

Tulsa County, Oklahoma

Tulsa County Employees' Retirement System (TCERS)



COMPREHENSIVE ANNUAL FINANCIAL REPORT
A PENSION TRUST FUND OF TULSA COUNTY, OKLAHOMA
FOR THE FISCAL YEARS ENDED
JUNE 30, 2018 AND JUNE 30, 2017

Prepared and issued by:

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Tulsa County Clerk

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Introductory Section



TULSA COUNTY EMPLOYEES' RETIREMENT SYSTEM

Tulsa County Administration Building
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Tulsa, Oklahoma 74103-3832

Phone: 918.596.5854
Fax: 918.596.5846

November 14, 2018

Dear Participants:

On behalf of the Board of Trustees, I am pleased to submit the Comprehensive Annual Financial Report for the Employees' Retirement System of Tulsa County, Oklahoma for the year ending June 30, 2018. **Your fund achieved a 6.0% annual return** for plan year ending June 30, 2018 and your retirement fund balance was \$291,452,345.

Your Board of Trustees took several actions to continue strengthening your fund and to address the unfunded liability by making the following plan changes for employees hired after June 30, 2017:

- The Normal Retirement Age was changed from age 62 to age 65
- The Rule of 80 was changed to Rule of 90
- The early retirement reduction factors were changed to reflect a Normal Retirement Age of 65 instead of 62
- An increase in the employee contribution rate of 0.5% (This makes the total combined contribution rate for both Employer and Employee 16.5%, the maximum rate allowed by state statutes)

On a positive note, please keep in mind that as the fund balance is reported each year, the larger perspective is the broad range of yearly valuations that averaged together provides a more complete picture. **Your fund has achieved a ten year rate of return of 6.98%** and ranks in the **21st percentile of all U. S. Public Pension Plans** with a 40% to 60% Fixed Income allocation as reported by AndCo. Consulting. Another important issue is funding status, your fund was at an 80% funding level, significantly higher as compared to most other average public pension plan at 71.6% according to Milliman 100 Public Pension Fund Index & Public Plans Data.

Your trustees have and will continue implementing and monitoring the conservative balanced and diversified strategies set in place to protect your retirement fund. We are committed to adhering to sound conservative policies and values with regard to investment strategies and benefit enhancements. Your Board of Trustees are proud to represent you.

Sincerely,

John C. Baker III, Chairman
Board of Trustees

Letter of Transmittal

Tulsa County Employees' Retirement System
500 South Denver
Tulsa, Oklahoma 74103-3832

November 14, 2018

To the Board of Trustees and Members of the Tulsa County Employees' Retirement System:

State law requires, that after July 1 and before December 1 of each year, the Tulsa County Employees' Retirement System (TCERS) publish an annual report that covers the operation of TCERS during the past fiscal year, including income, disbursements and the financial condition at the fiscal year. This report is published, in part, to fulfill that requirement for the fiscal year end June 30, 2018.

The letter of transmittal contains the following four sections: formal transmittal of the Comprehensive Annual Financial Report, profile of the government, information useful in assessing the government's economic condition, and awards and acknowledgements.

Management's discussion and analysis (MD&A) immediately follows the independent auditor's report and provides a narrative introduction, overview, and analysis of the basic financial statements. MD&A complements this letter of transmittal and should be read in conjunction with it.

Financial Information

The responsibility for both the accuracy of the data, and the completeness and fairness of the presentation, including all disclosures rests with the Board of Trustees. The current responsibility for the fund's accounting and investment control has been delegated to the Tulsa County Treasurer, who serves as an Ex-Officio member to the Board of Trustees. The responsibility for financial statement preparation rests with the Tulsa County Clerk, who serves as an Ex-Officio Member and Clerk to the Board of Trustees. All financial disclosures necessary to enable the reader to gain an understanding of the TCERS's financial activities have been included.

The financial statements of the TCERS are presented in accordance with the generally accepted accounting principles promulgated by the Governmental Accounting Standards Board (GASB).

This financial report also complies with the provisions of Title 19 OSA 953.1 of the Oklahoma Statutes. The accompanying financial statements (Statement of Fiduciary Net Position and Statement of Changes in Fiduciary Net Position) are reported on an accrual basis of accounting and in conformity with generally accepted accounting principles. Under the accrual basis of accounting, revenues are recognized when earned instead of when actually received and expenses are recognized when incurred instead of when actually paid.

Internal Control and Independent Audit

Internal controls are currently in place, which are designed to provide reasonable, but not absolute, assurance that (1) assets are safeguarded from theft or misuse, (2) accounting data is accurate and reliable, and (3) compliance with managerial policies is encouraged. The internal control structure is designed to provide reasonable assurance that these objectives are met. The concept of reasonable

Letter of Transmittal – continued

assurance recognizes that (1) the cost of a control should not exceed the benefits likely to be derived from it, and (2) the valuation of costs and benefits requires estimates and judgment by management. In accordance with Title 19 OSA 171 of the Oklahoma Statutes, the State Auditor and Inspector is to perform an annual audit of all books and records of Tulsa County. The public accounting firm of Stanfield + O'Dell PC was selected by the Trustees of TCERS to audit the financial statements of TCERS. Since the retirement system has been classified as a "pension trust fund" of Tulsa County, these financial statements and related note disclosures are also incorporated into Tulsa County's Comprehensive Annual Financial Report.

Profile of the TCERS

The TCERS is governed by Title 19 OSA 951 through 965 of the Oklahoma Statutes and is operated to provide retirement, survivor and disability benefits to general employees of Tulsa County and certain other organizations as permitted by law. The other entities and departments included within the TCERS are not necessarily considered component units of the TCERS for financial reporting purposes. The management of TCERS does not prepare or adopt a separate annual budget for TCERS's operations.

TCERS is a single-employer, defined benefit pension plan. The employer and employee contribution rates for each member are established by the Tulsa County Board of County Commissioners after recommendation by the TCERS Board of Trustees based on an actuarial calculation which is performed to determine the adequacy of such contribution rates.

Members qualify for full retirement benefits at the specified normal retirement age of 62, or when the sum of the member's age and years of credited service equals 80. Members may start drawing early at age 55 at an actuarial reduced rate. For any member hired after June 30, 2017, members qualify for full retirement benefits at the specified normal retirement age of 65, or when the sum of the member's age and years of credited service equals 90. Members may start drawing early at age 55 at an actuarial reduced rate.

The Board of Trustees approves the benefit payment amount for each employee who retires. Employees must submit the required paperwork at least 15 days prior to the effective date of retirement. The investment and administrative expenses and refunds to terminated employees are listed as an agenda item for the Board of Trustees' monthly meeting and approved prior to disbursement.

Information Useful in Assessing the Government's Economic Condition

Revenues - Additions to Plan Fiduciary Net Position

The funds needed to finance retirement benefits are accumulated through the collection of employer and employee contributions and through income from investments. Contributions and investment income for fiscal years 2018 and 2017 are shown for comparison purposes.

	2018	2017	Amount Increase (Decrease)	Percentage Increase (Decrease)
Contributions:				
Employer	\$10,817,651	\$10,846,636	\$ (28,985)	(.27%)
Employee	1,922,350	1,542,043	380,307	24.66%
Net investment				
Income	<u>15,829,765</u>	<u>24,595,498</u>	<u>(8,765,733)</u>	<u>(35.64%)</u>
Total additions	<u>\$28,569,766</u>	<u>\$36,984,177</u>	<u>\$(8,414,411)</u>	<u>(22.75%)</u>

Letter of Transmittal – continued

Expenses - Deductions from Plan Fiduciary Net Position

The primary deductions of a retirement system include the payment of benefits to retirees and beneficiaries, the refund of contributions to former members and the cost of administering the retirement system. Expenses of the retirement system for fiscal years 2018 and 2017 are shown for comparison purposes.

	2018	2017	Amount Increase	Percentage Increase
Benefits	\$21,060,579	\$19,328,625	\$1,731,954	8.96%
Administration	140,364	119,139	21,225	17.82%
Refunds	67,540	13,600	53,940	396.62%
Total deductions	<u>\$21,268,483</u>	<u>\$19,461,364</u>	<u>\$1,807,119</u>	<u>9.29%</u>

Investment Activities

Investments of the TCERS's funds are governed by Title 19 OSA 953.1A, as amended, of the Oklahoma Statutes. The Board of Trustees has retained a select number of outside investment management firms to provide for investment of the monies of the retirement system except for certain judgments against Oklahoma government entities and a small amount of cash. BOK Financial is the custodian of all cash and investments. A complete listing of the fees and commissions paid to investment managers retained by the Board of Trustees can be found on page 52, Schedule of Fees and Commissions and on page 46 in the Schedule of Investment Expenses, a supporting schedule for the **Financial Section** of this report.

The Board of Trustees adopted an Investment Policy which provides a framework for the management of the TCERS's investments. This Policy establishes the TCERS's investment policies and objectives.

TCERS experienced a total fund return of 6.03% for the fiscal year. The three-year annualized return is 5.41%. The five-year annualized return is 6.79%.

Additional information on the TCERS's investments is contained in the **Investment Section** of this report.

Net Position Restricted for Pensions

Funds are derived from the excess of additions over deductions and are accumulated to meet future benefit obligations to retirees and beneficiaries. This accumulated balance is referred to as the net position restricted for pensions in the Statement of Fiduciary Net Position in the financial section of this report. The total pension liability is not disclosed in the financial statements but is disclosed in the required supplementary information schedules immediately following the notes to the financial statements. These schedules show the fair value of assets wherein the excess or shortfall of investment income over or under the expected rate of return of 7.25% is recognized over a five-year period.

Two actuarial valuations are prepared by an actuarial firm: one for *funding* purposes and the other for *accounting* purposes. The actuarial valuation done for *funding* purposes measures the present value of Actuarial Accrued Liabilities (AAL) estimated to be payable in the future to current retirees, beneficiaries, and employees for service earned to date. For plan year beginning July 1, 2018, the retirement system has an Unfunded Actuarial Accrued Liability (UAAL) of \$74,781,209. This July 1, 2018 funding valuation determined the funding ratio to be 80%. The actuarially determined Annual Contribution Rate (ADC) for plan year beginning July 1, 2018, was set equal to 8.94% of payroll for the amortization of the UAAL, plus the normal cost rate of 9.46% for a total contribution rate of 18.40% of payroll.

Letter of Transmittal – continued

The actuarial valuation performed for plan year beginning July 1, 2018, for *accounting* purposes was done in accordance with GASB 67. This valuation was used to determine the Total Pension Liability (TPL) with pension expense to be recognized by Tulsa County and its component units. The Total Pension Liability (TPL) differs somewhat from the Actuarial Accrued Liability (AAL) in that it measures the present value of projected benefit payments attributed to past periods of member service in accordance with specific requirements of GASB 67. One of those requirements relates to the determination of the discount rate. The discount rate for TCERS, as determined in accordance with GASB 67, was the same as the expected long-term rate of return or 7.25%. Another requirement in determining the Total Pension Liability (TPL) is the use of the Entry Age Normal Cost Method which is the same method that is used for funding purposes. Consequently, both the AAL and the TPL were the same amount as of June 30, 2018. However, the determination of annual pension expense in accordance with GASB 67 differs significantly from the amount of actual employer contributions. Each component of pension expense is detailed in a required supplementary Schedule of Changes in Fiduciary Net Pension Liability located following the notes to the financial statements. In addition, the Net Pension Liability (NPL), as determined in accordance with GASB 67, differs from the Unfunded Actuarial Accrued Liability (UAAL) that was determined by the *funding* valuation. The main difference relates to the way plan assets are valued. For *accounting* purposes, plan assets are valued at fair market value and not valued using the actuarial method (which employs a technique known as smoothing) that is used for funding. Consequently, the net pension liability (NPL) used for accounting purposes was \$87,738,181, while the unfunded actuarial accrued liability (UAAL) was \$74,781,209. For plan year beginning July 1, 2018, the NPL was greater than the UAAL.

