# Teachers' Retirement System of Oklahoma

Financial Statements as of and for the
Years Ended June 30, 2016 and 2015
Required Supplementary Information, and
Related Independent Auditor's Reports

## Contents

EideBailly
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# Independent Auditor's Report

To the Board of Trustees
Oklahoma Teachers Retirement System
Oklahoma City, Oklahoma

**Report on the Financial Statements**
We have audited the accompanying financial statements of the Teacher's Retirement System of Oklahoma (the System), a component unit of the state of Oklahoma, 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.

**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 these financial statements based on our audit. We conducted our audit 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 of 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.

**Opinion**
In our opinion, the financial statements referred to above present fairly, in all material respects, the respective statements of fiduciary net position of the Teacher's Retirement System of Oklahoma, as of June 30, 2016, and the respective changes in changes in fiduciary net position thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

**Change in Accounting Principle**
As discussed in Note 3 to the financial statements, the System has adopted the provisions of GASB Statement No. 72, *Fair Valuation Measurement and Application*, which has resulted in additional footnote disclosures. Our opinion is not modified with respect to this matter.

**Alternative Investments**
As discussed in Notes 2 and 3 to the financial statements, total system investments include investments valued at $1,844,222,730 (11.59% of total assets), as of June 30, 2016, whose fair values have been estimated by management in the absence of readily determinable values. Management's estimates are based on information provided by the fund managers or the general partners. Our opinion is not modified with respect to this matter.

**Other Matters**

**Required Supplementary Information**
Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and the required supplementary information on pages 4-8 and 32-36 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.

**Other Information**
Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the System's basic financial statements as a whole. The introductory, other supplementary information, investment, actuarial and statistical sections are presented for purposes of additional analysis and are not a required part of the financial statements.

The additional supplementary information accompanying financial information listed as other supplementary information on pages 37-39 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 audit 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 accompanying financial information listed as supplemental schedules are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

**Report on Summarized Comparative Information**
The financial statements of the system as of and for the year ended June 30, 2015, were audited by other auditors whose report, dated, December 22, 2015, expressed an unmodified opinion on those statements.

**Other Reporting Required by *Government Auditing Standards***
In accordance with *Government Auditing Standards*, we have also issued our report dated October 31, 2016, on our consideration of the System'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 System's internal control over financial reporting and compliance.

Eide Bailly LLP

October 31, 2016
Oklahoma City, Oklahoma

**Management's Discussion and Analysis**
**Teachers' Retirement System of Oklahoma**
**June 30, 2016 and 2015**

Management is pleased to present this discussion and analysis of the financial activities of the Oklahoma Teachers Retirement System ("OTRS" or the "System") for the years ended June 30, 2016 and 2015. The System is responsible for administering retirement benefits for a 401(a) defined benefit plan for all educational employees of the state of Oklahoma as well as a 403(b) plan which is a tax-advantaged retirement savings plan available for public education organizations. The System was established on July 1, 1943, for the purpose of providing these retirement benefits and other specific benefits for qualified persons employed by public educational institutions. The main purpose of the System is to provide a primary source of lifetime retirement benefits relative to years of service at the time of retirement. It is the objective of the System to provide these benefits in a prudent, responsible, and cost-effective manner. Plan net assets are used to pay current and future benefits to retired clients.

This discussion and analysis is intended to serve as an introduction to the System's basic financial statements. OTRS's basic financial statements are comprised of three components: 1) *statements of fiduciary net position*, 2) *statements of changes in fiduciary net position,* and 3) *notes to the financial statements*. This report also contains *required supplementary information* in addition to the basic financial statements themselves.

The *statement of fiduciary net position* presents information on all of the System's assets, and liabilities, with the difference between these reported as *net position restricted for pensions.* Over time, increases or decreases in plan net position may serve as a useful indicator of whether the financial position of the System is improving or deteriorating. Information relating to the System's ability to meet the cost of future benefit payments is not shown on the *statement of fiduciary net position* but is located in both the *notes to the financial statements* and the *required supplementary information*.

The *statement of changes in fiduciary net position* presents information showing how the System's net position changed during the most recent fiscal year. Changes in net position are recognized using the accrual basis of accounting, in which expenses are recorded when the liability is incurred and revenues are recorded in the accounting period in which they are earned and become measurable.

The *notes to the financial statements* are critical to the reader's understanding of the financial status of the System. These notes include a description of the System, details on the cash and investments of the System, as well as contribution and benefit information.

The *required supplementary information* presents a Schedule of Changes in Employers' Net Pension Liability, Schedule of Employers' Net Pension Liability, Schedule of Contributions from Employers and Other Contributing Entities, and Schedule of Investment Returns. Other supplementary information includes the Schedule of Administrative Expenses, the Schedule of Investment Expenses, and the Schedule of Professional/Consultants Fees. These schedules provide additional analysis of the information provided in the financial statements.

## Condensed Financial Information

*Fiduciary net position as of June 30:*

| | 2016 | 2015 | 2014 | 2016 % Change | 2015 % Change |
|---|---|---|---|---|---|
| Assets | | | | | |
| Cash | $ 19,857,301 | $ 95,635,452 | $ 17,695,733 | -79.2% | 440.4% |
| Receivables | 389,393,726 | 207,991,357 | 201,958,789 | 87.2% | 3.0% |
| Long- and short-term investments, at fair value | 14,058,889,353 | 14,635,937,831 | 14,531,814,990 | -3.9% | 0.7% |
| Capital assets, net | 4,072,745 | 3,649,149 | 2,848,571 | 11.6% | 28.1% |
| Total investments and other assets | 14,472,213,125 | 14,943,213,789 | 14,754,318,083 | -3.2% | 1.3% |
| Securities lending institutional daily assets fund | 1,624,015,378 | 4,729,952 | 2,475,662,654 | 34234.7% | -99.8% |
| Total assets | 16,096,228,503 | 14,947,943,742 | 17,229,980,738 | 7.7% | -13.2% |
| Liabilities | | | | | |
| Investment settlements and other liabilities | 478,182,808 | 299,107,399 | 314,844,655 | 59.9% | -5.0% |
| Payable under securities lending agreement | 1,624,015,378 | 4,729,952 | 2,475,662,654 | 34234.7% | -99.8% |
| Total liabilities | 2,102,198,186 | 303,837,351 | 2,790,507,309 | 591.9% | -89.1% |
| Net Position | | | | | |
| Net position restricted for pensions | $ 13,994,030,317 | $ 14,644,106,391 | $ 14,439,473,429 | -4.4% | 1.4% |

*Changes in fiduciary net position for the year ended June 30:*

| | 2016 | 2015 | 2014 | 2016 % Change | 2015 % Change |
|---|---|---|---|---|---|
| Additions: | | | | | |
| Member contributions | $ 294,459,091 | $ 303,677,304 | $ 301,300,811 | -3.0% | 0.8% |
| Employer contributions | 409,753,221 | 392,051,458 | 386,895,127 | 4.5% | 1.3% |
| Matching contributions | 25,787,244 | 24,445,212 | 24,352,831 | 5.5% | 0.4% |
| Dedicated tax revenue | 289,884,752 | 311,945,400 | 295,804,717 | -7.1% | 5.5% |
| Member tax shelter contributions | 2,222,812 | 2,823,513 | 3,026,532 | -21.3% | -6.7% |
| Net investment income gain (loss) | (362,477,638) | 420,630,551 | 2,587,292,673 | -186.2% | -83.7% |
| Security lending net income | 7,870,757 | 11,832,523 | 8,590,136 | -33.5% | 37.8% |
| Total additions | 667,500,239 | 1,467,405,961 | 3,607,262,827 | -54.5% | -59.3% |
| Deductions: | | | | | |
| Benefit payments | 1,257,276,705 | 1,201,350,906 | 1,153,051,607 | 4.7% | 4.2% |
| Refund of member contributions and other payments | 55,841,270 | 57,063,155 | 50,061,499 | -2.1% | 14.0% |
| Administrative expenses | 4,458,338 | 4,358,938 | 4,282,605 | 2.3% | 1.8% |
| Total deductions | 1,317,576,313 | 1,262,772,999 | 1,207,395,711 | 4.3% | 4.6% |
| Net increase (decrease) in net position | (650,076,074) | 204,632,962 | 2,399,867,116 | -417.7% | -91.5% |
| Net Position Restricted for Pensions | | | | | |
| Beginning of year | 14,644,106,391 | 14,439,473,429 | 12,039,606,313 | 1.4% | 19.9% |
| End of year | $ 13,994,030,317 | $ 14,644,106,391 | $ 14,439,473,429 | -4.4% | 1.4% |

**Financial Highlights and Analysis**

2016 marked a continued reduction in net position, caused by a decline in global equity markets. The strategic allocation to domestic and international equities is 57.5 percent, making equity returns the primary determinant of the System's portfolio returns. The System's equity portfolio performance for the year was negative (4.83) percent. The strategic allocation of 7% to Master Limited Partnerships (MLPs) also detracted from the past year's results. Due primarily to the sharp decline in oil prices, each of the three (3) externally managed Master Limited Partnership portfolios lost more than 20% in fiscal year 2016. The decline in oil prices is also reflective of the decline in dedicated tax revenue. Beyond equities and MLPs, the System's allocations to fixed income, real estate and private equity each produced positive results for the year. For the System's total portfolio, the investment return for fiscal year 2016 was a negative (2.02%). Overall, the System's net position restricted for pensions declined by 4.4% this year as a result of these factors.

| | 2016 | 2015 | 2014 |
|---|---|---|---|
| Plan net position | $ 13,994,030,317 | $ 14,644,106,391 | $ 14,439,473,429 |
| Yearly % change | -4.4% | 1.4% | 19.9% |

The total investment return for the five year period of 8.3 percent is above the 8 percent actuarial assumed rate of investment return. The five year return is lower than the previous year due to a weak return for 2016 and the dropping off of a very strong 2010.

| Total Returns | 1 Year | 3 Year | 5 Year | 10 Year |
|---|---|---|---|---|
| 2016 | -2.0% | 7.5% | 8.3% | 7.1% |
| 2015 | 3.5% | 14.3% | 13.4% | 8.3% |
| 2014 | 22.4% | 13.6% | 16.1% | 9.0% |

On an annual money-weighted basis as required by generally accepted accounting principles, the System returned -2.50% in 2016, as compared with 3.04% in 2015 and 21.95% in 2014, net of pension plan investment expense. The annual money-weighted rate of return calculates a period-by-period return adjusting for the changing amounts actually invested. The results reflect an internal rate of return on System investments, net of investment expense. This is different from the total investment returns above as those returns are presented on a rolling five year average, rather than an annual basis.

