

**TEACHERS' RETIREMENT  
SYSTEM OF THE  
STATE OF KENTUCKY**

**Financial Statements**

**June 30, 2016**

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## **Independent Auditor's Report**

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

### **Report on the Financial Statements**

We have audited the accompanying statement of fiduciary net position of the Teachers' Retirement System of the State of Kentucky as of June 30, 2016 and 2015, and the related statement of changes in fiduciary net position for the years then ended, and the related notes to the financial statements, which collectively comprise the component unit financial statements of the Teachers' Retirement System of the State of Kentucky as listed in the table of contents.

### **Management's Responsibility for the Financial Statements**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes 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.

### **Auditor's Responsibility**

Our responsibility is to express an opinion on the financial statements based on our audits. 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. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements 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 the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion on the financial statements.

### **Opinion**

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the Teachers' Retirement System of the State of Kentucky, a component unit of the Commonwealth of Kentucky, as of June 30, 2016 and 2015, and the respective changes in its fiduciary net position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

**Kentucky**  
**Indiana**  
**Ohio**

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## **Independent Auditor's Report (Continued)**

### **Other Matters**

#### *Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 4 through 8 and the Schedule of Changes in Net Pension Liability (page 49), Schedule of Net Pension Liability and Schedule of Employer Contributions (page 50) Schedule of Investment Returns (page 51), Medical Insurance Plan Schedule of Funding Progress and Schedule of Employer Contributions (page 52), and Life Insurance Plan Schedule of Funding Progress and Schedule of Employer Contributions (page 53) 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 audit 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.

#### *Supplementary Information*

Our audits were conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Kentucky Teachers' Retirement System's basic financial statements. The additional supporting schedules (pages 54 through 56) 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 Contracts, 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 21, 2016, on our consideration of the Teachers' Retirement System of the State of Kentucky'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 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 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 the Teachers' Retirement System of the State of Kentucky's internal control over financial reporting and compliance.



Lexington, Kentucky  
November 21, 2016

**TEACHERS' RETIREMENT SYSTEM OF THE STATE OF KENTUCKY  
MANAGEMENT'S DISCUSSION AND ANALYSIS**

This discussion and analysis of the Teachers' Retirement System of the State of Kentucky (TRS, System, or Plan) financial performance provides an overview of the defined benefit and medical insurance plans' financial year ended June 30, 2016. Please read it in conjunction with the respective financial statements, which begin on page 10.

**USING THIS FINANCIAL REPORT**

Because of the long-term nature of the defined benefit retirement annuity plan, and the medical and life insurance plans, financial statements alone cannot provide sufficient information to properly reflect the ongoing perspective of the System. The Statement of Fiduciary Net Position and Statement of Changes in Fiduciary Net Position (on pages 10-13) provide information about the activities of the defined benefit retirement annuity plan, medical insurance plan, life insurance plan and the tax-sheltered annuity plan as a whole. The Teachers' Retirement System of the State of Kentucky is the fiduciary of funds held in trust for its members.

The Required Supplementary Information includes historical trend information about the funded status of the defined benefit retirement annuity plan. The Additional Supporting Schedules section includes historical trend information about the actuarial funded status of the medical insurance and life insurance plans from a long-term, ongoing plan perspective and the progress made in accumulating sufficient assets to pay benefits and insurance premiums when due. 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.

**KENTUCKY TEACHERS' RETIREMENT  
SYSTEM AS A WHOLE**

In the fiscal year ended June 30, 2016, the System's combined fiduciary net position decreased by \$1,128.3 million - from \$18,766.8 million in 2015 to \$17,638.5 million in 2016. In 2014, the combined net position totaled \$18,720.4 million. The following summaries focus on the fiduciary net position and changes in fiduciary net position of the System's defined benefit retirement annuity plan, medical insurance plan, and life insurance plan.

**TEACHERS' RETIREMENT SYSTEM OF THE STATE OF KENTUCKY**  
**MANAGEMENT'S DISCUSSION AND ANALYSIS (Continued)**

**Summary of Fiduciary Net Position**  
(In Millions)

| Categories         | Defined Benefit Plan |                    |                    | Medical Insurance Plan |                 |                 | Life Insurance Plan |                |                |
|--------------------|----------------------|--------------------|--------------------|------------------------|-----------------|-----------------|---------------------|----------------|----------------|
|                    | 2016                 | 2015               | 2014               | 2016                   | 2015            | 2014            | 2016                | 2015           | 2014           |
| Cash & Investments | \$ 17,149.0          | \$ 18,428.9        | \$ 18,426.8        | \$ 681.4               | \$ 609.7        | \$ 536.2        | \$ 90.1             | \$ 88.6        | \$ 89.7        |
| Receivables        | 119.5                | 295.4              | 310.5              | 58.3                   | 29.1            | 12.4            | 1.2                 | 1.1            | 1.1            |
| Capital Assets     | 17.0                 | 14.9               | 11.5               | -                      | -               | -               | -                   | -              | -              |
| Total Assets       | 17,285.5             | 18,739.2           | 18,748.8           | 739.7                  | 638.8           | 548.6           | 91.3                | 89.7           | 90.8           |
| Total Liabilities  | (472.7)              | (690.1)            | (656.2)            | (5.9)                  | (11.8)          | (12.6)          | (0.4)               | -              | -              |
| Net Position       | <u>\$ 16,812.8</u>   | <u>\$ 18,049.1</u> | <u>\$ 18,092.6</u> | <u>\$ 733.8</u>        | <u>\$ 627.0</u> | <u>\$ 536.0</u> | <u>\$ 90.9</u>      | <u>\$ 89.7</u> | <u>\$ 90.8</u> |
| <b>*Totals</b>     |                      |                    |                    |                        |                 |                 |                     |                |                |
| Cash & Investments | \$ 17,920.5          | \$ 19,127.2        | \$ 19,052.7        |                        |                 |                 |                     |                |                |
| Receivables        | 179.0                | 325.6              | 324.0              |                        |                 |                 |                     |                |                |
| Capital Assets     | 17.0                 | 14.9               | 11.5               |                        |                 |                 |                     |                |                |
| Total Assets       | 18,117               | 19,468             | 19,388.2           |                        |                 |                 |                     |                |                |
| Total Liabilities  | (479.0)              | (701.9)            | (668.8)            |                        |                 |                 |                     |                |                |
| Net Position       | <u>\$ 17,637.5</u>   | <u>\$ 18,765.8</u> | <u>\$ 18,719.4</u> |                        |                 |                 |                     |                |                |

*\*Other Funds consisting of the 403(b) Tax Shelter Plan, the Excess Benefit Fund and the Losey Scholarship fund had a combined fiduciary net position of \$1.0 million for years ended 2016, 2015 and 2014.*

The fiduciary net position of the defined benefit retirement annuity plan decreased by 6.85 percent (\$16,812.8 million compared to \$18,049.1 million) and in 2014, the fiduciary net position of the defined benefit plan totaled \$18,092.6 million. The decrease is primarily due to deteriorations in market conditions which resulted in a net investment income decrease of \$1.1 billion less than 2015. The 2015 amount was \$1.9 billion less than 2014. The defined benefit retirement annuity plan assets are restricted to providing monthly retirement allowances to members and their beneficiaries. The fiduciary net position of the medical insurance plan increased by 17.03 percent (\$733.8 million compared to \$627 million) primarily due to contributions from members and employers exceeding insurance expenses due to legislation passed in 2010. This compares to 2014 where fiduciary net position of the medical insurance fund totaled \$536 million. Plan assets are restricted to providing hospital and medical insurance benefits to members and their spouses.

**TEACHERS' RETIREMENT SYSTEM OF THE STATE OF KENTUCKY  
MANAGEMENT'S DISCUSSION AND ANALYSIS (Continued)**

**Summary of Changes in Fiduciary Net Position  
(In Millions)**

| Categories                                     | Defined Benefit Plan |                  |                   | Medical Insurance Plan |                |                 | Life Insurance Plan |                 |               |
|--|----------------------|------------------|-------------------|------------------------|----------------|-----------------|---------------------|-----------------|---------------|
|  | 2016                 | 2015             | 2014              | 2016                   | 2015           | 2014            | 2016                | 2015            | 2014          |
| <b>Additions</b>                               |                      |                  |                   |                        |                |                 |                     |                 |               |
| Member Contributions                           | \$ 313.0             | \$ 308.2         | \$ 305.0          | \$ 184.4               | \$ 157.5       | \$ 135.2        | \$ -                | \$ -            | \$ -          |
| Employer Contributions                         | 565.5                | 559.6            | 563.3             | 178.6                  | 145.3          | 157.7           | 1.0                 | 1.0             | 1.0           |
| Net Investment Income/(Loss)                   | (245.2)              | 862.2            | 2,803.2           | (9.3)                  | 7.4            | 67.7            | 4.8                 | 2.0             | 4.6           |
| Other Income                                   | -                    | -                | -                 | 43.3                   | 22.8           | 4.9             | -                   | -               | -             |
| <b>Total Additions</b>                         | <b>633</b>           | <b>1,730</b>     | <b>3,672</b>      | <b>397</b>             | <b>333</b>     | <b>366</b>      | <b>6</b>            | <b>3</b>        | <b>6</b>      |
| <b>Deductions</b>                              |                      |                  |                   |                        |                |                 |                     |                 |               |
| Benefit Payments                               | 1,833                | 1,742            | 1,654             | -                      | -              | -               | 5                   | 4               | 5             |
| Refunds  | 27.8                 | 23.1             | 25.5              | -                      | -              | -               | -                   | -               | -             |
| Administrative Expense                         | 8.6                  | 8.9              | 7.9               | 1.7                    | 1.6            | 1.1             | -                   | -               | -             |
| Insurance Expenses                             | -                    | -                | -                 | 288.5                  | 240.4          | 242.1           | -                   | -               | -             |
| <b>Total Deductions</b>                        | <b>1,869.6</b>       | <b>1,773.5</b>   | <b>1,687.8</b>    | <b>290.2</b>           | <b>242.0</b>   | <b>243.2</b>    | <b>4.6</b>          | <b>4.1</b>      | <b>4.7</b>    |
| <b>Increase/(Decrease)<br/>in Net Position</b> | <b>\$ (1,236.3)</b>  | <b>\$ (43.5)</b> | <b>\$ 1,983.7</b> | <b>\$ 106.8</b>        | <b>\$ 91.0</b> | <b>\$ 122.3</b> | <b>\$ 1.2</b>       | <b>\$ (1.1)</b> | <b>\$ 0.9</b> |
| <b>Totals</b>                                  |                      |                  |                   |                        |                |                 |                     |                 |               |
|  | <b>2016</b>          | <b>2015</b>      | <b>2014</b>       |                        |                |                 |                     |                 |               |
| <b>Additions</b>                               |                      |                  |                   |                        |                |                 |                     |                 |               |
| Member Contributions                           | \$ 497.4             | \$ 465.7         | \$ 440.2          |                        |                |                 |                     |                 |               |
| Employer Contributions                         | 745.1                | 705.9            | 722.0             |                        |                |                 |                     |                 |               |
| Net Investment Income/(Loss)                   | (249.7)              | 871.6            | 2,875.5           |                        |                |                 |                     |                 |               |
| Other Income                                   | 43.3                 | 22.8             | 4.9               |                        |                |                 |                     |                 |               |
| <b>Total Additions</b>                         | <b>1,036</b>         | <b>2,066</b>     | <b>4,043</b>      |                        |                |                 |                     |                 |               |
| <b>Deductions</b>                              |                      |                  |                   |                        |                |                 |                     |                 |               |
| Benefit Payments                               | 1,838                | 1,746            | 1,659             |                        |                |                 |                     |                 |               |
| Refunds  | 27.8                 | 23.1             | 25.5              |                        |                |                 |                     |                 |               |
| Administrative Expense                         | 10.3                 | 10.5             | 9.0               |                        |                |                 |                     |                 |               |
| Insurance Expenses                             | 288.5                | 240.4            | 242.1             |                        |                |                 |                     |                 |               |
| <b>Total Deductions</b>                        | <b>2,164</b>         | <b>2,020</b>     | <b>1,936</b>      |                        |                |                 |                     |                 |               |
| <b>Increase/(Decrease)<br/>in Net Position</b> | <b>\$ (1,128.3)</b>  | <b>\$ 46.4</b>   | <b>\$ 2,106.9</b> |                        |                |                 |                     |                 |               |

*\*Other Funds consisting of the 403(b) Tax Shelter Plan, the Excess Benefit Fund and the Losey Scholarship fund had a combined change in fiduciary net position of \$1.0 million for years ended 2016, 2015 and 2014.*

**DEFINED BENEFIT RETIREMENT ANNUITY PLAN ACTIVITIES**

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

**TEACHERS' RETIREMENT SYSTEM OF THE STATE OF KENTUCKY  
MANAGEMENT'S DISCUSSION AND ANALYSIS (Continued)**

In 2016, Employer contributions totaled \$565.5 million, a net increase of \$5.9 million from the prior fiscal year. The increase was due to a repayment of prior year shortfalls. In 2015, Employer contributions decreased \$3.7 million compared to the prior fiscal year due to declining amortization payments from the State on prior benefit improvements.

In 2016, the System experienced a decrease in net investment income compared to the previous year (negative \$245.2 million compared to \$862.2 million). For 2014, net investment income totaled \$2,803.2 million. The decrease in net investment income is mainly due to unfavorable market conditions for the year ended June 30, 2016 compared to 2015. Total deductions in 2016 increased \$96.1 million. The increase was caused principally by an increase of \$91.7 million in defined benefit payments. Members who were drawing benefits as of June 2015 received an increase of one and one-half percent to their retirement allowances in July 2015. Also, there was an increase of 1,741 members and beneficiaries on the retired payroll as of June 30, 2016.

**OTHER POST EMPLOYMENT BENEFIT ACTIVITIES**

During the 2016 fiscal year, the medical insurance plan member contributions increased \$26.9 million and employer contributions increased \$33.3 million from fiscal year 2015. The member, employer and state contributions increased primarily due to the implementation of the Shared Responsibility Plan beginning July 1, 2010 which includes increased contributions from active and retired members, employers and the state.

Net investment income for the medical insurance plan decreased \$16.7 million from \$7.4 million in 2015 to negative \$9.3 million in 2016. In 2014, net investment income totaled \$67.7 million.

The life insurance plan has an actuarial valuation conducted independently from the defined benefit plan. Total life insurance benefits paid for 2016, 2015 and 2014 were \$4.6, \$4.1 and \$4.7 million respectively.

**FUNDING**

Since fiscal year 2008, the State has not paid all of the annual required contribution (ARC), as determined by the actuary, necessary to prefund the pension benefit requirements of members of the System. Over this period of time, because of the failure to fund the full ARC, the State's additional annual employer contributions have grown significantly from \$60.5 million (Fiscal Year 2009) to \$553 million (Fiscal Year 2019). The latest actuarial valuation was for the period ending June 30, 2016. This report reflects the System's actuarial value of assets totaling \$17.5 billion and actuarial determined liabilities totaling \$32 billion. The funded ratio of actuarial assets to liabilities is 54.6%. Based upon these circumstances, the actuary opines the pension system is not being funded on an actuarially sound basis. Because a plan to address the unfunded liability is not in place, the State's credit rating has been downgraded. Moreover, taxpayers pay higher ultimate pension costs as liability grows compounded.

For the 2016-2018 biennium, the State budgeted \$973 million of additional employer contributions for the unfunded liability of the System. Assuming that contributions to the System are made by the state from year to year in the future as recommended by the actuary, the System should have sufficient assets to provide the benefits defined by law.