Professional Services-Professional Consultants

Professional consultants perform services essential to the efficient operation of the TCERS. The public accounting firm of Stanfield + O'Dell PC currently audits the financial statements of the TCERS. The independent auditor's report on the financial statements is included in the beginning part of the **Financial Section** of this report. Milliman conducts an actuarial valuation for the TCERS as of the last day of the fiscal year for the subsequent fiscal year. The actuary's certification letter is included in the beginning part of the **Actuarial Section** of this report.

Major Initiatives

The Board of Trustees of the Retirement System and the Board of County Commissioners of Tulsa County approved the following adjustments to the TCERS:

Effective May 29, 2007, the Board of County Commissioners and the Board of Trustees approved a Resolution allowing retirees to return to work for Tulsa County on a part-time basis after the first month of retirement and remain eligible for retirement benefits, as permitted by 19 O.S. 2007, Section 956, as amended.

Beginning July 1, 2007, the total employer and employee contributions shall not exceed sixteen and one-half percent (16.5%) of the monthly compensation of each member, as permitted by 19 O.S. 2007, Section 956, as amended.

Effective July 1, 2008, the actuarial assumption of the effective rate of return on investments was reduced from 8 percent to 7.75 percent.

Effective July 1, 2010, the elected official service credit was repealed.

Effective July 1, 2010, the Board of County Commissioners and the Board of Trustees approved a resolution to reduce the percentage of benefit schedule used to calculate benefits for persons who were

Letter of Transmittal – continued

not vested as of June 30, 2010 or hired after June 30, 2010. The spousal benefit percentage was reduced from 70% to 67% and the disability benefit percentages were reduced for the same persons.

On March 6, 2014, the Internal Revenue Service (IRS) issued a favorable determination letter on the plan. The letter expires on January 31, 2019. The IRS has since discontinued the renewal of the determination letters.

In October 2014, the Board implemented a Funding Policy to ensure that the Fund will be fully funded.

In October 2015, the Board of County Commissioners and the Board of Trustees approved a resolution changing the employee-member contribution rate, effective January 1, 2016 from 1% to 1.5% and effective July 1, 2016 from 1.5% to 2% of the employee's base salary.

Effective July 1, 2016, the actuarial assumption of the effective rate of return on investments was reduced from 7.75% to 7.25%.

Effective July 1, 2017, the employee contribution amount increased to 2.5% of the monthly base salary.

Effective July 1, 2017, the Board of County Commissioners and the Board of Trustees approved a resolution changing the retirement age to 65, Rule of 80 to Rule of 90, and early drawing percentages used to calculate early drawing retiree benefits, for employees hired after June 30, 2017.

Awards and Acknowledgements

Certificate of Achievement

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Tulsa County Employees' Retirement System for its comprehensive annual financial report for the fiscal year ended June 30, 2017. The Certificate of Achievement is the highest form of recognition for excellence in state and local government financial reporting.

To be awarded a Certificate of Achievement, a governmental unit must publish an easily readable and efficiently organized comprehensive annual financial report, whose content conforms to program standards. Such financial reports must satisfy both generally accepted accounting principles and applicable legal requirements. A Certificate of Achievement is valid for a period of one year only. TCERS has received a Certificate of Achievement for each consecutive year, since 1996. We believe our current report continues to conform to the Certificate of Achievement program requirements, and we are submitting it to the GFOA to determine its eligibility for another certificate.

Acknowledgments

We wish to extend special thanks to Rachael Johnson in the Tulsa County Treasurer's Office for her help in preparing the **Investment Section** of this report. We also wish to extend special thanks to Traci Scullaw, Director of Administration and Support, Tulsa County Clerk's office for preparing this CAFR.

Respectfully submitted,



Michael Willis
Secretary Board of Trustees – TCERS
Tulsa County Clerk



Front row, left to right: Michael Willis, Heather Little, Sherril Williams, John Baker
 Back row, left to right: Stephen A. Schuller, Carl O'Brien, Ron Peters, Richard Bales
 Not pictured: Dennis Semler
 (photo courtesy of Nicole Vance)

John Baker, Chairman was elected to the Board effective July 1, 2011, as the retiree member. He worked in the City-County Health Department for 39 years serving the citizens of Tulsa County before he retired. He has served as Chairman, Vice-Chairman, and Investment Committee Chairman.

Sherril L. Williams, Vice-Chairman joined the County Clerk's office in November 1992 after working six years for Tulsa County Social Services. She was elected to the Board of Trustees in 1997. She has served as Chairman, Vice-Chairman and Investment Committee Chairman.

Heather Little, Chairman joined Tulsa County in May 2011. Little is an Internal Auditor in the Treasurer's office. She was elected to the Board of Trustees in May 2015. She has served as Chairman, Vice-Chairman, and Investment Committee Chairman.

Richard Bales, Member joined Tulsa County in September 1972. Bales is the Director of the Parks department. He was elected to the Board of Trustees in August 2013. He has served as Chairman, Vice-Chairman and Investment Committee Chairman.

Stephen A. Schuller, Appointed Member was appointed by the Board of County Commissioners in December 1989. He serves on the Board's Investment Committee. Schuller is a lawyer whose practice is concentrated in business, real estate, and international transactions.

Barry West, Appointed Member was appointed by the Board of County Commissioners in February 1991. He served on the Board's Investment Committee. West is a lawyer and a Certified Public Accountant. West retired November 22, 2017.

Carl O'Brien, Appointed Member was appointed by the Board of County Commissioners on November 23, 2017. He serves on the Board's Investment Committee. O'Brien is a Certified Public Accountant.

Ron Peters was elected **County Commissioner for District 3** and took office August 19, 2013. He served on the Board of Trustees from July 1, 2017 to June 30, 2018.

Michael Willis was elected **County Clerk** in June 2016 and took office January 1, 2017. He serves as Clerk to the Board of Trustees.

Dennis Semler was elected **County Treasurer** in January 1995. He serves as Treasurer to the Board of Trustees. Semler also serves on the Board's Investment Committee. He is admitted to practice law by the State Supreme Court.



(photo courtesy of Toni Kizer)

Traci Scullaw has served as the Retirement Payroll Director/Acting Secretary to the Board of Trustees since September 2001. Traci may be reached at 918 596-5854 Monday through Friday, 8:00-5:00.

Summary of Plan Provisions

History

The Tulsa County Employees' Retirement System (TCERS) was established by Resolution of the Tulsa County Board of County Commissioners effective July 1, 1965. This action was permitted by Title 19 OSA 951 through 965 of the Oklahoma Statutes to encourage continuity of dedicated service on the part of the employees and to promote public efficiency.

Administration

The TCERS is a single-employer defined benefit plan that is governed by a nine-member Board of Trustees. Ex-officio members include the Tulsa County Clerk, the Tulsa County Treasurer, and the Chairman of the Tulsa County Board of County Commissioners. Two members are appointed by the Chairman of the Board of County Commissioners subject to the approval of the entire Commission Board. Three members, who must be current employees, are elected at large from all participating employees. The final member, who must be retired and drawing benefits, is also elected at large from all participating employees and members. Effective July 1, 2003, retired members and beneficiaries of the system shall be allowed to vote in the election in which their representative is elected. All four are elected for three-year terms.

The Board of Trustees is given the authority to establish policy and procedures as necessary to ensure proper administration and the integrity of the TCERS. Trustees meet the last Tuesday of each month at 10:30 a.m. in Room 338 of the Ray Jordan Tulsa County Administration Building, unless otherwise noted on the annual meeting notice filed in the County Clerk's office prior to December 15 and posted on the tulsacounty.org website. All meetings are open to any interested party and are conducted in accordance with the Oklahoma Open Meetings Act.

Contributions

In accordance with Title 19 OSA 954 of the Oklahoma Statutes, contribution rates as set by the Board are applied to all full-time base salaries and wages and the resulting contributions are credited to the pension fund monthly. During the fiscal year ended June 30, 2003, the County contributed 8½% (the legal maximum was 10%) of the employee's base salary while the employees contributed \$1 per year. On July 1, 2003, the County's contribution rate increased to 10%.

Beginning July 1, 2007, the total employer and employee contributions shall not exceed 16.5% of the monthly compensation of each member. On July 1, 2007, the County's contribution rate increased to 12%. On July 1, 2010, the County's contribution rate increased to 14%, and the employee contribution rate increased to 0.05% of the base salary.

Effective July 1, 2012, the Board of County Commissioners and the Board of Trustees approved a Resolution changing the employee contribution to a pre-tax basis.

On July 1, 2012, the employee's contribution rate increased to 0.25% of the base salary. On July 1, 2013, the employee's contribution rate increased to 1% of the base salary. Effective January 1, 2016, the employee's contribution rate increased to 1.50% of the base salary. Effective July 1, 2016, the employee's contribution rate increased from 1.50% to 2% of the base salary. Effective July 1, 2017, the employee's contribution rate increased from 2% to 2.5% of the base salary.

Employee Membership

Membership is mandatory for all regular, full-time County employees, including those paid in whole or in part from the Court Fund, Law Library, and Election Board. In 1965, the employees covered by the TCERS could count all their full-time regular employment service and were required to pay into the TCERS three percent (3%) of their base salary up to a maximum of \$600 per month for at least 18

Summary of Plan Provisions – continued

months before anyone could retire with benefits. The past service time was not funded and resulted in the start of the unfunded liability of the fund. A Board of County Commissioners Resolution dated April 10, 1974 limited service credit prior to establishment of the fund to those employees who were contributing to the fund on March 6, 1974. The comparison of the TCERS membership for the past two fiscal years is a required disclosure in the notes to the financial statements and is also analyzed in the Management Discussion and Analysis.

Entities and Departments

Entities and departments, which currently participate in the TCERS, are:

Tulsa County	Oklahoma State University Extension Agency Center
Court Fund	Tulsa Area Emergency Management Agency (civil defense)
Drainage District #12	Tulsa Health Department
Law Library	Tulsa County Public Facilities Authority (fairgrounds)

These entities and departments are not necessarily considered component units of the TCERS as determined by GASB Statement No. 14, as amended by GASB Statement No. 61.

Retirement Benefits

To be eligible for retirement benefits, a regular retiree must be at least 62 years of age and have a minimum of five year's participation in the TCERS. The five years is not required to be continuous. Participants of the TCERS who take an unpaid leave of absence for personal illness (unless it meets the requirements of the Family and Medical Leave Act) for a period of one year or less will not be given credit toward retirement for this time off. This leave of absence will not affect consecutive employment with the County.

A member may also qualify for the Rule of 80 retirement if their age in years and months added to their years and months of participation in the TCERS equal the sum of 80 or more. There is no reduction of benefits for retirees in this category and there are no age requirements beyond those mentioned in the preceding sentence.