Benefit payments increased 4.7 percent in 2016 compared to 4.2% in 2015. The increase is a result of a 3.0 percent increase in the number of benefit recipients and a 1.4 percent increase in the average monthly benefit. Benefit payments in 2016 to retired members exceed contributions from contributing members and employers by $293 million, or a ratio of 1.29 to 1. A ratio of more than one signifies that the System is receiving less contributions than it pays out in benefits. In a mature pension system like OTRS a significant percentage of the benefits are paid out of investment earnings that are not reflected in this ratio. The table on the following page reflects the ongoing employer and member contributions.

| | 2016 | 2015 | 2014 |
|---|---|---|---|
| Member contributions | $ 294,459,091 | $ 303,677,304 | $ 301,300,811 |
| Employer contributions | 409,753,221 | 392,051,458 | 386,895,127 |
| State matching funds | 25,787,244 | 24,445,212 | 24,352,831 |
| Dedicated tax revenue | 289,884,752 | 311,945,400 | 295,804,717 |
| Total contributions | $ 1,019,884,308 | $ 1,032,119,374 | $ 1,008,353,486 |
| | | | |
| Benefit payments | $ 1,257,276,705 | $ 1,201,350,906 | $ 1,153,051,607 |
| Refund of contributions | 55,841,270 | 57,063,155 | 28,718,256 |
| Total payments | $ 1,313,117,975 | $ 1,258,414,061 | $ 1,181,769,863 |

The number of benefit recipients increased 3.0 percent in 2016 as compared to 4.5 percent in 2015 and 3.3 percent in 2014. The increase in number of benefit recipients has remained consistent over the past two years. There was a net increase of 1,751, 2,540, and 1,808 members that entered retirement for fiscal year 2016, 2015, and 2014, respectively.

| | 2016 | 2015 | 2014 |
|---|---|---|---|
| Benefit recipients | 60,680 | 58,929 | 56,389 |
| Yearly % change | 3.0% | 4.50% | 3.30% |
| Net increase | 1,751 | 2,540 | 1,808 |

The following table reflects the average monthly benefit for service retirements. While the table above reflects an increase in the number of retirees in the past year of 3.0 percent the table below reflects the average benefit per retiree has only increased by 1.4 percent in 2016 as compared to 1.8 percent 2015 and 0.5 percent in 2014.

| | 2016 | 2015 | 2014 |
|---|---|---|---|
| Average benefit | $ 1,650 | $ 1,627 | $ 1,599 |
| Yearly % change | 1.4% | 1.8% | 0.5% |

The ratio of active members to retired members of the System is 1.49 to 1 in 2016, compared to 1.54 to 1 in 2015 and 1.59 to 1 in 2014. This change is caused by the longevity of the Plan's retiree population and an active population that has leveled off. Contributing members decreased by 221 while benefit recipients increased by 1,751.

| | 2016 | 2015 | 2014 |
|---|---|---|---|
| Members contributing | 90,167 | 90,388 | 89,570 |
| Yearly % change | -0.2% | 0.9% | 0.3% |
| Benefit recipients | 60,680 | 58,929 | 56,389 |
| Yearly % change | 3.00% | 4.50% | 3.30% |
| Ratio contributing/retired | 1.49 | 1.54 | 1.59 |

The total pension liability increased 8.0 percent. The increase is attributable to a change in actuarial assumptions, primarily as a result of the Board's decision in September 2015 to lower the discount rate from 8.0% to 7.5% and a lower return on assets than in fiscal year 2015. The ratio of plan fiduciary net position to total pension liability decreased 8.07 percent.

| | 2016 | 2015 | 2014 |
|---|---|---|---|
| Total pension liability | $ 22,193,244,472 | $ 20,551,132,567 | $ 19,646,619,191 |
| Plan fiduciary net position | 13,814,102,654 | 14,449,506,469 | 14,229,481,368 |
| Ratio of plan fiduciary net position to total pension liability | 62.24% | 70.31% | 72.43% |

## Currently Known Facts that May Impact Future Operations

The Board of Trustees changed its investment return assumption, as well as its inflation assumption, at the September 21, 2016 board meeting. The return assumption had been 8 percent for many years. The median return assumption for statewide public funds is now 7.5 percent. The inflation assumption had been 3 percent for many years. Inflation in the U.S. economy has been well below that number for the last several years. The Board reduced the inflation assumption to 2.5 percent, resulting in the new return assumption of 7.5 percent.

While the lowering of the inflation assumption lowered pension liabilities somewhat, the lowering of the return assumption that is used to discount those liabilities had a higher negative effect and helped raise the calculation of pension liabilities.

Based on the fair value of assets at the end of fiscal year 2016, and the projected continuation of contribution rates and other revenue, the Plan's actuary projects a "funding period" of 23 years. If all assumptions hold constant the Plan would reach a 100% funded ratio based on the fair value of assets in 23 years even with a 7.5% return assumption. If the actuarial value of assets is used with a 7.5% return assumption, the funding period would only be 20 years.

The System performed an actuarial experience investigation in 2015. The actuarial assumptions used in the preparation of the underlying liability in this report and into the future are based on the results of the study, dated May 31, 2015, measuring the actuarial experience from fiscal year 2010 through fiscal year 2014. The Board adopted these provisions during its May 2015 meeting. Among the changes implemented, impacted the treatment of the administrative expenses, payroll growth rate, mortality, termination and rates for unreduced retirement

## Requests for Information

This financial report is designed to provide a general overview of the System's finances for all those with an interest in the System. Questions concerning any of the information provided in this report or requests for additional information should be addressed to the Executive Director of the Teachers' Retirement System of Oklahoma, P.O. Box 53524, Oklahoma City, Oklahoma 73152 or (405) 521-2387.

**Teachers' Retirement System of Oklahoma**

**Statements of Fiduciary Net Position**
**June 30, 2016 (With Comparative Totals as of June 30, 2015)**

| | | | Totals June 30 | |
|---|---|---|---|---|
| | 401(a) Plan | 403(b) Plan | 2016 | 2015 |
| Assets | | | | |
| Cash | $ 19,857,301 | $ - | $ 19,857,301 | $ 95,635,452 |
| Short-term investments | 388,948,472 | - | 388,948,472 | 337,034,598 |
| Accrued interest and dividends receivable | 50,258,357 | - | 50,258,357 | 43,738,698 |
| Member contributions receivable | 13,874,875 | - | 13,874,875 | 13,755,076 |
| Employer contributions receivable | 21,193,543 | - | 21,193,543 | 20,486,557 |
| Receivable from the State of Oklahoma | 35,126,970 | - | 35,126,970 | 29,977,530 |
| Due from brokers for securities sold | 268,939,981 | - | 268,939,981 | 100,033,496 |
| Security lending institutional daily assets fund | 1,624,015,378 | - | 1,624,015,378 | 4,729,952 |
| Long-term investments: | | | | |
| Mutual funds | - | 179,927,663 | 179,927,663 | 194,599,922 |
| U.S. government securities | 1,189,054,218 | - | 1,189,054,218 | 797,592,952 |
| U.S. corporate bonds | 1,520,378,647 | - | 1,520,378,647 | 1,963,321,241 |
| International corporate bonds and government securities | 392,972,354 | - | 392,972,354 | 103,697,872 |
| Equity securities | 8,543,385,269 | - | 8,543,385,269 | 9,751,823,202 |
| Private Equity | 869,758,312 | - | 869,758,312 | 697,450,822 |
| Real estate | 974,464,418 | - | 974,464,418 | 790,417,222 |
| **Total long-term investments** | 13,490,013,218 | 179,927,663 | 13,669,940,881 | 14,298,903,233 |
| Capital assets, net | 4,072,745 | | 4,072,745 | 3,649,149 |
| **Total assets** | $ 15,916,300,840 | $ 179,927,663 | $ 16,096,228,503 | $ 14,947,943,742 |
| Liabilities | | | | |
| Benefits in process of payment | $ 82,951,906 | $ - | $ 82,951,906 | $ 79,560,652 |
| Due to brokers for securities purchased | 383,658,940 | - | 383,658,940 | 206,832,718 |
| Payable under security lending agreement | 1,624,015,378 | - | 1,624,015,378 | 4,729,952 |
| Other liabilities | 11,571,962 | - | 11,571,962 | 12,714,029 |
| **Total liabilities** | $ 2,102,198,186 | $ - | $ 2,102,198,186 | $ 303,837,351 |
| Net Position | | | | |
| Net position restricted for pensions | $ 13,814,102,654 | $ 179,927,663 | $ 13,994,030,317 | $ 14,644,106,391 |

See Notes to Financial Statements.

## Teachers' Retirement System of Oklahoma

## Statements of Changes in Fiduciary Net Position
## For the Year Ended June 30, 2016 (With Comparative Totals for the Year Ended June 30, 2015)

| | | | Totals Year Ended June 30 | |
|---|---|---|---|---|
| | 401(a) Plan | 403(b) Plan | 2016 | 2015 |
| Additions: | | | | |
| Members | $ 294,459,091 | $ - | $ 294,459,091 | $ 303,677,304 |
| Contributions to 403(b) plan | - | 2,222,812 | 2,222,812 | 2,823,513 |
| Employer statutory requirement from local school districts | 409,753,221 | - | 409,753,221 | 392,051,458 |
| State matching funds | 25,787,244 | - | 25,787,244 | 24,445,212 |
| Dedicated tax | 289,884,752 | - | 289,884,752 | 311,945,400 |
| **Total contributions** | 1,019,884,308 | 2,222,812 | 1,022,107,120 | 1,034,942,887 |
| Investment income: | | | | |
| Interest and dividends | 379,857,166 | 19,083,199 | 398,940,365 | 363,273,483 |
| Net appreciation (depreciation) in fair value of investments | (686,628,380) | (16,246,832) | (702,875,212) | 125,178,064 |
| Investment expenses | (58,542,791) | - | (58,542,791) | (67,820,996) |
| **Gain (loss) from investing activities** | (365,314,005) | 2,836,367 | (362,477,638) | 420,630,551 |
| Income from securities lending activities: | | | | |
| Securities lending income | 8,745,286 | - | 8,745,286 | 13,920,615 |
| Securities lending expenses: | | | | |
| Management fees | (874,529) | - | (874,529) | (2,088,092) |
| **Net income from securities lending activities** | 7,870,757 | - | 7,870,757 | 11,832,523 |
| **Net investment gain (loss)** | (357,443,248) | 2,836,367 | (354,606,881) | 432,463,074 |
| **Total additions** | 662,441,060 | 5,059,179 | 667,500,239 | 1,467,405,961 |
| Deductions: | | | | |
| Retirement, death, survivor and health benefits | 1,257,276,705 | - | 1,257,276,705 | 1,201,350,906 |
| Refund of member contributions and other payments | 36,109,832 | 19,731,438 | 55,841,270 | 57,063,155 |
| Administrative expenses | 4,458,338 | - | 4,458,338 | 4,358,938 |
| **Total deductions** | 1,297,844,875 | 19,731,438 | 1,317,576,313 | 1,262,772,999 |
| **Net increase (decrease) in net position** | (635,403,815) | (14,672,259) | (650,076,074) | 204,632,962 |
| Net position restricted for pensions: | | | | |
| Beginning of year | 14,449,506,469 | 194,599,922 | 14,644,106,391 | 14,439,473,429 |
| End of year | $ 13,814,102,654 | $ 179,927,663 | $ 13,994,030,317 | $ 14,644,106,391 |

See Notes to Financial Statements.

