in 2022) primarily due to investment income and contributions from members and employers being near the amount of insurance benefits paid out of the trust. This compares to 2021 when fiduciary net position was \$2.3 billion.

The Summary of Changes in Fiduciary Net Position is presented below followed by discussion of the activities within the different trusts.

**Summary of Changes in Fiduciary Net Position**

*(In millions)*

	<u>Retirement Annuity Trust</u>			<u>Health Insurance Trust</u>			<u>Life Insurance Trust</u>		
	<u>2023</u>	<u>2022</u>	<u>2021</u>	<u>2023</u>	<u>2022</u>	<u>2021</u>	<u>2023</u>	<u>2022</u>	<u>2021</u>
<b>Additions</b>									
Member contributions	\$ 366.8	\$ 357.0	\$ 327.8	\$ 149.2	\$ 145.7	\$ 128.1	\$	\$	\$
Employer contributions	1,144.4	1,679.6	1,147.0	208.8	151.7	184.9	3.2	2.8	2.1
Net investment increase (decrease)	2,266.1	(2,727.8)	6,017.2	243.1	(219.5)	503.2	8.7	(15.6)	24.1
<b>Total additions</b>	<u>3,777.3</u>	<u>(691.2)</u>	<u>7,492.0</u>	<u>601.1</u>	<u>77.9</u>	<u>816.2</u>	<u>11.9</u>	<u>(12.8)</u>	<u>26.2</u>
<b>Deductions</b>									
Benefit payments	2,391.3	2,305.9	2,235.2				6.3	6.2	6.1
Refunds	26.9	26.7	25.4						
Administrative expense	14.5	12.0	12.6	2.0	2.1	1.7			
Insurance expenses				124.9	107.2	130.7			
<b>Total deductions</b>	<u>2,432.7</u>	<u>2,344.6</u>	<u>2,273.2</u>	<u>126.9</u>	<u>109.3</u>	<u>132.4</u>	<u>6.3</u>	<u>6.2</u>	<u>6.1</u>
<b>Net increase (decrease)</b>	<u>\$ 1,344.6</u>	<u>\$(3,035.8)</u>	<u>\$ 5,218.8</u>	<u>\$ 474.2</u>	<u>\$( 31.4)</u>	<u>\$ 683.8</u>	<u>\$ 5.6</u>	<u>\$(19.0)</u>	<u>\$ 20.1</u>

**Teachers' Retirement System of the State of Kentucky  
Management's Discussion and Analysis (Continued)**

	<b>Trust Totals* **</b>		
	<i>(In millions)</i>		
	<u>2023</u>	<u>2022</u>	<u>2021</u>
<b>Additions</b>			
Member contributions	\$ 516.0	\$ 502.7	\$ 455.9
Employer contributions	1,356.4	1,834.1	1,334.0
Net investment increase (decrease)	<u>2,517.9</u>	<u>(2,962.9)</u>	<u>6,544.5</u>
<b>Total additions</b>	4,390.3	(626.1)	8,334.4
<b>Deductions</b>			
Benefit payments	2,397.6	2,312.1	2,241.3
Refunds	26.9	26.7	25.4
Administrative expense	16.5	14.1	14.3
Insurance expenses	<u>124.9</u>	<u>107.2</u>	<u>130.7</u>
<b>Total deductions</b>	<u>2,565.9</u>	<u>2,460.1</u>	<u>2,411.7</u>
<b>Net increase (decrease)</b>	<u>\$ 1,824.4</u>	<u>\$ (3,086.2)</u>	<u>\$ 5,922.7</u>

\* Trust Totals excludes Other Funds, which consists of the 403(b) Tax-Sheltered Trust, the Supplemental Benefit Fund and the Losey Scholarship Fund.

\*\* Amounts above may not agree to the financial statements due to rounding.

**Retirement Annuity Trust Activities**

Retirement contributions are calculated by applying a percentage factor to salary with member and employer contributions withheld from each pay check. Members also may pay contributions to repurchase previously refunded service credit or to purchase various types of elective service credit.

In 2023, employer contributions totaled \$1.14 billion, a net decrease of \$535.1 million from the prior fiscal year. The decrease was mainly due to the state paying additional employer contributions in fiscal year 2022 of \$479 million to pay debt for previously awarded benefits. This also the reason that 2022 employer contributions increased \$532.6 million compared to 2021.

The Retirement Annuity Trust experienced net investment income of \$2.27 billion in 2023 and net investment loss of \$2.73 billion for 2022. For 2021, net investment income totaled \$6.02 billion. Increases in deductions of \$88.1 million in 2023 and \$71.4 million in 2022 can be attributed to increases in the number of benefit recipients. Members and beneficiaries on the retiree payroll as of June 30, 2023, increased by approximately 1,100 compared to the prior year and by 2,825 from two years ago.

**Other Postemployment Benefit (OPEB) Activities**

During 2023, the Health Insurance Trust member contributions increased \$3.5 million from 2022, which followed a \$17.6 million increase from 2021. This represented a continuing increase in member's salaries paid from federal assistance received by the local school district employers. Also, during 2023, employer contributions increased \$57.2 million from 2022 as the state resumed its contribution of the health insurance premiums for members who retired after July 1, 2010, who participate in the Kentucky Employees' Health Plan (KEHP). That contribution not being appropriated in 2022 resulted in that contribution declining \$33.2 million from 2021.

In 2023, the Health Insurance Trust experienced net investment income of \$243.1 million compared to the previous year loss of \$219.5 million net investment income. For 2021, net investment income totaled \$503.2 million.

The Life Insurance Trust experienced net investment income of \$8.7 million in 2023, net investment loss of \$15.6 million in 2022 and \$24.1 million in 2021. Life insurance benefits paid for 2023, 2022 and 2021 were \$6.3 million, \$6.2 million and \$6.1 million respectively.

**Funding**

For the 2022-2024 biennium, the state budgeted \$1.28 billion of additional employer contributions for the unfunded liability of the Retirement Annuity Trust. The plan fiduciary net position as a percentage of total pension liability measured in accordance with Governmental Accounting Standards Board (GASB) Statement No. 67 was 57.7% as of June 30, 2023, compared to 2022's

## **Teachers' Retirement System of the State of Kentucky Management's Discussion and Analysis (Continued)**

56.4%. The separately issued actuary's valuation shows progress of the trust's funded status over the amortization period set by the board funding policy. The additional funding provided in the budget resulted in the actuarially determined employer contribution (ADEC) being made for 2023 and 2022. Assuming that contributions to the retirement trust are made by the state from year to year in the future as recommended by the actuary, TRS should have sufficient assets to provide all benefits due as defined by law to members.

The funding of the health insurance and life insurance trusts is presented in notes 8 and 9 of these financial statements and the Required Supplementary Information in accordance with GASB Statement No. 74. Current obligations are being met by current funding and the Shared Responsibility solution enacted in 2010 continues to prefund retiree health benefits. The Schedule of Employer Contributions presented in the Required Supplementary Information provides the required contributions for the health and life insurance trusts.

### **Historical Trends**

Accounting standards require that the Statement of Fiduciary Net Position presents assets at fair value; include only benefits and refunds due to plan members and beneficiaries. The standards also require presenting accrued investment and administrative expenses as of the reporting date. Detailed information regarding the funded status — including the key actuarial assumptions, target allocations and the sensitivity of the discount rate — can be found for the Retirement Annuity Trust in Note 4 of the financial statements, in Note 8 for the Health Insurance Trust and in Note 9 for the Life Insurance Trust. The schedules of employer contributions are provided in the Required Supplementary Information.

TRS's independent consulting actuaries are members of the American Academy of Actuaries and experienced in performing valuations for public retirement systems. As mandated by state law, the valuations of the retirement annuity and health insurance trusts are prepared in accordance with principles of practice prescribed by the Actuarial Standards Board consistent with accepted actuarial procedures. Actuarial assumptions used in the valuations are internally consistent and reasonable based on the actual experience of the trusts. An actuarial audit was completed in 2015, which confirmed the accuracy of actuarial procedures and the reasonableness of assumptions. A five-year experience study was completed in 2021, which also confirmed the reasonableness of assumptions based upon the actual experience of the trusts. In 2023, the actuary completed a review of economic assumptions.

This financial report is designed to provide citizens, participating employers, plan members and other users with an overview of TRS's fiscal practices. Direct questions or requests for additional information to TRS Chief Financial Officer Mark Whelan.



**Teachers' Retirement System of the State of Kentucky**  
**Statement of Fiduciary Net Position**  
**As of June 30, 2023**

	Retirement Annuity Trust	Health Insurance Trust	Life Insurance Trust	Other Funds	Total
<b>Assets</b>					
<b>Cash</b>	\$ 256,046,235	\$ 300,467,448	\$ 490,418	\$ 211,699	\$ 557,215,800
<b>Prepaid expenses</b>	19,774				19,774
<b>Receivables</b>					
Contributions	48,576,918	12,068,376	60,464		60,705,758
Due from other trusts	7,977,383				7,977,383
Investment income	59,043,290	5,424,732	319,147	4,380	64,791,549
Investment sales receivable	12,850,729	1,682,228			14,532,957
Other receivables	24,157	46,973,359			46,997,516
<b>Total receivables</b>	128,472,477	66,148,695	379,611	4,380	195,005,163
<b>Investments at fair value</b>					
Short-term investments	568,572,723	77,221,128	5,069,152	356,519	651,219,522
Fixed income	2,971,945,560	153,143,085	17,942,483	214,946	3,143,246,074
Equity	14,287,643,121	1,406,514,939	56,182,952	493,746	15,750,834,758
Alternative investments	1,915,329,613	220,197,307	4,921,166		2,140,448,086
Real estate	1,777,282,982	159,444,210	6,513,395		1,943,240,587
Additional categories	2,412,438,221	397,083,937	2,795,704		2,812,317,862
<b>Total investments</b>	23,933,212,220	2,413,604,606	93,424,852	1,065,211	26,441,306,889
Capital assets	28,171,057				28,171,057
Accumulated depreciation	(20,705,010)				(20,705,010)
<b>Net capital assets</b>	7,466,047				7,466,047
<b>Total assets</b>	24,325,216,753	2,780,220,749	94,294,881	1,281,290	27,201,013,673
<b>Liabilities</b>					
Accrued expenses and other liabilities	2,949,984	13,062,293	72,653		16,084,930
Due to other trusts		7,823,792	149,111	4,480	7,977,383
State of Kentucky	29,211,585	10,443,709	39,839		39,695,133
Investment purchases payable	48,501,059	5,477,874	3,363		53,982,296
<b>Total liabilities</b>	80,662,628	36,807,668	264,966	4,480	117,739,742
<b>Net position restricted for pension and other postemployment benefits</b>	<u>\$ 24,244,554,125</u>	<u>\$2,743,413,081</u>	<u>\$ 94,029,915</u>	<u>\$ 1,276,810</u>	<u>\$ 27,083,273,931</u>

The Combining Statement of Fiduciary Net Position — Other Funds is presented on page 13.

The accompanying notes are an integral part of these financial statements.

**Teachers' Retirement System of the State of Kentucky**  
**Statement of Fiduciary Net Position**  
**As of June 30, 2022**

	Retirement Annuity Trust	Health Insurance Trust	Life Insurance Trust	Other Funds	Total
<b>Assets</b>					
<b>Cash</b>	\$ 420,633,131	\$ 196,003,638	\$ 392,044	\$ 110,373	\$ 617,139,186
<b>Prepaid expenses</b>	28,458				28,458
<b>Receivables</b>					
Contributions	50,526,572	14,111,640	54,426		64,692,638
Due from other trusts	5,964,535				5,964,535
Investment income	49,654,767	3,099,024	290,175	3,160	53,047,126
Investment sales receivable	16,636,770	3,270,138	1,206		19,908,114
Other receivables	53,073	37,312,574			37,365,647
<b>Total receivables</b>	122,835,717	57,793,376	345,807	3,160	180,978,060
<b>Investments at fair value</b>					
Short-term investments	1,018,196,544	67,213,821	8,345,378	347,626	1,094,103,369
Fixed income	3,244,560,222	144,284,024	17,872,069	236,796	3,406,953,111
Equity	12,267,081,370	1,095,262,160	48,063,588	421,988	13,410,829,106
Alternative investments	2,292,264,807	204,919,107	3,283,908		2,500,467,822
Real estate	1,693,627,935	150,214,503	7,489,602		1,851,332,040
Additional categories	1,910,112,687	371,942,317	2,811,693		2,284,866,697
<b>Total investments</b>	22,425,843,565	2,033,835,932	87,866,238	1,006,410	24,548,552,145
Capital assets	27,905,021				27,905,021
Accumulated depreciation	(18,649,040)				(18,649,040)
Net capital assets	9,255,981				9,255,981
<b>Total assets</b>	22,978,596,852	2,287,632,946	88,604,089	1,119,943	25,355,953,830
<b>Liabilities</b>					
Accrued expenses and other liabilities	2,713,542	5,769,356	49,319		8,532,217
Due to other trusts		5,849,473	111,477	3,585	5,964,535
State of Kentucky	26,943,547	119,901	62,105		27,125,553
Investment purchases payable	48,987,393	6,718,527	685		55,706,605
<b>Total liabilities</b>	78,644,482	18,457,257	223,586	3,585	97,328,910
<b>Net position restricted for pension and other postemployment benefits</b>	<u>\$ 22,899,952,370</u>	<u>\$ 2,269,175,689</u>	<u>\$ 88,380,503</u>	<u>\$ 1,116,358</u>	<u>\$ 25,258,624,920</u>

The Combining Statement of Fiduciary Net Position — Other Funds is presented on page 13.  
The accompanying notes are an integral part of these financial statements.

**Teachers' Retirement System of the State of Kentucky**  
**Statement of Changes in Fiduciary Net Position**  
**For the Year Ended June 30, 2023**

	Retirement Annuity Trust	Health Insurance Trust	Life Insurance Trust	Other Funds	Total
<b>Additions</b>					
<b>Contributions</b>					
State of Kentucky	\$ 1,042,434,014	\$ 85,328,285	\$ 2,599,486	\$	\$ 1,130,361,785
Other employers	102,014,792	123,487,533	624,074	218,241	226,344,640
Members	366,774,504	149,209,656		9,575	515,993,735
<b>Total contributions</b>	<b>1,511,223,310</b>	<b>358,025,474</b>	<b>3,223,560</b>	<b>227,816</b>	<b>1,872,700,160</b>
<b>Investment income (loss)</b>					
Net appreciation (depreciation) in fair value of investments	1,883,455,471	211,338,355	7,393,136	49,908	2,102,236,870
Interest	199,435,778	26,865,804	858,773	23,270	227,183,625
Dividends	236,967,990	13,255,682	665,226	7,527	250,896,425
Rental income, net	22,628,975				22,628,975
Securities lending, gross earnings	30,155,932		828,198	10,371	30,994,501
<b>Gross investment income (loss)</b>	<b>2,372,644,146</b>	<b>251,459,841</b>	<b>9,745,333</b>	<b>91,076</b>	<b>2,633,940,396</b>
Less: investment expense	(78,893,843)	(8,407,600)	(285,154)		(87,586,597)
Less: securities lending expense	(27,665,143)		(777,694)	(9,678)	(28,452,515)
<b>Net investment income (loss)</b>	<b>2,266,085,160</b>	<b>243,052,241</b>	<b>8,682,485</b>	<b>81,398</b>	<b>2,517,901,284</b>
<b>Total additions</b>	<b>3,777,308,470</b>	<b>601,077,715</b>	<b>11,906,045</b>	<b>309,214</b>	<b>4,390,601,444</b>
<b>Deductions</b>					
Benefits	2,391,326,201		6,219,000	147,867	2,397,693,068
Refunds of contributions	26,909,781				26,909,781
Insurance expenses		124,866,005			124,866,005
Administrative expense	14,470,733	1,974,318	37,633	895	16,483,579
<b>Total deductions</b>	<b>2,432,706,715</b>	<b>126,840,323</b>	<b>6,256,633</b>	<b>148,762</b>	<b>2,565,952,433</b>
<b>Net increase (decrease)</b>	<b>1,344,601,755</b>	<b>474,237,392</b>	<b>5,649,412</b>	<b>160,452</b>	<b>1,824,649,011</b>
<b>Net position restricted for pension and other postemployment benefits</b>					
<b>Beginning of year</b>	<b>22,899,952,370</b>	<b>2,269,175,689</b>	<b>88,380,503</b>	<b>1,116,358</b>	<b>25,258,624,920</b>
<b>End of year</b>	<b>\$24,244,554,125</b>	<b>\$2,743,413,081</b>	<b>\$ 94,029,915</b>	<b>\$ 1,276,810</b>	<b>\$27,083,273,931</b>

The Combining Statement of Changes in Fiduciary Net Position — Other Funds is presented on page 14.  
The accompanying notes are an integral part of these financial statements.

**Teachers' Retirement System of the State of Kentucky**  
**Statement of Changes in Fiduciary Net Position**  
**For the Year Ended June 30, 2022**

	Retirement Annuity Trust	Health Insurance Trust	Life Insurance Trust	Other Funds	Total
<b>Additions</b>					
<b>Contributions</b>					
State of Kentucky	\$ 1,570,796,691	\$ 31,400,674	\$ 2,198,836	\$	\$ 1,604,396,201
Other employers	108,787,978	120,364,471	556,027	2,281	229,710,757
Members	<u>356,966,620</u>	<u>145,681,855</u>	<u></u>	<u></u>	<u>502,648,475</u>
<b>Total contributions</b>	2,036,551,289	297,447,000	2,754,863	2,281	2,336,755,433
<b>Investment income (loss)</b>					
Net appreciation (depreciation) in fair value of investments	(3,087,370,553)	(232,131,186)	(16,493,405)	(103,264)	(3,336,098,408)
Interest	152,692,923	16,095,897	616,005	9,830	169,414,655
Dividends	250,357,857	3,035,184	727,170	7,309	254,127,520
Rental income, net	16,230,826	<u></u>	<u></u>	<u></u>	16,230,826
Securities lending, gross earnings	<u>4,028,545</u>	<u></u>	<u>90,539</u>	<u>1,182</u>	<u>4,120,266</u>
<b>Gross investment income (loss)</b>	(2,664,060,402)	(213,000,105)	(15,059,691)	(84,943)	(2,892,205,141)
Less: investment expense	(63,972,448)	(6,499,956)	(502,071)	<u></u>	(70,974,475)
Less: securities lending expense	<u>257,795</u>	<u></u>	<u>(20,515)</u>	<u>(592)</u>	<u>236,688</u>
<b>Net investment income (loss)</b>	<u>(2,727,775,055)</u>	<u>(219,500,061)</u>	<u>(15,582,277)</u>	<u>(85,535)</u>	<u>(2,962,942,928)</u>
<b>Total additions</b>	(691,223,766)	77,946,939	(12,827,414)	(83,254)	(626,187,495)
<b>Deductions</b>					
Benefits	2,305,852,772	<u></u>	6,178,000	164,663	2,312,195,435
Refunds of contributions	26,745,203	<u></u>	<u></u>	<u></u>	26,745,203
Insurance expenses	<u></u>	107,201,439	<u></u>	<u></u>	107,201,439
Administrative expense	<u>12,005,095</u>	<u>2,074,227</u>	<u>40,999</u>	<u>1,093</u>	<u>14,121,414</u>
<b>Total deductions</b>	<u>2,344,603,070</u>	<u>109,275,666</u>	<u>6,218,999</u>	<u>165,756</u>	<u>2,460,263,491</u>
<b>Net increase (decrease)</b>	(3,035,826,836)	(31,328,727)	(19,046,413)	(249,010)	(3,086,450,986)
<b>Net position restricted for pension and other postemployment benefits</b>					
<b>Beginning of year</b>	25,935,779,206	2,300,504,416	107,426,916	1,365,368	28,345,075,906
<b>End of year</b>	<u>\$22,899,952,370</u>	<u>\$2,269,175,689</u>	<u>\$ 88,380,503</u>	<u>\$ 1,116,358</u>	<u>\$25,258,624,920</u>

The Combining Statement of Changes in Fiduciary Net Position — Other Funds is presented on page 15.  
The accompanying notes are an integral part of these financial statements.