As of November 1, 2000, employees who are vested can retire as early as age 55 at a reduced benefit that is based on a specific percentage reduction table provided by the actuary. The percentages used to calculate normal retirement benefits are as follows:

Years of Credited Service	<u>Percentage of Benefit</u>		Years of Credited Service	<u>Percentage of Benefit</u>	
	If Vested as of June 30, 2010	If Vested <u>after</u> June 30, 2010		If Vested as of June 30, 2010	If Vested <u>after</u> June 30, 2010
5	12.5%	10.0%	13	34.0%	26.0%
6	15.0%	12.0%	14	37.0%	28.0%
7	17.5%	14.0%	15	40.0%	30.0%
8	20.0%	16.0%	16	42.0%	34.0%
9	22.5%	18.0%	17	44.0%	38.0%
10	25.0%	20.0%	18	46.0%	42.0%
11	28.0%	22.0%	19	48.0%	46.0%
12	31.0%	24.0%	20	50.0%	50.0%

21+ All vested employees: For each additional year of credited service beyond the 20th, the benefit percentage increases by 1.5%, to a maximum of 100%. (If the total of all credited service results in a fractional year of 183 days or more, the employee/member will receive credit for a full year.)

Summary of Plan Provisions – continued

For members hired after June 30, 2017, to be eligible for retirement benefits, a regular retiree must be at least 65 years of age and have a minimum of five year's participation in the TCERS. The five years is not required to be continuous. Participants of the TCERS who take an unpaid leave of absence for personal illness (unless it meets the requirements of the Family and Medical Leave Act) for a period of one year or less will not be given credit toward retirement for this time off. This leave of absence will not affect consecutive employment with the County.

For members hired after June 30, 2017, a member may also qualify for the Rule of 90 retirement if their age in years and months added to their years and months of participation in the TCERS equal the sum of 90 or more. There is no reduction of benefits for retirees in this category and there are no age requirements beyond those mentioned in the preceding sentence.

Under normal retirement, the monthly annuity payable to the employee is based on the above percentages applied to the average compensation of the highest paid three years of employment. Benefits are calculated on the average base payroll earnings of the employee and do not include overtime, allowances, et cetera.

Disability Benefits

Disability benefits are available to participants who have become totally and permanently disabled as a direct result of County employment. The employee must have the required eight years participation in the retirement system to receive benefits. Medical proof of disability, as well as a written statement of condition and cause from the employee's supervisor must accompany applications for disability. The TCERS's Board of Trustees may require additional medical proof and makes the final determination of eligibility. There are no age requirements.

The percentage and base salary used to calculate benefits for employees who qualify for disability retirement is the same as that used in calculating regular retirement benefits except that the maximum percentage which may be applied is 40% (for a disability retiree having 15 or more credited years of service), if vested as of June 30, 2010. Anyone vested or hired after June 30, 2010 the maximum percentage is 40% (for a disability retiree having 18 years or more credited years of service).

A review of all disability retirees is conducted by the TCERS Board of Trustees each August, at which time disability retirees must submit medical proof that they remain disabled. This requirement for the annual disability review ends when the retiree reaches age 62.

Surviving Spouse

As of November 1, 2000, a surviving spouse is eligible to receive 70% of the retirement benefit of a vested, deceased employee who was retired, or who had reached the Rule of 80. If the vested employee had not reached the age of 62 or attained the Rule of 80, the surviving spouse can either start receiving full retirement benefits when their spouse would have reached the age of 62 or attained the Rule of 80, or start receiving retirement benefits at a reduced percentage calculated by an actuarial formula when their spouse would have reached the age of 55.

As of July 1, 2010, a surviving spouse of a member who was not vested as of June 30, 2010 or was hired after June 30, 2010 is eligible to receive 67% of the retirement benefit to which the employee/retiree was entitled.

For members hired after June 30, 2017, a surviving spouse is eligible to receive 67% of the retirement benefit of a vested, deceased employee who was retired, or who had reached the Rule of 90. If the vested employee had not reached the age of 65 or attained the Rule of 90, the surviving spouse can either start receiving full retirement benefits when their spouse would have reached the age of 65 or attained the Rule of 90, or start receiving retirement benefits at a reduced percentage calculated by an actuarial formula when their spouse would have reached the age of 55.

Summary of Plan Provisions – continued

Military Service Credit

For all employees hired on or after July 1, 2000, a new military service policy became effective. Military service credit is provided to those TCERS members who submit acceptable documentation of honorable discharge from full-time active military duty in the Armed Services of the United States (Air Force, Army, Navy, Marine Corps, or Coast Guard).

The following provisions apply in crediting the employee's active military service prior to employment: TCERS members may qualify for up to four years of credit for active military service (less any time credited in another retirement system). Military service credit allowed under this provision may not be counted toward vesting in the retirement system under the regular five-year service requirement or under the Rule of 80. Military retirees and those eligible to become military retirees are ineligible for the TCERS military service credit unless documentation is presented to confirm that either the Armed Forces or the Veterans Administration of the United States has found the employee to have a 20% or greater service-related disability.

Persons employed prior to July 1, 2000 have an additional option for calculating military service credit.

Effective July 1, 2006, the Board of Trustees repealed the military service credit previously created by TCERS and left in effect only the military service credit created by State Statute pursuant to 19 O.S. Section 956.

Return of Vested or Non-Vested Employee

In the event a **vested** or **non-vested** former employee returns to work as a regular employee in a TCERS participating department or division, the employee may acquire additional service credit to apply toward vesting and retirement, if the employee left prior contributions to TCERS intact.

Income Tax - Retirees

Effective with the year 1989, a portion of benefits from the TCERS is not subject to Oklahoma state income tax. However, for federal income tax purposes, the greater portion of your benefit will be taxable each month. The Tax Reform Act of 1986 changed the way the taxable amount of benefits is computed for those retiring after July 1, 1986. The new regulations spread the non-taxable portion (that which employees paid in) of their retirement benefit over the actuarially forecasted lifetime (and the surviving spouse, if applicable). A 1099-R statement will be mailed at the end of each January. It will show (1) the gross amount of retirement benefits for the previous calendar year, (2) the amount withheld from retirement benefits, and (3) the taxable amount of retirement benefits for the year.

INTRODUCTORY SECTION

List of Professional Consultants*

Actuary

Milliman

Auditors

Stanfield + O'Dell, PC

Custodian Bank

BOK Financial

Investment Consultants

AndCo

Investment Managers

Aberdeen Asset Management
Barrow, Hanley, Mewhinney & Strauss, LLC
Chickasaw Capital Management
Bryant, Segall & Hamill
Loomis Sayles
State Street Global Advisors
Tocqueville Asset Management
Wasatch Hoisington

* The Schedule of Investment Expenses and Schedule of Payments to Consultants (page 46) in the Supporting Schedules for Financial Section, and the Schedule of Fees and Commissions (page 52) in the Investment Section contain additional information regarding professional advisors and consultants.



Government Finance Officers Association

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Presented to

**Tulsa County
Employees' Retirement System
Oklahoma**

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

June 30, 2017

Christopher P. Morill

Executive Director/CEO



Financial Section



Independent Auditors' Report

The Board of Trustees
Tulsa County Employees' Retirement System

Report on the Financial Statements

We have audited the accompanying financial statements of Tulsa County Employees' Retirement System (the System), a component unit of Tulsa County, Oklahoma, which comprise the statements of fiduciary net position as of June 30, 2018 and 2017, the related statements of changes in fiduciary net position for the years 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.

Auditors' Responsibility

Our responsibility is to express opinions 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 from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' 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 fiduciary net position of the System as of June 30, 2018 and 2017, and the respective changes in fiduciary net position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that management's discussion and analysis on pages 22 to 28, as well as the schedule of changes in net pension liability and related ratios, contributions from employer and investment returns on pages 43 through 45, 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 opinions on the financial statements that collectively comprise the System's basic financial statements. The accompanying schedules of administrative expenses, investment expenses and payments to consultants on page 46 are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The 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 information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The accompanying introductory, investment, actuarial, and statistical sections, as listed in the table of contents of the 2018 comprehensive annual financial report, have not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on them.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated November 7, 2018, 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.

Stanfield + O'Dell, P.C.

Tulsa, Oklahoma
November 7, 2018

Management's Discussion and Analysis (Unaudited)

Management's Discussion and Analysis (MD&A) of the Tulsa County Employees' Retirement System's (TCERS) financial performance provides an overview of the financial activities and funding condition for the fiscal years ending June 30, 2018, 2017 and 2016.

TCERS is classified as a Pension Trust Fund and is reported as a component unit of Tulsa County. The Pension Trust Fund accounts for the activities of the TCERS, which accumulates resources for pension benefit payments to qualified retirees, beneficiaries, and future retirees. The accompanying basic financial statements of TCERS are reported on an accrual basis of accounting and are reported in conformity with generally accepted accounting principles. Under the accrual basis of accounting, revenues are recognized when earned instead of when received and expenses are recognized when incurred instead of when paid.

Please review the MD&A in conjunction with the transmittal letter and the basic financial statements.

Financial Highlights

- The fiduciary net position restricted for pensions for fiscal year 2018 increased by \$7,301,283 (2.57%). The fiduciary net position restricted for pensions for fiscal year 2017 increased by \$17,522,813 (6.57%). All the fiduciary net position restricted for pension benefits is available to meet TCERS's ongoing obligations to plan members and their beneficiaries.
- Employer contributions for fiscal year 2018 decreased by \$28,985 (-.27%) compared to 2017. Employer contributions for fiscal year 2017 decreased by \$46,036 (-.42%) compared to 2016.
- Employee contributions for fiscal year 2018 increased by \$380,307 (24.66%) compared to 2017. Employee contributions for fiscal year 2017 increased by \$573,089 (59.15%) compared to 2016.
- The net investment income for fiscal year 2018 decreased by \$8,765,733 (35.64%) compared to 2017, mainly due to the reduction in the amount of net appreciation in the fair value of investments that occurred during fiscal year ended June 30, 2018. The net investment income for fiscal year 2017 increased by \$24,373,898 (10,999.05%) compared to 2016, mainly due to the net appreciation in the fair value of investments that occurred during fiscal year ended June 30, 2017.
- Benefit payments increased by \$1,731,954 (8.96%) during fiscal year ended June 30, 2018. Benefit payments increased by \$1,169,710 (6.44%) during fiscal year ended June 30, 2017.

Using the Comprehensive Annual Financial Report

The basic financial statements reflect the activities of TCERS and are reported in the Statements of Fiduciary Net Position, the Statements of Changes in Fiduciary Net Position, and the Notes to Financial Statements. All activities are recorded using an accrual basis of accounting and the economic resource measurement focus. The accrual basis of accounting recognizes increases and decreases in economic resources as soon as the underlying event or transaction occurs. Transactions are recognized when earned and incurred regardless of the timing of cash flows.

The operating statement of the TCERS focuses on changes in economic resources during the period. Net position (total assets and total deferred outflows less total liabilities and total deferred inflows) is used as a practical measure of economic resources. Accordingly, the TCERS operating statement includes all transactions and events that increase or decrease net position, such as additions and deductions.

A discussion of the actual components of this comprehensive annual financial report, including the basic financial statements, is presented in the transmittal letter.

Management's Discussion and Analysis - continued (Unaudited)

Statements of Fiduciary Net Position

The Statements of Fiduciary Net Position shows the financial position of plan assets and liabilities by investment and accounting categories. The excess of assets and deferred outflows over liabilities and deferred inflows is reported as "Net position restricted for pensions". Over time, increases or decreases in net position restricted for pensions may serve as a useful indicator of whether the financial position of the TCERS is improving or deteriorating. The following condensed comparative summary of the Statements of Fiduciary Net Position as of June 30, 2018, 2017 and 2016, demonstrates that the TCERS is primarily focused on the cash, receivables, investments, liabilities and net position restricted for pensions.