## Note 1. Description of the System

The following brief description of the Teachers' Retirement System of Oklahoma (the "System") is provided for general information purposes only. The plan's benefits are established and amended by State Statue and participants should refer to Title 70 of the Oklahoma Statutes, 1991, Sections 17-101 through 121, as amended.

The System was established as of July 1, 1943 for the purpose of providing retirement allowances and other specified benefits for qualified persons employed by state-supported educational institutions. The System is a part of the state of Oklahoma financial reporting entity, which is combined with other similar funds to comprise the fiduciary-pension trust funds of the state of Oklahoma (the "State"). The System administers a cost-sharing multiple-employer pension plan which is a defined benefit pension plan ("DB Plan"), as well as a tax-deferred defined contribution plan ("DC Plan").

The supervisory authority for the management and operation of the System is a 14-member board of trustees, which acts as a fiduciary for investment of the funds and the application of plan interpretations. The board of trustees is comprised of six appointees from the Governor's Office, two appointees by the Senate Pro Tempore, two appointees by the House Speaker, three Ex Officio position, and one non-voting member representing Retired Professional Oklahoma Educators. Out of the six appointees from the Governor's Office, one must be a Higher Education representative, one is a non-classified optional personnel, and the remaining four must work in the public or private funds management, banking, law or accounting field. Out of the two Senate Pro Tempore's as well as the House Speaker's appointees, one must be an active classroom teacher while the other be a retired member of Oklahoma Teachers Retirement. The Ex Officio trustees are the State Superintendent, the Office of Management and Enterprise Services Director and the Career-Tech Director or their designee.

**DB Plan**: Oklahoma teachers and other certified employees of common schools, faculty and administrators in public colleges and universities, and administrative personnel of state educational boards and employees of agencies who are employed at least half-time must join the System's DB Plan. Membership is optional for all other regular employees of public educational institutions who work at least 20 hours per week. There are 605 contributing employers in the System. The DB Plan's membership consisted of the following as of June 30, 2016:

| | |
|---|---|
| Inactive Plan Members or Beneficiaries Currently Receiving Benefits | 60,680 |
| Inactive Plan Members Entitled to But Not Yet Receiving Benefits* | 11,066 |
| Active Plan Members | 90,167 |
| | 161,913 |

* Does not include 11,450 of non-vested terminated members entitled to a refund of their member contributions.

**DC Plan:** Members are also offered a tax-deferred defined contribution plan qualified under the Internal Revenue Code ("IRC") Section 403(b). The DC Plan is also referred to by the System as the Tax-Sheltered Annuity Plan. Membership in the DC Plan is voluntary, and investments primarily consist of mutual funds and are participant directed. Voya is responsible for administrative services, including custody and record keeping services.

The DC Plan had approximately 2,777 participants as of June 30, 2016. Contributions are voluntary and require a minimum of $200 per year. The maximum deferral amount is the lesser of 100 percent of the participant's compensation or the maximum amount allowed by the IRC, currently $18,000. Participants age 50 and older may contribute an additional $6,000 if they qualify for the catch up provision.

## Note 2. Summary of Significant Accounting Policies

**Basis of accounting:** The System has prepared its financial statements in accordance with accounting principles generally accepted in the United States of America and using the economic resources measurement focus. The financial statements are prepared using the accrual basis of accounting, under which expenses are recorded when the liability is incurred, revenues are recorded in the accounting period they are earned and become measurable, and investment purchases and sales are recorded as of their trade dates. Member and employer contributions are established by Oklahoma Statutes as a percentage of salaries and are recognized when due, pursuant to legal requirements. Benefits and refunds are recognized when due and payable in accordance with the terms of the Oklahoma Statutes. Administrative expenses are funded through investment earnings.

**Budgetary control:** The System prepares and submits an annual budget of operating expenses on the cash basis for monitoring and reporting to the Office of Management and Enterprise Services. The System's budget process follows the budget cycle for State operations as outlined by the Office of Management and Enterprise Services.

The Executive Director may approve changes within the budget, but a change to the total budget must be handled according to the provision of Title 62 O.S. Sec. 41.12 of the Oklahoma Statutes.

**Investments:** The System is authorized to invest in eligible investments as approved by the Board of Trustees as set forth in the System's investment policy. The Board reviews and updates the plan investment policy at least annually, making changes as deemed necessary to achieve policy goals. An investment policy change can be made at any time during the year at the discretion of the Board. While the Board made several changes to the Investment Policy during fiscal year 2016, the changes were to make existing provisions more clear. They were not significant from a financial risk or accounting standpoint.

System investments are reported at fair value within the hierarchy established by generally accepted accounting principles, most recently by Governmental Accounting Standards Board (GASB) Statement No. 72, *Fair Value Measurement and Application.* The short-term investment fund is comprised primarily of investments in a money market fund, which are reported at cost, which approximates fair value. Debt and equity securities are reported at fair value, as determined by the System's custodial agent, using pricing services or prices quoted by independent brokers based on the latest reported sales prices at current exchange rates for securities traded on national or international exchanges.

The System also invests as a limited partner in alternative investments. These investments employ specific strategies such as leverage buyouts, venture capital, growth capital, distressed investments, and mezzanine capital. The strategies of all such funds are long term and illiquid in nature. As a result, investors are subject to redemption restrictions which generally limit distributions and restrict the ability of limited partners to exit a partnership investment prior to its dissolution. Alternative investment partnerships are valued using their respective net asset value (NAV) and are audited annually. The most significant input into the NAV of such an entity is the fair value of its investment holdings. These holdings are valued by the general partners on a quarterly or semi-annual basis, in conjunction with management and investment advisors and consultation with valuation specialists. The management assumptions are based upon the nature of the investment and the underlying business. The valuation techniques vary based upon investment type and involve a certain degree of expert judgment.

## Note 2. Summary of Significant Accounting Policies (Continued)

The System's real estate investments are primarily through limited partnerships. Properties owned by the partnership are subject to independent third-party appraisals performed in accordance with the Uniform Standards of Professional Appraisal Practice every three years. The System's real estate investments are long term and illiquid in nature. As a result, investors are subject to redemption restrictions which generally limit distributions and restrict the ability of limited partners to exit a partnership investment prior to its dissolution. Limited partner interests are valued by the System using the NAV of the partnership. The most significant input into the NAV of such an entity is the value of its investment holdings. These holdings are valued by the general partners on a continuous basis, audited annually, and may be periodically appraised by an independent third party. The valuation assumptions are based upon both market and property specific inputs which are not observable and involve a certain degree of expert judgment. The System evaluates investments in conjunction with their custodial bank and investment managers for impairment whenever events or changes in circumstances indicate that the carrying or fair value of the asset may not be recoverable. Should investments be deemed permanently impaired, the carrying or fair value is adjusted to the impaired value with an adjustment to investment income.

Net investment income includes net appreciation (depreciation) in the fair value of investments, interest income, dividend income, investment income from foreign currency translation gains and losses, securities lending income and expenses, and investment expenses, which includes investment management and custodial fees and all other significant investment related costs.

International investment managers use forward foreign exchange contracts to enhance returns or to control volatility. Currency risks arise due to foreign exchange rate fluctuations. Forward foreign exchange contracts are negotiated between two counter-parties. The System could incur a loss if its counter-parties failed to perform pursuant to the terms of their contractual obligations. The gains and losses on these contracts are included in the income in the period in which the exchange rates change. See Note 3 for additional information regarding investment derivatives as of June 30, 2016.

The System's investment policy provides for investment diversification of stocks, bonds, fixed income securities, real estate, alternative investments, and other investment securities along with investment in commingled or mutual funds. Investment securities and investment securities underlying commingled or mutual fund investments are exposed to various risks, such as interest rate, market, and credit risks. Due to the risks associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities may occur in the near term, and those changes could materially affect the amounts reported in the statements of fiduciary net position.

At June 30, 2016, the asset allocation guidelines established by the Board's investment policy were:

| Category | Allocation |
|---|---:|
| Domestic Equity | 40.0% |
| International Equity | 17.5% |
| Fixed Income | 23.5% |
| Private Equity | 5.0% |
| Real Estate | 7.0% |
| Master Limited Partnerships | 7.0% |
| Total | 100.0% |

**Capital assets:** Capital assets are stated at cost when acquired, net of accumulated depreciation. Depreciation is calculated on a straight-line basis over the estimated useful lives of the assets, which range from five to ten years.

## Note 2. Summary of Significant Accounting Policies (Continued)

**Risks and uncertainties:** Contributions to the System and the actuarial information included in Note 11 and the required supplementary information are reported based on certain assumptions pertaining to interest rates, inflation rates, employee compensation, and demographics. Due to the changing nature of these assumptions, it is at least reasonably possible that changes in these assumptions may occur in the near term and, due to the uncertainties inherent in setting assumptions, that the effect of such changes could be material to the financial statements.

**Income taxes:** The System is exempt from federal and state income taxes and has received a favorable determination from the Internal Revenue Service (the "IRS") under Internal Revenue Code (the "IRC") Section 401(a). The System's 403(b) Plan is also tax-exempt and has received a private letter ruling from the IRS.

**Compensated absences:** It is the State's policy to permit employees to accumulate earned but unused vacation and sick leave. Employees earn annual vacation leave based upon their start date and years of service. All accrued vacation leave is payable upon termination, resignation, retirement, or death. Sick leave does not vest to the employee and therefore is not recorded as a liability. Amounts due to the employees for compensated absences were approximately $240,000 at June 30, 2016.

**Plan termination:** In the event the System terminates, the board of trustees will distribute the net assets of the System to provide the following benefits in the order indicated:

Accumulated contributions will be allocated to each respective member, former member, retired member, joint annuitant, or beneficiary then receiving payments.

The balance of such assets, if any, will be allocated to each member then having an interest in the System based upon the excess of their retirement income under the System less the retirement income, which is equal to the actuarial equivalent of the amount allocated to them in accordance with the preceding paragraph in the following order:

- Those retired members, joint annuitants, or beneficiaries receiving payments
- Those members eligible to retire
- Those members eligible for early retirement
- Former members electing to receive a vested benefit
- All other members

**Use of estimates:** The preparation of the System's financial statements in conformity with accounting principles generally accepted in the United States of America requires the System's management to make significant estimates and assumptions that affect the reported amounts of net position held in trust for pension benefits at the date of the financial statements and the actuarial information included in Note 11 and the required supplementary information as of the benefit information date, the changes in System net position during the reporting period, and, when applicable, disclosures of contingent assets and liabilities at the date of the financial statements. Actual results could differ from those estimates.