## Teachers' Retirement System of the State of Kentucky

### Combining Statement of Fiduciary Net Position — Other Funds

As of June 30, 2023

	403(b) Tax- Sheltered Trust	Supplemental Benefit Fund	Losey Scholarship Fund	Total
<b>Assets</b>				
Cash	\$ 10,825	\$ 200,874	\$	\$ 211,699
<b>Receivables</b>				
Investment income	1,280		3,100	4,380
<b>Investments at fair value</b>				
Short-term investments	312,005		44,514	356,519
Fixed income			214,946	214,946
Equity			493,746	493,746
<b>Total investments</b>	<u>312,005</u>		<u>753,206</u>	<u>1,065,211</u>
<b>Total assets</b>	324,110	200,874	756,306	1,281,290
<b>Liabilities</b>				
Due to other trusts	83	3,945	452	4,480
<b>Total liabilities</b>	<u>83</u>	<u>3,945</u>	<u>452</u>	<u>4,480</u>
<b>Net position restricted for pension and other postemployment benefits</b>	<u>\$ 324,027</u>	<u>\$ 196,929</u>	<u>\$ 755,854</u>	<u>\$ 1,276,810</u>

### Combining Statement of Fiduciary Net Position — Other Funds

As of June 30, 2022

	403(b) Tax- Sheltered Trust	Supplemental Benefit Fund	Losey Scholarship Fund	Total
<b>Assets</b>				
Cash	\$	\$ 110,373	\$	\$ 110,373
<b>Receivables</b>				
Investment income	259		2,901	3,160
<b>Investments at fair value</b>				
Short-term investments	303,859		43,767	347,626
Fixed income			236,796	236,796
Equity			421,988	421,988
<b>Total investments</b>	<u>303,859</u>		<u>702,551</u>	<u>1,006,410</u>
<b>Total assets</b>	304,118	110,373	705,452	1,119,943
<b>Liabilities</b>				
Due to other trusts	70	3,172	343	3,585
<b>Total liabilities</b>	<u>70</u>	<u>3,172</u>	<u>343</u>	<u>3,585</u>
<b>Net position restricted for pension and other postemployment benefits</b>	<u>\$ 304,048</u>	<u>\$ 107,201</u>	<u>\$ 705,109</u>	<u>\$ 1,116,358</u>

The accompanying notes are an integral part of these financial statements.

## Teachers' Retirement System of the State of Kentucky

### Combining Statement of Changes in Fiduciary Net Position — Other Funds

For the Year Ended June 30, 2023

	403(b) Tax- Sheltered Trust	Supplemental Benefit Fund	Losey Scholarship Fund	Total
<b>Additions</b>				
<b>Contributions</b>				
Other employers	\$ 1,203	\$ 217,038	\$	\$ 218,241
Member	9,575			9,575
<b>Investment income (loss)</b>				
Net appreciation in fair value of investments			49,908	49,908
Interest	11,349	1,194	10,727	23,270
Dividends			7,527	7,527
Securities lending, gross			10,371	10,371
<b>Gross investment income (loss)</b>	11,349	1,194	78,533	91,076
Less: securities lending expense			9,678	9,678
<b>Net investment income (loss)</b>	11,349	1,194	68,855	81,398
<b>Total additions</b>	22,127	218,232	68,855	309,214
<b>Deductions</b>				
Benefits	2,134	127,733	18,000	147,867
Administrative expense	14	771	110	895
<b>Total deductions</b>	2,148	128,504	18,110	148,762
<b>Net increase (decrease)</b>	19,979	89,728	50,745	160,452
<b>Net position restricted for pension and other postemployment benefits</b>				
<b>Beginning of year</b>	304,048	107,201	705,109	1,116,358
<b>End of year</b>	\$ 324,027	\$ 196,929	\$ 755,854	\$ 1,276,810

The accompanying notes are an integral part of these financial statements.

**Teachers' Retirement System of the State of Kentucky**  
**Combining Statement of Changes in Fiduciary Net Position — Other Funds**  
**For the Year Ended June 30, 2022**

	403(b) Tax- Sheltered Trust	Supplemental Benefit Fund	Losey Scholarship Fund	Total
<b>Additions</b>				
<b>Contributions</b>				
Other employers	\$	\$	\$ 2,281	\$ 2,281
<b>Investment income (loss)</b>				
Net appreciation in fair value of investments			(103,264)	(103,264)
Interest	564	183	9,083	9,830
Dividends			7,309	7,309
Securities lending, gross			1,182	1,182
<b>Gross investment income (loss)</b>	564	183	(85,690)	(84,943)
Less: securities lending expense			(592)	(592)
<b>Net investment income (loss)</b>	564	183	(86,282)	(85,535)
<b>Total additions</b>	564	183	(84,001)	(83,254)
<b>Deductions</b>				
Benefits	2,937	143,726	18,000	164,663
Administrative expense	20	953	120	1,093
<b>Total deductions</b>	2,957	144,679	18,120	165,756
<b>Net increase (decrease)</b>	(2,393)	(144,496)	(102,121)	(249,010)
<b>Net position restricted for pension and other postemployment benefits</b>				
<b>Beginning of year</b>	306,441	251,697	807,230	1,365,368
<b>End of year</b>	<u>\$ 304,048</u>	<u>\$ 107,201</u>	<u>\$ 705,109</u>	<u>\$ 1,116,358</u>

The accompanying notes are an integral part of these financial statements.

## Note 1 Description of Retirement Annuity Trust

### Reporting Entity

The Teachers' Retirement System of the State of Kentucky (TRS, or system) was created by the 1938 General Assembly, began operations July 1, 1940, and is governed by Kentucky Revised Statutes (KRS) chapter 161 sections 220 through 990. TRS is a blended component unit of the Commonwealth of Kentucky (commonwealth or state) and, therefore, is included in the commonwealth's financial statements. TRS is a cost-sharing multiple-employer defined benefit plan with a special funding situation established to provide retirement, health and life insurance benefits for specified employees of local school districts and other public educational agencies in the commonwealth.

KRS 161.250 provides that the general administration and management of TRS, and the responsibility for its proper operation, is vested in a board of trustees. The Board of Trustees consists of the chief state school officer, the state treasurer, two trustees appointed by the governor and seven elected trustees. Four of the elected trustees are active teachers, two are not members of the teaching profession, and one is an annuitant of the system.

### Participants

As of June 30, 2023, a total of 202 employers participated in the plan. Employers are comprised of local school districts, Department of Education agencies, universities, the Kentucky Community and Technical College System and other educational organizations. The state under the Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 74 is recognized as a non-employer contributing entity providing the employer matching contributions for members employed by the local school districts and regional educational cooperatives.

According to KRS 161.220, any regular or special teacher, or professional occupying a position requiring certification or graduation from a four-year college or university is eligible to participate in the system. The following table illustrates the classifications of members.

	2023	2022
Active contributing members:		
Vested	49,569	49,588
Non-vested	26,075	25,197
Inactive members, vested	11,331	10,690
Retirees and beneficiaries currently receiving benefits	59,559	58,438
Total members, retirees and beneficiaries	146,534	143,913

Because benefits are determined by a member's entry date, throughout this report, each grouping is referred to by a different name.

- TRS 1 is members who entered before July 1, 2002.
- TRS 2 is members who entered on or between July 1, 2002, and June 30, 2008.
- TRS 3 is members who entered on or between July 1, 2008, and Dec. 31, 2021.
- TRS 4 is members who entered on or after Jan. 1, 2022.



### **Benefit Provisions**

**For Members Before July 1, 2008 (TRS 1 and TRS 2):** Members become vested when they complete five years of credited service. To qualify for monthly retirement benefits, payable for life, members must either:

1. Attain age 55 and complete five years of Kentucky service, or
2. Complete 27 years of Kentucky service.

Non-university members receive monthly payments equal to 2% (service prior to July 1, 1983) and 2.5% (service after July 1, 1983) of their final average salaries for each year of credited service. Non-university members who became members on or after July 1, 2002, will receive monthly benefits equal to 2% of their final average salary for each year of service if, upon retirement, their total service is less than 10 years. New members after July 1, 2002, who retire with 10 or more years of total service will receive monthly benefits equal to 2.5% of their final average salary for each year of service, including the first 10 years. In addition, non-university members who retire July 1, 2004, and later with more than 30 years of service will have a multiplier for all years over 30 of 3%.

University employees receive monthly benefits equal to 2% of their final average salary for each year of credited service.

The final average salary is the member's five highest annual salaries except members at least age 55 with 27 or more years of service may use their three highest annual salaries. For all members, the annual allowance is reduced by 5% per year from the earlier of age 60 or the date the member would have completed 27 years of service. The minimum annual service allowance for all members is \$440 multiplied by credited service.

**For Members On or After July 1, 2008, and Before Jan. 1, 2022 (TRS 3):** Members become vested when they complete five years of credited service. To qualify for monthly retirement benefits, payable for life, members must either:

1. Attain age 60 and complete five years of Kentucky service, or
2. Complete 27 years of Kentucky service, or
3. Attain age 55 and complete 10 years of Kentucky service.

The annual retirement allowance for non-university members is equal to: (a) 1.7% of final average salary for each year of credited service if their service is 10 years or less; (b) 2% of final average salary for each year of credited service if their service is greater than 10 years but no more than 20 years; (c) 2.3% of final average salary for each year of credited service if their service is greater than 20 years but no more than 26 years; (d) 2.5% of final average salary for each year of credited service if their service is greater than 26 years but no more than 30 years; (e) 3% of final average salary for years of credited service greater than 30 years.

The annual retirement allowance for university members is equal to: (a) 1.5% of final average salary for each year of credited service if their service is 10 years or less; (b) 1.7% of final average salary for each year of credited service if their service is greater than 10 years but no more than 20 years; (c) 1.85% of final average salary for each year of credited service if their service is greater than 20 years but less than 27 years; (d) 2% of final average salary for each year of credited service if their service is greater than or equal to 27 years.

The final average salary is the member's five highest annual salaries except members at least age 55 with 27 or more years of service may use their three highest annual salaries. For all members, the annual allowance is reduced by 6% per year from the earlier of age 60 or the date the member would have completed 27 years of service.

**For Members On or After Jan. 1, 2022 (TRS 4):** To qualify for monthly retirement benefits, payable for life, members must either:

1. Attain age 57 and complete 10 years of Kentucky service, or
2. Attain age 65 and complete five years of Kentucky service.

### **Foundational Benefit**

The annual foundational benefit for members is equal to service times a multiplier times final average salary. The final average salary is the member's five highest annual salaries. The annual foundational benefit is reduced by 6% per year from the earlier of age 60 or the date the member would have completed 30 years of service.

The multiplier for non-university members is shown in the following table:

Age	Years of Service			
	5-9.99	10-19.99	20-29.99	30 or more
57-60		1.70%	1.95%	2.20%
61		1.74%	1.99%	2.24%
62		1.78%	2.03%	2.28%
63		1.82%	2.07%	2.32%
64		1.86%	2.11%	2.36%
65 and over	1.90%	1.90%	2.15%	2.40%

The multiplier for university members is shown in the following table:

Age	Years of Service			
	5-9.99	10-19.99	20-29.99	30 or more
57-60		0.70%	0.95%	1.20%
61		0.74%	0.99%	1.24%
62		0.78%	1.03%	1.28%
63		0.82%	1.07%	1.32%
64		0.86%	1.11%	1.36%
65 and over	0.90%	0.90%	1.15%	1.40%

**Supplemental Benefit**

The annual supplemental benefit is equal to the account balance that includes member and employer contributions and interest credited annually on June 30. Options include annuitizing the balance or receiving the balance or a portion thereof as a lump sum either at the time of retirement or at a later date.

**Other Benefits**

TRS provides postemployment health insurance benefits to retirees as fully described in Note 8. For members who began participating prior to Jan. 1, 2022, TRS also provides disability benefits for vested members at the rate of 60% of the final average salary. TRS 4 members will receive a disability benefit to be determined by the board through administrative regulation.

A life insurance benefit payable upon the death of a member, also described in Note 9, is \$2,000 for active contributing members and \$5,000 for retired or disabled members for members who began participating before Jan. 1, 2022. For TRS 4 members, the life insurance benefit payable upon the death of a member is \$5,000 for active contributing members and \$10,000 for retired or disabled members

Cost of living increases as provided by law are 1.5% annually. Additional ad hoc increases and any other benefit amendments are provided if authorized by the General Assembly.

**Note 2**  
**Summary of Significant Accounting Policies**

**Basis of Accounting**

The financial statements are prepared on the accrual basis of accounting. Member contributions and employer matching contributions are recognized in the fiscal year due. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

**Cash**

TRS has seven cash accounts. At June 30, 2023, the retirement annuity cash account totaled \$173.4 million, the control cash account totaled \$82.4 million and the capital project cash account totaled \$274,003 for a total of \$256 million as carrying value of

cash in the retirement trust. The health insurance's Internal Revenue Code sec. 115 (IRC 115) trust cash account totaled \$292.4 million, the health insurance 401(h) cash account totaled \$8.1 million for a total of \$300.5 million as carrying value of cash in the Health Insurance Trust. The Life Insurance Trust cash account totaled \$490,418. The Supplemental Benefit Fund cash account contained \$200,875. The Voluntary Contribution 403(b) cash account totaled \$10,828. Therefore, the carrying value of cash was \$557.2 million, and the bank balance was \$579.2 million. The variance is primarily due to outstanding checks and items not processed by the bank as of June 30, 2023.

At June 30, 2022, the retirement annuity cash account totaled \$338.7 million, the control cash account totaled \$81.7 million and the capital project cash account totaled \$274,003 for a total of \$420.6 million as carrying value of cash in the retirement trust. The health insurance's IRC 115 trust cash account totaled \$182 million, the health insurance 401(h) cash account totaled \$13.7 million for a total of \$196 million as carrying value of cash in the Health Insurance Trust. The Life Insurance Trust cash account totaled \$392,044. The Supplemental Benefit Fund cash account contained \$110,373. Therefore, the carrying value of cash was \$617.1 million, and the bank balance was \$642.6 million. The variance is primarily due to outstanding checks and items not processed by the bank as of June 30, 2022.

### **Capital Assets**

Property and equipment are carried at cost, less accumulated depreciation. Buildings, improvements to land and equipment are capitalized when the acquisition is \$5,000 or greater. Intangible capital assets are capitalized when the cost is \$100,000 or more, except software, which has a threshold of \$500,000. Expenditures for maintenance and repairs are charged to operations as incurred. Depreciation is calculated using the straight-line method, with estimated lives ranging from five to 40 years in the following major classes: office furniture and equipment, five years; other equipment, five years; computer software, 10 years; and TRS office buildings, 40 years. Pathway replaced TRS's legacy computer system and is TRS's primary business information technology system. Pathway was capitalized and is being amortized or depreciated over 10 years.

### **Investments**

Plan investments are reported at fair value. Fair value is the amount that a plan can reasonably expect to receive for an investment in a current sale between a willing buyer and a willing seller. Short-term securities are carried at cost, which approximates fair value. Fixed income and common and preferred stocks are generally valued based on published market prices and quotations from national security exchanges and securities pricing services. Real estate is primarily valued based on appraisals performed by independent appraisers. Other investments, such as private equity, timberland, real estate funds and other additional categories, are valued using the most recent general partner statement at net asset value. Examples of other additional categories are opportunistic credit, high yield bonds and direct lending.

Purchase and sales of debt securities, equity securities and short-term investments are recorded on the trade date. Real estate equity transactions are recorded on the settlement date. Upon sale of investments, the difference between sales proceeds and cost is reflected in the statement of changes in fiduciary net position. Investment expenses consist of investment manager and consultant fees along with fees for custodial services.

### **Compensated Absences**

Expenses for accumulated vacation days and compensatory time earned by TRS's employees are recorded when earned. Upon termination or retirement, employees of TRS are paid for accumulated vacation time limited to 60 days and accumulated compensatory time limited to 240 hours. As of June 30, 2023 and 2022, accrued compensated absences were included in accrued expenses and other liabilities on the statements of fiduciary net position amounting to \$2.2 million and \$2 million, respectively.

### **Risk Management**

Destruction of assets, theft, employee injuries and court challenges to administrative policy are among the various risks to which TRS is exposed. In order to cover such risks, TRS carries appropriate insurance policies, such as fire and tornado, employee bonds, fiduciary liability, worker's compensation and equipment insurance.

### **Other Receivables**

In the Retirement Annuity Trust, other receivables consist primarily of installment contract receivables. TRS allows qualified purchases of service credit to be made by installment payments that are not to exceed a five-year period. Revenue is recognized in the initial year of the installment agreement. The June 30, 2023, other receivables in the retirement trust were \$24,157 and \$53,073 in 2022.

In the Health Insurance Trust, other receivables consist primarily of Medicare subsidies and formulary rebates accrued, but not received. The June 30, 2023, other receivables in the health trust were \$47 million and \$37.3 million in 2022.

#### **Accrued Expenses and Other Payables**

TRS's accrued expenses and other payables consist primarily of administrative expenses incurred but not paid at year end and also from the state paying estimated retirement and health insurance contributions from the enacted budget that were in excess of actual contributions required.

#### **Use of Estimates**

The preparation of financial statements in accordance with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates. The most significant estimates impacting the financial statements relate to the actuarial assumptions.

#### **Income Taxes**

The Retirement Annuity Trust is organized as a tax-exempt retirement plan under the Internal Revenue Code. The 403(b) Tax-Sheltered Trust no longer accepts contributions and will be fully terminated when all lifetime annuities have expired. TRS's management believes that it has operated the plans within the constraints imposed by federal tax law.

#### **New Pronouncement**

In May 2020, The Governmental Accounting Standards Board (GASB) issued Statement Number 96, Subscription-Based Information Technology Arrangements. This standard provides guidance on accounting and financial reporting for government end users. GASB Statement No. 96 is effective for fiscal years beginning after June 15, 2022. Accordingly, management reviewed the statement and determined that it does not have a material impact on TRS's financial statements.

#### **Reclassifications**

Certain amounts in the 2022 financial statements have been reclassified to conform to the 2023 presentation with no impact on total assets, liabilities, net position and changes in net position.

### **Note 3 Contributions and Funds of the Plan**

#### **Contributions**

Contribution rates are established by Kentucky Revised Statutes. For members who began participating before Jan. 1, 2022, non-university members are required to contribute 12.855% of their salaries to the system; university members are required to contribute 10.4% of their salaries. KRS 161.565 allows each university to reduce the contribution of its members by 2.215%; therefore, university members contribute 8.185% of their salary to TRS. For members employed by local school districts, the state (as a non-employer contributing entity) contributes 13.105% of salary for those who joined before July 1, 2008, and 14.105% for those who joined on or after July 1, 2008, and before Jan. 1, 2022. Other participating employers are required to contribute the percentage contributed by members plus an additional 3.25% of members' gross salaries.

For TRS 4 members, non-university members contribute 14.75% and university members contribute 9.775% of their salaries to the system. Employers of non-university members, including the state (as a non-employer contributing entity), contribute 10.75% of salary. University employers contribute 9.775% of member's salary to the system.

The member and employer contributions consist of retirement annuity contributions and OPEB contributions to the health insurance and life insurance trusts. The member postemployment health insurance contribution is 3.75% of salary. The employer postemployment health insurance contribution is 0.75% of member salaries. Also, employers (other than the state) contribute 3% of members' salaries and the state contributes the net cost of health insurance premiums for new retirees after June 30, 2010, in the non-Medicare eligible group. If a member leaves covered employment before accumulating five years of credited service, accumulated member contributions to the retirement trust are refunded with interest upon the member's request.

#### **Funds of the Plan**

**Teacher Savings Fund:** KRS 161.420(2) establishes the Teacher Savings Fund consisting of contributions paid by university and non-university members. The fund also includes interest authorized by the Board of Trustees from the Guarantee Fund (described

below). The accumulated contributions of members that are returned upon withdrawal or paid to the estate or designated beneficiary in the event of death are paid from this fund. Upon retirement, the member's contributions and the matching state contributions are transferred from this fund to the Allowance Reserve Fund, the fund (also described below) from which retirement benefits are paid.