The actuarial funding of the medical insurance and life insurance plans is provided in the Schedule of Funding Progress presented in the Required Supplementary Information. The asset value, stated in the Schedule of Funding Progress, is determined by the System's independent actuary. The actuarial accrued liability is calculated using the entry age cost method. Although the medical insurance plan continues to have a large unfunded actuarial liability, the current obligations are being met by current funding. Effective July 1, 2010 the Shared Responsibility Plan for funding retiree health benefits requires members, retirees, participating employers and the state to make contributions for pre-funding retiree medical benefits. Annual required contributions of the medical insurance plan are provided in the Schedule of Employer Contributions presented in the Required Supplementary Information. Past shortfalls of employer contributions has resulted in an accumulated net Other Post Employment Benefit obligation of \$1,394,141,069 as of June 30, 2016.

**TEACHERS' RETIREMENT SYSTEM OF THE STATE OF KENTUCKY  
MANAGEMENT'S DISCUSSION AND ANALYSIS (Continued)**

**HISTORICAL TRENDS**

Accounting standards require that the Statement of Fiduciary Net Position present asset values at fair value and include only benefits and refunds due to plan members and beneficiaries and 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 blended discount rate of the pension plan can be found in Note 4 of the financial statements. The blended discount rate mandated by accounting standards result in a lower funding level when compared to the actuarially determined funded levels reported in past years. The Schedule of Employer Contributions is provided in the Required Supplementary Information.

The System'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 care plans 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 plans. 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 2016, which also confirmed the reasonableness of assumptions based upon the actual experience of the plans. The actuarial assumptions reflected in the results may be reasonably relied upon. However, projections using other assumptions may produce significantly different results.

This financial report is designed to provide citizens, participating employers, plan members, and other users with an overview of the Kentucky Teachers' Retirement System's fiscal practices and responsibility. If you have questions or need additional information, please contact Mark Whelan, Chief Financial Officer, Kentucky Teachers' Retirement System at 479 Versailles Road, Frankfort, Kentucky 40601.



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**Teachers' Retirement System of the State of Kentucky**  
**Statement of Fiduciary Net Position**  
**As of June 30, 2016**

|  | Defined Benefit<br>Plan  | Medical Insurance<br>Plan | Life Insurance<br>Plan | Other<br>Funds    | Total                    |
|--|--------------------------|---------------------------|------------------------|-------------------|--------------------------|
| <b>Assets</b>  |                          |                           |                        |                   |                          |
| Cash   | \$ 15,156,496            | \$ 59,843,503             | \$ -                   | \$ 481            | \$ 75,000,480            |
| Prepaid Expenses   | 89,235                   | -                         | -                      | -                 | 89,235                   |
| <b>Receivables</b>   |                          |                           |                        |                   |                          |
| Contributions  | 34,664,070               | 21,525,458                | 95,285                 | -                 | 56,284,813               |
| Due from Other Trust Funds   | 3,719,997                | -                         | -                      | -                 | 3,719,997                |
| State of Kentucky  | 22,766,523               | 1,359,808                 | 54,392                 | -                 | 24,180,723               |
| Investment Income  | 39,619,872               | 1,333,953                 | 1,090,402              | 2,417             | 42,046,644               |
| Investment Sales Receivable  | 18,182,733               | 633,642                   | -                      | -                 | 18,816,375               |
| Other Receivables  | 559,913                  | 33,481,047                | -                      | -                 | 34,040,960               |
| <b>Total Receivables</b>   | <u>119,513,108</u>       | <u>58,333,908</u>         | <u>1,240,079</u>       | <u>2,417</u>      | <u>179,089,512</u>       |
| <b>Investments at Fair Value (See Note 5)</b>  |                          |                           |                        |                   |                          |
| Short Term Investments   | 507,724,996              | 18,186,502                | 913,077                | 410,590           | 527,235,165              |
| Bonds and Mortgages  | 2,734,474,510            | 62,555,400                | 89,200,103             | 290,132           | 2,886,520,145            |
| Equities   | 10,267,066,002           | 354,369,798               | -                      | 242,351           | 10,621,678,151           |
| Alternative Investments  | 932,813,350              | 23,931,317                | -                      | -                 | 956,744,667              |
| Real Estate  | 940,860,202              | 25,433,241                | -                      | -                 | 966,293,443              |
| Additional Categories  | 1,309,513,418            | 137,075,842               | -                      | -                 | 1,446,589,260            |
| <b>Total Investments</b>   | <u>16,692,452,478</u>    | <u>621,552,100</u>        | <u>90,113,180</u>      | <u>943,073</u>    | <u>17,405,060,831</u>    |
| Invested Security Lending Collateral   | 441,380,830              | -                         | -                      | -                 | 441,380,830              |
| Capital Assets, at Cost net of Accumulated<br>Depreciation of \$6,022,382 (See Note 2) | 16,973,670               | -                         | -                      | -                 | 16,973,670               |
| <b>Total Assets</b>  | <u>17,285,565,817</u>    | <u>739,729,511</u>        | <u>91,353,259</u>      | <u>945,971</u>    | <u>18,117,594,558</u>    |
| <b>Liabilities</b>   |                          |                           |                        |                   |                          |
| Accounts Payable   | 1,917,838                | 19,811                    | 325,494                | -                 | 2,263,143                |
| Due To Other Trust Funds   | 1,935,385                | 1,747,115                 | 36,837                 | 660               | 3,719,997                |
| Revenues Collected in Advance  | -                        | 2,047,051                 | -                      | -                 | 2,047,051                |
| Investment Purchases Payable   | 27,499,881               | 2,134,567                 | -                      | -                 | 29,634,448               |
| Obligations Under Security Lending   | 441,380,830              | -                         | -                      | -                 | 441,380,830              |
| <b>Total Liabilities</b>   | <u>472,733,934</u>       | <u>5,948,544</u>          | <u>362,331</u>         | <u>660</u>        | <u>479,045,469</u>       |
| <b>Net Position - Restricted for Pension and<br/>Other Post-Employment Benefits</b>    | <u>\$ 16,812,831,883</u> | <u>\$ 733,780,967</u>     | <u>\$ 90,990,928</u>   | <u>\$ 945,311</u> | <u>\$ 17,638,549,089</u> |

*The "Combining Statement of 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 Fiduciary Net Position**  
**As of June 30, 2015**

|  | Defined Benefit<br>Plan  | Medical Insurance<br>Plan | Life Insurance<br>Plan | Other<br>Funds    | Total                    |
|--|--------------------------|---------------------------|------------------------|-------------------|--------------------------|
| <b>Assets</b>  |                          |                           |                        |                   |                          |
| Cash   | \$ 153,403,413           | \$ 27,608,169             | \$ 688,739             | \$ 66,698         | \$ 181,767,019           |
| Prepaid Expenses   | 109,881                  | 1,000                     | -                      | -                 | 110,881                  |
| <b>Receivables</b>   |                          |                           |                        |                   |                          |
| Contributions  | 50,495,681               | 7,531,532                 | 67,162                 | -                 | 58,094,375               |
| Due from Other Trust Funds   | 4,312,155                | -                         | -                      | -                 | 4,312,155                |
| State of Kentucky  | 26,885,159               | 2,580,839                 | 61,789                 | -                 | 29,527,787               |
| Investment Income  | 40,683,260               | 1,289,669                 | 999,217                | 2,434             | 42,974,580               |
| Investment Sales Receivable  | 172,483,377              | 673,686                   | -                      | -                 | 173,157,063              |
| Other Receivables  | 588,560                  | 16,979,307                | -                      | -                 | 17,567,867               |
| <b>Total Receivables</b>   | <u>295,448,192</u>       | <u>29,055,033</u>         | <u>1,128,168</u>       | <u>2,434</u>      | <u>325,633,827</u>       |
| <b>Investments at Fair Value (See Note 5)</b>  |                          |                           |                        |                   |                          |
| Short Term Investments   | 611,762,670              | 35,611,846                | 2,374,735              | 439,079           | 650,188,330              |
| Bonds and Mortgages  | 2,945,268,960            | 42,746,464                | 85,589,214             | 250,032           | 3,073,854,670            |
| Equities   | 11,163,565,280           | 355,702,555               | -                      | 226,083           | 11,519,493,918           |
| Alternative Investments  | 844,688,096              | 11,698,357                | -                      | -                 | 856,386,453              |
| Real Estate  | 825,335,346              | 1,762,328                 | -                      | -                 | 827,097,674              |
| Additional Categories  | 1,385,897,391            | 134,576,358               | -                      | -                 | 1,520,473,749            |
| <b>Total Investments</b>   | <u>17,776,517,743</u>    | <u>582,097,908</u>        | <u>87,963,949</u>      | <u>915,194</u>    | <u>18,447,494,794</u>    |
| Invested Security Lending Collateral   | 498,859,702              | -                         | -                      | -                 | 498,859,702              |
| Capital Assets, at Cost net of Accumulated<br>Depreciation of \$4,486,539 (See Note 2) | 14,906,438               | -                         | -                      | -                 | 14,906,438               |
| <b>Total Assets</b>  | <u>18,739,245,369</u>    | <u>638,762,110</u>        | <u>89,780,856</u>      | <u>984,326</u>    | <u>19,468,772,661</u>    |
| <b>Liabilities</b>   |                          |                           |                        |                   |                          |
| Accounts Payable   | 1,666,331                | 20,094                    | 360                    | 4                 | 1,686,789                |
| Due To Other Trust Funds   | -                        | 4,277,470                 | 33,989                 | 696               | 4,312,155                |
| Revenues Collected in Advance  | -                        | 4,914,365                 | -                      | -                 | 4,914,365                |
| Investment Purchases Payable   | 189,588,599              | 2,587,811                 | -                      | -                 | 192,176,410              |
| Obligations Under Security Lending   | 498,859,702              | -                         | -                      | -                 | 498,859,702              |
| <b>Total Liabilities</b>   | <u>690,114,632</u>       | <u>11,799,740</u>         | <u>34,349</u>          | <u>700</u>        | <u>701,949,421</u>       |
| <b>Net Position - Restricted for Pension and<br/>Other Post-Employment Benefits</b>    | <u>\$ 18,049,130,737</u> | <u>\$ 626,962,370</u>     | <u>\$ 89,746,507</u>   | <u>\$ 983,626</u> | <u>\$ 18,766,823,240</u> |

*The "Combining Statement of 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**  
**Statement of Changes in Fiduciary Net Position**  
**For the Year Ended June 30, 2016**

|  | Defined Benefit<br>Plan  | Medical Insurance<br>Plan | Life Insurance<br>Plan | Other<br>Funds    | Total                    |
|--|--------------------------|---------------------------|------------------------|-------------------|--------------------------|
| Additions  |                          |                           |                        |                   |                          |
| Contributions  |                          |                           |                        |                   |                          |
| State of Kentucky  | \$ 484,986,954           | \$ 74,367,250             | \$ 872,990             | \$ -              | \$ 560,227,194           |
| Other Employers  | 80,467,636               | 104,271,120               | 164,779                | -                 | 184,903,535              |
| Members  | 313,044,226              | 184,365,215               | -                      | -                 | 497,409,441              |
| Total Contributions  | <u>878,498,816</u>       | <u>363,003,585</u>        | <u>1,037,769</u>       | <u>-</u>          | <u>1,242,540,170</u>     |
| Other Income   |                          |                           |                        |                   |                          |
| Recovery Income  | -                        | 43,328,335                | -                      | -                 | 43,328,335               |
| Total Other Income   | <u>-</u>                 | <u>43,328,335</u>         | <u>-</u>               | <u>-</u>          | <u>43,328,335</u>        |
| Investment Income/(Loss)   |                          |                           |                        |                   |                          |
| Net Appreciation/(Depreciation) in   |                          |                           |                        |                   |                          |
| Fair Value of Investments  | (584,310,367)            | (16,291,780)              | 1,742,044              | 41,543            | (598,818,560)            |
| Interest   | 162,339,804              | 8,029,465                 | 3,095,887              | 10,013            | 173,475,169              |
| Dividends  | 194,570,308              | 1,207,958                 | -                      | 5,187             | 195,783,453              |
| Rental Income, Net   | 28,039,967               | -                         | -                      | -                 | 28,039,967               |
| Securities Lending, Gross Earnings   | 2,767,119                | -                         | 3,550                  | 404               | 2,771,073                |
| Gross Investment Income/(Loss)   | <u>(196,593,169)</u>     | <u>(7,054,357)</u>        | <u>4,841,481</u>       | <u>57,147</u>     | <u>(198,748,898)</u>     |
| Less: Investment Expense   | (47,791,624)             | (2,278,133)               | (11,080)               | (116)             | (50,080,953)             |
| Less: Securities Lending Expense   | (830,067)                | -                         | (1,065)                | (121)             | (831,253)                |
| Net Investment Income/(Loss)   | <u>(245,214,860)</u>     | <u>(9,332,490)</u>        | <u>4,829,336</u>       | <u>56,910</u>     | <u>(249,661,104)</u>     |
| Total Additions  | <u>633,283,956</u>       | <u>396,999,430</u>        | <u>5,867,105</u>       | <u>56,910</u>     | <u>1,036,207,401</u>     |
| Deductions   |                          |                           |                        |                   |                          |
| Benefits   | 1,833,198,630            | -                         | 4,595,489              | 94,665            | 1,837,888,784            |
| Refunds of Contributions   | 27,747,742               | -                         | -                      | -                 | 27,747,742               |
| Insurance Expenses   | -                        | 288,494,763               | -                      | -                 | 288,494,763              |
| Administrative Expense   | 8,636,438                | 1,686,070                 | 27,195                 | 560               | 10,350,263               |
| Total Deductions   | <u>1,869,582,810</u>     | <u>290,180,833</u>        | <u>4,622,684</u>       | <u>95,225</u>     | <u>2,164,481,552</u>     |
| Net Increase/(Decrease)  | (1,236,298,854)          | 106,818,597               | 1,244,421              | (38,315)          | (1,128,274,151)          |
| Net Position - Restricted for Pension<br>and Other Postemployment Benefits |                          |                           |                        |                   |                          |
| Beginning of Year  | <u>18,049,130,737</u>    | <u>626,962,370</u>        | <u>89,746,507</u>      | <u>983,626</u>    | <u>18,766,823,240</u>    |
| End of Year  | <u>\$ 16,812,831,883</u> | <u>\$ 733,780,967</u>     | <u>\$ 90,990,928</u>   | <u>\$ 945,311</u> | <u>\$ 17,638,549,089</u> |