## Note 2. Summary of Significant Accounting Policies (Continued)

**Comparative totals:** The financial statements include certain prior year summarized comparative information in total but not at the level of detail required for a presentation in conformity with accounting principles generally accepted in the United States of America. Accordingly, such information should be read in conjunction with the System's financial statements for the year ended June 30, 2015, from which the summarized information was derived.

**New Accounting Pronouncements:** During the current year the System adopted GASB Statement No. 72, *Fair Value Measurement and Application* during the year ended June 30, 2016. This statement specifies a hierarchy of valuation classifications based on whether the inputs to the valuation techniques used in each valuation classification are observable or unobservable. These Statements require enhanced note disclosures and descriptions of these classifications which are detailed in Note 3. The adoption of this statement had no effect on net position.

**Subsequent events:** The System has performed an evaluation of subsequent events through October 31, 2016, the date the basic financial statements were available to be issued. No material events were identified by the System.

## Note 3. Cash and Investments

**Fair Value Measurements** – The System categorizes fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset and give the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (level 1 measurements) and the lowest priority to unobservable inputs (level 3 measurements) as follows:

- Level 1 Unadjusted quoted prices for identical instruments in active markets.
- Level 2 Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs are observable.
- Level 3 Valuations derived from valuation techniques in which significant inputs are unobservable.

Investments that are measured at fair value using the net asset value per share (NAV) (or its equivalent) as a practical expedient are not classified in the fair value hierarchy. In instances where inputs used to measure fair value fall into different levels in the fair value hierarchy, fair value measurements in their entirety are categorized based on the lowest level input that is significant to the valuation.

## Note 3. Cash and Investments (Continued)

The System's assessment of the significance of particular inputs to these fair value measurements requires judgment and considers factors specific to each asset or liability. The following table shows the fair value levels of the investments for the System:

| | | Fair Value Measurements Using | | |
|---|---|---|---|---|
| **Investments by fair value level** | **06/30/16** | **Quoted Prices in Active Markets for Identical Assets Level 1** | **Significant Other Observable Inputs Level 2** | **Significant Unobservable Inputs Level 3** |
| Mutual Funds | $ 179,927,663 | $ 179,927,663 | $ - | $ - |
| Total mutual funds | 179,927,663 | 179,927,663 | - | - |
| Fixed Income securities | | | | |
| Asset Backed Securities | 154,152,531 | - | 123,584,877 | 30,567,654 |
| Bank Loans | 21,320,480 | - | 21,320,480 | - |
| Commercial Mortgage-Backed | 67,020,533 | - | 51,556,571 | 15,463,962 |
| Corporate Bonds | 1,586,017,412 | - | 1,580,453,932 | 5,563,480 |
| Corporate Convertible Bonds | 21,292,110 | - | 20,422,427 | 869,683 |
| Government Agencies | 32,493,735 | - | 32,493,735 | - |
| Government Bonds | 900,213,323 | 856,888,817 | 43,324,506 | - |
| Government Mortgage Backed Securities | 235,897,276 | - | 229,640,747 | 6,256,529 |
| Gov't-issued Commercial Mortgage-Backed | 8,540,715 | - | 6,740,038 | 1,800,677 |
| Index Linked Government Bonds | 62,611,789 | - | 62,611,789 | - |
| Municipal/Provincial Bonds | 2,893,704 | - | 2,893,704 | - |
| Non-Government Backed C.M.O.s | 9,951,611 | - | 6,657,451 | 3,294,160 |
| Total fixed income securities | 3,102,405,219 | 856,888,817 | 2,181,700,257 | 63,816,145 |
| Equity securities | | | | |
| Common Stock | 8,457,917,486 | 8,426,192,961 | 30,529,142 | 1,195,383 |
| Convertible Equity | 1,817,058 | 1,066,200 | 750,858 | - |
| Funds - Common Stock | 13,512,024 | 13,512,024 | - | - |
| Funds - Equities ETF | 44,788,616 | 44,788,616 | - | - |
| Preferred Stock | 13,851,064 | 13,851,064 | - | - |
| Rights/Warrants | 29,630 | 29,153 | 209 | 268 |
| Stapled Securities | 576,038 | 576,038 | - | - |
| Other Securities | 2,562,103 | 2,560,337 | 1,766 | - |
| Total equity securities | 8,535,054,019 | 8,502,576,393 | 31,281,975 | 1,195,651 |
| Total investments by fair value level | $ 11,817,386,901 | $ 9,539,392,873 | $ 2,212,982,232 | $ 65,011,796 |

| Investments measured at the net asset value (NAV) | |
|---|---|
| Alternative investments | |
| Real Estate Investments | 974,464,418 |
| Private Equity Investments | 869,758,312 |
| Total alternative investments | 1,844,222,730 |
| Other Mutual Funds | 8,331,250 |
| Total Investments measured at the NAV | 1,852,553,980 |
| Total Investments measured at fair value and NAV | $ 13,669,940,881 |

### Note 3. Cash and Investments (Continued)

Equity, derivative securities, and governmental debt securities classified in Level 1 are valued using prices quoted in active markets for those securities. Debt and debt derivative securities classified in Level 2 and Level 3 are valued using either a bid evaluation or a matrix pricing technique. Bid evaluations may include market quotations, yields, maturities, call features and ratings.

Matrix pricing is used to value securities based on the securities relationship to benchmark quoted prices. Index linked debt securities are valued by multiplying the external market price feed by the applicable day's Index Ratio.

Level 2 debt securities have non-proprietary information that was readily available to market participants, from multiple independent sources, which are known to be actively involved in the market. Level 3 debt securities use proprietary information or single source pricing. Equity and equity derivative securities classified in Level 2 are securities whose values are derived daily from associated traded securities.

Equity securities classified in Level 3 are valued with last trade data having limited trading volume.

**Investments in Entities that Calculate Net Asset Value per Share**

The System holds shares or interest in investment companies at where the fair value of the investments are measured on a recurring basis using net asset value per share (or its equivalent) of the investment companies as a practical expedient.

The System's policy is to obtain an external appraisal a minimum of every year for properties or portfolios that the System has some degree of control or discretion. In practice, some investments are appraised annually. Appraisals are performed by an independent appraiser with preference for Member appraisal Institute (MAI) designated appraisers. The appraisals are performed using generally accepted valuation approaches applicable to the property type.

At year end, the fair value, unfunded commitments, and redemption rules of those investments is as follows:

| | Fair Value | Unfunded Commitments | Redemption Frequency | Redemption Notice Period |
|---|---|---|---|---|
| Real Estate Investments | 974,464,418 | 1,117,930,233 | N/A | N/A |
| Private Equity investments | 869,758,312 | 163,812,821 | N/A | N/A |
| Other Mutual Funds | 8,331,250 | | Daily | 1 Day |
| Total investments measured at the NAV | $ 1,852,553,980 | | | |

**Real Estate Investments:** This type includes 10 real estate funds that invest primarily in commercial real estate. The fair values of the investments in this type have been determined using the NAV per share (or its equivalent) of the portfolio's ownership interest in partners' capital. These investments can never be redeemed from the funds. Distributions from each fund will be received as the underlying investments of the funds are liquidated. It is expected that the underlying assets of the funds will be liquidated over the next 20 years. Because it is not probable that any individual investment will be sold, the fair value of each individual investment has been determined using the NAV per share (or its equivalent) of the portfolio's ownership interest in partners' capital.

## Note 3. Cash and Investments (Continued)

**Private Equity Funds:** This type includes 4 private equity funds that invest primarily in leveraged buyouts. The fair values of the investments in this type have been determined using the NAV per share (or its equivalent) of the portfolio's ownership interest in partners' capital. These investments can never be redeemed from the funds. Distributions from each fund will be received as the underlying investments of the funds are liquidated. It is expected that the underlying assets of the funds will be liquidated over the next 20 years. Because it is not probable that any individual investment will be sold, the fair value of each individual investment has been determined using the NAV per share (or its equivalent) of the portfolio's ownership interest in partners' capital

**Other Mutual Funds:** This type includes investments in an open-end mutual fund that emphasizes broad diversification and consistent exposure to emerging market small company stocks. The fair value of the investment in this type has been determined using the NAV per share of the investment.

The system does not anticipate restrictions, other than those outlined in the table, on the ability to sell individual investments at the measurement date. Additionally, the system does not anticipate that NAV-driven investments will become redeemable at valuations materially different from the corresponding NAV listed above. The System has no prescribed time frame to liquidate the investments.

**Custodial credit risk:** Custodial credit risk is the risk that in the event of the failure of a counterparty, the System will not be able to recover the value of its bank deposits or investments. Bank deposits are exposed to custodial credit risk if they are uninsured and uncollateralized. In relation to its bank deposits, the System is not considered to be exposed to custodial credit risk. Although the System does not have a formal bank deposit policy for custodial credit risk, the State Treasurer holds all of the System's bank deposits. As required by Oklahoma Statutes, all bank deposits held by the State Treasurer are insured by Federal Deposit Insurance Corporation, collateralized by securities held by the cognizant Federal Reserve Bank, or invested in U.S. government obligations.

At June 30, 2016, the carrying amount of the System's bank deposits was approximately $19,857,000. The bank balance of the System's bank deposits at June 30, 2016 was approximately $12,094,000.

Investment securities are exposed to custodial credit risk if they are uninsured, are not registered in the name of the System, and are held by a counterparty or the counterparty's trust department but not in the name of the System. While the System's investment policy does not specifically address custodial credit risk, it does limit the amount of cash equivalents and short-term investments to no more than 5 percent of each manager's portfolio. At June 30, 2016, the System had uninsured and uncollateralized deposits translated to USD of approximately ($150,000) with its custodial agent.

**Credit risk:** Fixed-income securities are subject to credit risk. Credit quality rating is one method of assessing the ability of the issuer to meet its obligation. The System's investment policy places limits on the amount of the fixed income portfolio that may be invested in bonds rated Ba1 or lower by Moody's or BB+ or lower by Standard & Poor's. Short-term investments include United States Treasury bills that mature in less than 90 days.