	2018	2017	2016
Cash	\$ 468,191	\$ 523,606	\$ 259,358
Receivables	2,755,505	2,527,341	2,979,588
Investments	<u>289,704,246</u>	<u>282,640,888</u>	<u>265,948,740</u>
Total assets	<u>292,927,942</u>	<u>285,691,835</u>	<u>269,187,686</u>
Total liabilities	<u>1,475,597</u>	<u>1,540,773</u>	<u>2,559,437</u>
Net position restricted for pensions	<u>\$291,452,345</u>	<u>\$284,151,062</u>	<u>\$266,628,249</u>

During each fiscal year, the average daily balance of cash on hand typically varies within a range of \$150,000 to \$1,000,000. The cash balance for all three fiscal years was within the range of the projected average daily cash balance. Total receivables increased by \$228,164 during fiscal year ended June 30, 2018, due to the increase in interest and dividends, payments from brokers for unsettled trades and employee contributions.

Investments at fair value increased by \$7,063,358 (2.50%) during the fiscal year ended June 30, 2018. Investments at fair value increased by \$16,692,148 (6.28%) during the fiscal year ended June 30, 2017. The average return on investments of 5.41% for the past three fiscal years is less than the expected portfolio returns of 7.25%. During the last fiscal year, the intermediate fixed income portfolio outperformed the benchmark Bloomberg Barclay's Intermediate U.S. Govt/Credit Index rate of -.58% and finished the year with a return of .34%. The core fixed income portfolio underperformed the benchmark Bloomberg Barclay's U.S. Aggregate Index rate of -.40% and finished the year with a return of -.44%. The high yield fixed income portfolio underperformed the benchmark ICE BofA Merrill Lynch High Yield Master II rate of 2.53% and finished the year with a return of 2.41%. The active duration fixed income portfolio outperformed the benchmark Bloomberg Barclay's U.S. Aggregate Index rate of -.40% and finished the year with a return of .17%. The S&P 500 index fund outperformed the benchmark S&P 500 Index rate of 14.37% and finished the year with a return of 14.39%. The small/mid (smid) cap equity portfolio outperformed the benchmark Russell MidCap Index rate of 12.33% and finished the year with a return of 18.56%. The international equity portfolio underperformed the benchmark MSCI EAFE (net) Index rate of 6.84% and finished the year with a return of 6.18%. The Master Limited portfolio underperformed the benchmark Alerian MLP Index rate of -4.58% and finished the year with a return of -6.12%.

Liabilities decreased by \$65,176 during the fiscal year ended June 30, 2018, due to the decrease in the accounts payable and accrued expenses and the obligations payable to brokers for unsettled trades. Liabilities decreased by \$1,018,664 during the fiscal year ended June 30, 2017, due to the decrease in the obligations payable to brokers for unsettled trades. The net position restricted for pensions increased by \$7,301,283 (2.57%) resulting from the increase in total assets, due to the increase in employee contributions and the purchase of judgments, for the year ending June 30, 2018. The net position restricted for pensions increased by \$17,522,813 (6.57%) resulting from the increase in total assets, mainly due to the earnings in fair value of investments, for the year ending June 30, 2017.

Management's Discussion and Analysis - continued (Unaudited)

Statements of Changes in Fiduciary Net Position

The Statements of Changes in Fiduciary Net Position itemizes additions, deductions and net position restricted for pensions. The Statement of Changes in Fiduciary Net Position demonstrates how the TCERS assets have increased (decreased) during the fiscal years ended June 30, 2018, 2017 and 2016. The following condensed comparative summary of the Statements of Changes in Fiduciary Net Position reflects the activities of the TCERS regarding employer and employee contributions, net investment income, benefits paid, administration expenses, refunds and the net increase (decrease) in net position restricted for pension benefits.

	2018	2017	2016
Additions:			
Contributions:			
Members	\$ 1,922,350	\$ 1,542,043	\$ 968,954
Employer	10,817,651	10,846,636	10,892,672
Net Investment income	15,829,765	24,595,498	221,600
Total additions	<u>28,569,766</u>	<u>36,984,177</u>	<u>12,083,226</u>
Deductions:			
Benefits	21,060,579	19,328,625	18,158,915
Administration expense	140,364	119,139	120,026
Refunds	67,540	13,600	6,280
Total deductions	<u>21,268,483</u>	<u>19,461,364</u>	<u>18,285,221</u>
Net increase (decrease) in net position restricted for pensions	<u>\$ 7,301,283</u>	<u>\$17,522,813</u>	<u>\$ (6,201,995)</u>

The ending net position restricted for pensions for fiscal year ending June 30, 2018 was \$291,452,345 compared to \$284,151,062 for fiscal year ending June 30, 2017.

Collections of employer and employee retirement contributions, as well as earnings from investments and dividends, provide the reserves necessary to finance retirement benefits and cover administrative expense. Contributions and net investment income totaled \$28,569,766 during the fiscal year ending June 30, 2018, which is an \$8,414,411 (22.75%) decrease in total additions from what was reported the previous fiscal year. Contributions and net investment income increased \$24,900,951 (206.08%) from fiscal year ended June 30, 2016 to June 30, 2017.

Employer contributions are based on a percentage of an employee's pay and decreased \$28,985 (-.27%) in 2018 as compared to 2017. Employee contributions increased \$380,307 (24.66%) when comparing fiscal year 2018 to 2017, due to an increase in the employee contribution percentage from 2% to 2.5% at July 1, 2017.

Net investment income was \$15,829,765 for fiscal year 2018, which represents an \$8,765,733 decrease from fiscal year 2017 compared to fiscal year 2017, due mainly to the net appreciation in fair value of investments of \$9,303,558. When comparing fiscal year ended June 30, 2016 to June 30, 2017, there was an \$18,685,708 net appreciation in the fair value of investments in 2017. Comparing fiscal year 2018 to 2017, the fair value of the U.S. Government & Agency obligations and treasury bond mutual funds decreased by \$1,625,101. The fair value of domestic corporate bonds and bond mutual funds decreased by \$2,784,525. The fair value of foreign bonds and obligations increased by \$912,859. The fair value of domestic equities and international equities increased by \$5,227,559 and decreased by \$88,259, respectively. The money market mutual funds portfolio decreased by \$998,053 and the judgments increased by \$6,418,878. Investments during the fiscal year ended June 30, 2018, underperformed the expected rate of return. Interest received was \$216,675 (6.53%) higher during fiscal year 2018. Dividends received were \$321,597 (8.49%) higher during fiscal year 2018.

The primary deductions of a retirement system include the payment of benefits to retirees and beneficiaries, the refund of contributions to former members, and the cost of administering the

Management's Discussion and Analysis - continued (Unaudited)

retirement system. The benefits paid increased by \$1,731,954 (8.96%) during fiscal year 2018, and by \$1,169,710 (6.44%) during fiscal year 2017, due to an increase in the number of retirants and the amount of benefits paid to those retirants. Administration expenses, as of June 30, 2018 were \$140,364 or (17.82%) higher when compared to the previous fiscal year. Refunds typically represent a return of a nonvested portion of the employee's contribution made to the retirement system which varies from year to year and remains a relatively small expense. The refund of contributions was \$67,540 or (396.62%) higher when compared to the previous fiscal year, due to notification to terminated, non-vested employees, of monies eligible for refund.

Analysis of Financial Position and Results of Operations

To analyze the TCERS financial position and results of operations during the reporting periods, the following topics are presented: plan membership, funding and reserves, actuarial assumptions and methods, and asset allocation.

Plan Membership

As of June 30, 2018, 2017 and 2016 the TCERS members are as follows:

	2018	2017	2016
Retirees and beneficiaries receiving benefits	1,274	1,197	1,153
Terminated employees entitled to benefits not yet received	617	592	571
Current active employees:			
Fully vested	956	975	974
Nonvested	<u>780</u>	<u>838</u>	<u>848</u>
Total members	<u><u>3,627</u></u>	<u><u>3,602</u></u>	<u><u>3,546</u></u>

Funding and Reserves

Funds are derived from the excess of additions over deductions and are accumulated to meet future benefit obligations to retirees and beneficiaries. This accumulated balance is referred to as the net position restricted for pensions in the Statement of Fiduciary Net Position and the Statement of Changes in Fiduciary Net Position presented in the financial section of this report. In addition to the basic financial statements and various note disclosures, defined benefit plans are also required to provide three schedules of long-term actuarial data. The three required supplementary information schedules are the Schedule of Changes in Fiduciary Net Pension Liability and Related Ratios, Schedule of Employer Contributions, and the Schedule of Investment Returns, all of which are presented in the Required Supplementary Information immediately following the notes to the financial statements.

The Schedule of Changes in Fiduciary Net Pension Liability and Related Ratios presents detailed information about the pension liabilities for which the pension plan's assets are held and managed. The detailed information shows various components of changes in the net pension liability. This schedule also reports a ratio of Fiduciary Net Position as a percentage of the total pension liability. This percentage is an indication of the funding status of the TCERS and, generally, the greater the percentage, the stronger the retirement system. A high level of funding gives plan members more assurance that their pension benefits are secure. The ratio of plan Fiduciary Net Position to the total pension liability is 76.86% at June 30, 2018. This schedule will ultimately include ten years of information once such data becomes available. Since this is the fifth year to include this RSI schedule in accordance with GASB 67, *Financial Reporting for Pension Plans*, only five fiscal year's information is reported.

The Schedule of Employer Contributions shows the actuarially determined contributions for TCERS and the actual contributions made by TCERS. For the fiscal year ended June 30, 2018, management of TCERS contributed approximately \$249,000 more than the actuarially determined contribution,

Management's Discussion and Analysis - continued (Unaudited)

which amounted to 14.14% of covered payroll. Additionally, the significant actuarial assumptions and methods used to develop the contribution rate are listed.

The Schedule of Investment Returns shows the money-weighted rate of return (net of investment expense) to be 5.66% for fiscal year 2018. When compared to the expected rate of return of 7.25%, the actual return was lower during fiscal year 2018. This helps to understand the investment performance of TCERS. As with the other schedules above, ten-year information about the money-weighted rate of return will be reported once that data becomes available.

Actuarial Assumptions and Methods

An actuarial firm prepares two actuarial valuations: one for *funding* purposes and the other for *accounting* purposes.

The June 30, 2018 *funding* actuarial valuation is used to determine the level of annual required contributions (ARC) based on actuarial assumptions approved by the TCERS Board of Trustees. The Plan's Actuary utilized the Entry Age Normal Cost Method to calculate the plan's Actuarial Accrued Liability (AAL). The actuarial value of assets is compared to the actuarial accrued liability, resulting in either an unfunded actuarial accrued liability or a surplus. The June 30, 2018 funding valuation determined the funding ratio to be 80%, leaving an unfunded actuarial accrued liability (UAAL) of 20%. The UAAL is allocated on a level basis over the future earnings of members who are still employed as of the valuation date. Actuarial gains and losses are reflected in the actuarially determined contribution rate. The main *funding* actuarial assumptions and methods include:

- The assumed rate of return on investment is 7.25%. Prior to July 1, 2016, the assumed rate of return on investment was 7.75%.
- The mortality assumption is the RP-2014 Employee, Healthy Annuitant and Disabled mortality tables, male and female rates. The healthy mortality rates are projected generationally from 2006 using the MP-2017 scale.
- A salary scale is used to estimate salaries for plan members. The salary scale has different percentage increases based on the employee's current age. There is a separate, defined inflation and merit/promotion component for each projected salary increase. Effective July 1, 2012, the salary scale was decreased by 1% at all ages.
- No provision has been made for automatic post-retirement cost of living adjustments. (This is consistent with plan provisions, which do not provide automatic post-retirement cost of living adjustments).
- The actuarial value of assets is based on the five-year expected return method which employs a technique known as "smoothing".
- Effective July 1, 2018, each year's change in unfunded accrued liability is amortized as a separate layer on a closed basis over 20 years as a level percent of pay. The unfunded accrued liability that existed prior to July 1, 2018, will continue to be amortized on a closed basis over 30 years from July 1, 2003 as a level percent of pay.