*The "Combining Statement of Changes in Fiduciary Net Position - Other Funds" is presented on page 16.  
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, 2015**

|  | Defined Benefit<br>Plan  | Medical Insurance<br>Plan | Life Insurance<br>Plan | Other<br>Funds    | Total                    |
|--|--------------------------|---------------------------|------------------------|-------------------|--------------------------|
| <b>Additions</b>   |                          |                           |                        |                   |                          |
| <b>Contributions</b>   |                          |                           |                        |                   |                          |
| State of Kentucky  | \$ 480,073,445           | \$ 67,608,148             | \$ 855,012             | \$ -              | \$ 548,536,605           |
| Other Employers  | 79,505,845               | 77,655,778                | 164,507                | 80,000            | 157,406,130              |
| Members  | 308,159,763              | 157,467,680               | -                      | -                 | 465,627,443              |
| <b>Total Contributions</b>   | <u>867,739,053</u>       | <u>302,731,606</u>        | <u>1,019,519</u>       | <u>80,000</u>     | <u>1,171,570,178</u>     |
| <b>Other Income</b>  |                          |                           |                        |                   |                          |
| Recovery Income  | -                        | 22,820,427                | -                      | -                 | 22,820,427               |
| <b>Total Other Income</b>  | <u>-</u>                 | <u>22,820,427</u>         | <u>-</u>               | <u>-</u>          | <u>22,820,427</u>        |
| <b>Investment Income</b>   |                          |                           |                        |                   |                          |
| <b>Net Appreciation/(Depreciation) in</b>                                      |                          |                           |                        |                   |                          |
| Fair Value of Investments  | 429,089,219              | 783,495                   | (1,131,703)            | 17,183            | 428,758,194              |
| Interest   | 242,306,932              | 7,901,793                 | 3,130,146              | 9,317             | 253,348,188              |
| Dividends  | 204,861,024              | -                         | -                      | 4,391             | 204,865,415              |
| Rental Income, Net   | 28,785,045               | -                         | -                      | -                 | 28,785,045               |
| Securities Lending, Gross Earnings   | 2,661,499                | -                         | 204                    | 172               | 2,661,875                |
| <b>Gross Investment Income</b>   | <u>907,703,719</u>       | <u>8,685,288</u>          | <u>1,998,647</u>       | <u>31,063</u>     | <u>918,418,717</u>       |
| Less: Investment Expense   | (44,726,561)             | (1,330,584)               | (8,262)                | (89)              | (46,065,496)             |
| Less: Securities Lending Expense   | (798,399)                | -                         | (61)                   | (51)              | (798,511)                |
| <b>Net Investment Income</b>   | <u>862,178,759</u>       | <u>7,354,704</u>          | <u>1,990,324</u>       | <u>30,923</u>     | <u>871,554,710</u>       |
| <b>Total Additions</b>   | <u>1,729,917,812</u>     | <u>332,906,737</u>        | <u>3,009,843</u>       | <u>110,923</u>    | <u>2,065,945,315</u>     |
| <b>Deductions</b>  |                          |                           |                        |                   |                          |
| Benefits   | 1,741,456,095            | -                         | 4,061,000              | 97,230            | 1,745,614,325            |
| Refunds of Contributions   | 23,032,624               | -                         | -                      | -                 | 23,032,624               |
| Insurance Expenses   | -                        | 240,394,582               | -                      | -                 | 240,394,582              |
| Administrative Expense   | 8,868,971                | 1,545,235                 | 25,306                 | 606               | 10,440,118               |
| <b>Total Deductions</b>  | <u>1,773,357,690</u>     | <u>241,939,817</u>        | <u>4,086,306</u>       | <u>97,836</u>     | <u>2,019,481,649</u>     |
| <b>Net Increase/(Decrease)</b>   | <u>(43,439,878)</u>      | <u>90,966,920</u>         | <u>(1,076,463)</u>     | <u>13,087</u>     | <u>46,463,666</u>        |
| <b>Net Position - Restricted for Pension and Other Postemployment Benefits</b> |                          |                           |                        |                   |                          |
| Beginning of Year  | 18,092,570,615           | 535,995,450               | 90,822,970             | 970,539           | 18,720,359,574           |
| End of Year  | <u>\$ 18,049,130,737</u> | <u>\$ 626,962,370</u>     | <u>\$ 89,746,507</u>   | <u>\$ 983,626</u> | <u>\$ 18,766,823,240</u> |

*The "Combining Statement of Changes in Fiduciary Net Position - Other Funds" is presented on page 17. 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, 2016**

|   | 403(b)<br>Tax Shelter | Supplemental<br>Benefit Fund | Losey<br>Scholarship | Total             |
|---|-----------------------|------------------------------|----------------------|-------------------|
| <b>Assets</b>   |                       |                              |                      |                   |
| Cash  | \$ -                  | \$ 481                       | \$ -                 | \$ 481            |
| Receivables   |                       |                              |                      |                   |
| Investment Income   | 111                   | -                            | 2,306                | 2,417             |
| <b>Investments at Fair Value</b>  |                       |                              |                      |                   |
| Short Term Investments  | 352,773               | -                            | 57,817               | 410,590           |
| Bonds and Mortgages   | -                     | -                            | 290,132              | 290,132           |
| Equities  | -                     | -                            | 242,351              | 242,351           |
| Total Investments   | <u>352,773</u>        | <u>-</u>                     | <u>590,300</u>       | <u>943,073</u>    |
| Total Assets  | 352,884               | 481                          | 592,606              | 945,971           |
| <b>Liabilities</b>  |                       |                              |                      |                   |
| Due to Other Trust Funds  | <u>110</u>            | <u>389</u>                   | <u>161</u>           | <u>660</u>        |
| Total Liabilities   | <u>110</u>            | <u>389</u>                   | <u>161</u>           | <u>660</u>        |
| Net Position - Restricted for Pension and<br>Other Post-Employment Benefits | <u>\$ 352,774</u>     | <u>\$ 92</u>                 | <u>\$ 592,445</u>    | <u>\$ 945,311</u> |

*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, 2015**

|   | 403(b)<br>Tax Shelter | Supplemental<br>Benefit Fund | Losey<br>Scholarship | Total             |
|---|-----------------------|------------------------------|----------------------|-------------------|
| <b>Assets</b>   |                       |                              |                      |                   |
| Cash  | \$ -                  | \$ 66,698                    | \$ -                 | \$ 66,698         |
| Receivables   |                       |                              |                      |                   |
| Investment Income   | 26                    | -                            | 2,408                | 2,434             |
| <b>Investments at Fair Value</b>  |                       |                              |                      |                   |
| Short Term Investments  | 363,978               | -                            | 75,101               | 439,079           |
| Bonds and Mortgages   | -                     | -                            | 250,032              | 250,032           |
| Equities  | -                     | -                            | 226,083              | 226,083           |
| <b>Total Investments</b>  | <u>363,978</u>        | <u>-</u>                     | <u>551,216</u>       | <u>915,194</u>    |
| <b>Total Assets</b>   | 364,004               | 66,698                       | 553,624              | 984,326           |
| <b>Liabilities</b>  |                       |                              |                      |                   |
| Accounts Payable  | 2                     | -                            | 2                    | 4                 |
| Due to Other Trust Funds  | 119                   | 410                          | 167                  | 696               |
| <b>Total Liabilities</b>  | <u>121</u>            | <u>410</u>                   | <u>169</u>           | <u>700</u>        |
| <b>Net Position - Restricted for Pension and<br/>Other Post-Employment Benefits</b> | <u>\$ 363,883</u>     | <u>\$ 66,288</u>             | <u>\$ 553,455</u>    | <u>\$ 983,626</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, 2016**

|   | <u>403(b)</u><br><u>Tax Shelter</u> | <u>Supplemental</u><br><u>Benefit Fund</u> | <u>Losey</u><br><u>Scholarship</u> | <u>Total</u>      |
|---|-------------------------------------|--|------------------------------------|-------------------|
| Additions   |                                     |  |                                    |                   |
| Investment Income   |                                     |  |                                    |                   |
| Net Appreciation in   |                                     |  |                                    |                   |
| Fair Value of Investments   | \$ -                                | \$ -                                       | \$ 41,543                          | \$ 41,543         |
| Interest  | 863                                 | -  | 9,150                              | 10,013            |
| Dividends   | -                                   | -  | 5,187                              | 5,187             |
| Securities Lending, Gross   | -                                   | -  | 404                                | 404               |
| Gross Investment Income   | <u>863</u>                          | <u>-</u>                                   | <u>56,284</u>                      | <u>57,147</u>     |
| Less Investment Expense   | (43)                                | -  | (73)                               | (116)             |
| Less Securities Lending Expense   | -                                   | -  | (121)                              | (121)             |
| Net Investment Income   | <u>820</u>                          | <u>-</u>                                   | <u>56,090</u>                      | <u>56,910</u>     |
| <br>Total Additions   | <br>820                             | <br>-                                      | <br>56,090                         | <br>56,910        |
| <br>Deductions  |                                     |  |                                    |                   |
| Benefits  | 11,858                              | 65,807                                     | 17,000                             | 94,665            |
| Administrative Expense  | <u>71</u>                           | <u>389</u>                                 | <u>100</u>                         | <u>560</u>        |
| Total Deductions  | <u>11,929</u>                       | <u>66,196</u>                              | <u>17,100</u>                      | <u>95,225</u>     |
| <br>Net Increase/(Decrease)   | <br>(11,109)                        | <br>(66,196)                               | <br>38,990                         | <br>(38,315)      |
| <br>Net Position - Restricted for Pension and<br>Other Post-Employment Benefits |                                     |  |                                    |                   |
| Beginning of Year   | <u>363,883</u>                      | <u>66,288</u>                              | <u>553,455</u>                     | <u>983,626</u>    |
| End of Year   | <u>\$ 352,774</u>                   | <u>\$ 92</u>                               | <u>\$ 592,445</u>                  | <u>\$ 945,311</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, 2015**

|   | <u>403(b)</u><br><u>Tax Shelter</u> | <u>Supplemental</u><br><u>Benefit Fund</u> | <u>Losey</u><br><u>Scholarship</u> | <u>Total</u>      |
|---|-------------------------------------|--|------------------------------------|-------------------|
| Additions   |                                     |  |                                    |                   |
| Contributions   |                                     |  |                                    |                   |
| Other Employers   | \$ -                                | \$ 80,000                                  | \$ -                               | \$ 80,000         |
| Investment Income   |                                     |  |                                    |                   |
| Net Appreciation in   |                                     |  |                                    |                   |
| Fair Value of Investments   | -                                   | -  | 17,183                             | 17,183            |
| Interest  | 261                                 | -  | 9,056                              | 9,317             |
| Dividends   | -                                   | -  | 4,391                              | 4,391             |
| Securities Lending, Gross   | -                                   | -  | 172                                | 172               |
| Gross Investment Income   | <u>261</u>                          | <u>-</u>                                   | <u>30,802</u>                      | <u>31,063</u>     |
| Less Investment Expense   | -                                   | -  | (51)                               | (51)              |
| Less Securities Lending Expense   | <u>(37)</u>                         | <u>-</u>                                   | <u>(52)</u>                        | <u>(89)</u>       |
| Net Investment Income   | <u>224</u>                          | <u>-</u>                                   | <u>30,699</u>                      | <u>30,923</u>     |
| Total Additions   | 224                                 | 80,000                                     | 30,699                             | 110,923           |
| Deductions  |                                     |  |                                    |                   |
| Benefits  | 13,423                              | 65,807                                     | 18,000                             | 97,230            |
| Administrative Expense  | <u>84</u>                           | <u>410</u>                                 | <u>112</u>                         | <u>606</u>        |
| Total Deductions  | <u>13,507</u>                       | <u>66,217</u>                              | <u>18,112</u>                      | <u>97,836</u>     |
| Net Increase/(Decrease)   | (13,283)                            | 13,783                                     | 12,587                             | 13,087            |
| Net Position - Restricted for Pension and<br>Other Post-Employment Benefits |                                     |  |                                    |                   |
| Beginning of Year   | <u>377,166</u>                      | <u>52,505</u>                              | <u>540,868</u>                     | <u>970,539</u>    |
| End of Year   | <u>\$ 363,883</u>                   | <u>\$ 66,288</u>                           | <u>\$ 553,455</u>                  | <u>\$ 983,626</u> |

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

**NOTE 1: DESCRIPTION OF RETIREMENT ANNUITY PLAN**

**A. REPORTING ENTITY**

The Kentucky Teachers' Retirement System (TRS) was created by the 1938 General Assembly and is governed by Chapter 161 Section 220 through Chapter 161 Section 990 of the Kentucky Revised Statutes (KRS). TRS is a blended component unit of the Commonwealth of Kentucky 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 annuity plan coverage for 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, 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.

**B. PARTICIPANTS**

As of June 30, 2016 a total of 208 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) No. 67 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 (4) year college or university . . . " is eligible to participate in the System. The following illustrates the classifications of members:

|   | 2016    | 2015    |
|---|---------|---------|
| Active contributing members:                            |         |         |
| Vested  | 48,292  | 48,426  |
| Non-vested  | 23,556  | 23,820  |
| Inactive members, vested                                | 9,240   | 8,051   |
| Retirees and beneficiaries currently receiving benefits | 51,563  | 49,822  |
| Total members, retirees, and beneficiaries              | 132,651 | 130,119 |

## C. BENEFIT PROVISIONS

### **For Members Before July 1, 2008:**

Members become vested when they complete five (5) years of credited service. To qualify for monthly retirement benefits, payable for life, members must either:

- 1.) Attain age fifty-five (55) and complete five (5) years of Kentucky service, or
- 2.) Complete twenty-seven (27) years of Kentucky service.

Non-university members receive monthly payments equal to two percent (2%) (service prior to July 1, 1983) and two and one-half percent (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 two percent (2%) of their final average salary for each year of service if, upon retirement, their total service is less than ten (10) years. New members after July 1, 2002 who retire with ten (10) or more years of total service will receive monthly benefits equal to two and one-half percent (2.5%) of their final average salary for each year of service, including the first ten (10) years. In addition, non-university members who retire July 1, 2004 and later with more than thirty (30) years of service will have their multiplier increased for all years over thirty (30) from two and one-half percent (2.5%) to three percent (3%) to be used in their benefit calculation.

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

The final average salary is the member's five (5) highest annual salaries except members at least age fifty-five (55) with twenty-seven (27) or more years of service may use their three (3) 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:**

Members become vested when they complete five (5) years of credited service. To qualify for monthly retirement benefits, payable for life, members must either:

- 1.) Attain age sixty (60) and complete five (5) years of Kentucky service, or
- 2.) Complete twenty-seven (27) years of Kentucky service, or
- 3.) Attain age fifty-five (55) and complete ten (10) years of Kentucky service.

The annual retirement allowance for non-university members is equal to: (a) one and seven tenths percent (1.7%) of final average salary for each year of credited service if their service is 10 years or less; (b) two percent (2.0%) 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) two and three tenths percent (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) two and one half percent (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) three percent (3.0%) of final average salary for years of credited service greater than 30 years.

The annual retirement allowance for university members is equal to: (a) one and one-half percent (1.5%) of final average salary for each year of credited service if their service is 10 years or less; (b) one and seven tenths percent (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) one and eighty five hundredths percent (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) two percent (2.0%) 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 (5) highest annual salaries except members at least age fifty-five (55) with twenty-seven (27) or more years of service may use their three (3) 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.

**Other Benefits:**

TRS provides post-employment medical benefits to retirees as fully described in Note 8. The System also provides disability benefits for vested members at the rate of sixty percent (60%) of the final average salary. A life insurance benefit, payable upon the death of a member, is \$2,000 for active contributing members and \$5,000 for retired or disabled members.

Cost of living increases are one and one-half percent (1.5%) annually. Additional ad hoc increases and any other benefit amendments must be authorized by the General Assembly.

**NOTE 2: SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

**A. 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.

**B. CASH**

TRS has seven cash accounts. At June 30, 2016, the retirement annuity cash account totaled a negative \$11,989,861, the control cash account totaled \$24,299,653 and the administrative expense fund cash account was \$2,846,704 for a total of \$15,156,496 as carrying value of cash in the defined benefit plan. The medical insurance trust cash account totaled \$37,716,487, the medical insurance 401(h) cash account totaled \$22,013,449 and the medical insurance claims cash account totaled \$113,567 for a total of \$59,843,503 as carrying value of cash in the medical insurance plan. The excess benefit fund cash account contained \$481. Therefore, the carrying value of cash was \$75,000,480 and the bank balance was \$78,232,834 and funds controlled by the Commonwealth of Kentucky of \$5,895,564. The variance is primarily due to outstanding checks and items not processed by the bank on June 30, 2016.