**State Accumulation Fund:** KRS 161.420(3) establishes the State Accumulation Fund, which receives state appropriations to the system. The state matches an amount equal to members' contributions. State appropriations during the year are based on estimates of members' salaries. At year-end when actual salaries are known, the required state matching also is realized by producing either a receivable from or a payable to the state.

**Allowance Reserve Fund:** KRS 161.420(4) establishes the Allowance Reserve Fund, which is the source for retirement, disability and survivor benefits paid to TRS members. These benefits are paid from the retired members' contributions until they are exhausted, at which time state matching contributions are used to pay the benefits. After an individual member's contributions and the state matching contributions have been exhausted, retirement benefits are paid from monies transferred from the Guarantee Fund (described below).

**Guarantee Fund:** KRS 161.420(6) establishes the Guarantee Fund to collect income from investments, state matching contributions of members withdrawn from the system, and state matching contributions for cost-of-living adjustments (COLAs). In addition, it receives money for which disposition is not otherwise provided. This fund provides interest to the other funds, benefits in excess of both members' and state matching contributions, monies for administrative expenses of TRS and deficiencies not covered by the other funds.

**Expense Fund:** KRS 161.420(1) establishes the Expense Fund for administrative expenses. Investment income transferred to this fund from the Guarantee Fund is used to pay the administrative expenses of TRS. Administrative expenses are allocated among the funds based on benefits paid.

#### Note 4 Net Pension Liability of Employers

The net pension liability (i.e., the system's liability determined in accordance with GASB Statement No. 67 less the fiduciary net position) as of June 30, 2023 and 2022 follows.

**Schedule of Net Pension Liability of Employers**  
(Dollars in thousands)

Fiscal Year Ending June 30	Total Pension Liability A	Plan Fiduciary Net Position B	Employers Net Pension Liability (A-B)	Plan Fiduciary Net Position as a % of Total Pension Liability (B/A)	Covered Payroll C	Net Pension Liability as a % of Covered Payroll [(A-B)/C]
2023	\$ 42,029,935	\$ 24,244,554	\$ 17,785,381	57.7	\$ 3,977,280	447.2
2022	40,598,288	22,899,952	17,698,336	56.4	3,876,491	456.6

**Summary of Actuarial Assumptions**

A summary of the actuarial assumptions as of the latest actuarial valuation follows.

Valuation date	June 30, 2022
Actuarial cost method	Entry age
Investment rate of return	7.1%, net of pension plan investment expense, including inflation.
Projected salary increases	3 - 7.5%, including inflation
Inflation rate	2.5%
Post-Retirement adjustment	1.5%
Municipal bond index rate	3.66%
Single equivalent interest rate	7.1%

Mortality rates were based on the Pub2010 (Teachers Benefit-Weighted) Mortality Table projected generationally with MP-2020 with various set-forwards, set-backs and adjustments for each of the groups; service retirees, contingent annuitants, disabled retirees and active members. The actuarial assumptions used were based on the results of an actuarial experience study for the 5-year period ending June 30, 2020, adopted by the board on Sept. 20, 2021. The Municipal Bond Index Rate used for this purpose is the June average of the Bond Buyer General Obligation 20-year Municipal Bond Index.

### Target Allocations

The long-term expected rate of return on pension plan investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

A summary of the target allocation and best estimates of arithmetic real rates of return for each major asset class, as provided by TRS's investment consultant, follows.

Asset Class	Target Allocation Percentage	Long-Term Expected Real Rate Percentage of Return
Large cap U.S. equity	35.4	5.0
Small cap U.S. equity	2.6	5.5
Developed international equity	15.7	5.5
Emerging markets equity	5.3	6.1
Fixed income	15.0	1.9
High yield bonds	5.0	3.8
Other additional categories	5.0	3.6
Real estate	7.0	3.2
Private equity	7.0	8.0
Cash	2.0	1.6
Total	100.0	

### Discount Rate

For 2023 and 2022, the discount rate used to measure the total pension liability was 7.1%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made in full at the current contribution rates and the employer contributions will be made at actuarially determined contribution (ADC) rates for all future fiscal years. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

The following table presents TRS's net pension liability for 2023. TRS's 2023 net pension liability is calculated using the discount rate of 7.1%, as well as what the system's net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.1%) or 1 percentage point higher (8.1%) than the current rate.



<b>2023</b>			
<i>(In thousands)</i>	<b>1% Decrease (6.1%)</b>	<b>Current Discount (7.1%)</b>	<b>1% Increase (8.1%)</b>
Net pension liability	\$ 22,852,220	\$ 17,785,381	\$ 13,563,822

The following table presents TRS's net pension liability for 2022. TRS's 2022 net pension liability is calculated using the discount rate of 7.1%, as well as what the system's net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.1%) or 1 percentage point higher (8.1%) than the current rate.

<b>2022</b>			
<i>(In thousands)</i>	<b>1% Decrease (6.1%)</b>	<b>Current Discount (7.1%)</b>	<b>1% Increase (8.1%)</b>
Net pension liability	\$ 22,587,405	\$ 17,698,336	\$ 13,623,659

June 30, 2022, is the actuarial valuation date upon which the total pension liability (TPL) is based for 2023. An expected TPL is determined as of June 30, 2023, using standard roll forward techniques. The roll-forward calculation adds the annual normal cost (also called the service cost), subtracts the actual benefit payments and refunds for the plan year and then applies the expected investment rate of return for the year. In addition, the expected TPL as of June 30, 2022, has been determined based on the TPL roll-forward from June 30, 2021. The difference between the two roll-forward amounts as of June 30, 2023, is the experience gain or loss for the year. These procedures are shown in the following table.

**TPL Roll Forward 2023**  
*(Dollars in thousands)*

	<b>Expected (1)</b>	<b>Actual (2)</b>
(a) Interest Rate	7.1%	7.1%
(b) TPL as of June 30, 2022	\$ 40,598,288	\$ 40,970,441
(c) Entry Age Normal Cost for the Year July 1, 2022 - June 30, 2023	654,676	654,676
(d) Actual Benefit Payments (including refunds) For the year July 1, 2022 - June 30, 2023	2,418,236	2,418,236
(e) TPL as of June 30, 2023 [(b) x (1 + (a))] + (c) - [(d) x (1 + (0.5 x (a)))]	41,631,359	42,029,935
(f) Experience (Gain)/Loss = (e2) - (e1)		398,576

June 30, 2021, is the actuarial valuation date upon which the TPL is based for 2022. An expected TPL is determined as of June 30, 2022, using standard roll-forward techniques for the actual TPL both before and after the assumption changes due to the experience study and the reduction in the assumed investment rate of return. The difference between these two amounts is shown as a change in assumptions. The roll-forward calculation adds the annual normal cost (also called the service cost), subtracts the

actual benefit payments and refunds for the plan year and then applies the expected investment rate of return for the year. The expected TPL as of June 30, 2021, has been determined based on the TPL roll-forward from June 30, 2020. The difference between the two roll-forward amounts as of June 30, 2021, is the experience gain or loss. The procedures are shown in the following table.

**TPL Roll Forward 2022**  
*(Dollars in thousands)*

	<b>Expected (1)</b>	<b>Actual (2)</b>
(a) Interest Rate	7.10%	7.10%
(b) TPL as of June 30, 2021	\$ 39,541,567	\$ 39,581,704
(c) Entry Age Normal Cost for the Year July 1, 2021 - June 30, 2022	621,689	621,689
(d) Actual Benefit Payments (including refunds) For the year July 1, 2021 - June 30, 2022	2,332,598	2,332,598
(e) TPL as of June 30, 2022 (b) x (1 + (a)) + (c) - (d) x (1 + 0.5 x (a))	40,555,302	40,598,288
(f) Experience (Gain)/Loss = (e2) - (e1)		42,986

**Note 5**  
**Deposits With Financial Institutions and Investments**  
**(Including Repurchase Agreements)**

**Legal Provisions for Investments**

The following disclosures are meant to help the users of the financial statements for the Teachers' Retirement System of the State of Kentucky (TRS or system) assess the risks TRS takes in investing member funds. The Board of Trustees and the Investment Committee are guided by asset allocation parameters that the board approves through its powers as defined in KRS 161.430.

TRS administers a Retirement Annuity Trust, Health Insurance Trust and Life Insurance Trust in accordance with state and federal law. TRS provides benefits for service and disability retirements; death and survivors; retiree health insurance; and life insurance for Kentucky public education employees and their beneficiaries.

The asset allocation parameters for the retirement annuity and life insurance trusts are set forth in 102 Kentucky Administrative Regulations (KAR) 1:175, sections 2 and 3 as follows:

- There shall be no limit on the amount of investments owned if the investments are guaranteed by the U.S. government.
- Not more than 35% of the assets at fair value shall be invested in corporate debt obligations.
- Not more than 10% of the assets at fair value shall be invested in foreign debt.
- Not more than 65% of the assets at fair value shall be invested in common stocks or preferred stocks.
- Not more than 25% of the assets at fair value shall be invested in a stock portfolio designed to replicate a general stock index.
- Not more than 30% of the assets at fair value shall be invested in the stocks of companies domiciled outside of the United States; any amounts so invested shall be included in the 65% limitation for total stocks.



- Not more than 10% of the assets at fair value shall be invested in real estate. This would include real estate equity, real estate lease agreements and shares in real estate investment trusts.
- Not more than 10% of the assets at fair value shall be invested in alternative investments. This category may include private equity, venture capital, timberland and infrastructure investments.
- Not more than 15% of the assets at fair value shall be invested in any additional category or categories of investments. The board shall approve by resolution such additional category or categories of investments.

The asset allocation parameters for the Health Insurance Trust fund are set forth in 102 KAR 1:178, section 2 as follows:

- In order to preserve the assets and produce the required rate of return while minimizing risk, assets shall be prudently diversified among various classes of investments.
- In determining asset allocation policy, the investment committee and the board shall be mindful of the trust's liquidity and its capability of meeting both short and long-term obligations.

### **Cash and Cash Equivalents**

For cash deposits and cash equivalents, custodial credit risk is the risk that, in the event of a bank failure, TRS's deposits may not be returned to the system. TRS's total cash balance held at J.P. Morgan Chase bank on June 30, 2023, was \$579.2 million. TRS's total cash balance held at J.P. Morgan Chase on June 30, 2022, was \$642.6 million.

Deposits are exposed to custodial credit risk if they are not covered by depository insurance and the deposits are:

- a. uncollateralized,
- b. collateralized with securities held by the pledging financial institution or
- c. collateralized with securities held by the pledging financial institution's trust department or agent but not in the depositor-government's name.

As of June 30, 2023, TRS's cash balance of \$579.2 million was not exposed to custodial credit risk because this amount was collateralized fully by securities held by the Federal Reserve Bank of New York in the name of the Commonwealth of Kentucky — Teachers' Retirement valued at \$896 million.

As of June 30, 2022, TRS's cash balance of \$642.6 million was not exposed to custodial credit risk because this amount was collateralized fully with a letter of credit in the amount of \$302.3 million as well as securities held by the Federal Reserve Bank of New York in the name of the Commonwealth of Kentucky — Teachers' Retirement valued at \$340.9 million.

### **Investments**

All of TRS's assets are invested in short-term and long-term debt (bonds and mortgages) securities, equity (stock) securities, real estate, alternative investments and additional categories as permitted by regulation. These assets are reported at fair value.

Investments are governed by the board's policies. The board and the Investment Committee execute their fiduciary responsibilities in accordance with the prudent person rule, as identified in KRS 161.430 (2)(b). The prudent person rule establishes a standard for all fiduciaries to act as a prudent person would be expected to act, with the "care, skill, prudence and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims."

The following tables represent the fair value of TRS's investments for June 30, 2023, and 2022.

### Schedules of Investments

#### Retirement Annuity Trust

	Fair Value June 30, 2023	Fair Value June 30, 2022
<b>Short-term investments</b>		
Cash and cash equivalents	\$ 568,929,242	\$ 1,018,544,170
<b>Subtotal</b>	568,929,242	1,018,544,170
<b>Fixed Income</b>		
U.S. government	1,139,162,191	1,149,592,337
Agency bonds	94,136,785	73,829,978
Mortgage-backed securities	113,404,191	133,311,012
Asset-backed securities	28,882,848	30,303,278
Commercial mortgage-backed securities	26,589,385	31,473,511
Collateralized mortgage obligations	21,467,875	24,673,583
Municipal bonds	274,771,116	312,626,893
Corporate bonds	1,273,746,115	1,488,986,426
<b>Subtotal</b>	2,972,160,506	\$ 3,244,797,018
<b>Equity</b>		
International	4,861,620,374	4,227,631,298
U.S.	9,426,516,493	8,039,872,060
<b>Subtotal</b>	14,288,136,867	12,267,503,358
<b>Real estate</b>	1,777,282,982	1,693,627,935
<b>Alternative investments</b>		
Private equity	1,915,329,613	1,808,795,204
<b>Subtotal</b>	1,915,329,613	1,808,795,204
<b>Additional categories</b>		
Opportunistic credit	753,842,564	813,467,573
Corporate bonds	752,292,803	751,414,788
Corporate loans	413,242,921	345,230,326
Timberland	485,158,413	483,469,603
U.S. government	7,901,520	
<b>Subtotal</b>	2,412,438,221	2,393,582,290
<b>Total*</b>	\$ 23,934,277,431	\$ 22,426,849,975

\* This schedule includes the 403(b) Tax Shelter fund and Losey Scholarship fund.

\*\* The classification of timberland moved to additional categories from alternative investments in October 2022. For comparison, the timberland value for June 30, 2022, is shown in additional categories

**Health Insurance Trust**

	<u>Fair Value</u> <u>June 30, 2023</u>	<u>Fair Value</u> <u>June 30, 2022</u>
<b>Short-term investments</b>		
Cash and cash equivalents	\$ 77,221,128	\$ 67,213,821
<b>Subtotal</b>	77,221,128	67,213,821
<b>Fixed income</b>		
U.S. government	43,405,938	37,651,068
Agency bonds	2,989,020	969,520
Mortgage-backed securities	3,051,772	5,087,374
Collateralized mortgage obligations	824,263	885,759
Municipal bonds	9,109,099	9,718,049
Corporate bonds	93,762,993	89,972,254
<b>Subtotal</b>	153,143,085	144,284,024
<b>Equity</b>		
Global		1,003,875,627
International	486,604,691	2,888,554
U.S.	919,910,248	88,497,979
<b>Subtotal</b>	1,406,514,939	1,095,262,160
<b>Real estate equity</b>	159,444,210	150,214,503
<b>Private equity</b>	220,197,307	204,919,107
<b>Additional categories</b>		
Opportunistic credit	119,854,518	129,749,917
Corporate bonds	191,497,563	173,323,332
Corporate loans	79,273,882	62,534,249
U.S. equity	6,457,974	6,334,819
<b>Subtotal</b>	397,083,937	371,942,317
<b>Total</b>	<u>\$ 2,413,604,606</u>	<u>\$ 2,033,835,932</u>

### Life Insurance Trust

	<b>Fair Value June 30, 2023</b>	<b>Fair Value June 30, 2022</b>
<b>Short-term investments</b>		
Cash and cash equivalents	\$ 5,069,152	\$ 8,345,378
<b>Subtotal</b>	5,069,152	8,345,378
<b>Fixed income</b>		
U.S. government	8,591,791	7,590,127
Mortgage-backed securities	199,079	286,793
Municipal bonds	2,340,986	2,478,748
Corporate bonds	6,810,627	7,516,401
<b>Subtotal</b>	17,942,483	17,872,069
<b>Equity</b>		
International	19,667,059	17,248,072
U.S.	36,515,893	30,815,516
<b>Subtotal</b>	56,182,952	48,063,588
<b>Real estate equity</b>	6,513,395	7,489,602
<b>Private equity</b>	4,921,166	3,283,908
<b>Additional categories</b>		
Opportunistic credit	2,102,984	2,130,839
U.S equity	692,720	680,854
<b>Subtotal</b>	2,795,704	2,811,693
<b>Total</b>	\$ 93,424,852	\$ 87,866,238

#### Custodial Credit Risk

Custodial credit risk for an investment is the risk that, in the event of the failure of a counterparty, TRS will not be able to recover the value of its investment or collateral securities that are in the possession of an outside party. Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of the system and are held by either:

- a. the counterparty or
- b. the counterparty's trust department or agent, but not in the system's name.

The cash reserve of TRS is maintained primarily in high quality short-term investments through the Dreyfus Institutional Cash Advantage Fund. This fund invests in a diversified portfolio of high quality, short-term debt securities, and the fund is rated AAA by S&P, Moody's and Fitch. The fund's portfolio is structured within the confines of Rule 2a-7 under the Investment Company Act of 1940. Permissible investments within this fund include commercial paper; U.S. Treasury and agency obligations; certificates of deposit; bankers' acceptances; repurchase agreements; and time deposits.

Whenever repurchase agreements are ordered by TRS under the terms of master repurchase agreements with various brokers, the terms are dictated by TRS. The repurchase agreements and their supporting collateral are held by the custodial agent's correspondent bank in an account identified by the custodian's name and TRS's nominee name. This account is unique to TRS. The master repurchase agreements require that the supporting collateral have a fair value of at least 102% of the value of the repurchase agreements.

As of June 30, 2023, cash collateral reinvestment securities acquired through securities lending for the Retirement Annuity Trust by TRS's custodian amounted to \$951 million in relation to the \$931.9 million securities lent consistent with the lending agreement with the custodian. Cash collateral reinvestment securities lending for the Life Insurance Trust by TRS's custodian

amounted to \$14.3 million in relation to the \$14.2 million securities lent consistent with the lending agreement with the custodian. The custodian also is the lending agent and counterparty.

**Interest Rate Risk**

Interest rate risk on investments is the possibility that changes in interest rates will reduce the fair value of TRS's investments. In general, the longer the period until an investment matures, the greater the risk of a negative impact on fair value resulting from changes in interest rates.

As of June 30, 2023, and 2022, the Retirement Annuity Trust, Health Insurance Trust and Life Insurance Trust had the following investment fair value and weighted average maturities.

Investment Type	Retirement Annuity Trust					
	2023			2022		
	Fixed Income	Additional Categories	Average Maturity (years)	Fixed Income	Additional Categories	Average Maturity (years)
U.S. government	\$1,139,162,191	7,901,520	10.05	\$1,149,592,337	\$	11.18
Agency bonds	94,136,785		3.87	73,829,978		4.33
Mortgage-backed securities	113,404,191		15.29	133,311,012		15.00
Asset-backed securities	28,882,848		18.17	30,303,278		14.86
Commercial mortgage-backed securities	26,589,385		18.3	31,473,511		19.71
Collateralized mortgage obligations	21,467,875		7.42	24,673,583		8.56
Municipal bonds	274,771,116		10.43	312,626,893		11.16
Corporate bonds	1,273,746,115	752,292,803	8.83	1,488,986,426	751,414,788	9.40
Corporate loans		350,424,229	4.18		345,230,326	4.39
<b>Total</b>	<b>\$2,972,160,506</b>	<b>\$1,110,618,552</b>	<b>9.07</b>	<b>\$3,244,797,018</b>	<b>\$1,096,645,114</b>	<b>9.79</b>

Investment Type	Health Insurance Trust					
	2023			2022		
	Fixed Income	Additional Categories	Average Maturity (years)	Fixed Income	Additional Categories	Average Maturity (years)
U.S. government	\$ 43,405,938	\$	5.57	\$ 37,651,068	\$	7.36
Agency bonds	2,989,020		0.53	969,520		1.17
Mortgaged-backed securities	3,051,772		15.62	5,087,374		11.01
Collateralized mortgage obligations	824,263		6.33	885,759		7.32
Municipal Bonds	9,109,099		7.47	9,718,049		8.41
Corporate bonds	93,762,993	191,497,563	4.40	89,972,254	173,323,332	6.49
Corporate loans		63,569,209	4.33		62,534,249	4.84
<b>Total</b>	<b>\$ 153,143,085</b>	<b>\$ 255,066,772</b>	<b>3.79</b>	<b>\$ 144,284,024</b>	<b>\$ 235,857,581</b>	<b>6.40</b>

**Life Insurance Trust**

Investment Type	2023			2022		
	Fixed Income	Additional Categories	Average Maturity (years)	Fixed Income	Additional Categories	Average Maturity (years)
U.S. government	\$ 8,591,791	\$	9.42	\$ 7,590,127	\$	12.41
Mortgage-backed securities	199,079		11.43	286,793		12.38
Municipal bonds	2,340,986		6.70	2,478,748		7.70
Corporate bonds	6,810,627		10.38	7,516,401		11.12
<b>Total</b>	<b>\$ 17,942,483</b>	<b>\$</b>	<b>9.45</b>	<b>\$ 17,872,069</b>	<b>\$</b>	<b>12.09</b>

In addition to the above securities, TRS held short-term cash investments in the Dreyfus Institutional Cash Advantage Fund, at the Bank of New York Mellon (BNYM), with a total fair value of \$651.2 million and a weighted average maturity of 27 days. Average maturity is used as a measure of a security's exposure to interest rate risk due to fluctuations in market interest rates. Mortgage-backed securities and collateralized mortgage obligations typically are amortizing investments with an average life and interest rate risk significantly less than suggested by the legal maturity. Mortgage-backed securities, which generally are prepayable, and other callable bonds are subject to adverse changes in average life in response to market interest rate changes. The schedule above reflects only the legal maturity of all such bonds.