The actuarial valuation performed for plan year beginning July 1, 2018, for *accounting* purposes was done in accordance with GASB 67. This valuation was used to determine the Total Pension Liability (TPL) with pension expense to be recognized by Tulsa County and its component units. The Total Pension Liability (TPL) differs somewhat from the Actuarial Accrued Liability (AAL) in that it measures the present value of projected benefit payments attributed to past periods of member service in accordance with specific requirements of GASB 67. One of those requirements relates to the determination of the discount rate. The discount rate for TCERS, as determined in accordance with GASB 67, was the same as the expected long-term rate of return or 7.25%. Another requirement in determining the Total Pension Liability (TPL) is the use of the Entry Age Normal Cost Method which is the same method that is used for funding purposes. Consequently, both the AAL and the TPL were the same amount as of June 30, 2018. However, the determination of annual pension expense in

Management's Discussion and Analysis - continued (Unaudited)

accordance with GASB 67 differs significantly from the amount of actual employer contributions. Each component of pension expense is detailed in the required supplementary Schedule of Changes in Net Pension Liability described in the previous section. In addition, the Net Pension Liability (NPL), as determined in accordance with GASB 67, differs from the Unfunded Actuarial Accrued Liability (UAAL) that was determined by the *funding* valuation described in the paragraph above. The main difference relates to the way plan assets are valued. For *accounting* purposes, plan assets are valued at *fair market* value and not valued using the actuarial method (which employs a technique known as smoothing) that is used for funding. Consequently, the net pension liability (NPL) used for accounting purposes was \$87,738,181, while the unfunded actuarial accrued liability (UAAL) was \$74,781,209. At June 30, 2018, the NPL was greater than the UAAL.

Asset Allocation

The portfolio mix based on the total fair value of investments at the end of fiscal year 2018 is: 1.85% in money market mutual funds, 27.06% in Domestic corporate bonds and bond mutual funds, 21.16% in U.S. Government & Agency Obligations and Treasury Bond Mutual Funds, 16.25% in core domestic equities, 21.87% in small/mid (smid) cap equity securities, 9.44% in international equities and 2.37% in judgments. The portfolio mix based on the total fair value of investments at the end of fiscal year 2017 is: 3.07% in money market mutual funds, 28.4% in Domestic corporate bonds and bond mutual funds, 22.26% in U.S. Government & Agency Obligations and Treasury Bond Mutual Funds, 14.67% in core domestic equities, 21.73% in small/mid (smid) cap equity securities, 9.71% in international equities and .16% in judgments. The targeted portfolio mix is 46.5% equity and 53.5% fixed income. The retirement system's portfolio is currently 39% equity, 10% master limited partnerships and 51% fixed income.

At fiscal year end, the Fund was allocated 32.1% to domestic equity, 10.3% to international equity, 16.7% to core fixed income, 16.8% to intermediate fixed income, 9.6% to high yield fixed income, 5.7% to active duration fixed income, 6.0% to Master Limited Partnerships and 2.8% to cash. Since the target portfolio has no targeted value for either cash or judgments, the actual asset allocation of stocks, bonds, and cash will likely vary from the targeted portfolio percentages.

Net investment income amounted to \$15,829,765 during fiscal year 2018, while total contributions added \$12,740,001. The net appreciation in fair value of investments as of June 30, 2018, was \$9,303,558. Net investment income compared to total investments as of June 30, 2018, is 5.46%.

Market environment and results

Investment market conditions continued to fluctuate during the fiscal year ended June 30, 2018. The net position restricted for pensions of the TCERS increased from \$284 million to \$291 million (2.57%) from July 1, 2017 to June 30, 2018. Over the ten-year period ended June 30, 2018, the funding ratio has varied from a low of 67% to a high of 88%; the current funding ratio of 80% reflects the effects of the changes in the actuarial assumption changes for plan year beginning July 1, 2018.

Major Initiatives

Effective July 1, 2006, the Board of County Commissioners and the Board of Trustees repealed the military service credit previously created by the Employees' Retirement System of Tulsa County and left in force the military service credit created by State Statute pursuant to 19 O.S. Section 956.

Effective May 29, 2007, the Board of County Commissioners and the Board of Trustees approved a resolution allowing retirees to return to work for Tulsa County on a part-time basis after the first month of retirement and remain eligible for retirement benefits, as permitted by 19 O.S. 2007, Section 956, as amended.

Management's Discussion and Analysis - continued (Unaudited)

Beginning July 1, 2007, the total employer and employee contributions shall not exceed 16.5% of the monthly compensation of each member, as permitted by 19 O.S. 2007, Section 954, as amended.

Effective July 1, 2008, the actuarial assumption of the effective rate of return on investments was reduced from 8% to 7.75%.

On April 26, 2010, the Board of County Commissioners and the Board of Trustees adopted a new Schedule of Benefit Percentage by Years of Credited Service and set the spousal benefits at 67% for employees who are not vested as of June 30, 2010 and for employees who are hired after June 30, 2010.

Effective July 1, 2010, the Board of County Commissioners and the Board of Trustees approved a resolution changing the employer contribution rate to 14% and the employee-member contribution rate to five basis points (.05%) of the employee's base salary.

Effective July 1, 2012, the Board of County Commissioners and the Board of Trustees approved a resolution changing the employee-member contribution rate from five basis points (0.05%) to twenty-five basis points (0.25%) of the employee's base salary.

Effective July 1, 2012, the Board of County Commissioners and the Board of Trustees approved a resolution to make the employee contribution a pre-tax basis.

Effective July 1, 2013, the Board of County Commissioners and the Board of Trustees approved a resolution changing the employee-member contribution rate from twenty-five basis points (0.25%) to one percent (1%) of the employee's base salary.

On March 6, 2014, the Internal Revenue Service issued a favorable determination letter on the plan. The letter expires on January 31, 2019.

In October 2014, the Board implemented a Funding Policy to ensure the Fund is fully funded.

On October 19, 2015, the Board of County Commissioners and the Board of Trustees approved a resolution changing the employee-member contribution rate from one percent 1% to 1.50% of the employee's base salary, effective January 1, 2016 and effective July 1, 2016 an increase from 1.50% to 2% of the employee's base salary. Effective July 1, 2017, the employee-member contribution rate increased from 2% to 2.5% of the employee's base salary.

Effective with the July 1, 2016 actuarial study, the actuarial assumption of the effective rate of return on investments was reduced from 7.75% to 7.25%.

Effective July 1, 2017, the Board of County Commissioners and the Board of Trustees approved a resolution to change the current retirement age from 62 to age 65, to replace the Rule of 80 with Rule of 90, and the early drawing percentages were decreased for employees hired after June 30, 2017.

The Board of Trustees continues to fulfill their mission to maintain stability while earning a competitive yield on the assets of the TCERS. Of utmost importance to the Trustees is to assure that required reserves are available for payment of current and prospective retirement benefits.

Contacting the Retirement System's Financial Management

This financial report is designed to provide citizens, taxpayers, plan members and others with a general overview of the TCERS finances and to show accountability for money it receives, disburses, and is entrusted with. Questions concerning any data provided in this report or requests for additional information should be directed to Tulsa County Clerk, Tulsa County Employees' Retirement System, 500 South Denver, Tulsa, Oklahoma 74103.

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Statements of Fiduciary Net Position

For Fiscal Years ended June 30, 2018 and 2017

	2018	2017
Assets:		
Cash	\$ 468,191	\$ 523,606
Receivables:		
Interest and dividends	1,066,366	941,783
Due from brokers for unsettled trades	640,269	569,506
Contributions from employer/employees	1,048,870	1,016,052
Total receivables	2,755,505	2,527,341
Investments, at fair value:		
Money market mutual funds	7,685,659	8,683,712
U.S. Government and Agency obligations and Treasury bond mutual funds	61,293,960	62,919,061
Domestic corporate bonds and bond mutual funds	73,308,025	76,092,550
Foreign bonds and obligations	5,091,363	4,178,504
Domestic equities	108,091,378	102,863,819
International equities	27,359,739	27,447,998
Judgments	6,874,122	455,244
Total investments	289,704,246	282,640,888
Total assets	292,927,942	285,691,835
Liabilities:		
Accounts payable and accrued expenses	162,583	178,141
Due to brokers for unsettled trades	1,313,014	1,362,632
Total liabilities	1,475,597	1,540,773
Net position restricted for pensions	<u>\$ 291,452,345</u>	<u>\$ 284,151,062</u>

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

Statements of Changes in Fiduciary Net Position

For Fiscal Years ended June 30, 2018 and 2017

	2018	2017
Additions:		
Member contributions	\$ 1,922,350	\$ 1,542,043
Employer contributions	10,817,651	10,846,636
Total contributions	12,740,001	12,388,679
Investment Income:		
Interest	3,536,854	3,320,179
Dividends	4,110,138	3,788,541
Net appreciation in fair value of investments	9,303,558	18,685,708
	16,950,550	25,794,428
Less investment expense:	1,120,785	1,198,930
	1,120,785	1,198,930
Net investment income	15,829,765	24,595,498
Total additions	28,569,766	36,984,177
Deductions		
Benefits	21,060,579	19,328,625
Administrative expense	140,364	119,139
Refunds of contributions	67,540	13,600
Total deductions	21,268,483	19,461,364
Net increase	7,301,283	17,522,813
Net position restricted for pension		
Beginning of Year	284,151,062	266,628,249
End of Year	\$ 291,452,345	\$ 284,151,062

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

NOTES TO THE FINANCIAL STATEMENTS JUNE 30, 2018 AND 2017

1. PLAN DESCRIPTION

A. Administration

The Tulsa County Employees' Retirement System (TCERS) is a single-employer defined benefit retirement plan. It was established July 1, 1965 by Resolution of the Tulsa County Board of County Commissioners (BOCC), as authorized by Title 19 OSA 951 through 965 of the Oklahoma Statutes. The TCERS was established to encourage continuity of dedicated service on the part of the employees and to promote public efficiency.

The operation of the TCERS is governed by the Oklahoma Statutes and the responsibility for its administration (including establishing or amending benefit provisions) rests with a nine-member Board of Trustees. Ex-Officio members include the Tulsa County Clerk, the Tulsa County Treasurer, and the Chairman of the Tulsa County Board of County Commissioners. Two members are appointed by the Chairman of the Board of County Commissioners subject to the approval of the entire Commission Board. Three members, who must be current employees, are elected at large from all participating employees. The final member, who must be retired and drawing benefits, is also elected at large from all participating employees and members. Effective July 1, 2003, retired members and beneficiaries of the system shall be allowed to vote in the election in which their representative is elected. All four are elected for three-year terms. Trustees meet the last Tuesday of each month at 10:30 a.m. in Room 338 of the Ray Jordan Tulsa County Administration Building, unless otherwise noted on the annual meeting notice filed in the County Clerk's office prior to December 15 and posted on the tulsacounty.org website. All meetings are open to any interested party and are conducted in accordance with the Oklahoma Open Meetings Act.

B. Participating Entities and Departments

The participating entities and departments of the TCERS are as follow:

Tulsa County	Oklahoma State University Extension Agency Center
Court Fund	Tulsa Area Emergency Management Agency (civil defense)
Drainage District #12	Tulsa City/County Health Department
Law Library	Tulsa County Public Facilities Authority (fairgrounds)

Membership in the TCERS is mandatory for all eligible employees. An employee becomes eligible on the first day of employment as a regular, full time employee. Oklahoma Statutes include elected and appointed salaried County officials as employees for retirement system purposes. No seasonal, temporary, hourly, part-time or contracted worker is eligible to be a member of the TCERS.