## Note 3. Cash and Investments (Continued)

The following table presents the System's fixed income securities subject to credit risk (amounts in thousands).

| Investment Type | AAA | AA | A | BBB | BB | B | CCC | CC | D | Not Rated | US Government Securities | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Asset backed securities | $ 73,886 | $ 9,134 | $ 20,871 | $ 6,200 | $ 1,214 | - | $ 425 | $ - | $ - | $ 42,424 | $ - | $ 154,153 |
| Bank loans | - | - | - | - | 2,078 | 6,311 | 5,746 | 206 | 755 | 6,225 | - | 21,320 |
| Commercial mortgage-backed | 19,202 | 10,587 | 8,029 | 9,605 | 142 | 1,129 | - | - | - | 17,890 | 436 | 67,021 |
| Corporate bonds | - | 15,353 | 114,242 | 516,212 | 487,444 | 334,569 | 77,520 | 2,214 | 4,168 | 34,295 | - | 1,586,017 |
| Corporate convertible bonds | 316 | - | - | 331 | 4,880 | 3,985 | - | - | 762 | 11,018 | - | 21,292 |
| Government agencies | 4,254 | 14,399 | - | 2,561 | - | - | - | - | - | 2,665 | 8,615 | 32,494 |
| Government bonds | - | 1,064 | 14,966 | 10,490 | 6,798 | 5,483 | - | - | - | 4,524 | 856,889 | 900,213 |
| Government mortgage-backed securities | - | - | - | - | - | - | - | - | - | 10,478 | 225,419 | 235,897 |
| Gov't-issued commercial mortgage-backed | - | - | - | - | - | - | - | - | - | 3,502 | 5,039 | 8,541 |
| Index linked government bonds | - | - | - | - | - | - | - | - | - | | 62,612 | 62,612 |
| Municipal/Provincial bonds | - | - | 832 | - | - | 674 | - | - | - | 508 | - | 2,015 |
| Non-government backed C.M.O.s | 1,864 | 458 | - | 214 | - | - | 1,556 | - | 238 | 5,621 | - | 9,952 |
| Sukuk | - | - | - | - | 879 | - | - | - | - | - | - | 879 |
| Total fixed income | 99,522 | 50,995 | 158,940 | 545,613 | 503,435 | 352,151 | 85,247 | 2,420 | 5,922 | 139,151 | 1,159,010 | 3,102,405 |
| Short-term investments | - | - | - | - | - | - | - | - | - | - | 49,469 | 49,469 |
| | $ 99,522 | $ 50,995 | $ 158,940 | $ 545,613 | $ 503,435 | $ 352,151 | $ 85,247 | $ 2,420 | $ 5,922 | $ 139,151 | $ 1,208,479 | $ 3,151,874 |

## Note 3. Cash and Investments (Continued)

**Interest rate risk:** Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. Duration is a measure of a debt investment's exposure to fair value changes arising from changing interest rates based upon the present value of cash flows, weighted for those cash flows as a percentage of the investment's full price. Effective duration estimates the sensitivity of a bond's price to interest rate changes and makes assumptions regarding the most likely timing and amounts of variable cash flows arising from investments such as callable bonds, collateralized mortgage obligations, and other mortgage-backed securities. While all investments are subject to market changes, securities invested in index funds are more sensitive to market risk. Although the System's investment policy does not specifically address the duration of fixed-income securities, the System's management does monitor interest rate risk by monitoring the performance of each investment manager. As of June 30, 2016, the System had the following investments with maturities (dollars in thousands):

| Investment Type | Fair Value | Effective Duration in Years |
|---|---|---|
| Asset-backed securities | $ 152,517 | 1.2 |
| Commercial mortgaged-backed | 67,021 | 1.9 |
| Corporate bonds | 1,585,452 | 4.5 |
| Corporate convertible bonds | 20,152 | 3.5 |
| Government agencies | 32,494 | 6.6 |
| Government bonds | 900,213 | 11.5 |
| Government mortgage-backed securities | 235,017 | 2.5 |
| Government issued commercial mortgaged-backed | 8,541 | 3.4 |
| Index linked government bonds | 62,612 | 20.1 |
| Municipal/Provincial bonds | 674 | 5.7 |
| Non-government backed CMOs | 9,493 | 2.2 |
| Sukuk | 879 | 5 |
| Fixed income securities | 27,340 | 7.6 |
| Total fixed income | $ 3,102,405 | |
| Portfolio duration | | 6.5 |

**Concentration of credit risk:** Investments can be exposed to concentration of credit risk if significant amounts are invested in any one issuer. The System's investment policy places limits on the amount that may be invested in securities of any single issuer. As of June 30, 2016, the System did not hold 5% or more of its total investments in any one issuer.

## Note 3. Cash and Investments (Continued)

**Foreign currency risk:** Foreign currency risk is the potential risk for loss due to changes in exchange rates. The System's investment policy provides that international investment managers invest no more than 30 percent of their portfolio's total assets in one or more issuers in a single country, provided that in the U.K. or Japan such limit shall be 35 percent. Investment in cash and cash equivalents, foreign equities, and fixed-income securities as of June 30, 2016 is shown in the following table by monetary unit to indicate possible foreign currency risk (dollars in thousands):

| Currency | Equities | Corporate Bonds | Government Bonds | Foreign Exchange Contracts | Cash and Cash Equivalents | Grand Total |
|---|---|---|---|---|---|---|
| Australian Dollar | $ 67,373 | $ 765 | | $ - | $ - | $ 68,138 |
| Brazilian Real | 23,231 | 430 | - | - | 30 | 23,691 |
| Canadian Dollar | 46,555 | - | - | - | 8 | 46,563 |
| Chilean Peso | 658 | - | - | - | - | 658 |
| Colombia Peso | | - | 2,502 | - | - | 2,502 |
| Czech Koruna | 231 | - | - | - | - | 231 |
| Danish Krone | 32,684 | - | - | - | - | 32,684 |
| Euro | 459,345 | 723 | 116 | - | 155 | 460,339 |
| Hong Kong Dollar | 87,565 | - | - | - | 7 | 87,572 |
| Hungarian Forint | 1,323 | - | - | - | - | 1,323 |
| Indonesian Rupiah | 11,363 | - | - | - | - | 11,363 |
| Israeli Shekel | 8,042 | - | - | - | - | 8,042 |
| India Rupee | | - | 1,190 | - | - | 1,190 |
| Japanese Yen | 415,866 | - | - | (3) | 1,260 | 417,123 |
| Malaysian Ringgit | 8,154 | - | - | - | 22 | 8,176 |
| Mexican Peso | 14,999 | 5,600 | 14,923 | - | - | 35,522 |
| New Taiwan Dollar | 64,422 | - | - | - | 51 | 64,473 |
| New Zealand Dollar | 2,405 | - | - | - | 3 | 2,408 |
| Norwegian Krone | 23,384 | - | - | - | - | 23,384 |
| Phillipine Peso | 4,375 | - | - | - | - | 4,375 |
| Polish Zloty | 4,447 | - | - | - | - | 4,447 |
| Pound Sterling | 351,118 | 3,588 | - | 214 | 118 | 355,038 |
| Qatari Rial | 306 | - | - | - | - | 306 |
| Singapore Dollar | 11,960 | - | - | 3 | - | 11,963 |
| South African Rand | 22,355 | - | - | - | - | 22,355 |
| South Korean Won | 67,843 | - | - | - | - | 67,843 |
| Swedish Krona | 25,191 | - | - | - | - | 25,191 |
| Swiss Franc | 89,502 | - | - | (4) | 9 | 89,507 |
| Thai Baht | 21,166 | - | - | - | 108 | 21,274 |
| Turkish Lira | 12,311 | - | - | - | 51 | 12,362 |
| UAE Dirham | 541 | - | - | - | - | 541 |
| Total | $ 1,878,715 | $ 11,106 | $ 18,731 | $ 210 | $ 1,822 | $ 1,910,584 |

## Note 3. Cash and Investments (Continued)

**Derivative instruments:** The System's investment derivatives include forward currency and futures contracts. These investments are not speculative in nature and do not increase investment risk beyond allowable limits specified in the System's investment policy. The changes in fair values of the System's investment derivatives are included in net appreciation in fair value of investments in the accompanying statement of fiduciary net position. The fair values of the System's investment derivatives are included in due from brokers for securities sold and due to brokers for securities purchased in the accompanying statement of plan net position. The fair value balances and notional amounts of derivative instruments outstanding at June 30, 2016, classified by type, and the changes in fair value of such derivative instruments for the year then ended as reported in the 2016 financial statements are as follows (dollars in thousands):

| Investment Derivatives | Change in Fair Value | Fair Value | Notional |
|---|---|---|---|
| Forward—foreign currency purchases | $ 4 | $ 3 | $ 8,516 |
| Forward—foreign currency sales | 248 | 207 | 4,372 |
| Futures – U.S. Treasury bills and notes purchases | 2,069 | 166,229 | 164,160 |
| Futures – U.S. Treasury bills and notes sales | (2,443) | (78,733) | (76,289) |

A foreign currency forward contract is an agreement that obligates the parties to exchange given quantities of currencies at a pre-specified exchange rate on a certain future date. The fair values of the forward contracts are estimated based on the present value of their estimated future cash flows.
The foreign currency forward contracts subject the System to foreign currency risk because the investments are denominated in international currencies. The risks are described in the foreign currency risk schedule where the fair value of the foreign currency contracts in U.S. dollars is presented. Futures contracts are handled similarly as they are contracts requiring exchange of financial instruments at a certain future date. The fair values of the futures contracts are estimated similarly to forward contracts. As the underlying investments of the futures contracts are United States Treasury Bills, no foreign currency risk is present. The contracts mature within 90 days of year-end.

**Rate of return:** For the year ended June 30, 2016, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was -2.50 percent. The money-weighted rate of return expresses investment performance, net of investment expense, as adjusted for the changing amounts actually invested.

## Note 4. Commitments

At June 30, 2016, the System has total capital commitments related to alternative and real estate investments of $2,540,400,000. Of this amount, $891,978,093 remained unfunded.

## Note 5. Securities Lending Activity

The System's investment policy and State statutes provide for its participation in a securities lending program. The program is administered by the System's master custodian, and there are no restrictions on the amount of loans that can be made. Certain securities of the System are loaned to participating brokers, who must provide collateral in the form of cash, U. S. Treasury or government agency securities, or letters of credit issued by approved banks.

## Note 5. Securities Lending Activity (Continued)

Under the terms of the agreement, collateralization of the fair value of the loaned securities must be provided in the amount of 102 percent when the security to be loaned and the collateral are in the same currency and 105 percent when the loan and collateral currencies are dissimilar. The securities on loan as of June 30, 2016 collateralized by cash were approximately $1,598,266,000 and the cash collateral received for those securities on loan was approximately 1,624,015,000.. Securities on loan as of June 30, 2016 consisted of equity loans, corporate fixed income and US government and agencies securities collateralized by cash and non-cash securities. Because the System cannot pledge or sell collateral securities and letters of credit received unless the borrower defaults, the collateral and related liability are not presented in the accompanying statements of plan net position. The following table describes the types of securities lent and collateral as of June 30, 2016 (dollars in thousands):

| | Fair Value of Securities on Loan | Collateral Value | Collateral Percentage |
|---|---|---|---|
| Governmental loans compared to collateral | $ 126,067 | $ 128,384 | 102% |
| Equity loans compared to collateral | 1,251,487 | 1,271,653 | 102% |
| Corporate loans compared to collateral | 220,712 | 223,978 | 101% |
| | $ 1,598,266 | $ 1,624,015 | |

At June 30, 2016, the System had no credit risk exposure since the amounts the System owed to borrowers exceeded the amounts borrowers owed the System. The contract with the System's lending agent requires it to indemnify the System if the borrowers fail to return the lent securities. In the event of a collateral shortfall due to a loss in value of investments made with cash collateral, such loss would be the responsibility of the System.