**C. CAPITAL ASSETS**

Property and equipment are carried at cost, less accumulated depreciation. All costs of property and equipment \$5,000 (actual dollars) or greater are capitalized. 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 forty years in the following major classes: office furniture and equipment, five years; other equipment, five years; computer software, ten years; TRS office buildings, forty years. The Pathway System will replace TRS's legacy computer system and be TRS's primary line of business information technology system. The Pathway System will be capitalized and amortized or depreciated over ten years. As of June 30, 2016, the project to build and implement the Pathway System was substantially complete.

**D. 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. Alternative investments such as private equity, timberland, and other additional categories, such as opportunistic credit, high yield bonds, and direct lending are valued using the most recent general partner statement of fair value based on independent appraisals, updated for any subsequent partnership interests' cash flows.

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.

**E. 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 sixty (60) days and accumulated compensatory time limited to two hundred-forty (240) hours. As of June 30, 2016 and 2015 accrued compensated absences were included in the accounts payable on the balance sheet amounting to \$1,166,764 and \$1,135,872, respectively.

**F. 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.

**G. OTHER RECEIVABLES**

TRS allows qualified purchases of service credit to be made by installment payments not to exceed a five (5) year period. Revenue is recognized in the initial year of the installment contract agreement. The June 30, 2016 and 2015 installment contract receivables were \$559,913 and \$588,560, respectively.

**H. 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.

**I. INCOME TAXES**

The defined benefit plan is organized as a tax-exempt retirement plan under the Internal Revenue Code. The tax sheltered annuity plan is no longer continued and will be fully terminated when all lifetime annuities have expired. The System's management believes that it has operated the plans within the constraints imposed by federal tax law.

**J. RECENT PRONOUNCEMENTS**

In February 2015, GASB issued Statement No. 72, Fair Value Measurement and Application. This pronouncement clarifies the definition of fair value for financial reporting purposes, establishes general principles for measuring fair value, providing additional fair value guidance, and enhancing disclosures about fair value measurements. GASB Statement No. 72 is effective for fiscal years beginning after June 15, 2015. Accordingly, TRS adopted the statement for the fiscal year ended June 30, 2016.

In June 2015, GASB issued Statement No. 74, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans and Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits other Than Pensions. GASB Statement No. 74 replaces GASB Statement No. 43, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans. GASB Statement No. 75 replaces GASB Statement No. 45, Accounting and Financial Reporting by Employers for Postemployment Benefit Plans Other Than Pensions. GASB Statement No. 74 is effective for fiscal years beginning after June 15, 2016, and GASB Statement No. 75 is effective for fiscal years beginning after June 15, 2017. At this time, management is reviewing the recently issued pronouncements to determine the impact on TRS's financial statements.

In March 2016, GASB issued Statement No. 82, Pension Issues. This Statement clarifies issues raised with respect to GASB Statements No. 67, 68 and 73. Specifically, Statement No. 82 addresses issues regarding the presentation of payroll-related measures in required supplementary information, the selection of assumptions and the treatment of deviations from the guidance in an Actuarial Standard of Practice for financial reporting purposes and the classification of payments made by employers to satisfy plan member contribution requirements. GASB Statement No. 82 is effective for fiscal years beginning after June 15, 2016. TRS early adopted the statement during, fiscal year ended June 30, 2016, which did not have a significant impact.

### **NOTE 3: CONTRIBUTIONS AND FUNDS OF THE PLAN**

#### **A. CONTRIBUTIONS**

Contribution rates are established by Kentucky Revised Statutes. Non-university members are required to contribute 12.855 percent of their salaries to the System effective July 1, 2015; university members are required to contribute 10.40 percent of their salaries effective July 1, 2015. KRS 161.565 allows each university to reduce the contribution of its members by 2.215 percent; therefore, university members contribute 8.185 percent of their salary to TRS. For members employed by local school districts, the State, as a non-employer contributing entity, contributes 13.105 percent of salary for those who joined before July 1, 2008 and 14.105 percent for those who joined thereafter.

Other participating employers are required to contribute the percentage contributed by members plus an additional 3.25 percent of members' gross salaries.

The member and employer contributions consist of retirement annuity contributions and other post-employment benefit contributions to the medical and life insurance plans. The member post-employment medical contribution is 3.0 percent. The employer post-employment medical contribution is .75 percent of member gross salaries. Also, after July 1, 2015 employers (other than the state) contribute 3.0 percent 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 (5) years of credited service, accumulated member contributions to the retirement annuity plan plus interest are refunded upon the member's request.

#### **B. FUNDS OF THE PLAN**

##### **Teacher Savings Fund**

This fund was established by KRS 161.420(2) as the Teacher Savings Fund and consists of contributions paid by university and non-university members. The fund also includes interest authorized by the Board of Trustees from the Guarantee Fund. 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 Allowance Reserve Fund, the fund from which retirement benefits are paid.

**State Accumulation Fund**

This fund was established by KRS 161.420(3) as the State Accumulation Fund and 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 is also realized by producing either a receivable from or a payable to the State of Kentucky.

**Allowance Reserve Fund**

This fund was established by KRS 161.420(4) as the Allowance Reserve Fund, the source for retirement, disability, and survivor benefits paid to members of TRS. 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.

**Guarantee Fund**

This fund was established by KRS 161.420(6) as 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.

**Administrative Expense**

This fund was established by KRS 161.420(1) as the Expense Fund. 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**

**A. NET PENSION LIABILITY OF EMPLOYERS**

The net pension liability (i.e., the System's liability determined in accordance with GASB No. 67 less the fiduciary net position) as of June 30, 2016 is shown below.

| <b>Net Pension Liability of Employers</b> |                                    |  |  |  |                         |  |
|---|------------------------------------|--|--|--|-------------------------|--|
| (In Thousands)                            |                                    |  |  |  |                         |  |
| Fiscal<br>Year Ending<br>June 30          | Total<br>Pension<br>Liability<br>A | Plan<br>Fiduciary<br>Net Position<br>B | Employers<br>Net Pension<br>Liability<br>(A-B) | Plan Fiduciary<br>Net Position<br>As a % of<br>Total Pension<br>Liability<br>(B/A) | Covered<br>Payroll<br>C | Net Pension<br>Liability<br>As a % of<br>Covered<br>Payroll<br>[A-B/C] |
| 2016                                      | \$ 47,736,901                      | \$ 16,812,832                          | \$ 30,924,069                                  | 35.2%  | \$ 3,390,539            | 912.07%  |

**B. SUMMARY OF ACTUARIAL ASSUMPTIONS**

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

|                                 |  |
|---------------------------------|--|
| Valuation Date                  | 6/30/2015  |
| Actuarial cost method           | Entry Age  |
| Actuarial Assumptions:          |  |
| Investment rate of return       | 7.50%, net of pension plan investment expense,<br>including inflation. |
| Projected salary increases      | 4.00 - 8.20%, including inflation                                      |
| Inflation rate                  | 3.50%  |
| Municipal Bond Index Rate       | 3.01%  |
| Single Equivalent Interest Rate | 4.20%  |

Mortality rates were based on the RP-2000 Combined Mortality Table for Males or Females, as appropriate, with adjustments for mortality improvements based on a projection of Scale AA to 2020 with a setback of 1 year for females. The results of the experience study for the period July 1, 2010 - June 30, 2015 will be reflected in the June 30, 2016 valuation and the June 30, 2017 GASB 67 report.

**C. 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.

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:

| <u>Asset Class</u> | <u>Target Allocation</u> | <u>Long-Term Expected Real Rate of Return</u> |
|--------------------|--------------------------|---|
| U.S. Equity        | 45.0%                    | 6.4%  |
| Non U.S. Equity    | 17.0%                    | 6.5%  |
| Fixed Income       | 24.0%                    | 1.6%  |
| High Yield Bonds   | 4.0%                     | 3.1%  |
| Real Estate        | 4.0%                     | 5.8%  |
| Alternatives       | 4.0%                     | 6.8%  |
| Cash               | 2.0%                     | 1.5%  |
| Total              | <u>100.0%</u>            |   |



**D. DISCOUNT RATE**

The discount rate used to measure the total pension liability was 4.20%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rates and the Employer contributions will be made at statutorily required rates, and the additional amounts appropriated for fiscal years 2017 and 2018. 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 until the 2040 plan year. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments through 2039 and a municipal bond index rate of 3.01% was applied to all periods of projected benefit payments after 2039. The Single Equivalent Interest Rate (SEIR) that discounts the entire projected benefit stream to the same amount as the sum of the present values of the two separate benefit payments streams was used to determine the total pension liability.

The following table presents the net pension liability of the System, calculated using the discount rate of 4.20%, 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 (3.20%) or 1-percentage-point higher (5.20%) than the current rate:

| <i>(in thousands)</i>          | 1% Decrease<br>(3.20%) | Current Discount<br>Rate (4.20%) | 1% Increase<br>(5.20%) |
|--------------------------------|------------------------|----------------------------------|------------------------|
|                                |                        |                                  |                        |
| Systems' net pension liability | \$ 37,937,230          | \$ 30,924,069                    | \$ 25,168,197          |

June 30, 2015 is the actuarial valuation date upon which the TPL is based. The TPL from this valuation was determined using a discount rate of 4.20% which was based on a municipal bond index rate as of that date equal to 3.01%. The TPL used last year was determined using a discount rate equal to 4.88%, which was based on a municipal bond index rate of 3.82%. These two amounts are rolled forward to June 30, 2016 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 assumed interest rate (SEIR) for the year. The difference between the two roll-forward amounts as of June 30, 2016 is the gain or loss due to changes in assumptions and other inputs.

In addition, we have determined an expected TPL as of June 30, 2016 based on the TPL roll-forward in the June 30, 2015 GASB 67 report. The difference between this amount and the roll-forward of the actual TPL based on the 4.88% interest rate is reflected as an experience gain or loss for the year. These procedures are shown in the following table:

**TPL Roll-Forward**  
(In Thousands)

|  | Expected      | Actual Before<br>Assumption<br>Change | Actual After<br>Assumption<br>Change |
|--|---------------|---------------------------------------|--------------------------------------|
| (a) Interest Rate  | 4.88%         | 4.88%                                 | 4.20%                                |
| (b) TPL as of June 30, 2015  | \$ 42,476,699 | \$ 42,421,364                         | \$ 46,355,565                        |
| (c) Entry Age Normal Cost for the Year<br>July 1, 2015 - June 30, 2016                       | 1,120,893     | 1,120,893                             | 1,334,428                            |
| (d) Actual Benefit Payments (including refunds)<br>For the year July 1, 2015 - June 30, 2016 | 1,860,946     | 1,860,946                             | 1,860,946                            |
| (e) TPL as of June 30, 2016<br>(b) x (1 + (a)) + (c) - (d) x (1 + 0.5 x (a))                 | 43,764,102    | 43,706,067                            | 47,736,901                           |
| (f) Difference between Expected and Actual<br>Experience (Gain)/Loss                         |               | (58,035)                              |                                      |
| (g) Difference due to change in Assumptions and<br>Other Inputs (Gain)/Loss                  |               |                                       | 4,030,834                            |

**NOTE 5: DEPOSITS WITH FINANCIAL INSTITUTIONS AND INVESTMENTS**  
**(Including Repurchase Agreements)**

**A. LEGAL PROVISIONS FOR INVESTMENTS**

The following disclosures are meant to help the users of TRS' financial statements 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 fund and a health insurance trust fund in accordance with state and federal law. TRS provides service and disability retirement benefits, death and survivor benefits, health insurance benefits, and life insurance benefits for Kentucky public education employees and their beneficiaries. The trust funds managed by TRS shall be referred to collectively as the "System" unless the context requires a specific reference to a particular fund.

The asset allocation parameters for the retirement annuity trust fund are set forth in Title 102, Chapter 1:175, Section 2 and Section 3 of the Kentucky Administrative Regulations as follows:

- There shall be no limit on the amount of investments owned by the retirement annuity trust fund if the investments are guaranteed by the United States government.
- Not more than thirty-five percent (35%) of the assets of the retirement annuity trust fund at fair value shall be invested in corporate debt obligations.

- Not more than ten percent (10%) of the assets of the retirement annuity trust fund at fair value shall be invested in foreign debt.
- Not more than sixty-five percent (65%) of the assets of the retirement annuity trust fund at fair value shall be invested in common stocks or preferred stocks.
- Not more than twenty-five percent (25%) of the assets of the retirement annuity trust fund at fair value shall be invested in a stock portfolio designed to replicate a general stock index.
- Not more than thirty percent (30%) of the assets of the retirement annuity trust fund 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 sixty-five percent (65%) limitation for total stocks.
- Not more than ten percent (10%) of the assets of the retirement annuity trust fund 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 ten percent (10%) of the assets of the retirement annuity trust fund at fair value shall be invested in alternative investments. This category may include private equity, venture capital, timberland, and infrastructure investments.
- Not more than fifteen percent (15%) of the assets of the retirement annuity trust fund at fair value shall be invested in any additional category or categories of investments. The Board of Trustees 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 Title 102, Chapter 1:178, Section 2 of the Kentucky Administrative Regulations as follows:

- In order to preserve the assets of the health insurance trust fund 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 health insurance trust fund's liquidity and its capability of meeting both short and long-term obligations.

## **B. CASH AND CASH EQUIVALENTS**

For cash deposits and cash equivalents, custodial credit risk is the risk that, in the event of a bank failure, the System's deposits may not be returned to the System. The System's total cash balance held at J.P. Morgan Chase Bank in noninterest-bearing accounts on June 30, 2016 was \$78,232,834. In addition to these funds, an amount of \$5,895,564 represents funds transferred to and controlled by the Commonwealth of Kentucky.

On November 9, 2010, the FDIC issued a Final Rule implementing Section 343 of the Dodd-Frank Wall Street Reform and Consumer Protection Act that provides for unlimited insurance coverage of noninterest-bearing transaction accounts. Beginning January 1, 2013, all cash balances at J.P. Morgan Chase Bank were insured up to \$250,000 and the remaining balances fully collateralized with securities held by the Federal Reserve Bank of New York in the name of the Commonwealth of Kentucky-Teachers' Retirement.

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, 2016, the System's cash balance in the amount of \$78,232,834 was not exposed to custodial credit risk since this amount was fully insured by the FDIC limit of \$250,000 and the remaining balances collateralized with securities valued at \$153,685,487.

### **C. INVESTMENTS**

All of the System'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 of Trustees' policies while the Board of Trustees and the Investment Committee shall 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 chart represents the fair values of the investments of the Teachers' Retirement System of the State of Kentucky for June 30, 2016 and 2015.

**Schedule of Investments  
Retirement Annuity Trust**

|                                  | Fair Value<br>June 30, 2016 | Fair Value<br>June 30, 2015 |
|----------------------------------|-----------------------------|-----------------------------|
| Money Market Fund*               | \$ 508,661,966              | \$ 614,434,346              |
| STIFF (BNYM)                     | 386,697                     | 142,138                     |
| Total Cash Equivalents           | 509,048,663                 | 614,576,484                 |
| U. S. Government                 | 797,819,019                 | 769,355,884                 |
| Agency Bonds                     | 55,607,806                  | 82,898,405                  |
| Mortgage Backed Securities       | 90,812,117                  | 103,213,170                 |
| Asset Backed Securities          | 62,625,012                  | 82,126,975                  |
| Commercial Mtg Backed Securities | 61,720,221                  | 118,318,341                 |
| Collateralized Mtg Obligations   | 27,572,453                  | 12,884,110                  |
| Municipal Bonds                  | 405,755,392                 | 444,405,813                 |
| Corporate Bonds                  | 1,322,052,725               | 1,417,905,508               |
| Total Fixed Income               | 2,823,964,745               | 3,031,108,206               |
| International Equity             | 3,681,811,400               | 3,964,258,297               |
| U. S. Equity                     | 6,585,496,953               | 7,199,533,066               |
| Total Equities                   | 10,267,308,353              | 11,163,791,363              |
| Real Estate Equity               | 940,860,202                 | 825,335,346                 |
| Total Real Estate Equity         | 940,860,202                 | 825,335,346                 |
| Private Equity                   | 731,560,317                 | 636,890,428                 |
| Timberland                       | 201,253,033                 | 207,797,668                 |
| Total Alternative Investments    | 932,813,350                 | 844,688,096                 |
| Opportunistic Credit             | 512,173,863                 | 524,212,360                 |
| Corporate Bonds                  | 411,948,487                 | 308,659,155                 |
| Corporate Loans                  | 385,391,068                 | 463,525,551                 |
| International Bonds              | -                           | 89,500,325                  |
| Total Additional Categories      | 1,309,513,418               | 1,385,897,391               |
| <b>TOTAL INVESTMENTS</b>         | <b>\$ 16,783,508,731</b>    | <b>\$ 17,865,396,886</b>    |

\*Money Market Fund includes the Life Insurance Plan, 403(b) Tax Shelter Plan, and Losey Scholarship fund.