C. Number of Members

As of June 30, 2018, and 2017, the TCERS members are as follows:	2018	2017
Retirees and beneficiaries receiving benefits	1,274	1,197
Terminated employees entitled to benefits not yet received	617	592
Current active employees:		
Fully vested	956	975
Nonvested	<u>780</u>	<u>838</u>
Total members	<u>3,627</u>	<u>3,602</u>

D. Benefits Paid to Members

Benefits are determined by multiplying the average of the highest paid three years of annual salary times a percentage based on the years of credited service at the date of retirement. A member is fully vested after five years of full-time service as a regular employee. The five-year period is not required to be continuous. Unreduced benefits may be received at age 62. A member may also be eligible for full benefits under the Rule of 80 in which the total service time and employee's age equals 80. The TCERS allows an employee who has attained age 55 with at

NOTES TO THE FINANCIAL STATEMENTS (continued)

least five years of credited service, the opportunity to draw retirement benefits at an actuarially reduced percentage from the normal rate at age 62. For employees hired after June 30, 2017, unreduced benefits may be received at age 65. A member may also be eligible for full benefits under the Rule of 90 in which the total service time and employee's age equals 90. The TCERS allows an employee who has attained age 55 with at least five years of credited service, the opportunity to draw retirement benefits at an actuarially reduced percentage from the normal rate at age 65. The TCERS also provides additional benefits to active members upon disability and to the surviving spouse upon death of the retiree.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

A. Basis of Accounting

The accompanying financial statements are prepared using the accrual basis of accounting and in conformity with accounting principles generally accepted in the United States of America. Member and employer contributions are recognized as revenues in the period in which employee services are performed and expenses are recorded when incurred regardless of when payment is made. Contributions from members are recognized when the employer makes payroll deductions from plan members. Employer contributions are recognized when due and the employer has made a formal commitment to provide the benefits. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan. Subsequent events have been reviewed through November 13, 2018.

B. Method Used to Value Investments

Investments are reported at fair value. The fair value of investments is based on published market prices and quotations from major investment brokers at current exchange rates, as available. Many factors are considered in arriving at that value. Corporate bonds are valued based on yields currently available on comparable securities of issuers with similar credit ratings.

Approximately 21% and 22% of the net position restricted for pensions for both June 30, 2018 and 2017, respectively, was invested in U.S. Government and Agency obligations. The TCERS has no investments in stocks and bonds of any commercial or industrial organization whose market value equals 5% or more of TCERS's assets available for benefits.

C. Basis of Presentation

The financial statements of the TCERS are presented in accordance with the generally accepted accounting principles promulgated by the Governmental Accounting Standards Board (GASB).

The TCERS is considered a pension trust fund in Tulsa County's Comprehensive Annual Financial Report and is a blended component unit of Tulsa County. Copies of Tulsa County's Comprehensive Annual Financial Report are available from the County Clerk's office.

D. Administration Fees

Administrative expenses are paid for by the plan from contributions received and investment earnings.

E. Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and additions and deductions during the period reported. Actual results could differ from those estimates.

3. CONTRIBUTIONS

Title 19 OSA 954 of the Oklahoma Statutes provides for annual contributions to be made by Tulsa County for amortizing any net pension liability. The Board of Trustees of the TCERS recommends

NOTES TO THE FINANCIAL STATEMENTS (continued)

to the Board of County Commissioners, the percentage of the employer and employee's contribution level to be contributed to the retirement system. The Board of County Commissioners, within the limits allowed by law, establishes both the employer and employee levels of contributions to support the retirement system.

Beginning July 1, 2007, the total employer and employee contributions shall not exceed 16.5% of the monthly compensation of each member.

An actuarial study determines the contribution required to fund the retirement system. The study calculates the current contribution amount required to pay the benefits of present and future retirees. The maximum contribution rate for employees shall not exceed the contribution rate of the County.

For 2018 and 2017, the County's contribution rate was 14% of the employee's base salary. For 2018, the employee contribution rate was 2.5% of the employee's base salary, per month. For 2017, the employee contribution rate was 2% of the employee's base salary, per month.

There are no legally required reserve accounts as of June 30, 2018 or 2017.

4. DEPOSITS AND INVESTMENTS

A. Deposits

At June 30, 2018, and 2017, the TCERS's cash balance was \$468,191 and \$523,606, respectively, and was maintained in a demand account in the Retirement System's name at BOK Financial.

Custodial credit risk for deposits is the risk that in the event of bank failure, TCERS's deposits may not be returned or the TCERS may not be able to recover collateral securities in the possession of an outside party. According to Title 62 OSA 517.4, Security for Local Public Deposits Act, the amount of the collateral securities or instruments to be pledged for the security of public deposits shall be established by the treasurer of the public entity. The Tulsa County Treasurer with the approval of the TCERS requires deposits to be 110% secured by collateral valued at market or par, whichever is lower, less the amount of Federal Deposit Insurance Corporation (FDIC) insurance. BOK Financial has placed the required collateral securities in a restricted account at a Federal Reserve Bank which serves Oklahoma. The market value of pledged securities shall be provided not less than quarterly to the treasurer by either the financial institution holding the deposit or the financial institution holding the collateral securities, which market value must have been obtained from an independent, recognized, and documented source. TCERS's deposits are not exposed to custodial credit risk because the deposits are insured by FDIC insurance and are collateralized.

B. Investments

Investments of TCERS funds are governed by Title 19 OSA 953.1A, as amended, of the Oklahoma Statutes. The Oklahoma Statutes place no limitations or restrictions on the choice of investment vehicles other than those a prudent investor would select. The Board of Trustees has retained six outside investment management firms to manage six different portfolios for the TCERS except for certain judgments against Oklahoma government entities and a small amount of cash. BOK Financial is the custodian of cash and investments. TCERS's investment securities are not exposed to custodial credit risk because all securities are held by a third-party custodian rather than a counterparty and are carried in street name.

NOTES TO THE FINANCIAL STATEMENTS (continued)

As of June 30, 2018, and June 30, 2017, the composition of the retirement system's investments is shown in the following tables:

June 30, 2018	Fair Value	Cost	Average Credit Quality/ Rating (1)	Weighted Average Number of Years to Maturity (2)
Money Market Mutual Funds	\$ 7,685,659	\$ 7,685,659	AAA	.10
U.S. Treasuries	45,360,158	45,024,513	AAA	16.00
U.S. Agency Obligations				
FHMS (collateralized Mtg Obligation)	1,357,024	1,416,190		
FHLMC (Freddie Mac)	1,911,465	1,953,775	AAA	8.20
FNMA (Fannie Mae)	8,999,515	9,283,666	AAA	7.10
GNMA (Ginnie Mae)	<u>3,665,798</u>	<u>3,748,537</u>	AAA	4.80
Total U.S. Agency Obligations	<u>15,933,802</u>	<u>16,402,168</u>		
Corporate Bonds & Bond Mutual Funds	78,399,388	79,899,182	A-	6.50
Domestic equities	108,091,378	62,118,632	N/A	N/A
International equities	27,359,739	21,295,118	N/A	N/A
Judgments	6,874,122	6,874,122	N/A	N/A
Total Investments	\$289,704,246	\$239,299,394		
June 30, 2017	Fair Value	Cost	Average Credit Quality/ Rating (1)	Weighted Average Number of Years to Maturity (2)
Money Market Mutual Funds	\$ 8,683,712	\$ 8,683,712	AAA	.09
U.S. Treasuries	46,554,251	45,356,580	AAA	16.23
U.S. Agency Obligations				
FHMS (collateralized Mtg Obligation)	643,335	643,719		
FHLMC (Freddie Mac)	1,716,254	1,727,007	AAA	5.07
FNMA (Fannie Mae)	9,744,549	9,881,722	AAA	5.76
GNMA (Ginnie Mae)	<u>4,260,672</u>	<u>4,298,247</u>	AAA	4.78
Total U.S. Agency Obligations	<u>16,364,810</u>	<u>16,550,695</u>		
Corporate Bonds & Bond Mutual Funds	80,271,054	79,425,952	A-	6.16
Domestic equities	102,863,819	62,110,747	N/A	N/A
International equities	27,447,998	21,488,537	N/A	N/A
Judgments	455,244	455,244	N/A	N/A
Total Investments	\$282,640,888	\$234,071,467		

(1) Ratings are provided where applicable to indicate **Credit Risk**. N/A indicates not applicable.

(2) **Interest Rate Risk** is estimated using weighted average years to maturity.

NOTES TO THE FINANCIAL STATEMENTS (continued)

As of June 30, 2018, and 2017, the retirement system had the following fixed income investments and maturities:

		Investment Maturities (in Years)			
June 30, 2018	Fair Value	Less than 1	1-5	6-10	More than 10
U.S. Treasuries and Treasury Bonds	\$ 45,360,158	.23%	9.40%	5.54%	14.61%
U.S. Agencies (1)	15,933,802	.47%	3.14%	9.54%	.340%
Corporate Bonds & Bond Mutual Funds	78,399,388	7.75%	29.35%	12.85%	6.79%
Totals	\$139,693,348	8.44%	41.89%	27.93%	21.73%
		Investment Maturities (in Years)			
June 30, 2017	Fair Value	Less than 1	1-5	6-10	More than 10
U.S. Treasuries and Treasury Bonds	\$ 46,554,251	0%	9.2%	6.62%	13.73%
U.S. Agencies (1)	16,364,810	.02%	6.33%	6.20%	0%
Corporate Bonds & Bond Mutual Funds	80,271,054	8.81%	28.33%	14.53%	6.23%
Totals	\$143,190,115	8.83%	43.86%	27.35%	19.96%

(1) Includes Government National Mortgage Association (GNMA) investments, which are explicitly guaranteed by the U.S. Government.