Interest rate risk is the risk that changes in interest rates will affect adversely the fair value of an investment. This risk is managed by using the effective duration or option adjusted methodology to quantify the risk of interest rate changes. This methodology takes into account options on bonds and scales the risk of price changes on bonds depending upon the degree of changes in rates and the slope of the yield curve. The control of interest rate risk is not set forth in a particular policy; however, the system manages interest rate risk in practice by establishing appropriate benchmarks for its various portfolios.

Mortgage-backed securities are securities representing pass-through interests in the cash flows from pools of mortgage loans on single-family or multi-family residential properties. All of the mortgage-backed securities owned by TRS were securitized and are guaranteed by Fannie Mae, Freddie Mac or Government National Mortgage Association (GNMA). The average life of a mortgage-backed security depends upon the level of prepayments experienced in the underlying pool of loans. Market interest rates are a primary determinant of prepayment levels. Lower-than-anticipated market rates generally lead to higher-than-anticipated prepayments and a shorter average life; higher-than-anticipated market rates generally lead to lower-than-anticipated prepayments and a longer average life. The Retirement Annuity Trust held \$113.4 million in mortgage-backed securities as of June 30, 2023, compared to \$133.3 million as of June 30, 2022. The Health Insurance Trust held \$3.1 million in mortgage-backed securities as of June 30, 2023, compared to \$5.1 million as of June 30, 2022. The Life Insurance Trust held \$199,079 in mortgage-backed securities as of June 30, 2023, compared to \$286,793 as of June 30, 2022.

Collateralized mortgage obligations are bonds that are collateralized by whole loan mortgages, mortgage pass-through securities or stripped mortgage-backed securities. Income is derived from payments and prepayments of principal and interest generated from collateral mortgages. Cash flows are distributed to different investment classes in accordance with collateralized mortgage obligations' established payment order. The Retirement Annuity Trust held \$21.5 million in collateralized mortgage obligations as of June 30, 2023, compared to \$24.7 million as of June 30, 2022. The Health Insurance Trust held \$824,263 in collateralized mortgage obligations as of June 30, 2023, compared to \$885,759 as of June 30, 2022.

Asset-backed securities are bonds or notes backed by loan paper or accounts receivables originated by banks, credit card companies or other credit providers and are considered to be moderately sensitive to changes in interest rates. The originator of the loan or accounts receivable paper sells it to a specially created trust, which repackages it as securities. Asset-backed securities have been structured as pass-throughs and as structures with multiple bond classes. The Retirement Annuity Trust held \$28.9 million in asset-backed securities as of June 30, 2023, compared to \$30.3 million as of June 30, 2022.

Commercial mortgage-backed securities represent interests in the cash flows from pools of mortgage loans on commercial properties. The interests in a securitized pool of loans are divided generally into various tranches based upon planned payment order and level of seniority. TRS's commercial mortgage-backed securities consist of highly rated, relatively senior tranches. The average maturity of TRS's commercial mortgage-backed securities in the schedule above reflects the legal maturity of these holdings. Most of the tranches held are earlier in the planned payment order than the legal maturity suggests. The Retirement Annuity Trust held \$26.6 million in commercial mortgage-backed securities investments as of June 30, 2023, compared to \$31.5 million as of June 30, 2022.

**Credit Risk**

Credit risk is the risk that an issuer or counterparty to an investment will not fulfill its obligations. The following schedules list TRS's fixed income investment fair value (net of cash equivalents) according to credit ratings as of June 30, 2023, and 2022.

**2023 Retirement Annuity Trust**

Rating	Fixed Income	Additional Categories	Total	Percent
U.S. government	\$ 1,139,162,191	\$ 7,901,520	\$ 1,147,063,711	28.09
AAA	173,792,573		173,792,573	4.26
AA	553,239,834		553,239,834	13.55
A	515,146,109	391,717	515,537,826	12.63
BBB	523,350,414	54,030,118	577,380,532	14.14
BB	6,913,711	495,507,018	502,420,729	12.31
B		437,919,734	437,919,734	10.72
CCC		49,603,809	49,603,809	1.21
CC		249,000	249,000	0.01
C				
D		1,545,507	1,545,507	0.04
Not rated	60,555,674	63,470,129	124,025,803	3.04
<b>Total</b>	<b>\$ 2,972,160,506</b>	<b>\$ 1,110,618,552</b>	<b>\$ 4,082,779,058</b>	<b>100.00</b>

**2022 Retirement Annuity Trust**

Rating	Fixed Income	Additional Categories	Total	Percent
U.S. government	\$ 1,149,592,337	\$	\$ 1,149,592,337	26.48
AAA	187,112,695	2,798,409	189,911,104	4.38
AA	396,784,675	515,677	397,300,352	9.15
A	570,174,155	162,727	570,336,882	13.14
BBB	644,784,845	31,801,822	676,586,667	15.58
BB	8,232,374	461,790,627	470,023,001	10.83
B		445,632,980	445,632,980	10.26
CCC		45,478,066	45,478,066	1.05
CC		385,323	385,323	0.01
C		13,950	13,950	
D		99,560	99,560	
Not rated	288,115,937	107,965,973	396,081,910	9.12
<b>Total</b>	<b>\$ 3,244,797,018</b>	<b>\$ 1,096,645,114</b>	<b>\$ 4,341,442,132</b>	<b>100.00</b>

**2023 Health Insurance Trust**

Rating	Fixed Income	Additional Categories	Total	Percent
U.S. government	\$ 43,405,938	\$	\$ 43,405,938	10.63
AAA	5,556,616		5,556,616	1.36
AA	32,828,981		32,828,981	8.04
A	45,451,797	129,206	45,581,003	11.16
BBB	25,899,753	12,253,523	38,153,276	9.35
BB		111,590,871	111,590,871	27.34
B		105,144,906	105,144,906	25.76
CCC		14,778,120	14,778,120	3.62
CC		234,000	234,000	0.06
C				
D				
Not rated		10,936,146	10,936,146	2.68
Total	\$ 153,143,085	\$ 255,066,772	\$ 408,209,857	100.00

**2022 Health Insurance Trust**

Rating	Fixed Income	Additional Categories	Total	Percent
U.S. government	\$ 37,651,068	\$	\$ 37,651,068	9.90
AAA	6,698,098	891,691	7,589,789	2.00
AA	29,600,787	408,030	30,008,817	7.89
A	37,796,136	39,183	37,835,319	9.95
BBB	26,564,802	7,495,309	34,060,111	8.96
BB		96,732,804	96,732,804	25.45
B		98,028,860	98,028,860	25.79
CCC		10,360,581	10,360,581	2.72
CC		217,106	217,106	0.06
C		4,108	4,108	
D		99,560	99,560	0.03
Not rated	5,973,133	21,580,349	27,553,482	7.25
Total	\$ 144,284,024	\$ 235,857,581	\$ 380,141,605	100.00



**2023 Life Insurance Trust**

Rating	Fixed Income	Additional Categories	Total	Percent
U.S. government	\$ 8,591,791	\$	\$ 8,591,791	47.88
AAA	679,711		679,711	3.79
AA	2,738,115		2,738,115	15.26
A	1,093,660		1,093,660	6.10
BBB	4,147,116		4,147,116	23.11
BB	692,090		692,090	3.86
B				
Not Rated				
<b>Total</b>	<b>\$ 17,942,483</b>	<b>\$</b>	<b>\$ 17,942,483</b>	<b>100.00</b>

**2022 Life Insurance Trust**

Rating	Fixed Income	Additional Categories	Total	Percent
U.S. government	\$ 7,590,127	\$	\$ 7,590,127	42.47
AAA	681,318		681,318	3.81
AA	2,977,517		2,977,517	16.66
A	1,579,091		1,579,091	8.84
BBB	4,197,068		4,197,068	23.48
BB				
B	316,512		316,512	1.77
Not Rated	530,436		530,436	2.97
<b>Total</b>	<b>\$ 17,872,069</b>	<b>\$</b>	<b>\$ 17,872,069</b>	<b>100.00</b>

Total fair value of the Retirement Annuity Trust's fixed income portfolio was \$4.08 billion on June 30, 2023. The Health Insurance Trust's fixed income portfolio was valued at \$408.2 million on June 30, 2023. Total fair value of the Life Insurance Trust's fixed income portfolio was \$17.9 million on June 30, 2023. Standard & Poor's (S&P) rating system is used in the above charts. For securities where an S&P rating is not provided, another nationally recognized system is used and translated to the S&P rating system.

In addition to the above categories, the Retirement Annuity Trust held \$568.9 million in short-term investments through the Dreyfus Institutional Cash Advantage Fund. The Health Insurance Trust held \$77.2 million in the Dreyfus Institutional Cash Advantage Fund. The Life Insurance Trust held \$5.1 million in the Dreyfus Institutional Cash Advantage Fund. The credit risk associated with this fund is minimal as the securities held are required to maintain the highest possible short-term credit ratings by Moody's and S&P. In addition, investments in U.S. government and agency securities also are highly rated securities since they are backed by the U.S. government. Notation is made that the ratings of securities are subject to change.

The Retirement Annuity Trust's policy on credit rating is set forth in 102 KAR 1:175.

**Concentration of Credit Risk**

Concentration of credit risk is the risk of loss attributed to the magnitude of a government's investment in a single issuer. Losses from credit risk are heightened if a significant portion of resources are invested with a single issuer. In compliance with 102 KAR 1:175, the Retirement Annuity Trust has not invested more than 5% of assets at fair value in any single issuer.

**Foreign Currency Risk**

Foreign currency risk is the risk that changes in exchange rates will affect adversely the fair value of an investment or a deposit. TRS holdings do not include foreign currency. The foreign currency tables shown are a comparative measure of the value of TRS's foreign investments, like stocks, expressed in U.S. dollars using the conversion rate for that currency on the day the fiscal

year ended. As of June 30, 2023, TRS's exposure to foreign currency risk consisted of \$5.28 billion in the Retirement Annuity Trust, \$298.2 million in the Health Insurance Trust and \$19.7 million in the Life Insurance Trust.

The majority of foreign investments are held in commingled funds managed by UBS Global Asset Management, Baillie Gifford, Baring Asset Management and BlackRock. In addition to the commingled funds investing in foreign securities, the Retirement Annuity Trust held \$898.5 million associated with foreign interests in American depository receipt investments. These American depository receipts are securities that are issued by a U.S. bank in place of the foreign stock shares held in trust by that bank, thereby facilitating the trading of foreign shares in U.S. markets. The cross-listed equity, in the amount of \$416.9 million, represent securities domiciled in foreign countries, but are listed and traded on U.S. exchanges. Other foreign securities and investments consist of debt securities and alternative investment opportunities.

The Retirement Annuity Trust's policy regarding foreign equity is that not more than 30% of the assets at fair value shall be invested in the stocks of companies domiciled outside of the United States. Any amounts so invested shall be included in the 65% limitation for total stocks under 102 KAR 1:175 Section 2(e).

The following tables represent in U.S. dollars the fair value of investments that are subject to foreign currency risk as a result of cash contributions to each portfolio manager as of June 30, 2023, and 2022.

#### Retirement Annuity Trust

	2023	2022
Commingled	\$ 3,419,653,286	\$ 3,029,556,395
Alternatives	288,041,664	277,842,260
American depository receipts	898,528,480	736,085,804
Cross-listed equity	416,869,084	382,244,110
Bonds	69,579,525	120,029,427
Additional categories (Fixed income)	130,166,338	118,089,954
Additional categories (Opportunistic)	59,967,536	98,744,254
Total	\$ 5,282,805,913	\$ 4,762,592,204

#### Health Insurance Trust

	2023	2022
Commingled	\$ 176,735,816	\$ 397,664,494
Alternatives	44,970,500	42,575,065
Cross-listed equity	24,522,404	2,888,554
Bonds	929,210	1,456,940
American depository receipts	3,064,662	1,368,805
Additional categories (Fixed income)	38,968,074	32,021,960
Additional categories (Opportunistic)	8,970,760	13,890,157
Total	\$ 298,161,426	\$ 491,865,975

#### Life Insurance Trust

	2023	2022
Commingled	\$ 18,632,074	\$ 16,579,034
Alternatives	585,914	420,996
Cross-listed equity	445,716	253,063
American depository receipts	82,283	39,893
Total	\$ 19,745,987	\$ 17,292,986

TRS's investments subject to foreign currencies and categorized in the preceding tables are illustrated further in the following tables by each country and its currency. As previously stated, TRS holdings do not include foreign currency. The amounts shown are the fair value in U.S. dollars of TRS's foreign investments. These foreign investments are made with U.S. dollars in the custody of American financial institutions. Foreign holdings not readily identifiable to a specific country are listed in the various category, which includes investment receivables, payables and new issues.

<b>Retirement Annuity Trust</b>					
<b>Currency</b>	<b>2023</b>	<b>2022</b>	<b>Currency</b>	<b>2023</b>	<b>2022</b>
Argentine peso	\$ 3,745,139	\$ 107,236	Korean won	\$ 121,139,877	\$ 101,697,578
Australian dollar	122,545,872	130,644,553	Kuwaiti dinar	1,393,325	1,247,065
Bermudian dollar	25,646,337	30,071,729	Liberian dollar	8,606,275	4,361,250
Brazilian real	189,427,302	133,674,447	Malaysian ringgit	5,925,745	6,240,256
British pound sterling	562,799,745	482,751,292	Mexican peso	86,960,085	41,749,510
Canadian dollar	228,265,564	243,576,565	Netherlands Antillean guilder	58,692,934	9,915,826
Cayman Islands dollar	55,516,980	43,357,760	New Zealand dollar	4,060,842	4,089,333
Chilean peso	34,532,810	17,286,332	Norwegian krone	117,059,225	103,696,810
Chinese yuan	230,226,800	273,001,885	Panamanian balboa	6,842,893	4,149,702
Colombian peso	20,528,381	26,376,783	Peruvian nuevo sol		168,028
Czech koruna	477,133	445,307	Philippine peso	2,689,042	2,737,447
Danish krone	117,977,259	103,164,522	Polish zloty	3,165,484	1,560,230
Egyptian pound	165,073	134,404	Qatari riyal	1,446,234	1,569,598
Euro	1,799,896,439	1,627,884,474	Russian ruble	301	337
Gibraltar pound	1,783,106	710,219	Saudi riyal	6,752,614	6,196,328
Guernsey pound	21,534,472	17,345,142	Singapore dollar	43,230,003	43,773,717
Hong Kong dollar	133,387,146	166,944,875	South African rand	87,862,340	87,030,766
Hungarian forint	335,122	266,544	Swedish krona	87,214,257	73,633,424
Indian rupee	90,559,191	86,528,883	Swiss franc	209,313,511	198,861,473
Indonesian rupiah	16,123,347	9,169,449	Taiwan new dollar	77,929,562	67,236,355
Israeli new shekel	18,900,297	6,815,504	Thai baht	8,920,904	8,822,794
Jamaican dollar		126,527	Turkish lira	1,254,165	920,768
Japanese yen	632,034,559	558,763,004	United Arab Emirates dirham	2,026,440	1,793,558
Jersey pound	27,582,047	18,955,841	Various	6,329,734	13,036,774
			Total	<u>\$ 5,282,805,913</u>	<u>\$ 4,762,592,204</u>

**Health Insurance Trust**

Currency	2023	2022	Currency	2023	2022
Argentine peso	\$ 75,338	\$ 66,469	Kuwaiti dinar	\$ 436,334	1,007,828
Australian dollar	8,650,271	21,728,364	Liberian dollar	2,576,523	963,599
Bermudian dollar	2,692,231	1,013,392	Malaysian ringgit	740,806	1,927,885
Brazilian real	2,722,645	5,856,948	Mexican peso	2,741,437	3,543,837
British pound sterling	23,024,709	42,889,159	Netherlands Antillean guilder	1,322,998	
Canadian dollar	27,939,627	43,053,573	New Zealand dollar	353,234	843,955
Cayman Islands dollar	7,697,318	5,184,756	Norwegian krone	977,089	2,510,126
Chilean peso	226,521	404,462	Panamanian balboa	1,671,845	823,842
Chinese yuan	8,695,471	11,371,846	Peruvian nuevo sol		168,028
Colombian peso	121,878	389,755	Philippine peso	416,479	956,299
Czech koruna	74,195	171,744	Polish zloty	917,195	949,724
Danish krone	3,608,514	6,786,186	Qatari riyal	438,340	1,222,823
Egyptian pound	58,267	94,248	Russian ruble	70	247
Euro	108,859,158	138,146,438	Saudi riyal	2,084,647	4,839,532
Gibraltar pound	423,381	168,334	Singapore dollar	1,634,530	3,818,762
Hong Kong dollar	12,158,439	34,606,661	South African rand	2,107,217	4,118,137
Hungarian forint	106,767	188,949	Swedish krona	4,335,880	9,280,891
Indian rupee	8,243,704	16,666,383	Swiss franc	12,378,667	24,219,205
Indonesian rupiah	1,020,251	2,252,921	Taiwan new dollar	8,209,243	17,939,329
Israeli new shekel	815,845	2,173,098	Thai baht	1,042,844	2,529,664
Japanese yen	27,576,850	59,632,917	Turkish lira	508,578	793,503
Jersey pound	1,460,840	1,289,699	United Arab Emirates dirham	629,333	1,415,910
Korean won	6,385,917	13,852,831	Various		3,716
			Total	\$ 298,161,426	\$ 491,865,975

**Life Insurance Fund**

Currency	2023	2022	Currency	2023	2022
Australian dollar	\$ 787,747	\$ 797,952	Kuwaiti dinar	\$ 39,542	\$ 35,391
Brazilian real	433,796	294,528	Malaysian ringgit	67,915	70,931
British pound sterling	1,724,878	1,546,974	Mexican peso	165,540	116,695
Canadian dollar	1,644,239	1,349,000	New Zealand dollar	30,883	30,442
Cayman Islands dollar	9,252	13,414	Norwegian krone	117,759	101,649
Chilean peso	20,624	14,049	Philippine peso	32,063	31,366
Chinese yuan	453,645	619,122	Polish zloty	40,834	28,027
Colombian peso	11,287	15,223	Qatari riyal	41,044	44,545
Czech koruna	6,557	7,249	Russian ruble	6	10
Danish krone	461,227	375,452	Saudi riyal	191,636	175,849
Egyptian pound	4,685	3,814	Singapore dollar	169,951	152,371
Euro	5,202,798	4,099,101	South African rand	189,940	149,844
Hong Kong dollar	1,213,576	1,353,409	Swedish krona	471,165	412,996
Hungarian forint	9,511	7,564	Swiss franc	863,941	846,621
Indian rupee	770,001	616,777	Taiwan new dollar	832,148	718,802
Indonesian rupiah	93,222	81,358	Thai baht	95,825	92,602
Israeli new shekel	97,685	72,390	Turkish lira	30,625	16,070
Japanese yen	2,703,254	2,352,561	United Arab Emirates dirham	57,510	50,900
Jersey pound	48,555	78,743	Various	1	
Korean won	611,120	519,195			
			Total	<u>\$ 19,745,987</u>	<u>\$ 17,292,986</u>

**Fair Value Measurement**

A retiree pension defined benefit plan holds significant amounts of investments that are measured at fair value on a recurring basis. TRS categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles (GAAP) in the United States of America. The hierarchy is based on the valuation inputs used to measure the fair value of the asset and is not necessarily indicative of risk.