**Schedule of Investments  
Health Insurance Trust**

|                               | Fair Value<br>June 30, 2016 | Fair Value<br>June 30, 2015 |
|-------------------------------|-----------------------------|-----------------------------|
| Money Market Fund             | \$ 18,186,502               | \$ 36,640,065               |
| STIFF (BNYM)                  | -                           | (1,028,219)                 |
| Total Cash Equivalents        | 18,186,502                  | 35,611,846                  |
| Agency Bonds                  | 6,380,550                   | 1,000,830                   |
| Corporate Bonds               | 56,174,850                  | 41,745,634                  |
| Total Fixed Income            | 62,555,400                  | 42,746,464                  |
| Global Equities               | 354,369,798                 | 355,702,555                 |
| Total Equities                | 354,369,798                 | 355,702,555                 |
| Real Estate Equity            | 25,433,241                  | 1,762,328                   |
| Total Real Estate Equity      | 25,433,241                  | 1,762,328                   |
| Private Equity                | 23,931,317                  | 11,698,357                  |
| Total Alternative Investments | 23,931,317                  | 11,698,357                  |
| Opportunistic Credit          | 45,955,526                  | 43,821,956                  |
| Corporate Bonds               | 64,192,800                  | 65,525,790                  |
| Corporate Loans               | 26,927,516                  | 25,228,612                  |
| Total Additional Categories   | 137,075,842                 | 134,576,358                 |
| <b>TOTAL INVESTMENTS</b>      | <b>\$ 621,552,100</b>       | <b>\$ 582,097,908</b>       |

**Custodial Credit Risk**

Custodial Credit Risk for an investment is the risk that, in the event of the failure of counterparty, the System 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 the System is primarily maintained 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, Inc. The Fund's portfolio is structured within the confines of Rule 2a-7 under the Investment Company Act of 1940, as amended. Commercial paper, U.S. Treasury and agency obligations, certificates of deposit, bankers' acceptances, repurchase agreements, time deposits, etc. are all permissible investments within this Fund.

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' 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 percent of the value of the repurchase agreements.

As of June 30, 2016, cash collateral reinvestment securities acquired through securities lending for the retirement annuity trust fund by TRS's custodian, who is also the lending agent/counterparty, amounted to \$441,380,830 related to \$435,403,965 securities lent consistent with the lending agreement with the custodian. (Please refer to a following section entitled Securities Lending.)

**Interest Rate Risk**

Interest rate risk on investments is the possibility that changes in interest rates will reduce the fair value of the System'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, 2016, the retirement annuity trust and health insurance trusts had the following investment fair values and weighted average maturities:

**Retirement Annuity Trust**

| <u>Investment Type</u> | <u>Fixed Income</u>     | <u>Additional<br/>Categories</u> | <u>Average Maturity (Yrs)</u> |
|------------------------|-------------------------|----------------------------------|-------------------------------|
| U.S. Government        | \$ 797,819,019          | \$ -                             | 8.34                          |
| Agency                 | 55,607,806              | -                                | 8.61                          |
| MBS                    | 90,812,117              | -                                | 12.24                         |
| CMO                    | 27,572,453              | -                                | 12.67                         |
| ABS                    | 62,625,012              | -                                | 14.31                         |
| CMBS                   | 61,720,221              | -                                | 20.55                         |
| Muni                   | 405,755,392             | -                                | 12.47                         |
| Corporate Bonds        | 1,322,052,725           | 411,948,488                      | 7.83                          |
| Corporate Loans*       | -                       | 380,989,944                      | 4.56                          |
| Total                  | <u>\$ 2,823,964,745</u> | <u>\$ 792,938,432</u>            | <u>8.61</u>                   |

*\*Does not include \$4,401,124 in cash held directly at Babson Capital Management.*

**Health Insurance Trust**

| Investment Type | Fixed Income         | Additional<br>Categories | Average<br>Maturity<br>(Yrs) |
|-----------------|----------------------|--------------------------|------------------------------|
| U.S. Government | \$ 6,380,550         | \$ -                     | 11.53                        |
| Corporate Bonds | 56,174,849           | 64,192,800               | 4.49                         |
| Corporate Loans | -                    | 26,927,516               | 5.04                         |
| Total           | <u>\$ 62,555,399</u> | <u>\$ 91,120,316</u>     | <u>4.88</u>                  |

In addition to the above securities, the System held short-term cash investments in the Dreyfus Institutional Cash Advantage Fund and STIF, held at the Bank of New York Mellon, with a total fair value of \$527,235,165 and had a weighted average maturity of twenty-four (24) 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 are typically amortizing investments with an average life and interest rate risk significantly less than suggested by the legal maturity. Mortgage-backed securities, which are generally pre-payable, 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 adversely affect 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 optionality 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 the System were securitized and are guaranteed by Fannie Mae, Freddie Mac, or 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 \$90.8 million in mortgage-backed securities as of June 30, 2016, compared to \$103.2 million as of June 30, 2015.

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 a collateralized mortgage obligations established payment order. The retirement annuity trust held \$27.6 million in collateralized mortgage obligations as of June 30, 2016, compared to \$12.9 million as of June 30, 2015.



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 \$62.6 million as of June 30, 2016, compared to \$82.1 million as of June 30, 2015.

Commercial mortgage-backed securities are securities representing interests in the cash flows from pools of mortgage loans on commercial properties. The interests in a securitized pool of loans are generally divided into various tranches based upon planned payment order and level of seniority. The System's commercial mortgage-backed securities investments consist of highly rated relatively senior tranches. The average maturity of the System's commercial mortgage-backed securities holdings in the schedule above reflects the legal maturity of those holdings. Most of the tranches held are earlier in the planned payment order than the legal maturity suggests. The retirement annuity trust held \$61.7 million in commercial mortgage-backed securities investments as of June 30, 2016, compared to \$118.3 million as of June 30, 2015.

### Credit Risk

Credit risk is the risk that an issuer or counterparty to an investment will not fulfill its obligations. The following schedules list the System's fixed income investment fair values (net of cash equivalents) according to credit ratings as of June 30, 2016:

| <b>Retirement Annuity Trust</b> |                         |                          |                         |                |
|---------------------------------|-------------------------|--------------------------|-------------------------|----------------|
| Rating                          | Bonds &<br>Mortgages    | Additional<br>Categories | Total                   | %              |
| U.S. Government                 | \$ 797,819,019          | \$ -                     | \$ 797,819,019          | 22.06%         |
| AAA                             | 246,954,820             | -                        | 246,954,820             | 6.83%          |
| AA                              | 640,674,139             | -                        | 640,674,139             | 17.71%         |
| A                               | 517,571,569             | -                        | 517,571,569             | 14.31%         |
| BBB                             | 574,578,935             | 47,754,834               | 622,333,769             | 17.21%         |
| BB                              | 21,968,709              | 287,254,645              | 309,223,354             | 8.55%          |
| B                               | 13,654,700              | 267,438,487              | 281,093,187             | 7.77%          |
| CCC                             | 3,151,610               | 17,517,637               | 20,669,247              | 0.57%          |
| CC                              | -                       | 1,271,750                | 1,271,750               | 0.04%          |
| D                               | -                       | 836,481                  | 836,481                 | 0.02%          |
| Not Rated                       | 7,591,244               | 170,864,598              | 178,455,842             | 4.93%          |
| Total                           | <u>\$ 2,823,964,745</u> | <u>\$ 792,938,432</u>    | <u>\$ 3,616,903,177</u> | <u>100.00%</u> |

**Health Insurance Trust**

| Rating    | Bonds &<br>Mortgages | Additional<br>Categories | Total                 | %              |
|-----------|----------------------|--------------------------|-----------------------|----------------|
| AAA       | \$ 5,042,219         | \$ -                     | \$ 5,042,219          | 3.28%          |
| AA        | 17,465,602           | -                        | 17,465,602            | 11.37%         |
| A         | 26,633,606           | -                        | 26,633,606            | 17.33%         |
| BBB       | 13,413,972           | 7,489,048                | 20,903,020            | 13.60%         |
| BB        | -                    | 42,642,309               | 42,642,309            | 27.75%         |
| B         | -                    | 34,663,206               | 34,663,206            | 22.56%         |
| CCC       | -                    | 2,537,454                | 2,537,454             | 1.65%          |
| D         | -                    | 194,842                  | 194,842               | 0.13%          |
| Not Rated | -                    | 3,593,457                | 3,593,457             | 2.34%          |
| Total     | <u>\$ 62,555,399</u> | <u>\$ 91,120,316</u>     | <u>\$ 153,675,715</u> | <u>100.00%</u> |

Total fair value of the retirement annuity trust's fixed income portfolio was \$3,616,903,177 on June 30, 2016. The health insurance trust's fixed income portfolio was valued at \$153,675,715. The rating system used in the above charts is the Standard and Poor's rating system. For securities where a Standard and Poor's rating is not provided, another nationally recognized system is used and translated to the Standard and Poor's rating system.

In addition to the above categories, the retirement annuity trust held \$523,351,505 in short term investments through the Dreyfus Institutional Cash Advantage Fund. The health insurance trust held \$3,883,660 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 Standard & Poor's. In addition, investments in US Government and Agency securities are also highly rated securities since they are backed by the US Government. Notation is made that the ratings of securities is subject to change due to circumstances and thereby may have a lower rating than when first purchased.

The retirement annuity trust fund's policy on credit rating is set forth in 102 KAR 1:175 and reads as follows:

"A fixed income investment shall be rated at the time of purchase as investment grade by at least one (1) of the major rating services. A private placement debt investment shall be subject to the same credit qualifications as each fixed income investment. The fixed income investment portfolio as a whole shall maintain an average rating of investment grade by at least one (1) of the major rating services."

### **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. Per Administrative Regulation 102 KAR 1:175, the retirement annuity trust fund is subject to the following policies regarding single issuers of fixed income and equity securities:

"Unless the issuer is the United States Government or a government sponsored enterprise (GSE), the amount invested in the securities of a single issuer shall not equal more than five (5) percent of the assets of the System."

"The System's position in a single stock shall not exceed two and one-half (2.5) percent of the System's assets. The System's position in a single stock shall not exceed five (5) percent of the outstanding stock for that company unless the investment is part of a venture capital program."

TRS has not invested greater than five percent (5%) of the retirement annuity trust fund's assets at fair value in any single issuer and is in compliance with investment policy.

### **Foreign Currency Risk**

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit. As of June 30, 2016, the System's exposure to foreign currency risk consisted of \$4,226,815,771 and \$210,884,648 in the retirement annuity trust and health insurance trust funds respectively.

The following tables represent the fair values of investments that are subject to foreign currency as a result of cash contributions to each portfolio manager:

**Retirement Annuity Trust**

|                                       |                         |
|---------------------------------------|-------------------------|
| Commingled Funds                      |                         |
| Babson Capital European Loan Fd       | \$ 83,723,731           |
| Baillie Gifford Intrntl EAFE          | 734,894,403             |
| Baring All Country World ex US        | 496,968,194             |
| Black Rock ACWI EX-US IMI             | 600,737,023             |
| UBS All Country World ex US           | 576,221,719             |
| Alternative Funds                     |                         |
| Carlyle Europe Partners IV, L.P.      | 17,509,391              |
| KKR & Co European Fund III            | 49,515,576              |
| KKR & European Fund IV                | 16,088,979              |
| Oaktree European Principal III        | 24,409,242              |
| ADRs (Equities)                       | 458,137,096             |
| Cross-Listed Equities                 | 718,502,718             |
| Bonds (Fixed Income)                  | 247,293,462             |
| Additional Categories (Fixed Income)  | 83,423,983              |
| Additional Categories (Opportunistic) | 119,390,254             |
| Total                                 | <u>\$ 4,226,815,771</u> |

**Health Insurance Trust**

|                                       |                       |
|---------------------------------------|-----------------------|
| Commingled Funds                      |                       |
| Medical Ins. Black Rock Fund B        | \$ 173,166,422        |
| Alternative Funds                     |                       |
| Medical Ins. Carlyle Europe IV        | 3,501,879             |
| Medical Ins. KKR European IV          | 3,217,797             |
| Bonds (Fixed Income)                  | 7,090,460             |
| Additional Categories (Fixed Income)  | 12,602,739            |
| Additional Categories (Opportunistic) | 11,305,351            |
| Total                                 | <u>\$ 210,884,648</u> |

The following tables reflect the fair values of the various foreign currencies associated with the System's investments in the categories outlined above:

**Retirement Annuity Trust**

| Currency               | <u>Fair Value</u> | Currency                      | <u>Fair Value</u>       |
|------------------------|-------------------|-------------------------------|-------------------------|
| Argentine Peso         | \$ 7,929,600      | Malaysian Ringgit             | \$ 8,375,874            |
| Australian Dollar      | 117,642,969       | Mexican Peso                  | 60,042,605              |
| Bermudian Dollar       | 51,636,166        | Netherlands Antillean Guilder | 31,869,794              |
| Brazilian Real         | 29,642,858        | New Zealand Dollar            | 1,468,579               |
| British Pound Sterling | 542,857,180       | Norwegian Krone               | 19,279,653              |
| Bulgarian Lev          | 325,816           | Panamanian Balboa             | 29,110,068              |
| Canadian Dollar        | 305,265,009       | Peruvian Nuevo Sol            | 71,390                  |
| Cayman Islands Dollar  | 82,711,544        | Philippine Peso               | 3,795,486               |
| Chilean Peso           | 5,099,683         | Polish Zloty                  | 5,239,446               |
| Chinese Yuan           | 149,888,039       | Qatari Rial                   | 1,148,933               |
| Colombian Peso         | 6,919,734         | Russian Ruble                 | 43,832,381              |
| Czech Crown            | 275,888           | Singapore Dollar              | 14,630,090              |
| Danish Krone           | 69,964,944        | South African Rand            | 35,391,881              |
| Egyptian Pound         | 340,728           | Swedish Krona                 | 109,926,460             |
| Euro                   | 1,431,414,303     | Swiss Franc                   | 143,631,290             |
| Hong Kong Dollar       | 148,792,516       | Taiwan Dollar                 | 73,906,720              |
| Hungarian Forint       | 349,215           | Thai Baht                     | 6,106,618               |
| Indian Rupee           | 53,386,927        | Turkish Lira                  | 7,940,689               |
| Indonesian Rupiah      | 7,086,814         | UAE Dirham                    | 17,657,398              |
| Israeli New Shekel     | 50,530,727        | Various                       | 4,318,599               |
| Japanese Yen           | 504,456,061       | Total                         | <u>\$ 4,226,815,771</u> |
| Korean Won             | 39,837,403        |                               |                         |
| Liberian Dollar        | 2,717,693         |                               |                         |