All securities loans can be terminated on demand by either the System or the borrower. Cash collateral is invested in a separate account for the System in accordance with investment guidelines approved by the System. At June 30, 2016, the weighted average maturity of the cash collateral investments was 20 days. The dollar-weighted average maturity of cash collateral investments shall not exceed ninety days. For purposes of this restriction, the average maturity of variable rate instruments will be calculated to the next interest reset date. The Cash Collateral Account's minimum overnight liquidity level shall not be less that twenty percent. The cash collateral investments are structured and maintained by the lending agent's investment desk utilizing an asset and liability methodology designed to manage to an appropriate extent any mismatch between the investment maturities and the System's loans.

## Note 6. Capital Assets

Capital assets consist of the following at June 30, 2016:

| | |
|---|---|
| Furniture and fixtures | $ 4,370,741 |
| Accumulated depreciation | (297,996) |
| Capital assets, net | $ 4,072,745 |

The System has commitments to lease building space as well as leases on certain equipment. The future minimum commitment for operating leases as of June 30, 2016 was approximately $200,000. The System's leases are one-year renewable contracts. Rental expense for all operating leases amounted to approximately $200,000 for the year ended June 30, 2016.

## Note 7. Member and Employer Contributions

All contribution rates are defined or amended by the Oklahoma Legislature. All active members contribute to the System; however, the employer may elect to make all or part of the contribution for its employees. There are special provisions for members of higher education who joined the System before July 1, 1995. The annual employer contributions reported for the years ended June 30, 2016 were $409,753,221. Employers satisfied 100 percent of their contribution requirements for 2016.

All members must contribute 7 percent of regular annual compensation, not to exceed the member's maximum compensation level, which for the year ended June 30, 2016 was the full amount of regular annual compensation.

The employers are required to contribute a fixed percentage of annual compensation on behalf of active clients. The employer contribution rate was 9.5 percent beginning on January 1, 2011 for all remitting entities other than comprehensive and four year regional universities. The employer contribution rate was 8.55 percent starting on January 1, 2011 for comprehensive and four year universities. The rates for fiscal years 2016 are applied on the full amount of the member's regular annual compensation up to certain limits prescribed by the IRC.

## Note 8. Benefits

The System provides defined retirement benefits based on members' final compensation, age, and term of service. In addition, the retirement program provides for benefits upon disability and to survivors upon the death of eligible members. Title 70 O. S. Sec. 17-105 defines all retirement benefits. The authority to establish and amend benefit provisions rests with the State Legislature.

Benefit provisions include:

- Members become 100 percent vested in retirement benefits earned to date after five years of credited Oklahoma service. Members who joined the System on June 30, 1992 or prior are eligible to retire at maximum benefits when age and years of creditable service total 80. Members joining the System after June 30, 1992 are eligible for maximum benefits when their age and years of creditable service total 90. Members whose age and service do not equal the eligible limit may receive reduced benefits as early as age 55, and at age 62 receive unreduced benefits based on their years of service. The maximum retirement benefit is equal to 2 percent of final compensation for each year of credited service.

- Final compensation for members who joined the System prior to July 1, 1992 is defined as the average salary for the three highest years of compensation. Final compensation for members joining the System after June 30, 1992 is defined as the average of the highest five consecutive years of annual compensation in which contributions have been made. The final average compensation is limited for service credit accumulated prior to July 1, 1995 to $40,000 or $25,000, depending on the member's election. Monthly benefits are 1/12 of this amount. Service credits accumulated after June 30, 1995 are calculated based on each member's final average compensation, except for certain employees of the two comprehensive universities. Upon the death of a member who has not yet retired, the designated beneficiary shall receive the member's total contributions plus 100 percent of interest earned through the end of the fiscal year, with interest rates varying based on time of service. A surviving spouse of a qualified member may elect to receive, in lieu of the aforementioned benefits, the retirement benefit the member was entitled to at the time of death as provided under the Joint Survivor Benefit Option.

- Upon the death of a retired member, the System will pay $5,000 to the designated beneficiary, in addition to the benefits provided for the retirement option selected by the member.

## Note 8. Benefits (Continued)

- A member is eligible for disability benefits after ten years of credited Oklahoma service. The disability benefit is equal to 2 percent of final average compensation for the applicable years of credited service.

- Upon separation from the System, members' contributions are refundable with interest based on certain restrictions provided in the plan, or by the IRC.

- Members may elect to make additional contributions to a tax-sheltered annuity program up to the exclusion allowance provided under the IRC under Code Section 403(b).

### Supplemental Health Insurance Program

The System makes payments to certain retiree health insurance providers that are subsidies to help pay for certain supplemental health benefits that are available to eligible retired members who elect such coverage. The subsidy payments are made to the Employees Group Insurance Division (EGID) of the Office of Management and Enterprise Services (OMES) for retirees who opt to continue their employer-provided insurance and are also made to employers who provide health insurance options through other insurers as long as the plans provide health insurance options to both the employers' active and retired employees.

All retirees are eligible except for special retirees (as defined) and spouses and beneficiaries as long as they have at least 10 years of service. Retirees who elect such coverage receive the smaller of (i) a Medicare supplement benefit, if eligible, or (ii) an amount between $100 and $105 per month, depending on service and final average compensation. Payments are made on their behalf monthly (i) to EGID as described above, if the member continues health coverage under that Plan, or (ii) to the member's former employer, if the member retains health coverage under a plan maintained by the former employer as described above. The amounts paid to EGID or local employers were approximately $30,522,000 in 2016 and are included in retirement and other benefits expense. The System performs no administrative functions related to the payment of the benefit.

TRS does not have a separate trust to finance the health insurance benefit, and does not have separate assets and investments to fund the benefit. The liability to pay for the monthly subsidy is part of the total pension liability of the TRS plan. These liabilities are recognized on an accrual basis.

Employer and employee contributions are made based upon the TRS Plan provisions contained in Title 70, as amended. However the statutes do not specify or identify any particular contribution source to pay the health insurance subsidy. The cost of the subsidy averages 0.29% of normal cost, as determined by an actuarial valuation.

Each employer in the Program must disclose the employer's own annual program cost and contributions made to the extent that employers continue to contribute to one of its retired employees' health care costs. As noted above, there is no separate trust to finance the subsidy, and no separate funded status is calculated. Therefore no funding progress is calculated or shown.

The valuation date is June 30th of each plan year. All members, whether currently active, inactive, or retired, are assumed to be eligible to receive the supplemental insurance benefit, if they have at least 10 years of service credit at retirement.

## Note 9. Dedicated Tax

The plan receives funds provided by the State of Oklahoma, a non-employer contributing entity, through 5.0 percent of the State's sales, use, and corporate and individual income taxes collected as dedicated tax. The System receives 1 percent of the cigarette taxes collected by the State and receives 5 percent of net lottery proceeds collected by the State. The System received approximately $289,885,000 from the State in 2016. Amounts due from the State were approximately $35,127,000 at June 30, 2016.

## Note 10. Plan Amendments

The 2016 legislative session resulted in no bills with an actuarial impact on the system.

## Note 11. DB Plan Net Pension Liability and Actuarial Information

The components of the net pension liability of the employers at June 30, 2016 were as follows:

| | | |
|---|---|---|
| Total pension liability | $ | 22,193,244,472 |
| Plan fiduciary net position | | (13,814,102,655) |
| Employers' net pension liability | $ | 8,379,141,817 |
| | | |
| Plan fiduciary net position as a percentage of the total pension liability | | 62.24% |

The total pension liability as of June 30, 2016, was determined based on an actuarial valuation prepared as of June 30, 2016 using the following actuarial assumptions:

- Actuarial Cost Method—Entry Age Normal
- Inflation—2.50 percent
- Future Ad Hoc Cost-of-living Increases—None
- Salary Increases—Composed of 3.25 percent wage inflation, including 2.50 percent price inflation, plus a service-related component ranging from 0.00 percent to 8.00 percent based on years of service
- Investment Rate of Return—7.50 percent
  Retirement Age— Experience-based table of rates based on age, service, and gender. Adopted by the Board in May 2015 in conjunction with the five year experience study for the period ending June 30, 2014
- Mortality Rates after Retirement— Males: RP-2000 Combined Healthy mortality table for males with White Collar Adjustments. Generational mortality improvements in accordance with Scale BB from the table's base year of 2000. Females: GRS Southwest Region Teacher Mortality Table, scaled at 105%. Generational mortality improvements in accordance with Scale BB from the table's base year of 2012.
- Mortality Rates for Active Members—RP-2000 Employee Mortality tables, with male rates multiplied by 60% and female rates multiplied by 50%

**Measurement of the net pension liability:** The net pension liability is measured as the total pension liability, less the amount of the plan's fiduciary net position. In actuarial terms, this is analogous to the accrued liability as measured using the individual entry age normal actuarial cost method less the fair value of assets (not the smoothed actuarial value of assets seen in actuarial valuations based on the Board's adopted assumptions and methods).

**Note 11. DB Plan Net Pension Liability and Actuarial Information (Continued)**

For the valuation period ending June 30, 2016, a single discount rate of 7.50% was used to measure the total pension liability. Previously, the System had used an 8.00% discount rate. Based on the stated assumptions and the projection of cash flows, the pension plan's fiduciary net position and future contributions were projected to be available to finance all projected future benefit payments of current plan members.

Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

The projection of cash flows used to determine this single discount rate assumed that plan member and employer contributions will be made at the current statutory levels and remain a level percentage of payroll. The projection of cash flows also assumed that the State's contribution plus the matching contributions will remain a constant percent of projected member payroll based on the past five years of actual contributions.

The long-term expected rate of return on pension plan investments was determined using a building block method 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 asset allocation and best estimates of arithmetic expected real rates of return for each major asset class as of June 30, 2016 are summarized in the following table:

| Asset Class | Target Asset Allocation | Long-Term Expected Real Rate of Return |
|---|---|---|
| Domestic All Cap Equity* | 7.0% | 6.2% |
| Domestic Large Cap Equity | 10.0% | 5.8% |
| Domestic Mid Cap Equity | 13.0% | 6.3% |
| Domestic Small Cap Equity | 10.0% | 7.0% |
| International Large Cap Equity | 11.5% | 6.6% |
| International Small Cap Equity | 6.0% | 6.6% |
| Core Plus Fixed Income | 17.5% | 1.6% |
| High-Yield Fixed Income | 6.0% | 4.9% |
| Private Equity | 5.0% | 8.3% |
| Real Estate** | 7.0% | 4.5% |
| Master Limited Partnerships | 7.0% | 7.7% |
| Total | 100.0% | |

* The Domestic All Cap Equity total expected return is a combination of 3 rates – US Large Cap, US Mid Cap and US Small Cap.