Level 1 inputs are quoted prices (unadjusted) for identical assets or liabilities in active markets that a government can access at the measurement date. Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for an asset or liability. Level 2 inputs may include quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities in non-active markets; and inputs other than quoted prices that are observable for the assets or liabilities, either directly or indirectly. Level 3 inputs are unobservable inputs for an asset or liability such as property appraisals, third-party valuations and public market comparables of similar assets where applicable. Investments measured at fair value using the net asset value (NAV) per share (or its equivalent) as a practical expedient are not classified in the fair value hierarchy. The fair value hierarchy gives the highest priority to Level 1 inputs and the lowest priority to Level 3 inputs.

**Schedules of Fair Value**

These category descriptions that immediately follow refer to the investments shown in the fair value level hierarchy schedules shown after these descriptions.

**Cash and Cash Equivalents:** Cash equivalents are short-term, highly liquid investments that readily are convertible to known amounts of cash and so near to their maturity that they present insignificant risk of changes in value because of changes in interest rates. This category is comprised of short-term investments via the Dreyfus Institutional Cash Advantage Fund and cash. Cash

equivalents can be valued with inputs from quoted prices (unadjusted) for identical assets or liabilities in active markets that a government can access at the measurement date and, therefore, are classified as Level 1 assets.

**Equity and Fixed Income Securities:** Debt and equity securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets issued by pricing vendors for these securities. Debt and equity securities classified in Level 2 of the fair value hierarchy may use inputs such as market quotations, yields, maturities, call features and ratings or may be valued using a matrix pricing technique that values securities based on their relationship to benchmark quoted prices. Debt securities classified in Level 3 are securities whose stated market price is unobservable by the market place and, instead, are priced by the issuers or industry groups for these securities.

**Real Estate:** Real estate falls into the Level 3 classification of the fair value hierarchy. Much of TRS's real estate consists of owned properties leased to various commercial enterprises. The fair value measurement for real estate is determined by professional appraisals every five years.

**Timberland:** Timberland investments are managed investments regarding the acquiring, growing and disposing of timber on timberland owned by TRS. The adviser contracts with outside appraisers to generate annual fair value estimates. The outside appraisers utilized the cost, sales comparison and income capitalization approaches to estimate the fair value of the timber and timberland. The adviser challenges the reasonableness of the assumptions used and reviews the methodology to ensure the estimated fair value complies with GAAP. These funds are not available for redemption; instead, distributions are made to TRS as the underlying assets are sold.

**Additional Categories:** Investments in this category do not fit the regular parameters for the Retirement Annuity Trust in 102 KAR 1:175. They fall into the allowable 15% of assets invested in any additional categories approved by the board. Corporate bonds falling within the Level 1 classification are valued using prices quoted in active markets issued by pricing vendors for these securities. Corporate bonds listed in Level 2 may use inputs such as market quotations, yields, maturities, call features and ratings or may be valued using a matrix pricing technique that values securities based on their relationship to benchmark quoted prices. Corporate loans at Level 3 are valued by third-party pricing vendors such as Markit or Reuters.

**Commingled Funds:** These funds hold European loans, international equity and domestic equity. Commingled funds are valued at the net asset value held at the end of the period based upon the fair value of the underlying investments.

**Private Equity:** Private equity funds invest in equity and debt securities issued by private and publicly held companies in connection with leveraged buyouts, recapitalizations and expansion opportunities. Three of these funds are redeemable, but the majority do not allow redemptions. Alternatively, TRS receives distributions as the underlying assets of the funds liquidate, usually over a five- to 10-year liquidation period. Exchange quotations are not available readily for these investments. The fair value for most of these funds is determined using the net asset value one quarter in arrears, plus current quarter cash flows.

**Private Real Estate:** Three private real estate investments are open-ended. The remaining investments are not redeemable; rather, TRS receives distributions as the underlying assets liquidate, usually over a five- to 10-year liquidation period. Exchange quotations for these investments are not available readily. Most private real estate fair value is determined using the net assets valued one quarter in arrears, plus current quarter cash flows.

**Private Opportunistic Credit:** One private opportunistic credit fund is redeemable. The remainder are closed funds that issue distributions as the underlying assets of the fund liquidate, usually over a five- to 10-year liquidation period. The fair value for most of these funds is determined using the net assets valued one month in arrears, plus current period cash flows.

**Retirement Annuity Trust**  
**Schedule of Investments at Fair Value Level — 2023**

	<u>Level 1 Inputs</u>	<u>Level 2 Inputs</u>	<u>Level 3 Inputs</u>	<u>Fair Value</u>
<b>Cash and cash equivalents</b>	\$ 568,929,242	\$	\$	\$ 568,929,242
<b>Fixed income</b>				
Asset-backed securities		28,882,848		28,882,848
Agency bonds		94,136,785		94,136,785
Commercial mortgage-backed securities		26,589,385		26,589,385
Collateralized mortgage obligations		21,467,875		21,467,875
Corporate bonds		1,273,746,115		1,273,746,115
Mortgage-backed securities		113,404,191		113,404,191
Municipal bonds		274,771,116		274,771,116
U.S. government	1,135,361,577	3,800,614		1,139,162,191
<b>Subtotal</b>	1,135,361,577	1,836,798,929		2,972,160,506
<b>Equity</b>				
International	2,030,127,648	1,745,797,429		3,775,925,077
U.S.	8,997,878,455			8,997,878,455
<b>Subtotal</b>	11,028,006,103	1,745,797,429		12,773,803,532
<b>Real estate</b>			401,370,072	401,370,072
<b>Timberland</b>		3,990	485,154,423	485,158,413
<b>Additional categories</b>				
Corporate bonds	876,478	751,416,325		752,292,803
Corporate loans		174,867	258,999,362	259,174,229
U.S. government	7,901,520			7,901,520
<b>Subtotal</b>	8,777,998	751,591,192	258,999,362	1,019,368,552
<b>Total investments at fair value level</b>	\$ 12,741,074,920	\$ 4,334,191,540	\$ 1,145,523,857	\$ 18,220,790,317
<b>At Net Asset Value (NAV)</b>				
Commingled European loan funds				\$ 91,250,000
Commingled international equity funds				1,085,695,297
Commingled domestic equity funds				428,638,038
Private equity funds				1,915,329,613
Private real estate funds				1,375,912,910
Private Opportunistic Loan Funds				62,818,692
Private opportunistic credit funds				753,842,564
<b>Total investments measured at NAV</b>				<u>5,713,487,114</u>
<b>Total investments at fair value</b>				<u>\$ 23,934,277,431</u>

**Schedule of Investments at Net Asset Value (NAV) — 2023**

	<b>June 30, 2023</b>	<b>Unfunded Commitments</b>	<b>Redemption Frequency</b>	<b>Redemption Notice</b>
<b>Commingled European loan</b>	\$ 91,250,000	\$	Daily	30 days
<b>Commingled international equity</b>	1,085,695,297		Daily	1-30 days
<b>Commingled domestic equity</b>	428,638,038		Daily	1-30 days
<b>Private equity</b>				
Open-ended*	487,090,328	114,908,844	Quarterly, annually	90 days
Closed-ended	1,428,239,285	1,188,329,589	N/A	N/A
<b>Private real estate</b>				
Open-ended	988,650,662		Quarterly	45-90 days
Closed-ended	387,262,248	546,863,320	N/A	N/A
<b>Private Opportunistic loan</b>	62,818,692	70,000,000	N/A	N/A
<b>Private opportunistic credit</b>				
Open-ended	570,428,269	25,500,000	Semiannually	75 days
Closed-ended	183,414,295	67,912,097	N/A	N/A
<b>Total investments at NAV</b>	<u>\$ 5,713,487,114</u>			



**Retirement Annuity Trust**  
**Schedule of Investments at Fair Value Level — 2022**

	<u>Level 1 Inputs</u>	<u>Level 2 Inputs</u>	<u>Level 3 Inputs</u>	<u>Fair Value</u>
<b>Cash and cash equivalents</b>	\$ 1,018,544,170	\$	\$	\$ 1,018,544,170
<b>Fixed income</b>				
Asset-backed securities		30,303,278		30,303,278
Agency bonds		73,829,978		73,829,978
Commercial mortgage-backed securities		31,473,511		31,473,511
Collateralized mortgage obligations		24,673,583		24,673,583
Corporate bonds		1,488,986,426		1,488,986,426
Mortgage-backed securities		133,129,052	181,960	133,311,012
Municipal bonds		312,626,893		312,626,893
U.S. government	1,145,619,271	3,973,066		1,149,592,337
<b>Subtotal</b>	<u>1,145,619,271</u>	<u>2,098,995,787</u>	<u>181,960</u>	<u>3,244,797,018</u>
<b>Equity</b>				
International	1,107,171,063	1,530,406,953		2,637,578,016
U.S.	7,697,139,844			7,697,139,844
<b>Subtotal</b>	<u>8,804,310,907</u>	<u>1,530,406,953</u>		<u>10,334,717,860</u>
<b>Real estate</b>			402,120,072	402,120,072
<b>Timberland</b>		4,256,528	479,213,075	483,469,603
<b>Additional categories</b>				
Corporate bonds	90,663	751,324,125		751,414,788
Corporate loans		1,141,349	251,748,977	252,890,326
<b>Subtotal</b>	<u>90,663</u>	<u>752,465,474</u>	<u>251,748,977</u>	<u>1,004,305,114</u>
<b>Total investments at fair value level</b>	\$ 10,968,565,011	\$ 4,386,124,742	\$ 1,133,264,084	\$ 16,487,953,837
<b>At NAV</b>				
Commingled European loan funds				\$ 92,340,000
Commingled international equity funds				1,590,053,281
Commingled domestic equity funds				342,732,216
Private equity funds				1,808,795,204
Private real estate funds				1,291,507,864
Private opportunistic credit funds				813,467,573
<b>Total investments measured at NAV</b>				<u>5,938,896,138</u>
<b>Total investments at fair value</b>				<u>\$ 22,426,849,975</u>

**Health Insurance Trust**  
**Schedule of Investments at Fair Value Level — 2023**

	<u>Level 1 Inputs</u>	<u>Level 2 Inputs</u>	<u>Level 3 Inputs</u>	<u>Fair Value</u>
<b>Cash and cash equivalents</b>	\$ 77,221,128	\$	\$	\$ 77,221,128
<b>Fixed income</b>				
Agency bonds		2,989,020		2,989,020
Collateralized mortgage obligations		824,263		824,263
Corporate bonds		93,762,993		93,762,993
Mortgage-backed securities		3,051,772		3,051,772
Municipal bonds		9,109,099		9,109,099
U.S. government	43,405,938			43,405,938
<b>Subtotal</b>	43,405,938	109,737,147		153,143,085
<b>Equity</b>				
International	24,887,225	461,717,466		486,604,691
U.S.	919,910,248			919,910,248
<b>Subtotal</b>	944,797,473	461,717,466		1,406,514,939
<b>Additional categories</b>				
Corporate bonds	161,913	191,335,650		191,497,563
Corporate loans		174,867	63,394,342	63,569,209
U.S. equity	6,457,974			6,457,974
<b>Subtotal</b>	6,619,887	191,510,517	63,394,342	261,524,746
<b>Total investments at fair value level</b>	\$ 1,072,044,426	\$ 762,965,130	\$ 63,394,342	\$ 1,898,403,898
<b>At NAV</b>				
Private equity funds				220,197,307
Private opportunistic loan funds				15,704,673
Private opportunistic credit funds				119,854,518
Private real estate funds				159,444,210
<b>Total investments measured at NAV</b>				515,200,708
<b>Total investments at fair value</b>				<u>\$ 2,413,604,606</u>

**Schedule of Investments at NAV — 2023**

	<b>June 30, 2023</b>	<b>Unfunded Commitments</b>	<b>Redemption Frequency</b>	<b>Redemption Notice</b>
<b>Private real estate</b>				
Open-ended	\$ 102,446,925	\$	Quarterly	45-90 days
Closed-ended	56,997,285	80,144,168	N/A	N/A
<b>Private equity</b>				
Closed-ended	220,197,307	182,663,743	N/A	N/A
<b>Private opportunistic loan</b>	15,704,673	5,000,000		
<b>Private opportunistic credit</b>				
Open-ended	99,730,078		Semiannually	75 days
Closed-ended	20,124,440	9,021,502	N/A	N/A
<b>Total investments at NAV</b>	<u><u>\$ 515,200,708</u></u>			

**Health Insurance Trust**  
**Schedule of Investments at Fair Value Level — 2022**

	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Fair Value</u>
<b>Cash and cash equivalents</b>	\$ 67,213,821	\$	\$	\$ 67,213,821
<b>Fixed income</b>				
Agency bonds		969,520		969,520
Collateralized mortgage obligations		885,759		885,759
Corporate bonds		89,972,254		89,972,254
Mortgage-backed securities		5,087,374		5,087,374
Municipal bonds		9,718,049		9,718,049
U.S. government	37,651,068			37,651,068
<b>Subtotal</b>	37,651,068	106,632,956		144,284,024
<b>Equity</b>				
Global		1,003,875,627		1,003,875,627
International	2,888,554			2,888,554
U.S.	88,497,979			88,497,979
<b>Subtotal</b>	91,386,533	1,003,875,627		1,095,262,160
<b>Additional categories</b>				
Corporate bonds	(1,396)	173,311,116	13,612	173,323,332
Corporate loans			62,534,249	62,534,249
U.S. equity	6,334,819			6,334,819
<b>Subtotal</b>	6,333,423	173,311,116	62,547,861	242,192,400
<b>Total investments at fair value level</b>	\$ 202,584,845	\$ 1,283,819,699	\$ 62,547,861	\$ 1,548,952,405
<b>At NAV</b>				
Private equity funds				\$ 204,919,107
Private real estate funds				150,214,503
Private opportunistic credit funds				129,749,917
<b>Total investments measured at NAV</b>				484,883,527
<b>Total investments at fair value</b>				<u>\$ 2,033,835,932</u>

**Life Insurance Trust**  
**Schedule of Investments at Fair Value Level — 2023**

	Level 1	Level 2	Level 3	Fair Value
<b>Cash and cash equivalents</b>	\$ 5,069,152	\$	\$	\$ 5,069,152
<b>Fixed income</b>				
Corporate bonds		6,810,627		6,810,627
Mortgage-backed securities		199,079		199,079
Municipal bonds		2,340,986		2,340,986
U.S. government	8,591,791			8,591,791
<b>Subtotal</b>	<u>8,591,791</u>	<u>9,350,692</u>		<u>17,942,483</u>
<b>Equity</b>				
International	445,716	19,221,343		19,667,059
U.S.	36,515,893			36,515,893
<b>Subtotal</b>	<u>36,961,609</u>	<u>19,221,343</u>		<u>56,182,952</u>
<b>Additional categories</b>				
U.S. equity	692,720			692,720
<b>Subtotal</b>	<u>692,720</u>			<u>692,720</u>
<b>Total investments at fair value level</b>	<u>\$ 51,315,272</u>	<u>\$ 28,572,035</u>	<u>\$</u>	<u>\$ 79,887,307</u>
<b>At NAV</b>				
Private equity funds				\$ 4,921,166
Private real estate funds				6,513,395
Private opportunistic credit funds				2,102,984
<b>Total investments measured at NAV</b>				<u>13,537,545</u>
<b>Total investments at fair value</b>				<u>\$ 93,424,852</u>

**Schedule of Investments at NAV — 2023**

	June 30, 2023	Unfunded Commitments	Redemption Frequency	Redemption Notice
<b>Private equity</b>				
Closed-ended	\$ 4,921,166	\$ 5,224,326	N/A	N/A
<b>Private real estate</b>				
Closed-ended	1,054,361	4,428,712	N/A	N/A
Open-ended	5,459,034	\$	Quarterly	45 days
<b>Private opportunistic credit</b>				
Open-ended	2,102,984	178,500	Semiannually	75 days
<b>Total investments at NAV</b>	<u>\$ 13,537,545</u>			

**Life Insurance Trust**  
**Schedule of Investments at Fair Value Level — 2022**

	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Fair Value</u>
<b>Cash and cash equivalents</b>	\$ 8,345,378	\$	\$	\$ 8,345,378
<b>Fixed income</b>				
Corporate bonds		7,516,401		7,516,401
Mortgage-backed securities		286,793		286,793
Municipal bonds		2,478,748		2,478,748
U.S. government	7,590,127			7,590,127
<b>Subtotal</b>	<u>7,590,127</u>	<u>10,281,942</u>		<u>17,872,069</u>
<b>Equity</b>				
International	253,063	16,995,009		17,248,072
U.S.	30,815,516			30,815,516
<b>Subtotal</b>	<u>31,068,579</u>	<u>16,995,009</u>		<u>48,063,588</u>
<b>Additional Categories</b>				
U.S. equity	680,854			680,854
<b>Subtotal</b>	<u>680,854</u>	<u>—</u>		<u>680,854</u>
<b>Total investments at fair value level</b>	<u>\$ 47,684,938</u>	<u>\$ 27,276,951</u>	<u>\$</u>	<u>\$ 74,961,889</u>
<b>At NAV</b>				
Private equity funds				\$ 3,283,908
Private real estate funds				7,489,602
Private opportunistic credit funds				2,130,839
<b>Total investments measured at NAV</b>				<u>12,904,349</u>
<b>Total investments at fair value</b>				<u>\$ 87,866,238</u>

**Securities Lending**

KRS 161.430 empowers the board with fiduciary responsibility for TRS funds. The system operates a securities lending program in which it temporarily lends securities to qualified agents in exchange for a net fee and high-quality collateral. The types of securities lent are U.S. government and agency securities; selected domestic bonds; and domestic and international stocks. TRS's custodian, BNYM, acts as lending agent in exchanging securities for collateral. The collateral has a value of not less than 102% of the fair value of the lent securities, plus any accrued, unpaid distributions. The collateral may consist of both cash and non-cash collateral. The non-cash collateral may include, but not be limited to, debt obligations and securities, equity securities, corporate bonds and convertible securities.

Securities lending transactions are accounted for in accordance with GASB Statement No. 28. During the year ended June 30, 2023, only the Retirement Annuity Trust fund and the Life Insurance Trust fund had securities lending transactions. The following schedules detail the net income earned in the Retirement Annuity Trust fund and the Life Insurance Trust fund from securities lending for the fiscal years ended June 30, 2023, and 2022.

	<b>Securities Lending Net Earnings</b>			
	<b>Retirement Annuity*</b>		<b>Life Insurance</b>	
	<b>2023</b>	<b>2022</b>	<b>2023</b>	<b>2022</b>
Gross earnings (interest and fees)	\$30,166,303	\$4,029,726	\$828,198	\$90,539
Gross borrower rebates	(26,607,262)	2,094,160	(756,056)	9,485
Bank fees	(1,067,559)	(1,836,957)	(21,638)	(30,000)
Net earnings	<u>\$2,491,482</u>	<u>\$4,286,929</u>	<u>\$50,504</u>	<u>\$70,024</u>

\*This schedule includes the Losey Scholarship fund.

Cash collateral is invested in guaranteed, short-term obligations of the U.S. government, select government agencies and repurchase agreements with qualified agents. TRS cannot pledge or sell collateral securities received unless the borrower defaults. BNYM as the lending agent also indemnifies TRS from any financial loss associated with a borrower's default and collateral inadequacy. The Statement of Fiduciary Net Position does not report securities lending transactions collateralized by letters of credit or by securities that the governmental entity does not have the ability to pledge or sell, unless the borrower defaults.