**Health Insurance Trust**

| Currency               | Fair Value    | Currency           | Fair Value     |
|------------------------|---------------|--------------------|----------------|
| Australian Dollar      | \$ 10,520,315 | Malaysian Ringgit  | \$ 1,121,622   |
| Bermudian Dollar       | 1,766,016     | Mexican Peso       | 1,486,499      |
| Brazilian Real         | 2,477,384     | New Zealand Dollar | 397,301        |
| British Pound Sterling | 25,478,499    | Norwegian Krone    | 866,284        |
| Canadian Dollar        | 18,803,103    | Panamanian Balboa  | 168,383        |
| Cayman Islands Dollar  | 2,812,299     | Peruvian Nuevo Sol | 19,342         |
| Chilean Peso           | 447,558       | Philippine Peso    | 564,995        |
| Chinese Yuan           | 141,703       | Polish Złoty       | 401,767        |
| Colombian Peso         | 168,485       | Qatari Rial        | 309,925        |
| Czech Crown            | 59,152        | Russian Ruble      | 826,876        |
| Danish Krone           | 2,228,544     | Singapore Dollar   | 2,447,734      |
| Egyptian Pound         | 85,907        | South African Rand | 2,596,781      |
| Euro                   | 62,852,767    | Swedish Krona      | 3,650,524      |
| Hong Kong Dollar       | 10,982,771    | Swiss Franc        | 10,815,063     |
| Hungarian Forint       | 92,975        | Taiwan Dollar      | 4,749,926      |
| Indian Rupee           | 3,416,016     | Thai Baht          | 921,116        |
| Indonesian Rupiah      | 995,857       | Turkish Lira       | 498,876        |
| Israeli New Shekel     | 925,797       | UAE Dirham         | 326,765        |
| Japanese Yen           | 28,521,314    | Various            | 2,918          |
| Korean Won             | 5,712,246     | Total              | \$ 210,884,648 |
| Liberian Dollar        | 223,243       |                    |                |

The majority of foreign investments are held in commingled funds managed by Babson Capital Management, UBS Global Asset Management, Baillie Gifford, Baring Asset Management, and Black Rock. In addition to the commingled funds investing in foreign securities, the retirement annuity trust fund held \$458,137,096 associated with foreign interests in American Depositary Receipt investments. These American Depositary 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. American Depositary Receipts are denominated in U.S. currency. Also, the cross listed equities, in the amount of \$718,502,718, represent securities domiciled in foreign countries, but are listed and traded on U.S. exchanges. Other foreign securities and investments consisted of debt securities and alternative investment opportunities. Foreign holdings, including investment receivables/payables, that were not readily identifiable to a specific country were listed in the "various" category pertaining to currency type.

The retirement annuity trust fund's policy regarding foreign equities is that not more than thirty percent (30%) of the assets of the retirement annuity trust fund 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 sixty-five percent (65%) limitation for total stocks per 102 KAR 1:175 Section 2(e).

**Fair Value Measurement**

TRS categorizes its fair value measurements within the fair value hierarchy established by GAAP. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. 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, either directly or indirectly. Level 3 inputs are unobservable inputs for an asset or liability. The fair value hierarchy gives the highest priority to Level 1 inputs and the lowest priority to Level 3 inputs. The following tables depict the following recurring fair value measurements as of June 30, 2016.

**Retirement Annuity Trust**

| <b>Investments</b>                   | <u>Level 1 Inputs</u>          | <u>Level 2 Inputs</u>          | <u>Level 3 Inputs</u>          | <u>Fair Value</u>               |
|--------------------------------------|--------------------------------|--------------------------------|--------------------------------|---------------------------------|
| <b>Cash Equivalents</b>              | \$ 509,048,663                 | \$ -                           | \$ -                           | \$ 509,048,663                  |
| <b>Fixed Income:</b>                 |                                |                                |                                |                                 |
| ABS                                  | -                              | 57,155,175                     | 5,469,837                      | 62,625,012                      |
| Agency                               | -                              | 55,607,806                     | -                              | 55,607,806                      |
| CMBS                                 | -                              | 61,720,221                     | -                              | 61,720,221                      |
| CMO                                  | -                              | 27,572,453                     | -                              | 27,572,453                      |
| Corporate Bonds                      | 2,611,579                      | 1,315,197,986                  | 4,243,160                      | 1,322,052,725                   |
| MBS                                  | -                              | 88,464,701                     | 2,347,416                      | 90,812,117                      |
| Muni                                 | -                              | 398,730,802                    | 7,024,590                      | 405,755,392                     |
| US Government                        | 791,216,358                    | 6,602,661                      | -                              | 797,819,019                     |
| <b>Total Fixed Income</b>            | <u>793,827,937</u>             | <u>2,011,051,805</u>           | <u>19,085,003</u>              | <u>2,823,964,745</u>            |
| <b>Equities:</b>                     |                                |                                |                                |                                 |
| International                        | 1,207,010,018                  | 2,474,801,382                  | -                              | 3,681,811,400                   |
| US Equity                            | 6,389,949,438                  | 195,547,351                    | 164                            | 6,585,496,953                   |
| <b>Total Equity</b>                  | <u>7,596,959,456</u>           | <u>2,670,348,733</u>           | <u>164</u>                     | <u>10,267,308,353</u>           |
| <b>Real Estate</b>                   | -                              | -                              | 940,860,202                    | 940,860,202                     |
| <b>Alternative Investments:</b>      |                                |                                |                                |                                 |
| Private Equity                       | -                              | -                              | 731,560,317                    | 731,560,317                     |
| Timberland                           | -                              | -                              | 201,253,033                    | 201,253,033                     |
| <b>Total Alternative Investments</b> | <u>-</u>                       | <u>-</u>                       | <u>932,813,350</u>             | <u>932,813,350</u>              |
| <b>Additional Categories:</b>        |                                |                                |                                |                                 |
| Corporate Bonds                      | 1,454,239                      | 410,494,248                    | -                              | 411,948,487                     |
| Corporate Loans                      | -                              | 599,745                        | 384,791,323                    | 385,391,068                     |
| Opportunistic Credit                 | -                              | -                              | 512,173,863                    | 512,173,863                     |
| <b>Total Additional Categories</b>   | <u>1,454,239</u>               | <u>411,093,993</u>             | <u>896,965,186</u>             | <u>1,309,513,418</u>            |
| <b>Total Investments</b>             | <u><u>\$ 8,901,290,295</u></u> | <u><u>\$ 5,092,494,531</u></u> | <u><u>\$ 2,789,723,905</u></u> | <u><u>\$ 16,783,508,731</u></u> |

**Health Insurance Trust**

| <b>Investments</b>              | <u>Level 1 Inputs</u> | <u>Level 2 Inputs</u> | <u>Level 3 Inputs</u> | <u>Fair Value</u>     |
|---------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>Cash Equivalents</b>         | \$ 18,186,502         | \$ -                  | \$ -                  | \$ 18,186,502         |
| <b>Fixed Income:</b>            |                       |                       |                       |                       |
| Corporate Bonds                 | -                     | 56,174,850            | -                     | 56,174,850            |
| US Government                   | 6,380,550             | -                     | -                     | 6,380,550             |
| Total Fixed Income              | 6,380,550             | 56,174,850            | -                     | 62,555,400            |
| <b>Equities:</b>                |                       |                       |                       |                       |
| Global                          | -                     | 354,369,798           | -                     | 354,369,798           |
| Total Equity                    | -                     | 354,369,798           | -                     | 354,369,798           |
| <b>Real Estate</b>              | -                     | -                     | 25,433,241            | 25,433,241            |
| <b>Alternative Investments:</b> |                       |                       |                       |                       |
| Private Equity                  | -                     | -                     | 23,931,317            | 23,931,317            |
| Total Alternative Investments   | -                     | -                     | 23,931,317            | 23,931,317            |
| <b>Additional Categories:</b>   |                       |                       |                       |                       |
| Corporate Bonds                 | 87,780                | 64,105,020            | -                     | 64,192,800            |
| Corporate Loans                 | -                     | -                     | 26,927,516            | 26,927,516            |
| Opportunistic Credit            | -                     | -                     | 45,955,526            | 45,955,526            |
| Total Additional Categories     | 87,780                | 64,105,020            | 72,883,042            | 137,075,842           |
| <b>Total Investments</b>        | <u>\$ 24,654,832</u>  | <u>\$ 474,649,668</u> | <u>\$ 122,247,600</u> | <u>\$ 621,552,100</u> |

**Cash Equivalents** - Cash equivalents are short-term, highly liquid investments that are readily convertible to known amounts of cash and so near their maturity that they present insignificant risk of changes in value because of changes in interest rates. 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** - 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 are valued using a matrix pricing technique that values securities based on their relationship to benchmark quoted prices. Debt and equity securities classified in Level 3 are securities whose stated market price is unobservable by the market place and are instead 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 our real estate is comprised of owned properties leased to various commercial enterprises. The fair value measurement for real estate is determined by professional appraisals recurring every five years. Real Estate also includes some Limited Partnerships that are valued the same as Alternative Investments

**Alternative Investments** - Alternative Investments are comprised of Private Equity investments classified as Level 3 assets. 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. These investments do not allow redemptions. Alternatively, we receive distributions as the underlying assets of the fund liquidate. These are investments for which exchange quotations are not readily available. Therefore, private equity investments are valued at an estimated fair value determined in good faith by the General Partner ("GP"). A GP is an owner of a partnership that has unlimited liability and is a managing partner that is active in the day to day business of a Limited Partnership. These investments are initially valued at cost with subsequent adjustments that reflect third party transactions, financial operating results and other factors deemed relevant by the GP.

The GP values each investment by applying generally accepted valuations methods including the market approach and the income approach. The determination of fair value using these methodologies takes into consideration a range of factors, including but not limited to, the price at which the investment was acquired, the nature of the investment, local market conditions, trading values on public exchanges for comparable securities, current and projected operating performance and financing transactions subsequent to the acquisition of the investment. Because of the subjective nature of estimated fair value of the private investments, such values may differ significantly from the values that would have been used had a ready market existed for these investments.

**Timberland Investments** - Timberland investments are managed investments regarding the acquiring, growing and disposing of timber on timberlands owned by the System. Fair value determinations for Level 3 measurements of investments are the responsibility of the Advisor, The Molpus Woodlands Group, LLC. The Advisor contracts with outside appraisors to generate fair value estimates on an annual basis. The outside appraisors utilized the cost, sales comparison and income capitalization approaches to estimate the fair value of the timber and timberlands. The Advisor challenges the reasonableness of the assumptions used and reviews the methodology to ensure the estimated fair value complies with accounting standards generally accepted in the United States of America.

**Additional Categories** - Investments in this category do not fit the regular parameters for the retirement annuity trust fund set forth in Title 102, Chapter 1:175 of the Kentucky Administrative Regulations. Rather, they fall into the allowable 15% of assets of the retirement annuity trust fund invested in any additional category or categories of investments approved by the Board of Trustees. Debt securities in this category classified as Level 1 are valued using prices quoted in active markets for those securities. Debt securities in the Additional Categories classified as Level 2 are valued using a matrix pricing technique that values securities based on their relationship to benchmark quoted prices. Opportunistic credits classified as Level 3 in the fair value hierarchy are valued using consensus pricing.

#### **D. SECURITIES LENDING**

Section 161.430 of the Kentucky Revised Statutes empowers the Board of Trustees with complete fiduciary responsibility for the funds of the System. 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. U.S. Government and agency securities, selected domestic bonds, and domestic and international stocks are the types of securities that are lent. The System's custodian, The Bank of New York Mellon, 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 cash, marketable U.S. Government securities, and select marketable U.S. Government agency securities approved by the System.

Securities lending transactions are accounted for in accordance with GASB Statement No. 28 Accounting and Financial Reporting for Securities Lending Transactions, which established standards of accounting and financial reporting for securities lending transactions. During the fiscal year ended June 30, 2016, only the retirement annuity trust fund had securities lending transactions. The following section details the net income earned in the retirement annuity trust fund from securities lending for the fiscal year ended June 30, 2016 and 2015:

| Item                               | 2016 Earnings | 2015 Earnings |
|------------------------------------|---------------|---------------|
| Gross Earnings (Interest and Fees) | \$ 687,380    | \$ 338,644    |
| Gross Borrower Rebates             | 2,083,693     | 2,323,231     |
| Bank Fees                          | (831,253)     | (798,511)     |
| Net Earnings                       | \$ 1,939,820  | \$ 1,863,364  |

Cash collateral is invested in short-term obligations fully guaranteed by the United States Government or select Government agencies and Government Repurchase Agreements with qualified agents. The System cannot pledge or sell collateral securities received unless the borrower defaults. The lending agent (Bank of New York Mellon) also indemnifies the System from any financial loss associated with a borrower's default and collateral inadequacy.

As of June 30, 2016, the loan average days to maturity in the retirement annuity trust fund was one (1) day and the weighted average investment maturity of cash collateral investments was one (1) day. At fiscal year end, the retirement annuity trust fund had no credit risk exposure to borrowers, since the amounts the retirement annuity trust fund owes the borrowers exceeds the amounts the borrowers owe the retirement annuity trust fund and there were no losses resulting during the period.

Security lending programs can entail interest rate risk and credit risk. The System 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 values of the underlying securities, and the value of the collateral pledged at June 30, 2016 and 2015:

| Type of<br>Security Lent | Fair Value     | Cash Collateral<br>Received | Non-cash<br>Collateral<br>Value Received | Total Collateral<br>Received 2016 | Total Collateral<br>Received 2015 |
|--------------------------|----------------|-----------------------------|--|-----------------------------------|-----------------------------------|
| Fixed Income             | \$ 132,768,889 | \$ 4,089,710                | \$ 131,652,562                           | \$ 135,742,272                    | \$ 347,416,026                    |
| Equities                 | 302,635,076    | 140,493,387                 | 165,145,171                              | 305,638,558                       | 151,443,676                       |
| Total                    | \$ 435,403,965 | \$ 144,583,097              | \$ 296,797,733                           | \$ 441,380,830                    | \$ 498,859,702                    |

**E. ANNUAL MONEY-WEIGHTED RATE OF RETURN**

A money-weighted rate of return is an expression of investment performance that is net of the plan's investment expenses (net the plan's administrative expenses). The following tables reflect the money-weighted rate of return for both the retirement annuity trust fund and the health insurance trust fund:

**Annual Rate of Return Net of Investment Expense**

|                          | 2016   | 2015  | 2014   |
|--------------------------|--------|-------|--------|
| Retirement Annuity Trust | -1.32% | 4.96% | 17.95% |
| Health Insurance Trust   | -2.20% | 1.38% | 15.38% |

**NOTE 6: RETIREMENT PLAN FOR EMPLOYEES OF THE RETIREMENT SYSTEM**

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 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 the System. These rates, the plan description and funding policy are fully disclosed in the notes to the financial statements.

The System's annual required contributions for TRS employee members for the fiscal years 2016, 2015 and 2014 were \$820,077, \$767,958 and \$656,152, respectively. TRS contributed one hundred percent (100%) of the required contribution each year.

All other TRS employees are covered under KERS in the Non-Hazardous Employees' Pension 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 Board on the basis of an annual actuarial valuation. Rates may be amended by the Board as needed. TRS's administrative budget and employer contribution rates are subject to the approval of the Kentucky General Assembly. Employee contribution rates are set by the statute and may be changed only by the Kentucky General Assembly.