TCERS categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. TCERS has the following recurring fair value measurements as of June 30, 2018 and 2017:

Investments Measured at Fair Value as of June 30, 2018	Fair Value Measurements Using			
	Total Assets	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Money Market Mutual Fund	\$ 7,685,659	\$ 7,685,659	\$ 0	\$ 0
Debt Securities:				
Treasury Bonds	25,445,908	25,445,908	0	0
Agency Bonds	15,933,803	0	15,933,803	0
Municipal Bonds	3,377,687	0	3,377,687	0
Corporate Bonds	45,565,098	0	45,565,098	0
Sovereign Debt	293,286	0	293,286	0
Foreign Corporate Bonds	4,798,077	0	4,798,077	0
Registered Investment Companies	44,279,489	44,279,489	0	0
Total Debt Securities	<u>139,693,348</u>	<u>69,725,397</u>	<u>69,967,951</u>	<u>0</u>
Equity Securities:				
Common stock	92,709,673	92,709,673	0	0
Preferred stock	404,147	404,147	0	0
Miscellaneous equities	703,977	703,977	0	0
Common Collective Trusts	29,700,884	0	29,700,884	0
Alternative Investments - Infrastructure	11,932,436	11,932,436	0	0
Total Equity Securities	<u>135,451,117</u>	<u>105,750,233</u>	<u>29,700,884</u>	<u>0</u>
Judgments	6,874,122	0	0	6,874,122
Total Investments	<u>\$289,704,246</u>	<u>\$183,161,289</u>	<u>\$99,668,835</u>	<u>\$6,874,122</u>

NOTES TO THE FINANCIAL STATEMENTS (continued)

Investments Measured at Fair Value as of June 30, 2017	Fair Value Measurements Using			
	Total Assets	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Money Market Mutual Fund	\$ 8,683,712	\$ 8,683,712	\$ 0	\$ 0
Debt Securities:				
Treasury Bonds	26,363,377	26,363,377	0	0
Agency Bonds	16,364,810	0	16,364,810	0
Municipal Bonds	3,675,220	0	3,675,220	0
Corporate Bonds	49,003,363	0	49,003,363	0
Sovereign Debt	303,104	0	303,104	0
Foreign Corporate Bonds	3,875,399	0	3,875,399	0
Registered Investment Companies	43,604,842	43,604,842	0	0
Total Debt Securities	<u>143,190,115</u>	<u>69,968,219</u>	<u>73,221,896</u>	<u>0</u>
Equity Securities:				
Common stock	90,087,350	90,087,350	0	0
Preferred stock	408,216	408,216	0	0
Miscellaneous equities	680,068	680,068	0	0
Common Collective Trusts	29,471,334	0	29,471,334	0
Alternative Investments - Infrastructure	<u>9,664,849</u>	<u>9,664,849</u>	<u>0</u>	<u>0</u>
Total Equity Securities	<u>130,311,817</u>	<u>100,840,483</u>	<u>29,471,334</u>	<u>0</u>
Judgments	455,244	0	0	455,244
Total Investments	<u>\$282,640,888</u>	<u>\$179,492,414</u>	<u>\$102,693,230</u>	<u>\$455,244</u>

Money market mutual funds, debt securities, equity securities, and alternative investments classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those investments. Debt and equity securities classified in Level 2 of the fair value hierarchy are valued using one of the following: a) quoted prices for similar, but not identical, assets or liabilities in active markets, b) quoted prices for identical or similar assets or liabilities in inactive markets, c) inputs other than quoted market prices that are observable, such as interest rate and yield curves, volatilities, prepayment speeds, loss severities, credit risks and default rates, and d) other inputs derived from or corroborated by observable market inputs. Other miscellaneous investments classified in Level 3 of the fair value hierarchy are valued using unobservable inputs to the extent that observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at the measurement date. Unobservable inputs reflect TCERS own assumptions about the assumptions that market participants would use in pricing the asset or liability (including assumptions about risk). Unobservable inputs shall be developed based on the best information available in the circumstance, which might include TCERS own data.

TCERS Investment Guidelines

The Board of Trustees of TCERS has formally adopted investment guidelines for the investment managers. The investment managers are expected to execute all transactions as efficiently as possible. There are no specific restrictions on portfolio turnover or preference for long or short holding periods. The Board does, however, anticipate that long-term performance will be enhanced by investment strategies, not trading strategies.

All securities transactions are affected through brokerage firms. The TCERS assets may be invested in publicly traded common and preferred stocks, convertible bonds, and non-convertible fixed income securities, whether interest bearing or discount instruments, including money market instruments, subject to any restrictions specifically outlined in the Statement of Investment Policies, Guidelines, and Objectives (Policy).

NOTES TO THE FINANCIAL STATEMENTS (continued)

The Board has adopted the following Asset Allocation among stocks, bonds, and cash to serve as a general guideline in investing the Plan's assets.

	Minimum	Target	Maximum
Domestic Equity	19.25%	29.25%	39.25%
Energy Infrastructure (MLPs)	0.00%	8.00%	18.00%
International Equity	0.00%	9.25%	19.25%
Bonds (maturity greater than 1 year)	17.00%	53.50%	93.50%
Cash (maturity less than 1 year)	0.00%	0.00%	5.00%

TCERS's Risk Disclosures

Credit Risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. Generally, the TCERS's investing activities are approved by the Board of Trustees and managed under the custody of the County Treasurer. Investing is performed in accordance with investment policies adopted by the Board of Trustees and complies with the Investment Policy adopted by the Board of County Commissioners and with State Statutes.

The TCERS Investment Policy designates a core fixed income portfolio and an intermediate fixed income portfolio. It allows, but does not require, each manager to invest up to 15% of their respective portfolios in bonds below "investment grade", but not lower than "B". Total fixed income exposure, from any single issuer except U.S. Government, its agencies, or instrumentalities, shall not exceed 7.0% of the total allocation of the portfolio, except below investment grade issuers, which shall not exceed 2.5% of the portfolio. Within the above parameters, the two fixed income managers have complete discretion as to credit rating.

As of June 30, 2018, the core fixed income portfolio had an average credit rating of Aa2, with 24.9% to Governments and Agencies, with 32.7% in AAA rated bonds, 8.6% in AA rated bonds, 19.3% in A rated bonds and 14.4% in BBB rated bonds. The intermediate fixed income portfolio had an average credit rating of A1/A+, with 36.7% to Governments and Agencies, 7.9% in AAA rated bonds, 10.4% in AA rated bonds, 21.0% in A rated bonds, 20% in BBB rated bonds, 4% in BB rated issues, and .2% in NR rated issues.

Concentration of Credit Risk is the risk of loss attributed to the magnitude of the TCERS's investment in a single issuer. Excluding mutual funds, the retirement system did not have any investments that exceed 5% of the total portfolio. The TCERS's investments that were below investment grade did not exceed 2.5% of the portfolio. U.S. Government securities are excluded from these restrictions. Equity fund managers are given the guideline that no single security in each manager's portfolio can constitute more than 5% of the portfolio's equity allocation at the time of purchase, nor can it be more than 7% of the equity allocation of the portfolio after accounting for price appreciation.

Interest Rate Risk is the risk that changes in interest rates will adversely affect the fair value of an investment. Investments held for longer periods are subject to increased risk of adverse interest rate changes. TCERS's investment policy provides that to the extent practicable, investments are matched with anticipated cash flows. Investments are diversified to minimize the risk of loss resulting from over-concentration of assets in a specific maturity period, a single issuer, or an individual class of securities.

Foreign Currency Risk is the risk that changes in exchange rates will adversely affect the fair value of an investment. The Board of Trustees has stated in the Policy the guidelines for the international equity portfolio manager. The constraints on the international equity portfolio manager are to diversify internationally across the global equity markets. The international equity manager invests in only non-U.S. dollar denominated equity securities. The manager is required to invest in a prudent manner and to operate under the restrictions indicated in their

NOTES TO THE FINANCIAL STATEMENTS (continued)

prospectus. These include: regional constraints, diversification requirements and the type of securities held.

TCERS's international equity portfolio comprises 9.4% and 9.7% of the total portfolio investments at fair value as of June 30, 2018 and 2017, respectively. The managers of these portfolios do not hedge the foreign currency risk and the Policy does not require it.

Pension Trust investing is restricted by Oklahoma Statutes to the Prudent Investor Rule.

TCERS's investments in foreign equities and debt securities are shown by monetary unit to indicate possible foreign currency risk. TCERS's exposure to foreign currency risk at June 30, 2018 and 2017 follows:

June 30, 2018			June 30, 2017	
	Equities			Equities
Danish Krone	\$ 708,778		Danish Krone	\$ 590,317
Euro	9,077,705		Euro	9,273,574
British Pound	2,056,275		British Pound	3,003,782
Hong Kong Dollar	274,944		Hong Kong Dollar	698,277
Japanese Yen	6,050,470		Japanese Yen	5,047,256
Singapore Dollar	0		Singapore Dollar	144,626
Mexican Peso	0		Mexican Peso	147,099
Swedish Krone	448,630		Swedish Krone	144,462
	<u>\$18,616,802</u>			<u>\$19,049,393</u>

International equities also included \$8,742,937 and \$8,398,605 in US dollar denominated investments which consisted primarily of American Depositary Receipts as of June 30, 2018 and 2017, respectively.

Appreciation (Depreciation) of TCERS's Investments

During the years ended June 30, 2018 and 2017, the TCERS's investments (including investments bought, sold and held during the year) appreciated or depreciated in value follows:

	2018	2017
Net appreciation (depreciation) in fair value of investments:		
Corporate Bonds	\$ (2,580,814)	\$ 789,575
U.S. Government & Agency	(1,876,719)	(4,241,425)
Domestic equities	12,895,614	18,116,224
International equities	865,477	4,021,334
Total net appreciation in fair value of investments	<u>\$ 9,303,558</u>	<u>\$18,685,708</u>

For the years ended June 30, 2018 and 2017, realized gains (losses) on the sale of investments of \$7,468,127 and \$6,894,668, respectively, have been included in net appreciation or depreciation. The calculation of realized gains and losses is independent of the calculation of the changes in the fair value of investments. Realized gains and losses for 2018 and 2017 include unrealized amounts from the prior periods.

Rate of Return – For the year ended June 30, 2018, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 5.66%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts invested.

NOTES TO THE FINANCIAL STATEMENTS (continued)

5. NET PENSION LIABILITY OF THE COUNTY

The components of the net pension liability of the County at June 30, 2018 and June 30, 2017, follows:

	2018	2017
Total Pension Liability	\$379,190,526	\$354,580,936
Plan Fiduciary Net Position	(291,452,345)	(284,151,062)
County's Net Pension Liability	\$ 87,738,181	\$ 70,429,874
Plan Fiduciary Net Position as a percentage Of the total pension liability	76.86%	80.14%

Actuarial Assumptions. The total pension liability was determined by an actuarial valuation for plan year beginning July 1, 2018, using the following actuarial assumptions, applied to all periods included in the measurement. Also presented are assumptions for the fiscal year ended June 30, 2017:

Valuation Date	July 1, 2018	July 1, 2017
Inflation	2.50%	2.50%
Salary increases including inflation	Age 20-34 5.0% Age 35-49 3.5% Age 50-70 2.5%	Age 20-34 5.0% Age 35-49 3.5% Age 50-70 2.5%
Mortality	Actives: RP-2014 Employees Mortality Table, male and female rates, with generational projection from 2006 based on the MP-2017 scale. Healthy Inactives: RP-2014 Healthy Annuitant Mortality Table, male and female rates, with generational projection from 2006 based on the MP-2017 scale. Disabled Inactives: RP-2014 Disabled Mortality Table, male and female rates.	Actives: RP-2000 Employees Mortality Table, male and female rates, with generational projection based on Scale AA. Healthy Inactives: RP-2000 Healthy Annuitant Mortality Table, male and female rates, with generational projection based on Scale AA. Disabled Inactives: RP-2000 Disabled Mortality Table, male and female rates.
Turnover	Crocker, Sarason and Straight T-7 rates, increased by 0.2 for the first year and 0.1 for the second year	Crocker, Sarason and Straight T-7 rates, increased by 0.2 for the first year and 0.1 for the second year
Investment Rate of Return, compounded annually, includes inflation and net of investment expenses	7.25%	7.25%

Disability: Various rates based on age. Selected rates for both June 30, 2018 and June 30, 2017 are:

Age	Rate per 1,000	
	Male	Female
25	.106	.124
30	.128	.128
40	.173	.198
50	.226	.399
55	.366	.573
60	.492	.623
65	.570	.605
40		

NOTES TO THE FINANCIAL STATEMENTS (continued)

Retirement Rate: At the following rates upon attaining age 62 with 5 years of participation or any age with 80 points or age 65 with 5 years of participation or any age with 90 points, if hired after June 30, 2017:

<u>Age</u>	<u>Rate</u>
Under 55	0%
55-64	20%
65-69	30%
70	100%

Marital Status: 85% percent are assumed to be married. And males are assumed to be four years older than their spouses.

The actuarial assumptions used in the June 30, 2018 valuation were based on the results of an actuarial experience study for the period July 1, 2012 through June 30, 2017. These assumptions were effective July 1, 2018.