As of June 30, 2023, the average days to maturity for loans in the Retirement Annuity Trust was one day, and the weighted average investment maturity of cash collateral investments was one day. The trust had no credit risk exposure to borrowers because the amounts owed to borrowers exceeded the amounts the borrowers owed the trust, and no losses resulted during the period.

Security lending programs can entail interest rate risk and credit risk. TRS minimizes interest rate risk by limiting the term of cash collateral investments to several days.

The credit risk is controlled by investing cash collateral in securities with qualities similar to the credit worthiness of lent securities.

The following table presents the fair value of the underlying securities and the value of the collateral pledged at June 30, 2023, and 2022.

**Retirement Annuity Trust  
2023**

<b>Type of Securities Lent</b>	<b>Fair Value</b>	<b>Cash Collateral Received</b>	<b>Non-Cash Collateral Value Received</b>	<b>Total Collateral Received</b>
Fixed income	\$ 156,962,966	\$ 20,520,408	\$ 139,676,351	\$ 160,196,759
Equity	774,911,630	573,245,216	217,578,251	\$ 790,823,467
<b>Total</b>	<b>\$ 931,874,596</b>	<b>\$ 593,765,624</b>	<b>\$ 357,254,602</b>	<b>\$ 951,020,226</b>

**2022**

<b>Type of Securities Lent</b>	<b>Fair Value</b>	<b>Cash Collateral Received</b>	<b>Non-Cash Collateral Value Received</b>	<b>Total Collateral Received</b>
Fixed income	\$ 162,749,533	\$ 22,472,768	\$ 143,350,952	\$ 165,823,720
Equity	1,082,537,400	925,265,090	199,439,318	\$ 1,124,704,408
<b>Total</b>	<b>\$ 1,245,286,933</b>	<b>\$ 947,737,858</b>	<b>\$ 342,790,270</b>	<b>\$ 1,290,528,128</b>

**Life Insurance Trust  
2023**

<b>Type of Securities Lent</b>	<b>Fair Value</b>	<b>Cash Collateral Received</b>	<b>Non-Cash Collateral Value Received</b>	<b>Total Collateral Received</b>
Fixed income	\$ 1,760,859	\$	\$ 1,795,453	\$ 1,795,453
Equity	12,411,525	4,067,643	8,464,558	\$ 12,532,201
<b>Total</b>	<b>\$ 14,172,384</b>	<b>\$ 4,067,643</b>	<b>\$ 10,260,011</b>	<b>\$ 14,327,654</b>

**2022**

<b>Type of Securities Lent</b>	<b>Fair Value</b>	<b>Cash Collateral Received</b>	<b>Non-Cash Collateral Value Received</b>	<b>Total Collateral Received</b>
Fixed income	\$ 586,917	\$	\$ 588,343	\$ 588,343
Equity	27,389,601	21,869,913	6,578,936	\$ 28,448,849
<b>Total</b>	<b>\$ 27,976,518</b>	<b>\$ 21,869,913</b>	<b>\$ 7,167,279</b>	<b>\$ 29,037,192</b>



**Annual Money-Weighted Rate of Return**

A money-weighted rate of return is an expression of investment performance that is net of TRS's investment fees and expenses, adjusted for the changing amounts actually invested. The following table reflects the money-weighted rates of return.

**Annual Rate of Return Net of Investment Fees and Expenses**

	2023	2022
Retirement Annuity Trust	10.24 %	(10.91)%
Health Insurance Trust	11.52 %	(9.70)%
Life Insurance Trust	9.63 %	(14.96)%

**Note 6**

**Retirement Plans for TRS Employees**

Full-time employees of TRS participate in either TRS or Kentucky Employees Retirement System (KERS). Both plans are multiple-employer cost-sharing defined benefit retirement annuity and other postemployment benefits plans. All TRS employees in positions requiring a four-year degree are covered under TRS. The contribution rates and required employer matching are the same as state agency employers in TRS. These rates, the plan description and funding policy are disclosed fully in the notes to the financial statements.

The annual required contributions for TRS employee members in TRS for the fiscal years 2023 and 2022 were \$1.4 million and \$1.2 million, respectively. TRS contributed 100% of the required contribution each year.

All other TRS employees are covered under the KERS non-hazardous employees' plan. The plan provides for retirement, disability and death benefits to plan members. Retirement benefits may be extended to beneficiaries of plan members under certain circumstances. Per KRS 61.565(3), contribution rates shall be determined by the Kentucky Retirement Systems board (KRS board) on the basis of an annual actuarial valuation. Rates may be amended by the KRS board as needed.

Members of KERS who joined prior to July 1, 2008, are required to contribute 5% of their annual creditable compensation, and members who joined on or after July 1, 2008, contribute 6%. As the employer, TRS is required to contribute the annual actuarially determined rate of the creditable compensation (or the rate approved by legislators). TRS is required to contribute 9.97% plus a monthly amount determined by the KERS actuary for TRS's portion of the total unfunded liability over a set period regardless of covered payroll. TRS's total contributions to KERS were \$887,844 and \$916,821 for fiscal 2023 and 2022. TRS contributed 100% of the required contributions for each year.

**Note 7**

**Description of Other Funds**

**403(b) Tax-Sheltered Annuity Plan**

**Plan Description**

TRS has administered a salary deferral program as permitted by section 403(b) of the Internal Revenue Code. Under this program members voluntarily deferred a portion of their compensation within the limits established by the applicable laws and regulations. The board subsequently discontinued offering the program. Members who were not receiving annuities were able to transfer their accounts into other tax-sheltered plans. As of June 30, 2023, three members remained who are receiving annuities under the plan. Effective Jan. 1, 2022, the board restated the plan to allow TRS 4 members and employers to make voluntary contributions to the plan to comply with the requirements of the legislation that created TRS 4. As of June 30, 2023, 9 TRS 4 members participated in the voluntary plan. The combined balance of those accounts was \$9,725.

**Basis of Accounting**

The Tax-Sheltered Annuity Plan financial statements are prepared using an accrual basis of accounting.

### **Method Used to Value Investments**

The short-term investments are reported at cost, which approximates fair value.

### **Supplemental Benefit Fund**

The Supplemental Benefit Fund is a qualified governmental excess benefit arrangement as described in Section 415 of the Internal Revenue Code. In accordance with KRS 161.611 and KRS 161.420(8), TRS is authorized to provide a supplemental retirement benefit fund for the sole purpose of enabling the employer to apply the same formula for determining benefits payable to all members of TRS employed by the employer, whose benefits under the system are limited by Section 415 of the Internal Revenue Code of 1986 as amended. Funding of benefits payable under this fund are provided by the employer and are segregated from funds that are maintained by TRS for payment of regular benefits.

### **Junita Losey Scholarship Fund**

Junita Losey, a retired teacher, designated TRS as a residuary beneficiary of her estate and expressed a desire that TRS establish a scholarship program for Kentucky students studying to be teachers. Ms. Losey died in 1997, and her estate provided a scholarship bequest to TRS. The scholarship bequest has at all times been segregated from funds that are maintained by TRS for payment of regular benefits. The board's Scholarship Committee meets each December to consider scholarship standards and administration of the bequest.

## **Note 8**

### **Other Postemployment Benefits (OPEB) — Health Insurance Trust**

#### **Plan Description**

In addition to the retirement annuity plan described in Note 1, KRS 161.675 requires TRS to provide access to postemployment healthcare benefits for eligible members and dependents. The TRS Health Insurance Trust is funded by employer and member contributions. Changes made to the medical plans provided through the trust may be made by the TRS Board of Trustees, the Kentucky Department of Employee Insurance and the General Assembly.

Medical coverage through TRS is funded by a combination of contributions from employees, the state and other employers. Coverage is provided through an account established pursuant to 26 U.S.C. sec. 401(h) and a 115 trust fund that went into effect on July 1, 2010. The insurance trust fund includes employer and retired member contributions required under KRS 161.550 and KRS 161.675(4)(b).

To be eligible for medical benefits, the member must have retired either for service or disability and a required amount of service credit. The TRS medical plan offers members who are not eligible for Medicare and under age 65 coverage through the Kentucky Employees Health Plan (KEHP) administered by the Kentucky Department of Employee Insurance. Once retired members and eligible spouses attain age 65 and or are eligible for Medicare, coverage is obtained through the Medicare Eligible Health Plan (MEHP) administered by TRS.

Contributions are made on behalf of TRS retired members toward payment of health insurance premiums. The amount of the member's contribution is based on a table approved by the TRS board. Retired members pay premiums in excess of the monthly contribution. The amount of insurance premiums paid by retirees for fiscal years 2023 and 2022 were \$63.3 million and \$60.7 million, respectively. The Commonwealth of Kentucky bears risk for excess claims expenses that exceed the premium equivalents charged for the KEHP.

At June 30, 2023, TRS insurance covered 41,055 retirees and 6,555 dependents, and at June 30, 2022, TRS insurance covered 41,177 retirees and 6,661 dependents. The medical plan has 202 participating employers with 75,644 and 74,785 active members contributing at June 30, 2023, and 2022, respectively.

Retiree health care premiums and other income received reduces the amount of expenditures reported in the deductions section in the Statement of Changes in Fiduciary Net Position for the Health Insurance Trust. These expenditures are summarized in the following table.

	<b>2023</b>	<b>2022</b>
MEHP group expenditures	\$ 222,852,822	\$ 206,386,429
KEHP group expenditures	110,701,357	106,170,919
Subtotal	333,554,179	312,557,348
Less: amounts paid by retirees	(63,329,256)	(60,680,394)
Less: formulary rebates	(63,433,922)	(54,158,379)
Less: Medicare subsidies and other recovery income	(81,924,996)	(90,517,136)
Net insurance expenditures	\$ 124,866,005	\$ 107,201,439

**Net OPEB Liability of Employers**

The net OPEB liability [i.e., the system's liability determined in accordance with GASB Statement No. 74 less the fiduciary net position (FNP)] for the Health Insurance Trust as of June 30, 2023, and 2022 is shown in the following table.

**Net OPEB Liability of Employers**  
*(Dollars in thousands)*

Fiscal Year Ending June 30	Total OPEB Liability (TOL)* A	Plan Fiduciary Net Position B	Employers Net OPEB Liability (NOL) (A-B)	Plan Fiduciary Net Position (FNP) as a % of Total OPEB Liability (B/A)	Covered Payroll C	Net OPEB Liability as a % of Covered Payroll [(A-B)/C]
2023	\$ 5,179,049	\$ 2,743,413	\$ 2,435,636	53.0	\$ 3,977,280	61.2
2022	4,751,706	2,269,176	2,482,530	47.8	3,876,491	64.0

\*The TOL includes the additional consideration for the current treatment of KEHP implicit subsidies that may be needed in the future. This is an additional liability from Health Insurance Trust accrued liabilities.

**Actuarial Assumptions**

A summary of the actuarial assumptions as of the latest actuarial valuation follows.

Valuation date	June 30, 2022
Investment rate of return	7.1%, net of OPEB plan investment expense, including inflation
Projected salary increases	3.0 - 7.5%, including wage inflation
Inflation rate	2.5%
Real wage growth	0.25%
Wage inflation	2.75%
Municipal bond index rate	3.66%
Discount rate	7.1%
Single equivalent interest rate	7.1%, net of OPEB plan investment expense, including price inflation
Health care cost trends	
Medical trend	6.75% for fiscal year 2023, decreasing to an ultimate rate of 4.5% by fiscal year 2032
Medicare Part B premiums	1.55% for fiscal year 2023, with an ultimate rate of 4.5% by 2034

Mortality rates were based on the Pub2010 (Teachers Benefit-Weighted) Mortality Table projected generationally with MP-2020 with various set-forwards, set-backs and adjustments for each of the groups; service, retirees, contingent annuitants, disabled

retirees and active members. The demographic actuarial assumptions for retirement, disability incidence, withdrawal, rates of plan participation and rates of plan election used in the June 30, 2022, valuation were based on the results of the most recent actuarial experience study for the system, which covered the five-year period ending June 30, 2020, adopted by the board on September 20, 2021. The remaining actuarial assumptions (e.g., initial per capita costs, health care cost trends) used in the June 30, 2022, valuation of the health trust were based on a review of recent plan experience done concurrently with the June 30, 2022, valuation. The health care cost trend rate assumption was updated for the June 30, 2022, valuation and was shown as an assumption change in the total OPEB liability (TOL) roll-forward while the change in initial per capita claims costs were included with experience in the TOL roll-forward. The Municipal Bond Index Rate used for this purpose is the June average of the Bond Buyer General Obligation 20-year Municipal Bond Index published weekly by the Board of Governors of the Federal Reserve System.

**Target Allocations**

The long-term expected rate of return on OPEB investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

The target allocation and best estimates of arithmetic real rates of return for each major asset class, as provided by TRS's investment consultant, are summarized in the following table.

Asset Class	Target Allocation Percentage	Long-Term Expected Real Rate Percentage of Return
U.S. large cap equity	35.4	5.0
U.S. small cap equity	2.6	5.5
Developed international equity	15.0	5.5
Emerging markets equity	5.0	6.1
Fixed income	9.0	1.9
High yield bonds	8.0	3.8
Other additional categories	9.0	3.7
Real estate	6.5	3.2
Private equity	8.5	8.0
Cash	1.0	1.6
Total	100.0	

**Discount Rate**

The discount rate used to measure the TOL as of the measurement date was 7.1%. The projection of cash flows used to determine the discount rate was performed in accordance with GASB Statement No. 74. The projection's basis was an actuarial valuation performed as of June 30, 2022. In addition to the actuarial methods and assumptions of the June 30, 2022, actuarial valuation, the following actuarial methods and assumptions were used in the projection of cash flows:

- Total payroll for the initial projection year consists of the payroll of the active membership present on the valuation date. In subsequent projection years, total payroll was assumed to increase annually at a rate of 2.75%.
- The KEHP group retiree health care costs for members retired on or after July 1, 2010, were assumed to be paid by either the state or the retirees themselves.
- As administrative expenses, other than the administrative fee of \$8.00 per member per month (PMPM) paid to KEHP by TRS, were assumed to be paid in all years by the employer as they come due, they were not considered.
- Cash flows occur midyear.
- Future contributions to the Health Insurance Trust were based upon the contribution rates defined in statute and the projected payroll of active employees. Per KRS 161.540(1)(c).3 and 161.550(5), when the health trust achieves a sufficient funded status, as determined by TRS's actuary, the following health trust statutory contributions are to be decreased, suspended or eliminated:

- Employee contributions
- School district and university employer contributions
- State contributions for KEHP premium subsidies payable to retirees who retire after June 30, 2010

To reflect these adjustments, open group projections were used and assumed an equal, pro rata reduction to the current statutory amounts in the years if the health trust is projected to achieve a funded ratio of 100% or more. Here, the current statutory amounts are adjusted to achieve total contributions equal to the actuarially determined contribution, as determined by the prior year's valuation and in accordance with the health trust's funding policy. As the specific methodology to be used for the adjustments has yet to be determined, there may be differences between the projected results and future experience. This also may include any changes to retiree contributions for KEHP coverage pursuant to KRS 161.675(4)(b).

- In developing the adjustments to the statutory contributions in future years, the following was assumed:
  - Liabilities and cash flows are net of expected retiree contributions and any implicit subsidies attributable to coverage while participating in KEHP.
  - For the purposes of developing estimates for new entrants, active headcounts were assumed to remain flat for all future years.

Based on these assumptions, the Health Insurance Trust's FNP was not projected to be depleted.

The FNP projections are based upon the health trust's financial status on the valuation date; the indicated set of methods and assumptions; and the requirements of GASB Statement No. 74. As such, the FNP projections are not reflective of the cash flows and asset accumulations that would occur on an ongoing basis, reflecting the impact of future members. Therefore, the results of these tests do not necessarily indicate whether or not the health trust will actually run out of money, the financial condition of the trust, or the trust's ability to make benefit payments in future years.

These paragraphs require disclosure of the sensitivity of the NOL to changes in the health care cost trend rates and the discount rate for the Health Insurance Trust. The following exhibits present the NOL of the trust, calculated using the health care cost trend rates, as well as what the trust's NOL would be if it were calculated using a health care cost trend rate that is 1% lower or 1% higher than the current rate. Similarly, the exhibits present the NOL of the trust, calculated using the single equivalent interest rate (SEIR), as well as what the NOL would be if it were calculated using a discount rate that is 1% lower or 1% higher than the current SEIR.

**Schedule of Net OPEB Liability and Health Care Cost Trend Rates 2023**

*(In thousands)*

		<b>Health Care Cost Trend Rates</b>		
		<b>1% Decrease</b>	<b>Current</b>	<b>1% Increase</b>
<b>Discount Rate</b>	<b>1% Increase (8.1%)</b>	\$	\$ 1,859,473	\$
	<b>Current (7.1%)</b>	1,753,458	2,435,636	3,285,081
	<b>1% Decrease (6.1%)</b>		3,132,761	

**Schedule of Net OPEB Liability and Health Care Cost Trend Rates 2022**

*(In thousands)*

		<b>Health Care Cost Trend Rates</b>		
		<b>1% Decrease</b>	<b>Current</b>	<b>1% Increase</b>
<b>Discount Rate</b>	<b>1% Increase (8.1%)</b>	\$	\$ 1,959,121	\$
	<b>Current (7.1%)</b>	1,861,066	2,482,530	3,255,435
	<b>1% Decrease (6.1%)</b>		3,114,745	

The TOL of the Health Insurance Trust for 2023 is based upon an actuarial valuation performed as of the valuation date, June 30, 2022. An expected TOL is determined as of June 30, 2023, using standard roll-forward techniques. The roll-forward calculation begins with the TOL, as of June 30, 2022, subtracts the actual benefit payments (net of retiree contributions, if applicable) for the year, applies interest at the discount rate for the year and then adds the annual normal cost (also called the service cost). If

applicable, actuarial gains and losses arising from the difference between estimates and actual experience (excluding amounts related to benefit changes and changes in assumptions or other inputs) are reconciled to the TOL as of the measurement date. Last, any changes of assumptions or other inputs are reflected. The procedure used to determine the TOL of the health trust, as of June 30, 2023, is shown in the following table.

**TOL Roll-Forward 2023**  
(In thousands)

	<b>Expected</b>	<b>Actual</b>
(a) TOL as of June 30, 2022*	\$ 4,751,706	\$ 4,660,037
(b) Actual benefit payments and refunds for July 1, 2022-June 30, 2023	(124,866)	(124,866)
(c) Interest on TOL = [(a) x (0.071)] + [(b) x (0.0355)]	332,938	326,430
(d) Service cost for July 1, 2022-June 30, 2023 at the end of the year	120,458	120,458
(e) Changes of benefit terms		
(f) Changes of assumptions**	196,990	196,990
(g) TOL rolled forward to June 30, 2023 = (a) + (b) + (c) + (d) + (e) + (f)	5,277,226	5,179,049
(h) Difference between expected and actual experience (gain) loss		<u>\$ (98,177)</u>

\*The TOL used in the roll-forward as of June 30, 2022, is calculated using the discount rate as of the prior measurement date.

\*\*The health care trend rates, as well as the Tier 4 retirement decrements, were updated to reflect future anticipated experience.

The TOL of the Health Insurance Trust for 2022 is based upon an actuarial valuation performed as of the June 30, 2021, valuation date. An expected, TOL was determined as of June 30, 2022, using standard roll-forward techniques. The roll-forward calculation begins with the TOL, as of June 30, 2021, subtracts the actual benefit payments (net of retiree contributions, if applicable) for the year, applies interest at the discount rate for the year and then adds the annual normal cost (also called the service cost). If applicable, actuarial gains and losses arising from the difference between estimates and actual experience (excluding amounts related to benefit changes and changes in assumptions or other inputs) are reconciled to the TOL as of the measurement date. Last, any changes of assumptions or other inputs are reflected. The procedure used to determine the TOL of the health trust, as of June 30, 2022, is shown in the following table.