** The Real Estate total expected return is a combination of US Direct Real Estate (unleveraged) and US Value added Real Estate (unleveraged).

## Note 11. DB Plan Net Pension Liability and Actuarial Information (Continued)

**Sensitivity of the net pension liability to the single discount rate assumption:** The following table provides the sensitivity of the net pension liability to changes in the discount rate as of June 30, 2016. In particular, the table presents the plan's net pension liability, if it were calculated using a single discount rate that is one-percentage-point lower or one-percentage-point higher than the single discount rate:

| | 1% Decrease (6.50%) | Current Discount Rate (7.50%) | 1% Increase (8.50%) |
|---|---|---|---|
| Net pension liability | $ 10,969,614,671 | $ 8,379,141,818 | $ 6,210,964,730 |

## Note 12. New Accounting Pronouncements Issued, Not Yet Adopted

GASB Statement No. 73*, Accounting and Financial Reporting for Pensions and Related Assets That Are Not Within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68* (GASB No. 73): GASB No. 73 was issued June 2015 and will be effective for the Plan beginning with its fiscal year ending June 30, 2016—except those provisions that address employers and governmental non-employer contributing entities for pensions that are not within the scope of Statement No. 68, which are effective for the Plan beginning with its fiscal year ending June 30, 2017. The Statement establishes requirements for pensions not covered by Statement Nos. 67 and 68 which are essentially the same requirements as Statement No. 68. However, the lack of a pension plan that is administered through a trust that meets specified criteria is reflected in the measurements.

GASB Statement No. 74, *Financial Reporting for Postemployment Benefit* Plans *Other Than Pension Plans,* (OPEB) addresses reporting by OPEB plans that administer benefits on behalf of governments. This statement replaces GASB Statement No. 43, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans.* GASB Statement No. 74 addresses the financial reports of defined benefit OPEB plans that are administered through trusts that meet specified criteria. This statement requires an OPEB liability to be included in the Statement of Fiduciary Net Position and the Statement of Changes In Fiduciary Net Position, as well as extensive note disclosures and required supplementary information related to the measurement of the OPEB liabilities for which assets have been accumulated, including information about the annual money weighted rates of return on plan investments. The provisions in this statement are effective for financial statements for fiscal years beginning after June 15, 2016. Management is evaluating GASB Statement No. 74 and its impact to the System's financial reporting and, if applicable, will implement it in the financial statements for the fiscal year ending June 30, 2017.

GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions,* addresses reporting by governments that provide OPEB to their employees and for governments that finance OPEB for employees of other governments. GASS Statement No. 75 replaces the requirements of GASS Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions.* This statement requires governments to report a liability on the face of the financial statements for the OPEB that they provide by reporting, according to specified criteria, either a net OPEB liability, their proportionate share of the collective OPEB liability, or the total OPEB liability related to their employees. GASB Statement No. 75 requires governments in all types of OPEB plans to present more extensive note disclosures and required supplementary information about their OPEB liabilities. The provisions in this statement are effective for fiscal years beginning after June 15, 2017. Management is evaluating GASB Statement No. 75 and its impact to the System's financial reporting and, if applicable, will implement it in the financial statements for the fiscal year ending June 30, 2018.

## Note 12. New Accounting Pronouncements Issued, Not Yet Adopted (Continued)

GASB Statement No. 78, *Pensions Provided through Certain Multiple-Employer Defined Benefit Plans* amends the scope and applicability of Statement 68 to exclude pensions provided to employees of state or local governmental employers through a cost-sharing multiple-employer defined benefit pension plan that (1) is not a state or local governmental pension plan, (2) is used to provide defined benefit pensions both to employees of state or local governmental employers and to employees of employers that are not state or local governmental employers, and (3) has no predominant state or local governmental employer (either individually or collectively with other state or local governmental employers that provide pensions through the pension plan). GASB Statement No. 78 establishes requirements for recognition and measurement of pension expense, expenditures, and liabilities; note disclosures; and required supplementary information for pensions that have the characteristics described above.

The provisions in this statement are effective for fiscal years beginning after December 15, 2015. Management has evaluated GASB Statement No. 78 and its impact to the System's financial reporting and has determined it will not impact the System.

GASB Statement No.79, *Certain External Investment Pools and Pool Participants*, addresses accounting and financial reporting for certain external investment pools and pool participants. Specifically, it establishes criteria for an external investment pool to qualify for making the election to measure all of its investments at amortized cost for financial reporting purposes. An external investment pool qualifies for that reporting if it meets all of the applicable criteria established in GASB Statement No. 79. The specific criteria address (1) how the external investment pool transacts with participants; (2) requirements for portfolio maturity, quality, diversification, and liquidity; and (3) calculation and requirements of a shadow price. Significant noncompliance prevents the external investment pool from measuring all of its investments at amortized cost for financial reporting purposes. Professional judgment is required to determine if instances of noncompliance with the criteria established by GASB Statement No. 79 during the reporting period, individually or in the aggregate, were significant.

The majority of the provisions in this statement were effective for fiscal years beginning after June 15, 2015, with certain provisions effective for reporting periods beginning after December 15, 2015. Management has evaluated GASB Statement No. 79 and its impact to the System's financial reporting and has determined it will not impact the System.

GASB Statement No. 80, *Blending Requirements for Certain Component Units* amends the blending requirements for the financial statement presentation of component units of all state and local governments. The additional criterion requires blending of a component unit incorporated as a not-for-profit corporation in which the primary government is the sole corporate member. The additional criterion does not apply to component units included in the financial reporting entity pursuant to the provisions of Statement No. 39, *Determining Whether Certain Organizations Are Component Units.*

The provisions in this Statement are effective for reporting periods beginning after June 15, 2016. Management is evaluating GASB Statement No. 80 and its impact to the System's financial reporting and, if applicable, will implement it in the financial statements for the fiscal year ending June 30, 2017.

GASB Statement No. 81, *Irrevocable Split-Interest Agreements* requires that a government that receives resources pursuant to an irrevocable split-interest agreement recognize assets, liabilities, and deferred inflows of resources at the inception of the agreement. Furthermore, this Statement No. 81 requires that a government recognize assets representing its beneficial interests in irrevocable split-interest agreements that are administered by a third party, if the government controls the present service capacity of the beneficial interests. The Statement requires that a government recognize revenue when the resources become applicable to the reporting period.

**Note 12. New Accounting Pronouncements Issued, Not Yet Adopted (Continued)**

The provisions in this statement are effective for fiscal years beginning after December 15, 2016. Management is evaluating GASB Statement No. 81 and its impact to the System's financial reporting and, if applicable, will implement it in the financial statements for the fiscal year ending June 30, 2018.

GASB Statement No. 82, *Pension Issues* - an amendment of GASB Statements No. 67, No. 68 and No. 73, seeks to address certain issues that have been raised with respect to those Statements. Specifically, Statement No. 82 addresses issues regarding (1) the presentation of payroll-related measures in required supplementary information, (2) the selection of assumptions and the treatment of deviations from the guidance in an Actuarial Standard of Practice for financial reporting purposes, and (3) the classification of payments made by employers to satisfy employee (plan member) contribution requirements.

The provisions in this statement are effective for fiscal years beginning after June 15, 2016, except for where the selection of assumptions in a circumstance in which an employer's pension liability is measured as of a date other than the employer's most recent fiscal year-end. In that circumstance, the requirements for the selection of assumptions are effective for that employer in the first reporting period in which the measurement date of the pension liability is on or after June 15, 2017. Management is evaluating GASB Statement No. 82 and its impact to the System's financial reporting (and the employers of the State) and, if applicable, will implement it in the financial statements for the fiscal year ending June 30, 2017.

**Teachers' Retirement System of Oklahoma**

**Schedule of Changes in Employers' Net Pension Liability (Unaudited)**
**Fiscal Year Ended June 30, 2016**

| | Year Ended June 30 | | |
|---|---|---|---|
| | 2016 | 2015 | 2014 |
| Total pension liability: | | | |
| Service cost | $ 428,904,761 | $ 415,702,261 | $ 409,199,801 |
| Interest | 1,609,511,334 | 1,538,893,982 | 1,491,722,137 |
| Benefit changes | | | |
| Difference between actual and expected return | (36,212,168) | (159,980,414) | (105,344,633) |
| Assumption changes | 933,294,515 | 346,488,630 | |
| Benefit payments | (1,257,276,705) | (1,201,350,907) | (1,153,051,607) |
| Refunds | (36,109,832) | (35,240,176) | (28,718,256) |
| **Net change in total pension liability** | 1,642,111,905 | 904,513,376 | 613,807,442 |
| Total pension liability: | | | |
| Beginning | 20,551,132,567 | 19,646,619,191 | 19,032,811,749 |
| Ending (a) | 22,193,244,472 | 20,551,132,567 | 19,646,619,191 |
| Plan fiduciary net position: | | | |
| Contributions-Employer/State | 725,425,216 | 728,442,070 | 707,052,675 |
| Contributions-Members | 294,459,090 | 303,677,304 | 301,300,811 |
| Net investment income | (357,443,247) | 428,855,747 | 2,571,707,952 |
| Benefit payments | (1,257,276,705) | (1,201,350,906) | (1,153,051,607) |
| Refunds | (36,109,832) | (35,240,176) | (28,718,256) |
| Administrative expense | (4,458,336) | (4,358,938) | (4,282,605) |
| **Net change in plan fiduciary net position** | (635,403,814) | 220,025,101 | 2,394,008,970 |
| Plan fiduciary net position: | | | |
| Beginning | 14,449,506,469 | 14,229,481,368 | 11,835,472,398 |
| Ending (b) | 13,814,102,655 | 14,449,506,469 | 14,229,481,368 |
| **Plan's net pension liability (asset) (a)-(b)** | $ 8,379,141,817 | $ 6,101,626,098 | $ 5,417,137,823 |

**See notes to required supplementary information**

Information to present a 10 year schedule is not currently available.

**Notes to Schedule:**

The Plan's net pension liability increased between 2015 and 2016 due to changes in assumptions adopted by the Board during 2015. The most notable change was the lowering of the System's discount rate from 8.0% to 7.5%.

**Teachers' Retirement System of Oklahoma**

**Schedule of Employers' Net Pension Liability (Unaudited)**
**Fiscal Year Ended June 30, 2016**

| | Year Ended June 30 | | |
|---|---|---|---|
| | 2016 | 2015 | 2014 |
| Total pension liability | $ 22,193,244,472 | $ 20,551,132,567 | $ 19,646,619,191 |
| Plan fiduciary net position | 13,814,102,654 | 14,449,506,469 | 14,229,481,368 |
| **Plan's net pension liability** | $ 8,379,141,818 | $ 6,101,626,098 | $ 5,417,137,823 |
| Plan fiduciary net position as a percentage of the total pension liability | 62.24% | 70.31% | 72.43% |
| Covered-employee payroll | $ 4,206,558,429 | $ 4,338,247,200 | $ 4,304,297,300 |
| Plan's net pension liability (asset) as a percentage of covered-employee payroll | 199.19% | 140.65% | 125.85% |

**See notes to required supplementary information**

Information to present a 10 year schedule is not currently available.