Members of KERS who joined prior to July 1, 2008, are required to contribute five percent (5%) of their annual creditable compensation and members who joined on or after July 1, 2008 contribute an additional one percent (1%). As the employer, TRS is required to contribute the annual actuarially determined rate of the creditable compensation (or the rate approved by legislators). The approved rate for the fiscal years 2016, 2015 and 2014 were 38.77 percent, 38.77 percent and 26.79 percent and TRS's annual required contributions to KERS were \$547,105, \$552,133 and \$365,610, respectively. TRS contributed one hundred percent (100%) of the required contributions for each year.

KERS issues a publicly available financial report that may be obtained by writing Kentucky Retirement Systems, 1260 Louisville Road, Frankfort, Kentucky 40601-6124.

**NOTE 7: OTHER FUNDS**

**A. 403(B) TAX-SHELTERED ANNUITY PLAN**

**Plan Description**

TRS has, in prior years, administered a salary deferral program as permitted by section 403(b) of the Internal Revenue Code. Under this program members were able to voluntarily defer a portion of their compensation within the limits established by the applicable laws and regulations. However, the System's Board of Trustees determined that the cost of providing the necessary services to assure the System of continuing compliance with these laws and regulations was not economically feasible due to the limited participation in the program by TRS's members. The Board decided, therefore, to discontinue offering the program as of April 30, 1997. Members who were not receiving annuities from their account as of April 30, 1997, were able to transfer their respective accounts directly into other tax-sheltered plans on a tax-free basis. As of June 30, 2016, the eight members who are receiving annuities will continue to receive distributions according to the terms of their respective elections.

**B. SUMMARY OF SIGNIFICANT POLICIES**

**Basis of Accounting**

The Tax-sheltered Annuity Plan financial statements are prepared using an accrual basis of accounting. Contributions are no longer being accepted into the plan; therefore, there are no receivables to be recognized.

**Method Used to Value Investments**

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

**C. SUPPLEMENTAL BENEFIT FUND**

The Supplemental Retirement 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 the System employed by the employer, whose benefits under the System are limited by Section 415 of the Internal Revenue Code of 1986, as amended from time to time. Funding of benefits payable under this fund are provided by the state, as employer, and are segregated from funds that are maintained by TRS for payment of the regular benefits provided by the System.

**D. JUNITA LOSEY SCHOLARSHIP BEQUEST**

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 thereafter 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 the regular benefits provided by the System. The Scholarship Committee of the System's Board of Trustees meets each December to consider scholarship standards and administration of the scholarship bequest.

**NOTE 8: MEDICAL INSURANCE PLAN AND POST-EMPLOYMENT BENEFITS**

**A. PLAN DESCRIPTION**

In addition to the retirement annuity plan described in Note 1, Kentucky Revised Statute 161.675 requires TRS to provide access to post-employment healthcare benefits for eligible members and dependents. The TRS medical plan is funded by employer and member contributions. Changes made to the medical plan may be made by the TRS Board of Trustees, the Kentucky Department of Employee Insurance and the General Assembly.

The TRS medical plan is funded by employee contributions to an account established pursuant to 26 U.S.C. sec. 401(h). Additional funding is derived from the Kentucky Teachers' Retirement System insurance trust fund that went into effect on July 1, 2010. The insurance trust fund provides a trust separate from the account established pursuant to 26 U.S.C. sec. 401(h). 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. The TRS medical plan offers coverage to members under the age of 65 through the Kentucky Employees Health Plan administered by the Kentucky Department of Employee Insurance. TRS retired members are given a supplement to be used for payment of their health insurance premium. The amount of the member's supplement is based on a contribution supplement table approved by the TRS Board of Trustees. The retired member pays premiums in excess of the monthly supplement. The Commonwealth of Kentucky bears risk for excess claims expenses that exceed the premium equivalents charged for the Kentucky Employees Health Plan. Once retired members and eligible spouses attain age 65 and are Medicare eligible, coverage is obtained through the TRS Medicare Eligible Health Plan.

At June 30, 2016, TRS insurance covered 38,815 retirees and 7,181 dependents. There are 208 participating employers and 71,848 active members contributing to the medical plan.

**B. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

**Basis of Accounting**

The TRS medical plan financial statements are prepared using the accrual basis of accounting. Member contributions and employer matching are recognized in the fiscal year due. Healthcare premiums charged to retired members are recognized when due and any premiums collected in advance are recognized as a liability.

**Method Used to Value Investments**

All of the System'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.

**C. CONTRIBUTIONS**

The post-employment medical benefit provided by TRS is financed on a pre-funded basis beginning July 1, 2010 with the implementation of the "Shared Responsibility" legislation. In order to fund medical benefits, active member contributions are matched by the state at .75% of members' gross salaries. Beginning July 1, 2010 member contributions to the TRS medical plan increased incrementally to 3.75% on July 1, 2015 under the Shared Responsibility Plan. Also, the premiums collected from retirees and investment income contributes to funding the plan.

**D. FUNDED STATUS AND FUNDING PROGRESS**

The funded status of the TRS medical plan as of the most recent actuarial valuation date is as follows:

| <b>Schedule of Funding Progress</b> |                                      |  |  |                          |                         |  |
|-------------------------------------|--------------------------------------|--|--|--------------------------|-------------------------|--|
| (In Thousands)                      |                                      |  |  |                          |                         |  |
| Valuation<br>Year<br>June 30        | Actuarial<br>Value<br>Of Assets<br>A | Actuarial<br>Accrued<br>Liabilities<br>B | Unfunded<br>Actuarial<br>Accrued<br>Liabilities<br>(UAAL)<br>B-A | Funded<br>Ratio<br>(A/B) | Covered<br>Payroll<br>C | UAAL<br>As a % of<br>Covered<br>Payroll<br>[B-A/C] |
| 2016                                | \$ 795,055                           | \$ 3,634,073                             | \$ 2,839,018   | 21.9%                    | \$ 3,537,226            | 80.3%  |

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Actuarially determined amounts are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The schedules of funding progress, presented as required supplementary information following the notes to the financial statements, present multiyear trend information about whether the actuarial values of plan assets are increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

The accompanying schedule of employer contributions present trend information about the amounts contributed to the plan by employers in comparison to the Annual Required Contribution, an amount that is actuarially determined in accordance with the parameters of GASB Statement 43. The Annual Required Contribution represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost for each year and amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed thirty years.

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

Significant actuarial methodologies and assumptions employed as of the June 30, 2016 valuation date include the following:

|                               |                            |
|-------------------------------|----------------------------|
| Actuarial cost method         | Entry age                  |
| Actuarial value of assets     | Fair value of assets       |
| Assumed inflation rate        | 3.00%                      |
| Investment rate of return     | 8.00%                      |
| Amortization method           | Level percent of pay, open |
| Remaining amortization period | 30 years                   |

|                              |              |          |
|------------------------------|--------------|----------|
| Medical Trend Assumption     | Pre-Medicare | Medicare |
| Fiscal Year Ending 6/30/2016 | 7.75%        | 5.75%    |
| Fiscal Year Ending 6/30/2017 | 7.00%        | 5.50%    |
| Ultimate Trend Rate          | 5.00%        | 5.00%    |
| Year of Ultimate Trend Rate  | 2023         | 2020     |

**NOTE 9: LIFE INSURANCE PLAN**

**A. PLAN DESCRIPTION**

TRS administers the Life Insurance Plan 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 208 participating employers. The benefit is \$5,000 for members who are retired for service or disability, and \$2,000 for active contributing members.

**B. SUMMARY OF SIGNIFICANT POLICIES**

**Basis of Accounting**

The Life Insurance Plan financial statements are prepared using the accrual basis of accounting. Employer contributions are recognized in the fiscal year due.

**Method Used to Value Investments**

Life Insurance Plan investments are reported at fair value. The short-term securities are carried at cost, which approximates fair value. Fixed income is generally valued based on published market prices and quotations from national security exchanges and securities pricing services.

**C. CONTRIBUTIONS**

To finance the life insurance benefit a portion of the employer contribution rate is directed to the plan as recommended by the TRS's actuary. The contribution rate of active members' payroll recommended by the actuary was .03% for fiscal years 2016 and 2015.

**D. FUNDED STATUS AND FUNDING PROGRESS**

The funded status of the Life Insurance Plan as of the most recent actuarial valuation date is as follows:

| <b>Schedule of Funding Progress</b> |                                 |                                     |   |                          |                         |  |
|-------------------------------------|---------------------------------|-------------------------------------|---|--------------------------|-------------------------|--|
| (In Thousands)                      |                                 |                                     |   |                          |                         |  |
| Valuation<br>Year                   | Actuarial<br>Value<br>Of Assets | Actuarial<br>Accrued<br>Liabilities | Unfunded<br>Actuarial<br>Accrued<br>Liabilities<br>(UAAL) | Funded<br>Ratio<br>(A/B) | Covered<br>Payroll<br>C | UAAL<br>As a % of<br>Covered<br>Payroll<br>[B-A/C] |
| <u>June 30</u>                      | <u>A</u>                        | <u>B</u>                            | <u>B-A</u>  |                          |                         | <u>[B-A/C]</u>                                     |
| 2016                                | \$ 97,269                       | \$ 106,059                          | \$ 8,790  | 91.7%                    | \$ 3,537,226            | 0.25%  |

Teachers' Retirement System of Kentucky  
Notes to Financial Statements  
As of June 30, 2016

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. The required supplementary schedules following the notes to the financial section contain more actuarial information. Significant actuarial methodologies and assumptions employed as of the June 30, 2016 valuation date include the following:

|                               |                            |
|-------------------------------|----------------------------|
| Actuarial cost method         | Entry age                  |
| Actuarial value of assets     | Fair value of assets       |
| Assumed inflation rate        | 3.00%                      |
| Investment rate of return     | 7.50%                      |
| Projected salary increases    | 3.50%                      |
| Amortization method           | Level percent of pay, open |
| Remaining amortization period | 30 years                   |



Teachers' Retirement System of Kentucky  
Required Supplementary Information  
As of June 30, 2016

**Schedule of Changes in the Net Pension Liability**  
(In Thousands)

| Change in the total pension liability             | 2016          | 2015          | 2014          |
|---|---------------|---------------|---------------|
| Total pension liability                           |               |               |               |
| Service Cost                                      | \$ 1,120,893  | \$ 1,015,080  | \$ 1,002,338  |
| Interest  | 2,027,457     | 2,029,372     | 1,956,610     |
| Difference between expected and actual experience | (58,035)      | -             | -             |
| Changes of assumptions                            | 4,030,834     | 1,511,960     | (353,043)     |
| Benefit payments                                  | (1,833,199)   | (1,741,456)   | (1,654,376)   |
| Refunds of contributions                          | (27,748)      | (23,033)      | (25,462)      |
| Net change in total pension liability             | 5,260,202     | 2,791,923     | 926,067       |
| Total pension liability - beginning               | 42,476,699    | 39,684,776    | 38,758,709    |
| Total pension liability - ending (a)              | \$ 47,736,901 | \$ 42,476,699 | \$ 39,684,776 |
| Plan Net Position                                 |               |               |               |
| Contributions - State of Kentucky                 | \$ 484,987    | \$ 480,073    | \$ 483,330    |
| Contributions - Other Employers                   | 80,468        | 79,506        | 79,996        |
| Contributions - Members                           | 313,044       | 308,160       | 304,982       |
| Net investment income                             | (245,215)     | 862,179       | 2,803,248     |
| Benefit payments                                  | (1,833,199)   | (1,741,456)   | (1,654,375)   |
| Administrative expense                            | (8,636)       | (8,869)       | (7,956)       |
| Refunds of contributions                          | (27,748)      | (23,033)      | (25,462)      |
| Net change in plan net position                   | (1,236,299)   | (43,440)      | 1,983,763     |
| Plan net position - beginning                     | 18,049,131    | 18,092,571    | 16,108,808    |
| Plan net position - ending (b)                    | 16,812,832    | 18,049,131    | 18,092,571    |
| Net pension liability - ending (a) - (b)          | \$ 30,924,069 | \$ 24,427,568 | \$ 21,592,205 |

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

**NOTE 1 SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY**

The total pension liability contained in this schedule was provided by TRS's actuary, Cavanaugh Macdonald Consulting, LLC. 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.** None

*See accompanying independent auditor's report.*

Teachers' Retirement System of Kentucky  
Required Supplementary Information  
As of June 30, 2016

**Changes of assumptions.** In the 2011 valuation and later, the expectation of retired life mortality was changed to the RP-2000 Mortality Tables rather than the 1994 Group Annuity Mortality Table, which was used prior to 2011.

In the 2011 valuation, rates of withdrawal, retirement, disability and mortality were adjusted to more closely reflect actual experience. In the 2011 valuation, the Board adopted an interest smoothing methodology to calculate liabilities for purposes of determining the actuarially determined contributions. Beginning with the 2014 valuation, the interest smoothing methodology is no longer used.

**Schedule of the Net Pension Liability**

(In Thousands)

|   | 2016          | 2015          | 2014          |
|---|---------------|---------------|---------------|
| Total pension liability   | \$ 47,736,901 | \$ 42,476,699 | \$ 39,684,776 |
| Plan net position   | 16,812,832    | 18,049,131    | 18,092,571    |
| Net pension liability   | \$ 30,924,069 | \$ 24,427,568 | \$ 21,592,205 |
| <br>  |               |               |               |
| Ratio of plan net position to total pension liability             | 35.22%        | 42.49%        | 45.59%        |
| <br>  |               |               |               |
| Covered-employee payroll  | \$ 3,390,539  | \$ 3,455,008  | \$ 3,317,422  |
| <br>  |               |               |               |
| Net pension liability as a percentage of covered-employee payroll | 912.07%       | 707.02%       | 650.87%       |

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

**Schedule of Employer Contributions**

(In Thousands)

| Year Ended<br>June 30 | Covered<br>Payroll | Actual<br>Employer<br>Contributions | Actuarially<br>Determined<br>Employer<br>Contributions | Annual<br>Contribution<br>Excess (Deficiency) | Actual<br>Contributions as a<br>Percentage of<br>Covered Payroll |
|-----------------------|--------------------|-------------------------------------|--|---|--|
| 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%   |
| 2013                  | 3,310,710          | 568,233                             | 802,985  | (234,752)                                     | 17.16%   |
| 2012                  | 3,310,176          | 557,340                             | 757,822  | (200,482)                                     | 16.84%   |
| 2011                  | 3,283,749          | 1,037,936                           | 678,741  | 359,195                                       | 31.61%   |
| 2010                  | 3,321,614          | 479,805                             | 633,938  | (154,133)                                     | 14.44%   |
| 2009                  | 3,253,077          | 442,550                             | 600,283  | (157,733)                                     | 13.60%   |
| 2008                  | 3,190,332          | 466,248                             | 563,789  | (97,541)                                      | 14.61%   |
| 2007                  | 2,975,289          | 434,890                             | 494,565  | (59,675)                                      | 14.62%   |

\* Revised from previous year to reflect actual covered-employee payroll.

*See accompanying independent auditor's report.*

**NOTE 2      SCHEDULE OF EMPLOYER CONTRIBUTIONS**

The required employer contributions and percent of those contributions actually made are presented in the schedule.

**NOTE 3      ACTUARIAL METHODS AND ASSUMPTIONS**

The actuarially determined contribution rates in the schedule of employer contributions are calculated as of June 30, 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, open   |
| Remaining amortization period       | 30 years  |
| Asset valuation method              | 5-year smoothed market  |
| Inflation                           | 3.50 percent  |
| Salary increase                     | 4.00 to 8.20 percent, including inflation                                 |
| Ultimate Investment rate of return* | 7.50 percent, net of pension plan investment expense, including inflation |

\*The actuarially determined contribution rates are determined using the interest smoothing Methodology adopted by the Board.