**TOL Roll-Forward 2022**  
(In thousands)

	<b>Expected</b>	<b>Actual</b>
(a) TOL as of June 30, 2021*	\$ 4,446,211	\$ 4,381,853
(b) Actual benefit payments and refunds for July 1, 2021-June 30, 2022	(107,201)	(107,201)
(c) Interest on TOL = [(a) x (0.08)] + [(b) x (0.04)]	311,875	307,305
(d) Service cost for July 1, 2021-June 30, 2022 at the end of the year	109,082	109,082
(e) Changes of benefit terms		
(f) Changes of assumptions	60,667	60,667
(g) TOL rolled forward to June 30, 2022 = (a) + (b) + (c) + (d) + (e) + (f)	4,820,634	4,751,706
(h) Difference between expected and actual experience (gain) loss		<u>\$ (68,928)</u>

\*The TOL used in the roll-forward as of June 30, 2021, is calculated using the discount rate as of the prior measurement date.



**Note 9**  
**Other Postemployment Benefits (OPEB) — Life Insurance Trust**

**Plan Description**

TRS administers the Life Insurance Trust as provided by KRS 161.655 to provide life insurance benefits to retired and active members. This benefit is financed by actuarially determined contributions from the 202 participating employers. The benefit is \$5,000 for members who are retired for service or disability and \$2,000 for active contributing members who began participating before Jan. 1, 2022. For TRS 4 members, the life insurance benefit payable upon the death of a member is \$5,000 for active contributing members and \$10,000 for retired or disabled members.

**Net OPEB Liability of Employers**

The net OPEB liability (NOL) (i.e., the system's liability determined in accordance with GASB Statement No. 74 less the fiduciary net position) for the life insurance fund as of June 30, 2023, and 2022 follows.

**Schedule of Net OPEB Liability of Employers**  
*(Dollars in thousands)*

Year Ended June 30	Total OPEB Liability (TOL) A	Plan Fiduciary Net Position B	Employers Net OPEB Liability (NOL) (A-B)	Plan Fiduciary Net Position (FNP) as a % of Total OPEB Liability (B/A)	Covered Payroll C	Net OPEB Liability as a % of Covered Payroll [(A-B)/C]
2023	\$ 122,254	\$ 94,030	\$ 28,224	76.9	\$ 3,977,280	0.7
2022	119,484	88,381	31,103	74.0	3,876,491	0.8

**Actuarial Assumptions**

A summary of the actuarial assumptions as of the latest actuarial valuation is shown below.

Valuation date	June 30, 2022
Investment rate of return	7.1%, net of OPEB plan investment expense, including inflation.
Projected salary increases	3 - 7.5%, including wage inflation
Inflation rate	2.5%
Real wage growth	0.25%
Wage inflation	2.75%
Municipal bond index rate	3.66%
Discount rate	7.1%
Single equivalent interest rate	7.1%, net of OPEB plan investment expense, including price inflation

Mortality rates were based on the Pub2010 (Teachers Benefit-Weighted) Mortality Table projected generationally with MP-2020 with various set-forwards set-backs and adjustments for each of the groups: service, retirees, contingent annuitants, disabled retirees and active members. The demographic actuarial assumptions for retirement, disability incidence, withdrawal, rates of plan participation and rates of plan election used in the June 30, 2022, valuation were based on the results of the most recent actuarial experience study for the system, which covered the five-year period ending June 30, 2020, adopted by the board on September 20, 2021. The Municipal Bond Index Rate used for this purpose is the June average of the Bond Buyer General Obligation 20-year Municipal Bond Index published weekly by the Board of Governors of the Federal Reserve System.

**Target Allocations**

The long-term expected rate of return on OPEB investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target allocation and best estimates of arithmetic real rates of return for each major asset class, as provided by TRS's investment consultant, are summarized in the following table.

Asset Class	Target Allocation Percentage	Long-Term Expected Real Rate Percentage of Return
U.S. equity	40.0	5.2
International equity	15.0	5.5
Emerging markets equity	5.0	6.1
Fixed income	21.0	1.9
Real estate	7.0	3.2
Private equity	5.0	8.0
Additional categories	5.0	4.0
Cash	2.0	1.6
<b>Total</b>	<b>100.0</b>	

**Discount Rate**

The discount rate used to measure the total OPEB liability (TOL) as of the measurement date was 7.1%. The projection of cash flows used to determine the discount rate was performed in accordance with GASB Statement No. 74. The projection's basis was an actuarial valuation performed as of June 30, 2022. In addition to the actuarial methods and assumptions of the June 30, 2022, actuarial valuation, the following actuarial methods and assumptions were used in the projection of the life insurance cash flows:

- Total payroll for the initial projection year consists of the payroll of the active membership present on the valuation date. In subsequent projection years, total payroll was assumed to increase annually at a rate of 2.75%.
- The employer will contribute the ADC in accordance with the Life Insurance Trust's funding policy (Schedule E) determined by a valuation performed on a date two years prior to the beginning of the fiscal year in which the ADC applies.
- As administrative expenses were assumed to be paid in all years by the employer as they come due, they were not considered.
- Active employees do not contribute to the plan.
- Cash flows occur midyear.

Based on these assumptions, the Life Insurance Trust's fiduciary net position (FNP) was not projected to be depleted.

The FNP projections are based upon the Life Insurance Trust's financial status on the valuation date; the indicated set of methods and assumptions; and the requirements of GASB Statement No. 74. As such, the FNP projections are not reflective of the cash flows and asset accumulations that would occur on an ongoing basis, reflecting the impact of future members. Therefore, the results of these tests do not necessarily indicate whether the Life Insurance Trust actually will run out of money, the financial condition of the trust, or the trust's ability to make benefit payments in future years.

These paragraphs require disclosure of the sensitivity of the NOL to changes the discount rate for the Life Insurance Trust. The schedules below presents the NOL of the trust calculated using the SEIR, as well as what the trust's NOL would be if it were calculated using a discount rate that is 1% lower or 1% higher than the current SEIR.

**Schedule of Net OPEB Liability 2023**  
*(In thousands)*

1% Decrease (6.1%)	Current Discount Rate (7.1%)	1% Increase (8.1%)
\$45,402	\$28,224	\$14,326

**Schedule of Net OPEB Liability 2022**  
*(In thousands)*

1% Decrease (6.1%)	Current Discount Rate (7.1%)	1% Increase (8.1%)
\$48,059	\$31,103	\$17,390

The TOL of the Life Insurance Trust for 2023 is based upon an actuarial valuation performed as of the valuation date, June 30, 2022. An expected TOL is determined as of June 30, 2023, using standard roll-forward techniques. The roll-forward calculation



begins with the TOL, as of June 30, 2022, subtracts the actual benefit payments (net of retiree contributions, if applicable) for the year, applies interest at the discount rate for the year and then adds the annual normal cost (also called the service cost). If applicable, actuarial gains and losses arising from the difference between estimates and actual experience (excluding amounts related to benefit changes and changes in assumptions or other inputs) are reconciled to the TOL as of the measurement date. Last, any changes of assumptions or other inputs are reflected. The procedure used to determine the TOL of the Life Insurance Trust, as of June 30, 2023, is shown in the following table.

**TOL Roll-Forward 2023**  
*(In thousands)*

	<b>Expected</b>	<b>Actual</b>
(a) TOL as of June 30, 2022*	\$ 119,484	\$ 119,197
(b) Actual benefit payments and refunds for July 1, 2022-June 30, 2023	(6,219)	(6,219)
(c) Interest on TOL = [(a) x (0.071)] + [(b) x (0.0355)]	8,263	8,242
(d) Service cost for July 1, 2022-June 30, 2023	1,035	1,035
(e) Changes of benefits terms		
(f) Changes of assumptions**	(1)	(1)
(g) TOL rolled forward to June 30, 2023 =(a)+(b)+(c)+(d)+(e)+(f)	\$ 122,562	\$ 122,254
(h) Difference between expected and actual experience (gain) loss		\$ (308)

\*The TOL used in the roll-forward as of June 30, 2022, is calculated using the discount rate as of the prior measurement date.

\*\*Tier 4 retirement decrements were updated to reflect future anticipated experience.

The TOL of the Life Insurance Trust for 2022 is based upon an actuarial valuation performed as of the June 30, 2021, valuation date. An expected TOL is determined as of June 30, 2022, using standard roll-forward techniques. The roll-forward calculation begins with the TOL, as of June 30, 2021, subtracts the actual benefit payments (net of retiree contributions, if applicable) for the year, applies interest at the discount rate for the year and then adds the annual normal cost (also called the service cost). If applicable, actuarial gains and losses arising from the difference between estimates and actual experience (excluding amounts related to benefit changes and changes in assumptions or other inputs) are reconciled to the TOL as of the measurement date. Last, any changes of assumptions or other inputs are reflected. The procedure used to determine the TOL of the trust, as of June 30, 2022, is shown in the following table.

**TOL Roll-Forward 2022**  
*(In thousand)*

	<b>Expected</b>	<b>Actual</b>
(a) TOL as of June 30, 2021*	\$ 120,505	\$ 116,656
(b) Actual benefit payments and refunds for July 1, 2021-June 30, 2022	(6,178)	(6,178)
(c) Interest on TOL = [(a) x (0.071)] + [(b) x (0.0355)]	8,337	8,063
(d) Service cost for July 1, 2021-June 30, 2022	943	943
(e) Changes of benefits terms		
(f) Changes of assumptions	—	—
(g) TOL rolled forward to June 30, 2022 =(a)+(b)+(c)+(d)+(e)+(f)	\$ 123,607	\$ 119,484
(h) Difference between expected and actual experience (gain) loss		\$ (4,123)

\*The TOL used in the roll-forward as of June 30, 2021, is calculated using the discount rate as of the prior measurement date.

## Required Supplementary Information

### Retirement Annuity Trust

#### Schedule of Changes in Net Pension Liability (In thousands)

	<u>2023</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>
<b>Total pension liability</b>					
Service cost	\$ 654,676	\$ 621,689	\$ 563,188	\$ 552,625	\$ 542,970
Interest	2,796,631	2,724,644	2,581,630	2,517,671	2,448,387
Difference between expected and actual experience	398,576	42,986	32,475	10,661	93,650
Changes of assumptions	—	—	3,072,848	—	—
Benefit payments	(2,391,326)	(2,305,853)	(2,235,241)	(2,167,239)	(2,094,364)
Refunds of contributions	<u>(26,910)</u>	<u>(26,745)</u>	<u>(25,374)</u>	<u>(28,472)</u>	<u>(32,403)</u>
<b>Net change in total pension liability</b>	1,431,647	1,056,721	3,989,526	885,246	958,240
Total pension liability — beginning	<u>40,598,288</u>	<u>39,541,567</u>	<u>35,552,041</u>	<u>34,666,795</u>	<u>33,708,555</u>
Total pension liability — ending (a)	42,029,935	40,598,288	39,541,567	35,552,041	34,666,795
<b>Plan net position</b>					
Contributions - state	1,042,434	1,570,118	1,060,257	1,048,193	1,051,452
Contributions - other employers	102,015	109,467	86,720	86,088	71,583
Contributions - members	366,775	356,967	327,833	324,664	321,172
Net investment income	2,266,085	(2,727,776)	6,017,186	1,094,023	1,085,189
Benefit payments	(2,391,326)	(2,305,853)	(2,235,241)	(2,167,239)	(2,094,364)
Administrative expense	(14,471)	(12,005)	(12,602)	(12,167)	(12,352)
Refunds of contributions	<u>(26,910)</u>	<u>(26,745)</u>	<u>(25,374)</u>	<u>(28,472)</u>	<u>(32,403)</u>
<b>Net change in plan net position</b>	1,344,602	(3,035,827)	5,218,779	345,090	390,277
Plan net position - beginning	<u>22,899,952</u>	<u>25,935,779</u>	<u>20,717,000</u>	<u>20,371,910</u>	<u>19,981,633</u>
Plan net position - ending (b)	<u>24,244,554</u>	<u>22,899,952</u>	<u>25,935,779</u>	<u>20,717,000</u>	<u>20,371,910</u>
<b>Net pension liability - ending (a)-(b)</b>	<u>\$ 17,785,381</u>	<u>\$ 17,698,336</u>	<u>\$ 13,605,788</u>	<u>\$ 14,835,041</u>	<u>\$ 14,294,885</u>

See accompanying independent auditor's report.

**Schedule of Changes in Net Pension Liability**

*(In thousands)*

	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
<b>Total pension liability</b>					
Service cost	\$ 1,104,102	\$ 1,332,587	\$ 1,120,893	\$ 1,015,080	\$ 1,002,338
Interest	2,063,109	1,964,107	2,027,457	2,029,372	1,956,610
Difference between expected and actual experience	(222,473)	199,471	-58,035		
Changes of assumptions	(14,167,315)	(2,321,327)	4,030,834	1,511,960	(353,043)
Benefit payments	(2,004,617)	(1,918,612)	(1,833,199)	(1,741,456)	(1,654,376)
Refunds of contributions	<u>(31,073)</u>	<u>(26,305)</u>	<u>(27,748)</u>	<u>(23,033)</u>	<u>(25,462)</u>
<b>Net change in total pension liability</b>	(13,258,267)	(770,079)	5,260,202	2,791,923	926,067
Total pension liability - beginning	<u>46,966,822</u>	<u>47,736,901</u>	<u>42,476,699</u>	<u>39,684,776</u>	<u>38,758,709</u>
Total pension liability - ending (a)	33,708,555	46,966,822	47,736,901	42,476,699	39,684,776
<b>Plan net position</b>					
Contributions - state	969,698	981,417	484,987	480,073	483,330
Contributions - other employers	78,973	79,303	80,468	79,506	79,996
Contributions - members	319,127	313,625	313,044	308,160	304,982
Net investment income	1,953,214	2,475,753	(245,215)	862,179	2,803,249
Benefit payments	(2,004,617)	(1,918,612)	(1,833,199)	(1,741,456)	(1,654,376)
Administrative expense	(11,388)	(10,314)	(8,636)	(8,869)	(7,956)
Refunds of contributions	<u>(31,073)</u>	<u>(26,305)</u>	<u>(27,748)</u>	<u>(23,033)</u>	<u>(25,462)</u>
<b>Net change in plan net position</b>	1,273,934	1,894,867	(1,236,299)	(43,440)	1,983,763
Plan net position - beginning	<u>18,707,699</u>	<u>16,812,832</u>	<u>18,049,131</u>	<u>18,092,571</u>	<u>16,108,808</u>
Plan net position - ending (b)	<u>19,981,633</u>	<u>18,707,699</u>	<u>16,812,832</u>	<u>18,049,131</u>	<u>18,092,571</u>
<b>Net pension liability - ending (a)-(b)</b>	<u>\$ 13,726,922</u>	<u>\$ 28,259,123</u>	<u>\$ 30,924,069</u>	<u>\$ 24,427,568</u>	<u>\$ 21,592,205</u>

See accompanying independent auditor's report.

**Net Pension Liability**

The total pension liability contained in the following schedule was provided by TRS's actuary, Cavanaugh Macdonald Consulting. The net pension liability is measured as the total pension liability less the amount of the fiduciary net position of the system.

**Changes of Benefit Terms.** The TRS 4 benefit tier was added for members joining the system on and after Jan. 1, 2022.

**Changes of assumptions.** In the 2020 experience study, rates of withdrawal, retirement, disability, mortality and salary increase were adjusted to more closely reflect actual experience. The expectation of mortality was changed to the Pub2010 Mortality Tables (Teachers Benefit-Weighted) projected generationally with MP-2020 with various set forwards, set-backs and adjustments for each of the groups: service retirees, contingent annuitants, disabled retirees and actives. The assumed long-term investment rate of return was changed from 7.5% to 7.1% and the price inflation assumption was lowered from 3% to 2.5%.

In the 2016 valuation, rates of withdrawal, retirement, disability, mortality and salary increase were adjusted to more closely reflect actual experience. In the 2016 valuation and later, the expectation of retired life mortality was changed to the RP-2000 Mortality Tables projected to 2025 with projection scale BB, set forward two year for males and one year for females rather than the RP-2000 Mortality Tables projected to 2020 with projection scale AA, which was used prior to 2016.

In the 2011 valuation, rates of withdrawal, retirement, disability and mortality were adjusted to more closely reflect actual experience. In the 2011 valuation and later, the expectation of retired life mortality was changed to the RP-2000 Mortality Tables projected to 2020 with projection scale AA, set back one year for females rather than the 1994 Group Annuity Mortality Tables which was used prior to 2016. For the 2011 valuation through the 2013 valuation, an interest smoothing methodology was used to calculate liabilities for purposes of determining the actuarially determined contributions.

**Schedule of Net Pension Liability**  
*(Dollars in thousands)*

	<b>2023</b>	<b>2022</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>
Total pension liability	\$42,029,935	\$40,598,288	\$39,541,567	\$35,552,041	\$34,666,795
Plan net position	24,244,554	22,899,952	25,935,779	20,717,000	20,371,910
Net pension liability	<u>17,785,381</u>	<u>17,698,336</u>	<u>13,605,788</u>	<u>14,835,041</u>	<u>14,294,885</u>
Ratio of plan net position to total pension liability	57.68 %	56.41 %	65.59 %	58.27 %	58.76 %
Covered payroll	\$3,977,280	\$3,876,491	\$3,638,905	\$3,569,262	\$3,497,216
Net pension liability as a percentage of covered payroll	447.17 %	456.56 %	373.90 %	415.61 %	408.75 %
	<b>2018</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
Total pension liability	\$33,708,555	\$46,966,822	\$47,736,901	\$42,476,699	\$39,684,776
Plan net position	19,981,633	18,707,699	16,812,832	18,049,131	18,092,571
Net pension liability	<u>13,726,922</u>	<u>28,259,123</u>	<u>30,924,069</u>	<u>24,427,568</u>	<u>21,592,205</u>
Ratio of plan net position to total pension liability	59.28 %	39.83 %	35.22 %	42.49 %	45.59 %
Covered payroll	\$3,455,660	\$3,415,432	\$3,390,539	\$3,455,008	\$3,317,422
Net pension liability as a percentage of covered payroll	397.23 %	827.40 %	912.07 %	707.02 %	650.87 %

See accompanying independent auditor's report.

**Schedule of Employer Contributions**  
*(Dollars in thousands)*

Fiscal Year Ended June 30	Covered Payroll	Actual Employer Contributions	Actuarially Determined Employer Contributions	Annual Contribution Excess (Deficiency)	Actual Contributions as a % of Covered Payroll
2023	\$ 3,977,280	\$ 1,144,449	\$ 1,144,449	\$ —	28.77
2022	3,876,491	1,679,585	1,200,385	479,200	43.33
2021	3,638,905	1,146,977	1,146,977		31.52
2020	3,569,262	1,134,281	1,134,281		31.78
2019	3,497,216	1,123,035	1,123,035		32.11
2018	3,455,660	1,048,671	1,083,466	(34,795)	30.35
2017	3,415,432	1,060,720	1,076,617	(15,897)	31.06
2016	3,390,539	565,455	999,270	(433,815)	16.68
2015	3,455,008	559,579	913,654	(354,075)	16.20
2014	3,317,422	563,326	823,446	(260,120)	16.98

See accompanying independent auditor's report.

**Actuarial Methods and Assumptions**

The actuarially determined contribution rates in the Schedule of Employer Contributions are calculated as of June 30 on the three years prior to the end of the fiscal year in which contributions are reported. The following actuarial methods and assumptions were used to determine contribution rates reported in the most recent year of the schedule.

Actuarial cost method	Entry age
Amortization period	Level percentage of payroll, closed
Remaining amortization period	24.4 years
Asset valuation method	5-year smoothed fair value
Inflation	3%
Salary increase	3.5 to 7.3%, including inflation
Investment rate of return	7.5%, net of pension plan investment expense, including inflation

**Schedule of Investment Returns**

Percentage shown is annual money-weighted rate of return, net of investment expense.