**Notes to Schedule**:
The covered employee payroll is an estimate of the actual payroll imputed from individual member contributions for each fiscal year.

**Teachers' Retirement System of Oklahoma**

**Schedule of Contributions From Employers and Other Contributing Entities (Unaudited)**

| | 2016 | 2015 | 2014 | 2013 | 2012 |
|---|---|---|---|---|---|
| Actuarially determined contributions | $ 723,528,050 | $ 550,652,420 | $ 602,936,966 | $ 619,805,640 | $ 588,287,377 |
| Contributions in relation to the actuarially determined contribution: | | | | | |
| Employers (Schools) | 409,753,221 | 392,051,458 | 386,895,127 | 373,789,020 | 376,635,234 |
| State of Oklahoma, a non-employer contributing entity | 315,671,995 | 336,390,612 | 320,157,548 | 327,505,309 | 304,995,663 |
| **Contribution deficiency (excess)** | $ (1,897,166) | $ (177,789,650) | $ (104,115,709) | $ (81,488,689) | $ (93,343,520) |
| Covered-employee payroll | $ 4,206,558,429 | $ 4,338,247,200 | $ 4,304,297,300 | $ 3,933,100,000 | $ 3,924,800,000 |
| Contributions as a percentage of covered-employee payroll | 17.25% | 16.79% | 16.43% | 17.83% | 17.37% |

| | 2011 | 2010 | 2009 | 2008 | 2007 |
|---|---|---|---|---|---|
| Actuarially determined contributions | $ 822,419,996 | $ 742,286,289 | $ 714,367,558 | $ 590,495,652 | $ 575,745,142 |
| Contributions in relation to the actuarially determined contribution: | | | | | |
| Employers (Schools) | 364,025,589 | 366,282,238 | 338,974,512 | 308,804,479 | 271,012,403 |
| State of Oklahoma, a non-employer contributing entity | 274,452,205 | 254,375,139 | 279,672,051 | 288,036,554 | 264,904,170 |
| **Contribution deficiency (excess)** | $ 183,942,202 | $ 121,628,912 | $ 95,720,995 | $ (6,345,381) | $ 39,828,569 |
| Covered-employee payroll | $ 3,773,300,000 | $ 3,854,800,000 | $ 3,807,900,000 | $ 3,751,400,000 | $ 3,598,900,000 |
| Contributions as a percentage of covered-employee payroll | 16.92% | 16.10% | 16.25% | 15.91% | 14.89% |

**See notes to required supplementary information**

**Teachers' Retirement System of Oklahoma**

**Schedule of Investment Returns (Unaudited)**
**Fiscal Year Ended June 30, 2016**

| | Year Ended June 30 | | |
|---|---|---|---|
| | 2016 | 2015 | 2014 |
| Annual money-weighted rate of return, net of investment expenses | -2.50% | 3.04% | 21.95% |

**See notes to required supplementary information**

Information to present a 10 year schedule is not currently available.

**NOTES TO REQUIRED SUPLEMETARY INFORMATION:**

Actuarially determined contribution rates are calculated as of June 30.

Members and employers contribute based on statutorily fixed rates. The State of Oklahoma contributes 5.0% of revenues from sales taxes, use taxes, corporate and individual income taxes and lottery proceeds.

Beginning with fiscal year ending June 30, 2016, the Actuarially Determined Employer Contribution (ADEC) is determined as the employer contribution amount necessary to discharge the Unfunded Actuarial Accrued Liability over a period equal to the funding period for the current actuarial valuation for plan funding purposes (i.e., 14 years as of June 30, 2015). However, in no event shall the amortization period be in excess of a fixed period of twenty (20) years. ADEC rates are calculated as of June 30.

The ADEC was previously determined as the total employer contribution necessary to fund the normal cost and to amortize the UAAL as a level percentage of payroll over 30 years.

A new set of assumptions were adopted for the June 30, 2016 actuarial valuation and will be first reflected for the ADEC determination for the fiscal year ending 2017.

**Methods and assumptions used to determine contribution rates:**

| | |
|---|---|
| Actuarial cost method | Entry age normal |
| Amortization method | Level percentage of payroll |
| Amortization period | Amortization over an open 30-year period |
| Asset valuation method | 5-year smooth market |
| Inflation | 2.50% |
| Salary increase | Composed of 3.25% inflation, plus 1.00% productivity increase rate, plus step-rate promotional increases for members with less than 25 years of service |
| Investment rate of return | 7.50% |
| Retirement age | Experience-based table of rates based on age, service and gender. Adopted by the Board in May 2015 in conjunction with the five year experience study for the period ending June 30, 2014 |
| Mortality | RP-2000 Combined Mortality Table, projected to 2016 using Scale AA, multiplied by 60% for males and 50% for females |

**Teachers' Retirement System of Oklahoma**

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

| | |
|---|---|
| Investment managers | $ 57,657,791 |
| Investment consultants | 885,000 |
| **Total investment expenses** | $ 58,542,791 |

**Teachers' Retirement System of Oklahoma**

**Schedule of Administrative Expenses**
**For the Year Ended June 30, 2016**

| | | |
|---|---|---|
| Salaries and benefits | $ | 3,172,152 |
| General and miscellaneous | | 549,167 |
| Professional/consultant fees | | 669,387 |
| Travel and related expenses | | 45,474 |
| Depreciation expense | | 22,158 |
| **Total administrative expenses** | $ | 4,458,338 |

**Teachers' Retirement System of Oklahoma**

**Schedule of Professional/Consultant Fees**
**For the Year Ended June 30, 2016**

| | | |
|---|---|---|
| Actuarial | $ | 115,400 |
| Medical | | 9,409 |
| Legal | | 56,413 |
| Audit | | 218,833 |
| Data processing | | 12,931 |
| Miscellaneous | | 256,401 |
| **Total professional/consultant fees** | $ | 669,387 |

CPAs & BUSINESS ADVISORS

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

To the Board of Trustees
Oklahoma Teachers Retirement System:

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 Oklahoma Teacher's Retirement System (the System), which comprise the statements of fiduciary net position as of and June 30, 2016, and the related statements of changes in fiduciary net position for the years then ended June 30, 2016, and the related notes to the financial statements, and have issued our report thereon dated October 31, 2016.

**Internal Control over Financial Reporting**

In planning and performing our audit of the financial statements, we considered the System'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 opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the System's internal control. Accordingly, we do not express an opinion on the effectiveness of the System's internal control.

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

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control 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. We did identify certain deficiencies in internal control, described in the accompanying schedule of findings and questioned costs that we consider to be a significant deficiency. See finding 2016-A.

**Compliance and Other Matters**

As part of obtaining reasonable assurance about whether the System's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the 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*.

**Management's Response to Findings**

The System's response to the findings identified in our engagement is described in the accompanying schedule of findings and questioned costs. The System's response was not subjected to the auditing procedures applied in the engagement to audit the financial statements and, accordingly, we express no opinion on it

**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 entity'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 entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Eide Bailly LLP

Oklahoma City, Oklahoma
October 31, 2016

**Section II - Schedule of Reportable Findings**

**2016-A Internal Controls over Federal Draw Process**
**Significant Deficiency in Internal Control**

**Criteria:** The internal control structure should include procedures to ensure management is able to prepare their own financial statements.

**Condition:** As auditors, we were requested to prepare the financial statements and footnotes. The circumstance is not unusual in an organization of this size, due to the time constraints of management and costs associated with the compliance of the standard.

**Cause:** The controls currently in place were not sufficient to ensure management is able to prepare their own financial statements.

**Effect:** As auditors we were required to prepare the financial statements and footnotes. The absence of controls over the preparation of the financial statements increases the possibility that a misstatement of the financial statements could occur and not be prevented, detected and corrected, by the Organization's internal controls.

**Recommendation:** We recommend management and those charged with governance annually analyze the cost/benefit of implementing a control system which would allow for the preparation of the financial statements and the related disclosures.

**Management's Response:** Management agrees with the finding. Going forward, management will prepare the financial statements.

## Section III - Prior Year Findings

**2015-A Internal Controls over Contributions**
**Material Weakness in Internal Control**

**Criteria**: The Plan should maintain a system of internal controls that ensures financial statements and footnote disclosures are accurately prepared in accordance with accounting principles generally accepted in the United States of America. Governmental Accounting Standards Board (GASB) Statement No. 67, *Financial Reporting for Pension Plans,* requires that the Plan disclose its net pension liability in the footnotes of the Plan's financial statements

**Condition:** The Plan relies on an actuary to calculate the net pension liability as disclosed in the notes to the financial statements. As part of the actuarial valuation process, the Plan must provide the actuary with accurate and complete information about Plan participants. The Plan does not currently have sufficient internal controls to ensure that participant data provided to the actuary, including payroll and salary information, is accurate and complete. During 2015, management developed the response below to address this control deficiency; however, the control was not placed into operation until 2016.

**Cause:** The Plan recently implemented a new accounting system where participating employers upload participant data directly to the Plan's portal and there is no review to verify the information uploaded is accurate and complete. Also as part of the change, participant statements are no longer available for participant review to verify the correct information was provided to the Plan.

**Effect and potential effect:** The Plan's lack of internal control could cause the data sent to the actuary to be incomplete and inaccurate causing the net pension liability to be materially misstated.

**Recommendation:** We recommend that the Plan implement additional controls to help mitigate the risk that the data sent to the actuary might be materially misstated. The additional controls should ensure that participant and payroll information uploaded by the employers into the OTRS system is reviewed by plan participants and/or an employee at OTRS to verify its completeness and accuracy

**Management's Response:** The planned response for this finding is related to the entire reporting process for hundreds of employers. We decided to handle this issue at the same time with a general update to the Employer Reporting procedures for the FY 2016 reporting year. So effective July 1, 2015,when an eligible employee begins employment with an OTRS participating employer the employer provides the employee a copy of the OTRS Personal Data Form 1A. This form is filled out by the employee and submitted directly to OTRS. Simultaneously, the employer submits the relevant employee information to OTRS via the Employer Portal. In recent weeks, OTRS has formalized an additional step. Now once the Personal Data Form 1A is received at OTRS it is checked against the employer provided information that is in Alice via the Employer Portal. If there are discrepancies the information in Alice is changed to match that on the Personal Data Form 1A. The Personal Data Form 1A is then scanned into Alice and a box entitled "New Member Validation" in the client's account is checked to establish that all aforementioned steps have been completed.

**Comment***:* This finding has been remediated for 2016.