**Schedule of Investment Returns**

|   | 2016   | 2015  | 2014   |
|---|--------|-------|--------|
| Annual money weighted rate of return, net of investment expense | -1.32% | 4.96% | 17.95% |

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

*See accompanying independent auditor's report.*

**Medical Insurance Plan  
 Schedule of Funding Progress  
 (In Millions)**

| Valuation<br>Year<br>June 30 | Actuarial<br>Value of<br>Assets<br>A | Actuarial<br>Accrued<br>Liabilities<br>B | Unfunded<br>Actuarial<br>Accrued<br>Liabilities<br>(UAAL)<br>(B-A) | Funded<br>Ratio<br>(A/B) | Covered<br>Payroll<br>C | UAAL<br>As a % Of<br>Covered<br>Payroll<br>[(B-A)/C] |
|------------------------------|--------------------------------------|--|--|--------------------------|-------------------------|--|
| 2016                         | \$ 795.1                             | \$ 3,634.1                               | \$ 2,839.0   | 21.9%                    | \$ 3,537.2              | 80.3%  |
| 2015                         | 637.8                                | 3,525.6                                  | 2,887.8  | 18.1                     | 3,515.1                 | 82.2   |
| 2014                         | 508.9                                | 3,194.7                                  | 2,685.8  | 15.9                     | 3,486.3                 | 77.0   |
| 2013                         | 412.2                                | 3,521.1                                  | 3,108.9  | 11.7                     | 3,480.0                 | 89.3   |
| 2012                         | 338.7                                | 3,594.5                                  | 3,255.8  | 9.4                      | 3,479.6                 | 93.6   |
| 2011                         | 294.8                                | 3,423.1                                  | 3,128.3  | 8.6                      | 3,451.8                 | 90.6   |
| 2010                         | 241.2                                | 3,206.8                                  | 2,965.6  | 7.5                      | 3,321.6                 | 89.3   |
| 2009                         | 229.1                                | 6,454.7                                  | 6,225.6  | 3.5                      | 3,253.1                 | 191.4  |

*The amounts reported in this schedule of funding progress do not include assets or liabilities for the defined benefit or life insurance plans, nor are the assets and liabilities of the tax-sheltered annuity plan included.*

**Medical Insurance Plan  
 Schedule of Employer Contributions**

| Valuation<br>Year<br>June 30 | Annual<br>Required<br>Contributions(ARC)<br>(A) | Actual<br>Employer<br>Contribution<br>(B) | Retiree Drug<br>Subsidy<br>Contribution<br>(C) | Total<br>Contribution<br>(B) + (C) | Percentage Of<br>ARC Contributed<br>[(B) + (C)/(A)] |
|------------------------------|---|---|--|------------------------------------|---|
| 2016                         | \$ 97,982,580                                   | \$ 221,966,705                            | \$ -   | \$ 221,966,705                     | 226.5%  |
| 2015                         | 106,606,132                                     | 168,084,353                               | -  | 168,084,353                        | 157.7   |
| 2014                         | 159,583,400                                     | 162,568,395                               | -  | 162,568,395                        | 101.9   |
| 2013                         | 186,725,823                                     | 166,611,420                               | -  | 166,611,420                        | 89.2  |
| 2012                         | 470,217,067                                     | 177,450,206                               | 297,639  | 177,747,845                        | 37.8  |
| 2011                         | 477,723,070                                     | 188,453,929                               | 280,585  | 188,734,514                        | 39.5  |
| 2010                         | 457,054,117                                     | 158,765,496                               | 14,614,285                                     | 173,379,781                        | 37.9  |
| 2009                         | 467,312,904                                     | 164,480,119                               | 13,611,748                                     | 178,091,867                        | 38.1  |

*See accompanying independent auditor's report.*

**Life Insurance Plan**  
**Schedule of Funding Progress**  
 (In Thousands)

| Valuation<br>Year<br>June 30 | Actuarial<br>Value of<br>Assets<br>A | Actuarial<br>Accrued<br>Liabilities<br>B | Unfunded<br>Actuarial<br>Accrued<br>Liabilities<br>(UAAL)<br>(B-A) | Funded<br>Ratio<br>(A/B) | Covered<br>Payroll<br>C | UAAL<br>As a % Of<br>Covered<br>Payroll<br>[(B-A)/C] |
|------------------------------|--------------------------------------|--|--|--------------------------|-------------------------|--|
| 2016                         | \$ 97,269                            | \$ 106,059                               | \$ 8,790   | 91.7%                    | \$ 3,537,226            | 0.25%  |
| 2015                         | 97,186                               | 98,739                                   | 1,553  | 98.4                     | 3,515,113               | 0.04   |
| 2014                         | 96,130                               | 97,354                                   | 1,224  | 98.7                     | 3,486,327               | 0.04   |
| 2013                         | 94,863                               | 94,325                                   | (538)  | 100.6                    | 3,480,066               | (0.02)   |
| 2012                         | 92,241                               | 91,398                                   | (843)  | 100.9                    | 3,479,567               | (0.02)   |
| 2011                         | 88,527                               | 88,088                                   | (439)  | 100.5                    | 3,451,756               | (0.01)   |
| 2010                         | 87,905                               | 92,091                                   | 4,186  | 95.5                     | 3,321,614               | 0.13   |
| 2009                         | 84,703                               | 90,334                                   | 5,631  | 93.8                     | 3,253,077               | 0.17   |

*The amounts reported in this schedule of funding progress do not include assets or liabilities for the defined benefit or medical insurance plans, nor are the assets and liabilities of the tax-sheltered annuity plan included.*

**Schedule of Employer Contributions**

| Fiscal<br>Year<br>Ended | Annual<br>Required<br>Contributions(ARC) | Actual<br>Employer<br>Contribution | Percentage Of<br>ARC Contributed |
|-------------------------|--|------------------------------------|----------------------------------|
| 2016                    | \$ 1,057,851                             | \$ 1,037,769                       | 98.1%                            |
| 2015                    | 1,050,216                                | 1,019,519                          | 97.1                             |
| 2014                    | 1,044,959                                | 1,006,091                          | 96.3                             |
| 2013                    | 1,739,908                                | 1,680,495                          | 96.6                             |
| 2012                    | 1,732,831                                | 1,684,711                          | 97.2                             |
| 2011                    | 1,725,878                                | 1,668,822                          | 96.7                             |
| 2010                    | 1,992,969                                | 1,966,826                          | 98.7                             |
| 2009                    | 1,498,076                                | 5,455,473                          | 364.2                            |

*See accompanying independent auditor's report.*

**Teachers' Retirement System of the State of Kentucky**  
**Additional Supporting Schedules**  
**For the Fiscal Year Ended June 30,**

**Schedule of Administrative Expenses**

|  | <u>2016</u>          | <u>2015</u>          |
|--|----------------------|----------------------|
| Salaries   | \$ 5,808,287         | \$ 6,207,452         |
| Other Personnel Costs                            | 696,933              | 891,855              |
| Professional Services and Contracts              | 647,708              | 459,012              |
| Utilities  | 93,633               | 93,144               |
| Rentals  | 20,991               | 25,546               |
| Maintenance                                      | 93,521               | 150,180              |
| Postage & Related Services                       | 442,610              | 417,187              |
| Printing   | 199,837              | 175,972              |
| Insurance  | 183,329              | 172,849              |
| Miscellaneous Services                           | 164,405              | 136,523              |
| Telecommunications                               | 22,126               | 22,875               |
| Computer Services                                | 151,789              | 155,391              |
| Supplies   | 51,059               | 56,168               |
| Depreciation                                     | 1,535,843            | 1,093,167            |
| Travel   | 45,221               | 45,910               |
| Dues & Subscriptions                             | 63,752               | 43,337               |
| Miscellaneous Commodities                        | 12,724               | 25,169               |
| Furniture, Fixtures, & Equipment not Capitalized | 85,604               | 190,969              |
| Compensated Absences                             | 30,891               | 77,412               |
| Total Administrative Expenses                    | <u>\$ 10,350,263</u> | <u>\$ 10,440,118</u> |

**Schedule of Professional Services and Contracts**

| <u>Professional</u>                       | <u>Nature of Service</u> | <u>2016</u>       | <u>2015</u>       |
|---|--------------------------|-------------------|-------------------|
| Cavanaugh Macdonald Consulting            | Actuarial Services       | \$ 284,189        | \$ 207,431        |
| Segal Consulting                          | Actuarial Services       | 89,017            | -                 |
| Auditor of Public Accounts                | Auditing Services        | 32,200            | 70,005            |
| Mountjoy Chilton Medley                   | Auditing Services        | 45,000            | -                 |
| International Claim Specialist            | Investigative Services   | 2,176             | 960               |
| Ice Miller                                | Attorney Services        | 46,798            | 45,191            |
| Reinhart, Boerner VanDeuren               | Attorney Services        | 6,125             | 1,384             |
| Stoll, Keenon, and Ogden                  | Attorney Services        | 21,672            | 14,041            |
| Attorney General                          | Attorney Services        | 531               | -                 |
| Peritus                                   | Communications           | 120,000           | 120,000           |
| Total Professional Services and Contracts |                          | <u>\$ 647,708</u> | <u>\$ 459,012</u> |

*See accompanying independent auditor's report.*

**Teachers' Retirement System of the State of Kentucky  
Additional Supporting Schedules**

**Schedule of Contracted Investment Management Expenses  
For the Fiscal Year Ended June 30, 2016**

|   | <u>Pension</u>       | <u>Medical</u>      | <u>Total</u>         |
|---|----------------------|---------------------|----------------------|
| Equity Managers                                     |                      |                     |                      |
| Baillie Gifford                                     | \$ 2,800,298         | \$ -                | \$ 2,800,298         |
| Baring Asset Management, Inc.                       | 2,419,271            | -                   | 2,419,271            |
| Black Rock  | 265,816              | 191,346             | 457,162              |
| GE Asset Management                                 | 800,000              | -                   | 800,000              |
| Todd-Veredus Asset Management LLC                   | 1,295,310            | -                   | 1,295,310            |
| UBS Global Asset Management                         | 2,980,341            | -                   | 2,980,341            |
| Wellington Management Company                       | <u>2,917,720</u>     | <u>-</u>            | <u>2,917,720</u>     |
| Total Equity Managers                               | 13,478,756           | 191,346             | 13,670,102           |
| Fixed Income Managers                               |                      |                     |                      |
| Fort Washington Investment Advisors                 | 150,088              | -                   | 150,088              |
| Galliard Capital Management                         | <u>229,226</u>       | <u>-</u>            | <u>229,226</u>       |
| Total Fixed Income Managers                         | 379,314              | -                   | 379,314              |
| Real Estate   | 7,010,123            | 503,596             | 7,513,719            |
| Additional Categories                               | 8,701,619            | 683,241             | 9,384,860            |
| Alternative Investments                             | 14,469,348           | 794,844             | 15,264,192           |
| Custodian   |                      |                     |                      |
| The Bank of New York Mellon                         | 380,233              | 30,275              | 410,508              |
| Consultants   |                      |                     |                      |
| Hewitt Ennis Knupp, Inc.                            | 358,850              | -                   | 358,850              |
| Bevis Longstreth                                    | 50,137               | -                   | 50,137               |
| George Philip                                       | <u>38,962</u>        | <u>-</u>            | <u>38,962</u>        |
| Total Consultants                                   | 447,949              | -                   | 447,949              |
| Legal & Research                                    |                      |                     |                      |
| Reinhart, Boerner Van Deuren                        | 5,560                |                     | 5,560                |
| Ice Miller  | <u>84,697</u>        | <u>-</u>            | <u>84,697</u>        |
| Total Legal & Research                              | 90,257               | -                   | 90,257               |
| Other   |                      |                     |                      |
| Administrative and Operational (includes Personnel) | <u>2,845,221</u>     | <u>74,831</u>       | <u>2,920,052</u>     |
| Total Contracted Investment Management Expenses     | <u>\$ 47,802,820</u> | <u>\$ 2,278,133</u> | <u>\$ 50,080,953</u> |

*See accompanying independent auditor's report.*

**Teachers' Retirement System of the State of Kentucky  
Additional Supporting Schedules**

**Schedule of Contracted Investment Management Expenses  
For the Fiscal Year Ended June 30, 2015**

|   | Pension       | Medical      | Total         |
|---|---------------|--------------|---------------|
| Equity Managers                                     |               |              |               |
| Baillie Gifford                                     | \$ 3,083,458  | \$ -         | \$ 3,083,458  |
| Baring Asset Management, Inc.                       | 2,463,293     | -            | 2,463,293     |
| Black Rock  | 235,529       | 187,274      | 422,803       |
| GE Asset Management                                 | 800,000       | -            | 800,000       |
| Todd-Veredus Asset Management LLC                   | 1,377,639     | -            | 1,377,639     |
| UBS Global Asset Management                         | 4,529,001     | -            | 4,529,001     |
| Wellington Management Company                       | 3,107,897     | -            | 3,107,897     |
| Total Equity Managers                               | 15,596,817    | 187,274      | 15,784,091    |
| Fixed Income Managers                               |               |              |               |
| Fort Washington Investment Advisors                 | 157,680       | -            | 157,680       |
| Galliard Capital Management                         | 245,252       | -            | 245,252       |
| Total Fixed Income Managers                         | 402,932       | -            | 402,932       |
| Real Estate   | 5,862,636     | 264,176      | 6,126,812     |
| Additional Categories                               | 8,043,331     | 518,978      | 8,562,309     |
| Alternative Investments                             | 11,478,820    | 299,357      | 11,778,177    |
| Custodian   |               |              |               |
| The Bank of New York Mellon                         | 335,800       | 8,263        | 344,063       |
| Consultants   |               |              |               |
| Hewitt Ennis Knupp, Inc.                            | 358,850       | -            | 358,850       |
| Bevis Longstreth                                    | 55,262        | -            | 55,262        |
| George Philip                                       | 34,134        | -            | 34,134        |
| Total Consultants                                   | 448,246       | -            | 448,246       |
| Legal & Research                                    |               |              |               |
| Ice Miller  | 84,131        | -            | 84,131        |
| Total Legal & Research                              | 84,131        | -            | 84,131        |
| Other   |               |              |               |
| Administrative and Operational (includes Personnel) | 2,473,848     | 52,536       | 2,526,384     |
| Total Contracted Investment Management Expenses     | \$ 44,726,561 | \$ 1,330,584 | \$ 46,057,145 |

*See accompanying independent auditor's report.*





**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***

**Independent Auditor's Report**

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

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 Teachers' Retirement System of the State of Kentucky, which comprise the statement of fiduciary net position as of June 30, 2016, 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 Teachers' Retirement System of the State of Kentucky's basic financial statements, and have issued our report thereon dated November 21, 2016.

***Internal Control over Financial Reporting***

In planning and performing our audit of the financial statements, we considered the Teachers' Retirement System of the State of Kentucky's internal control over financial reporting (internal control) to determine the 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 Teachers' Retirement System of the State of Kentucky's internal control. Accordingly, we do not express an opinion on the effectiveness of the Teachers' Retirement System of the State of Kentucky'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 that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

**Kentucky**  
**Indiana**  
**Ohio**

**Mountjoy Chilton Medley LLP**

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### ***Compliance and Other Matters***

As part of obtaining reasonable assurance about whether the Teachers' Retirement System of the State of Kentucky'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 determination of financial statement amounts. 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 Teachers' Retirement System of the State of Kentucky'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 Teachers' Retirement System of the State of Kentucky's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

A handwritten signature in black ink that reads "Maury Chilton Medley, LLP". The signature is written in a cursive, flowing style.

Lexington, KY  
November 21, 2016