2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
10.24%	(10.91)%	29.57%	5.5%	6%	10.50%	15.00%	(1.32)%	4.96%	17.95%

See accompanying independent auditor's report.

**Health Insurance Trust**

**Schedule of Changes in the Net OPEB Liability**  
*(In thousands)*

	<u>2023</u>	<u>2022</u>	<u>2021</u>
<b>Total OPEB liability</b>			
Service cost	\$ 120,458	\$ 109,082	\$ 84,727
Interest	332,938	311,875	326,008
Changes of benefit terms			
Difference between expected and actual experience	(98,177)	(68,928)	(490,732)
Changes of assumptions	196,990	60,667	516,431
Benefit payments	(124,866)	(107,201)	(130,648)
<b>Net change in OPEB liability</b>	<u>427,343</u>	<u>305,495</u>	<u>305,786</u>
Total OPEB liability - beginning	<u>4,751,706</u>	<u>4,446,211</u>	<u>4,140,425</u>
Total OPEB liability - ending (a)	<u>5,179,049</u>	<u>4,751,706</u>	<u>4,446,211</u>
<b>Plan net position</b>			
Contributions - state	853,328	31,349	78,217
Contributions - other employers	123,488	120,416	106,670
Contributions - active members	149,210	145,682	128,117
Net investment income	243,051	(219,500)	503,201
Benefit payments	(124,866)	(107,201)	(130,648)
Administrative expense	(1,974)	(2,074)	(1,728)
Other			
<b>Net change in plan net position</b>	<u>474,237</u>	<u>(31,328)</u>	<u>683,829</u>
Plan net position - beginning	<u>2,269,176</u>	<u>2,300,504</u>	<u>1,616,675</u>
Plan net position - ending (b)	<u>2,743,413</u>	<u>2,269,176</u>	<u>2,300,504</u>
<b>Net OPEB liability - ending (a) - (b)</b>	<u>\$ 2,435,636</u>	<u>\$ 2,482,530</u>	<u>\$ 2,145,707</u>

Schedule is intended to show information for 10 years. Future years will be displayed as they become available.  
 See accompanying independent auditor's report.

**Schedule of Changes in the Net OPEB Liability**  
*(In thousands)*

	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>
<b>Total OPEB liability</b>				
Service cost	\$ 82,572	\$ 93,792	\$ 95,382	\$ 95,625
Interest	341,430	366,254	355,491	333,990
Changes of benefit terms				8,926
Difference between expected and actual experience	(585,090)	(661,228)	(210,450)	
Changes of assumptions	106,575	45,659	56,483	
Benefit payments	(145,869)	(163,666)	(161,082)	(178,500)
<b>Net change in OPEB liability</b>	<u>(200,382)</u>	<u>(319,189)</u>	<u>135,824</u>	<u>260,041</u>
Total OPEB liability - beginning	<u>4,340,807</u>	<u>4,659,996</u>	<u>4,524,172</u>	<u>4,264,131</u>
Total OPEB liability - ending (a)	<u>4,140,425</u>	<u>4,340,807</u>	<u>4,659,996</u>	<u>4,524,172</u>
<b>Plan net position</b>				
Contributions - state	77,191	76,382	80,959	75,497
Contributions - other employers	107,434	106,764	106,143	104,879
Contributions - active members	133,471	131,677	130,778	128,819
Net investment income	32,475	74,385	76,841	95,453
Benefit payments	(145,869)	(163,666)	(161,082)	(178,500)
Administrative expense	(2,047)	(1,803)	(1,748)	(1,539)
Other				
<b>Net change in plan net position</b>	<u>202,655</u>	<u>223,739</u>	<u>231,891</u>	<u>224,609</u>
Plan net position - beginning	<u>1,414,020</u>	<u>1,190,281</u>	<u>958,390</u>	<u>733,781</u>
Plan net position - ending (b)	<u>1,616,675</u>	<u>1,414,020</u>	<u>1,190,281</u>	<u>958,390</u>
<b>Net OPEB liability - ending (a) - (b)</b>	<u>\$ 2,523,750</u>	<u>\$ 2,926,787</u>	<u>\$ 3,469,715</u>	<u>\$ 3,565,782</u>

Schedule is intended to show information for 10 years. Future years will be displayed as they become available.  
See accompanying independent auditor's report.

**Net OPEB Liability**

The net OPEB liability contained in the following schedule was provided by TRS's actuary, Cavanaugh Macdonald Consulting. The net OPEB liability is measured as the total OPEB liability less the amount of the fiduciary net position of the system.

**Changes of benefit terms.**

June 30, 2022 (Valuation Date: June 30, 2021)

- The TRS 4 benefit tier was added for members joining the system on and after Jan. 1, 2022.

**Changes of assumptions.**

June 30, 2022 (Valuation Date: June 30, 2021)

- The health care trend rates were updated to reflect future anticipated experience.

**Schedule of Net OPEB Liability**  
*(Dollars in thousands)*

Valuation Year June 30	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability	Plan Fiduciary Net Position as a % of Total OPEB Liability	Covered Payroll	Net OPEB Liability as a % of Covered Payroll
2023	\$ 5,179,049	\$ 2,743,413	\$ 2,435,636	53.0	\$ 3,977,280	61.2
2022	4,751,706	2,269,176	2,482,530	47.8	3,876,491	64.0
2021	4,446,211	2,300,504	2,145,707	51.7	3,638,905	59.0
2020	4,140,425	1,616,675	2,523,750	39.1	3,569,262	70.7
2019	4,340,807	1,414,020	2,926,787	32.6	3,497,216	83.7
2018	4,659,996	1,190,281	3,469,715	0.3	3,455,660	100.4
2017	4,524,172	958,390	3,565,782	21.2	3,415,432	104.4

Schedule is intended to show information for 10 years. Future years will be displayed as they become available.  
 See accompanying independent auditor's report.



**Schedule of Employer Contributions**

*GASB 74 (Dollars in thousands)*

	2023	2022	2021	2020	2019
Statutorily required contributions					
Employer	\$ 123,488	\$ 120,416	\$ 106,670	\$ 107,434	\$ 106,764
State					
Pre-65 health insurance premiums	60,958	56,312	55,061	54,034	53,707
SEEK 0.75%	24,370	23,507	23,156	23,157	22,675
Total state	85,328	79,819	78,217	77,191	76,382
Total	\$ 208,816	\$ 200,235	\$ 184,887	\$ 184,625	\$ 183,146
Actual contributions					
Employer	\$ 123,488	\$ 120,416	\$ 106,670	\$ 107,434	\$ 106,764
State	85,328	31,349	78,217	77,191	76,382
Total	208,816	151,765	184,887	184,625	183,146
Contribution deficiency (excess)	\$ —	\$ 48,470	\$ —	\$ —	\$ —
Percent of statutorily required contributed	100.0	75.8	100.0	100.0	100.0
Covered payroll	\$ 3,977,280	\$ 3,876,491	\$ 3,638,905	\$ 3,569,262	\$ 3,497,216
Actual contributions as a percentage of covered payroll	5.25	3.92	5.08	5.17	5.24
	2018	2017	2016	2015	2014
Shared responsibility contributions					
Employer	\$ 106,143	\$ 104,879	\$ 104,271	\$ 77,656	\$ 52,247
State					
Pre-65 health insurance premiums	58,535	53,454	52,542	46,233	84,600
SEEK 0.75%	22,424	22,043	21,825	21,375	20,841
Total state	80,959	75,497	74,367	67,608	105,441
Total	\$ 187,102	\$ 180,376	\$ 178,638	\$ 145,264	\$ 157,688
Actual contributions					
Employer	\$ 106,143	\$ 104,879	\$ 104,271	\$ 77,656	\$ 52,247
State	80,959	75,497	74,367	67,608	105,441
Total	187,102	180,376	178,638	145,264	157,688
Contribution deficiency (excess)	\$ —	\$ —	\$ —	\$ —	\$ —
Percent of shared responsibility contributed	100.0	100.0	100.0	100.0	100.0
Covered payroll	\$ 3,455,660	\$ 3,415,432	\$ 3,390,539	\$ 3,455,008	\$ 3,317,422
Actual contributions as a percentage of covered payroll	5.41	5.28	5.27	4.20	4.75

See accompanying independent auditor's report.

**Actuarial Methods and Assumptions**

The Health Insurance Trust is funded based on statutorily determined amounts as described in Note 8. The Schedule of Employer Contributions details the statutorily determined amounts for the Health Trust.

**Schedule of Investment Returns**

Percentage shown is annual money-weighted rate of return, net of investment expense.

2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
11.5%	(9.7)%	31.10%	2.30%	6.11%	8.4%	14.37%	(2.20)%	1.38%	15.38%

See accompanying independent auditor's report.

**Life Insurance Trust**

**Schedule of Changes in the Net OPEB Liability**

*(In thousands)*

	2023	2022	2021
<b>Total OPEB liability</b>			
Service cost	\$ 1,035	\$ 943	\$ 1,289
Interest	8,263	8,337	8,926
Changes of benefit terms			
Difference between expected and actual experience	(308)	(4,123)	122
Changes of assumptions	(1)		(5,792)
Benefit payments	(6,219)	(6,178)	(6,120)
<b>Net change in OPEB liability</b>	2,770	(1,021)	(1,575)
Total OPEB liability - beginning	119,484	120,505	122,080
Total OPEB liability - ending (a)	122,254	119,484	120,505
<b>Plan Net Position</b>			
Contributions - state	2,599	2,194	1,852
Contributions - other employers	624	561	286
Net investment income	8,683	(15,582)	24,075
Benefit payments	(6,219)	(6,178)	(6,120)
Administrative expense	(38)	(41)	(34)
<b>Net change in plan net position</b>	5,649	(19,046)	20,059
Plan net position - beginning	88,381	107,427	87,368
Plan net position - ending (b)	94,030	88,381	107,427
<b>Net OPEB liability - ending (a) - (b)</b>	\$ 28,224	\$ 31,103	\$ 13,078

Schedule is intended to show information for 10 years. Future years will be displayed as they become available.

See accompanying independent auditor's report.

**Schedule of Changes in the Net OPEB Liability**  
*(In thousands)*

	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>
<b>Total OPEB liability</b>				
Service cost	\$ 1,299	\$ 1,271	\$ 1,068	\$ 1,067
Interest	8,563	8,256	8,026	7,761
Changes of benefit terms				
Difference between expected and actual experience	705	(204)	(717)	
Changes of assumptions				
Benefit payments	(5,317)	(5,153)	(5,453)	(5,151)
<b>Net change in OPEB liability</b>	<u>5,250</u>	<u>4,170</u>	<u>2,924</u>	<u>3,677</u>
Total OPEB liability - beginning	116,830	112,660	109,736	106,059
Total OPEB liability - ending (a)	<u>122,080</u>	<u>116,830</u>	<u>112,660</u>	<u>109,736</u>
<b>Plan Net Position</b>				
Contributions - state	\$ 1,543	\$ 1,209	897	882
Contributions - other employers	253	212	161	168
Net investment income	5,167	5,058	1,111	915
Benefit payments	(5,317)	(5,153)	(5,453)	(5,151)
Administrative expense	(36)	(30)	(31)	(28)
<b>Net change in plan net position</b>	<u>1,610</u>	<u>1,296</u>	<u>(3,315)</u>	<u>(3,214)</u>
Plan net position - beginning	<u>85,758</u>	<u>84,462</u>	<u>87,777</u>	<u>90,991</u>
Plan net position - ending (b)	<u>87,368</u>	<u>85,758</u>	<u>84,462</u>	<u>87,777</u>
<b>Net OPEB liability - ending (a) - (b)</b>	<u><u>\$ 34,712</u></u>	<u><u>\$ 31,072</u></u>	<u><u>\$ 28,198</u></u>	<u><u>\$ 21,959</u></u>

Schedule is intended to show information for 10 years. Future years will be displayed as they become available.  
See accompanying independent auditor's report.

**Net OPEB Liability**

The net OPEB liability contained in the following schedule was provided by TRS's actuary, Cavanaugh Macdonald Consulting. The net OPEB liability is measured as the total OPEB liability less the amount of the fiduciary net position of the system.

**Changes of benefit terms.**

June 30, 2022 (Valuation Date: June 30, 2021)

- The TRS 4 benefit tier was added for members joining the system on and after Jan. 1, 2022.

**Changes of assumptions.** None

**Schedule of Net OPEB Liability**

*(Dollars in thousands)*

Valuation Year June 30	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability	Plan Fiduciary Net Position as a % of Total OPEB Liability	Covered Payroll	Net OPEB Liability as a % of Covered Payroll
2023	\$ 122,254	\$ 94,030	\$ 28,224	76.9	\$3,977,280	0.7
2022	119,484	88,381	31,103	74.0	3,876,491	0.8
2021	120,505	107,427	13,078	89.2	3,638,905	0.4
2020	122,080	87,368	34,712	71.6	3,569,262	1.0
2019	116,830	85,758	31,072	73.4	3,497,216	0.9
2018	112,660	84,462	28,198	75.0	3,455,660	0.8
2017	109,736	87,777	21,959	80.0	3,415,432	0.6

Schedule is intended to show information for 10 years. Future years will be displayed as they become available.  
 See accompanying independent auditor's report.

**Schedule of Employer Contributions**

*(Dollars in thousands)*

Valuation Year June 30	Actuarially Determined Employer Contribution	Contributions in Relation to the Actuarially Determined Contribution	Annual Contribution Deficiency/(Excess)	Covered Payroll	Actual Contributions as a % of Covered Payroll
2023	\$ 3,269	\$ 3,223	\$ 46	\$ 3,977,280	0.08
2022	2,736	2,755	(19)	3,876,491	0.07
2021	2,252	2,138	114	3,638,905	0.06
2020	1,843	1,796	47	3,569,262	0.05
2019	1,082	1,421	(339)	3,497,216	0.04
2018	1,075	1,058	17	3,455,660	0.03
2017	1,065	1,050	15	3,415,432	0.03
2016	1,058	1,038	20	3,390,539	0.03
2015	1,050	1,020	30	3,455,008	0.03
2014	1,045	1,006	39	3,317,422	0.03

See accompanying independent auditor's report.

**Actuarial Methods and Assumptions**

The actuarially determined contribution rates in the schedule of employer contributions are calculated as of June 30, 2018 valuation date. The following actuarial methods and assumptions were used to determine contribution rates reported in the most recent year of the schedule.

Actuarial cost method	Entry age normal
Amortization method	Level percentage of payroll
Amortization period	24 years, closed
Asset valuation method	5-year smoothed fair value
Inflation	3%
Real wage growth	0.5%
Wage inflation	3.5%
Salary increase	3.5 to 7.2%, including wage inflation
Discount rate	7.5%

**Schedule of Investment Returns**

Percentage shown is annual money-weighted rate of return, net of investment expense.

<b>2023</b>	<b>2022</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>
9.63%	(14.96)%	28.17%	6.32%	6.49%

TRS began separate reporting of its Life Insurance Trust effective February 1, 2018. Previously, it was reported as part of the pension fund's gross and net performance. This schedule will show more history of the trust as it becomes available.  
See accompanying independent auditor's report.

## Additional Supporting Schedules

### Schedule of Administrative Expenses For the Year Ended June 30, 2023 and 2022

	<u>2023</u>	<u>2022</u>
Salaries	\$ 8,720,717	\$ 7,871,232
Other personnel costs	793,003	691,560
Professional services and contracts	566,604	621,380
Utilities	91,979	88,939
Rentals	17,738	16,899
Maintenance	68,477	99,552
Postage and related services	553,724	337,894
Printing	121,430	112,322
Insurance	195,171	195,498
Miscellaneous services	173,737	233,914
Telecommunications	22,318	25,430
Computer services	31,419	77,775
Supplies	25,314	24,421
Depreciation	2,055,970	2,181,001
Travel	47,500	8,418
Dues and subscriptions	135,220	116,794
Miscellaneous commodities	51,400	46,256
Office systems and equipment	2,604,647	890,111
Compensated absences	207,211	482,018
Total	<u>\$ 16,483,579</u>	<u>\$ 14,121,414</u>

See accompanying independent auditor's report.

**Schedule of Professional Services and Contracts  
For the Year Ended June 30, 2023 and 2022**

	Nature of Service	2023	2022
Cavanaugh Macdonald Consulting	Actuarial	\$ 237,871	\$ 282,964
Blue & Co.	Auditing	96,720	102,184
Milliman	Auditing	54,200	
Ice Miller	Attorney	9,239	79,808
Stoll Keenon and Ogden	Attorney	12,137	8,240
Williams & Jensen	Attorney	45,000	26,250
Wyatt, Tarrant & Combs	Attorney	9,437	19,365
Other	Attorney		569
MulloyBorland	Communications	102,000	102,000
Total		<u>\$ 566,604</u>	<u>\$ 621,380</u>

See accompanying independent auditor's report.

**Schedule of Contracted Investment Management Expenses  
Year Ended June 30, 2023**

	Retirement Annuity Trust*	Health Insurance Trust	Life Insurance Trust	Total
Equity managers	\$ 19,128,270	\$ 544,385	\$ 32,157	\$ 19,704,812
Fixed income managers	534,711			534,711
Real estate	16,538,710	2,285,720	115,600	18,940,030
Additional categories	10,261,835	1,567,032	1,788	11,830,655
Alternative investments	26,148,410	3,477,929	76,086	29,702,425
Custodian	676,584	186,517	46,130	909,231
Consultant	493,850			493,850
Legal and research	269,676			269,676
Other (administrative and operational)	4,841,797	346,017	13,393	5,201,207
Total	<u>\$ 78,893,843</u>	<u>\$ 8,407,600</u>	<u>\$ 285,154</u>	<u>\$ 87,586,597</u>

\*Does not include expenses for the 403(b) Tax-Sheltered Trust and Losey Scholarship Fund.  
See accompanying independent auditor's report.

**Schedule of Contracted Investment Management Expenses  
 Year Ended June 30, 2022**

	<b>Retirement Annuity Trust*</b>	<b>Health Insurance Trust</b>	<b>Life Insurance Trust</b>	<b>Total</b>
Equity managers	\$ 21,571,603	\$ 834,290	\$ 39,454	\$ 22,445,346
Fixed income managers	653,519			653,519
Real estate	13,579,018	1,737,052	66,907	15,382,977
Additional categories	7,262,039	1,379,698	1,901	8,643,639
Alternative investments	15,754,621	1,980,745	58,462	17,793,829
Custodian	705,535	143,029	42,569	891,132
Consultant	468,850			468,850
Legal and research	102,691			102,691
Other (administrative and operational)	3,874,572	425,142	292,778	4,592,492
Total	<u>\$ 63,972,448</u>	<u>\$ 6,499,956</u>	<u>\$ 502,071</u>	<u>\$ 70,974,475</u>

\*Does not Include expenses for the 403(b) Tax-Sheltered Trust and Losey Scholarship Fund.  
 See accompanying independent auditor's report.





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**INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS***

To the Board of Trustees  
 Kentucky Teachers Retirement System  
 Frankfort, Kentucky

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Kentucky Teachers Retirement System, which comprise the statement of fiduciary net position as of June 30, 2023, and the related statement of changes in fiduciary net position for the year then ended, and the related notes to the financial statements, which collectively comprise the Kentucky Teachers Retirement System's basic financial statements, and have issued our report thereon dated November 15, 2023.

***Internal Control over Financial Reporting***

In planning and performing our audit of the financial statements, we considered the Kentucky Teachers Retirement System's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Kentucky Teachers Retirement System's internal control. Accordingly, we do not express an opinion on the effectiveness of the Kentucky Teachers Retirement System's internal control.

A *deficiency* in internal control exists when the design or operation of a control does not allow management or employees in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over financial reporting was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over financial reporting that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control over financial reporting that we consider to be material weaknesses. However, material weaknesses or significant deficiencies may exist that have not been identified.

***Report on Compliance and Other Matters***

As part of obtaining reasonable assurance about whether the Kentucky Teachers Retirement System's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

***Purpose of this Report***

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Kentucky Teachers Retirement System's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Kentucky Teachers Retirement System's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

***Blue & Co., LLC***

Lexington, Kentucky  
 November 15, 2023