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. The best-estimate range for the long-term expected rate of return is determined by adding expected inflation to expected long-term real returns and reflecting expected volatility and correlation. The capital market assumptions and portfolio standard deviation are per the Plan's independent investment consultant. Actual long-term historical results achieved by the Fund were also considered. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2018 (see the discussion on the pension plan's investment policy) are summarized in the following table:

<u>Asset Class</u>	<u>Index</u>	<u>Current Allocation</u>	<u>Long-Term Expected Arithmetic Rate of Return</u>	<u>Long-Term Expected Geometric Rate of Return</u>
US Cash	BAML 3-Mon Tbill	2.80%	.29%	.29%
US Core Fixed Income	Barclays Aggregate	22.40%	2.05%	1.93%
US Intermediate Bonds	Barclays IT Gvt/Credit	16.80%	1.70%	1.61%
US High Yield Bonds	BAML High Yield	9.60%	3.98%	3.47%
US Large Caps	S&P 500	10.20%	4.31%	3.13%
US Mid-Caps	Russell MidCap	21.90%	4.87%	3.32%
Foreign Developed Equity	MSCI EAFE NR	10.30%	5.57%	3.97%
Master Limited Partnerships	Alerian MLP	6.00%	4.14%	2.78%

Discount rate. The discount rate used to measure the total pension liability was 7.25 percent. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that County contributions will be made at 14%. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

NOTES TO THE FINANCIAL STATEMENTS (continued)

Sensitivity of the net pension liability to changes in the discount rate. The following presents the net pension liability of the County, calculated using the discount rate of 7.25 percent, as well as what the County's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.25 percent) or 1-percentage-point higher (8.25 percent) than the current rate:

	1% Decrease <u>6.25%</u>	Current Discount <u>Rate 7.25%</u>	1% Increase <u>8.25%</u>
County's net pension liability	134,602,182	87,738,181	48,881,156

TULSA COUNTY EMPLOYEES' RETIREMENT SYSTEM
Administered by the Tulsa County Clerk

Required Supplementary Information

(Unaudited)

For Fiscal Year Ended

Schedule of Changes in Net Pension Liability and Related Ratios (\$ in 1,000s)

Year Ended June 30,	2018	2017	2016	2015	2014
Total pension liability					
Service cost	\$ 6,422	\$ 6,409	\$ 6,073	\$ 5,714	\$ 5,635
Interest	25,420	24,721	24,740	23,398	22,703
Differences between expected and actual experience	6,401	(1,046)	438	(2,337)	(294)
Plan Changes	-	(238)	(470)	-	-
Changes of assumptions	7,494	-	18,308	7,382	(2,894)
Benefit payments, including refunds of member contributions	(21,128)	(19,342)	(18,165)	(17,208)	(16,252)
Net change in total pension liability	<u>24,609</u>	<u>10,504</u>	<u>30,924</u>	<u>16,949</u>	<u>8,898</u>
Total pension liability - beginning	<u>354,581</u>	<u>344,077</u>	<u>313,153</u>	<u>296,204</u>	<u>287,306</u>
Total pension liability - ending (a)	<u>\$ 379,190</u>	<u>\$ 354,581</u>	<u>\$ 344,077</u>	<u>\$ 313,153</u>	<u>\$ 296,204</u>
Plan fiduciary net position					
Contributions - employer	\$ 10,818	\$ 10,847	\$ 10,893	\$ 10,459	\$ 9,678
Contributions - member	1,922	1,542	969	743	688
Net investment income	15,830	24,595	221	523	41,471
Benefit payments, including refunds of member contributions	(21,129)	(19,342)	(18,165)	(17,208)	(16,252)
Administrative expense	(140)	(119)	(120)	(128)	(128)
Net change in plan fiduciary net position	<u>7,301</u>	<u>17,523</u>	<u>(6,202)</u>	<u>(5,611)</u>	<u>35,457</u>
Plan fiduciary net position - beginning	<u>284,151</u>	<u>266,628</u>	<u>272,830</u>	<u>278,441</u>	<u>242,984</u>
Plan fiduciary net position - ending (b)	<u>291,452</u>	<u>284,151</u>	<u>266,628</u>	<u>272,830</u>	<u>278,441</u>
Net pension liability - ending (a) - (b)	<u>\$ 87,738</u>	<u>\$ 70,430</u>	<u>\$ 77,449</u>	<u>\$ 40,323</u>	<u>\$ 17,763</u>
Plan fiduciary net position as a percentage of the total pension liability	76.86%	80.14%	77.49%	87.12%	94.00%
Covered payroll	\$ 76,500	\$ 76,796	\$ 76,561	\$ 76,834	\$ 72,407
Net pension liability as a percentage of covered payroll	114.69%	91.71%	101.16%	52.48%	24.53%

Notes to Schedule:

- Only the five most recent fiscal years are presented because 10-year data is not yet available.
- Actuarial Assumptions, Methods and Plan Provisions
The following plan changes were made for employees hired after June 30, 2017:
 - The Normal Retirement age was changed from age 62 to age 65.
 - The Rule of 80 was changed to Rule of 90.
 - The early retirement reduction factors were changed to reflect a Normal Retirement Age of 65 instead of 62.

The following actuarial assumptions and methods were changed effective July 1, 2018:

- The mortality assumption was changed from the RP-2000 mortality tables with generational projection of healthy mortality rates based on Scale AA to the RP-2014 mortality tables with healthy mortality rates projected generationally from 2006 using the MP-2017 scale.
- The assumed retirement rates at ages 55 through 59 and ages 61 through 64 were updated.
- Each year's change in unfunded accrued liability will be amortized as a separate layer on a closed basis over 20 years as a level percent of pay. The unfunded accrued liability that existed prior to July 1, 2018 will continue to be amortized on a closed basis over a 30-year period, measured from July 1, 2003, as a level percent of pay.

All other actuarial assumptions, methods and plan provisions remained the same as the prior year.

Required Supplementary Information
(Unaudited)
For Fiscal Year Ended

Schedule of Contributions from Employer

Fiscal Year Ending June 30	Actuarially determined contribution	Actual Employer Contribution	Contribution Deficiency (Excess)	Covered Payroll	Contribution as a % of Covered Payroll
2018	\$ 10,568,348	\$ 10,817,651	\$ (249,303)	\$ 76,499,726	14.14%
2017	10,839,414	10,846,636	(7,222)	76,796,017	14.12%
2016	8,925,910	10,892,672	(1,966,762)	76,560,913	14.23%
2015	8,657,780	10,459,118	(1,801,338)	76,834,455	13.61%
2014	8,694,876	9,678,256	(983,380)	72,406,610	13.37%

Notes to Schedule:

- Only the five most recent fiscal years are presented because 10-year data is not yet available.
- Valuation Date: July 1, 2018, 2017, 2016, 2015 and 2014
- Actuarially determined contribution rate is calculated as of June 30 prior to the end of the fiscal year in which contributions are reported
- Methods and assumptions used to determine contribution rates:
 - Actuarial cost method - Entry age normal
 - Amortization method - Level percent of payroll, layered
 - Remaining amortization period at July 1, 2018 - 20 years (15 year closed period for unfunded accrued liability as of July 1, 2017)
 - Asset valuation method - Actuarial:
 - Smoothing period - 5 years
 - Recognition method - Non-asymptotic
 - Corridor - 80% - 120%
 - Inflation - 2.5%
 - Salary increases - 5% grading down to 2.5%
 - Investment rate of return - 7.25% as of July 1, 2018, July 1, 2017 and July 1, 2016 and 7.75% as of July 1, 2015 and 2014

Required Supplementary Information
(Unaudited)
For Fiscal Year ended

Schedule of Investment Returns

	Year ended June 30,	2018	2017	2016	2015	2014
Annual money-weighted rate of return, net of investment expense		5.66%	9.36%	0.08%	0.19%	17.29%

Note to Schedule:

Only the five most recent fiscal years are presented because 10-year data is not yet available.

Supporting Schedules for Financial Section

Schedule of Administrative Expenses For Year Ended June 30, 2018

Professional Services:		
Actuarial	\$ 19,500	
Audit	<u>18,500</u>	
Total Professional Services		38,000
Other Administrative Expenses:		
Fiduciary Liability Insurance	\$ 67,124	
Printing and postage	6,329	
Travel and Training	1,452	
Software Maintenance	26,124	
Miscellaneous	<u>1,335</u>	
Total Other Administrative Expenses		<u>102,364</u>
Total Administrative Expenses		\$ <u>140,364</u>

Schedule of Investment Expenses For Year Ended June 30, 2018

Investment Managers

Barrow, Hanley, Mewhinney & Strauss (fixed income)	\$ 152,594	
Barrow, Hanley, Mewhinney & Strauss (mid-cap equity)	347,708	
Chickasaw Capital Management	147,920	
Segal Bryant & Hamill	110,061	
State Street Global Advisors	14,617	
Tocqueville Asset Management	<u>245,975</u>	
Total Investment Managers		1,018,875

Independent Financial Consultant

AndCo	\$ <u>80,000</u>	
Total Independent Financial Consultant		80,000

Other Investment Expenses

BOK Financial bank custody fees	\$ 28,887	
Less Commission Recapture	<u>(6,977)</u>	
Total Other Investment Expenses		21,910
Total Investment Expenses		\$ <u>1,120,785</u>

Schedule of Payments to Consultants For Year Ended June 30, 2018

<u>Individual or firm</u>	<u>Commission/Fee</u>	<u>Nature of Service</u>
Milliman	\$ 19,500	Actuary

For information on fees paid to investment professionals please refer to the Schedule of Investment Expenses.
The payment to Milliman is also included in the Schedule of Administrative Expenses.



Investment Section

Putting clients first.



October 25, 2018

Tulsa County Retirement Board of Trustees

Tulsa County Courthouse
Administration Building
500 South Denver Avenue
Tulsa, OK 74103-3840

Annual Consultant Review

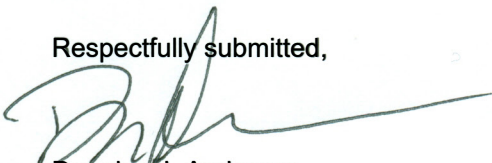
The fiscal year ended June 30, 2018 was a profitable period for most prudent investors despite substantial economic and market uncertainty. The Employees' Retirement System of Tulsa County earned a fiscal year total return of 6.0%¹ which was under its actuarial return assumption but above its custom benchmark. Domestic equity returns were strong during the fiscal year while bond investment returns were modest. The passive equity portfolio matched its benchmark with a gain of 14.4% while the System's small/mid cap equity portfolio gained 18.6%. The international equity portfolio posted a return of 6.2% but underperformed its benchmark. The System's higher quality bond investments endured a difficult market. The core bond portfolios gained 0.3% and -0.4%, both in line with their benchmarks. The active duration bond portfolio posted a one-year gain of 0.2%. The high yield bond allocation gained 2.4%. The MLP portfolio suffered a one-year decline of -6.1% despite an 11.8% return during the fiscal year's final quarter. The accompanying basic financial statements and performance comparisons are reported on an accrual basis of accounting and are reported in conformity with Generally Accepted Accounting Principles. Under the accrual basis of accounting, revenues are recognized when earned instead of when received and expenses are recognized when incurred rather than paid.

During the year, we worked with the Board on a variety of projects to improve the System's investment portfolio:

- Strategic Portfolio Planning
- Investment Policy Review
- Asset Allocation Review
- Education and Review of Investment and Market Performance
- Investment Manager Monitoring and Review with Additional Focus on Fixed Income
- Regular Performance Reviews with the Board
- Continued Exploration of Asset Classes to Improve Performance
- Closely monitored the Master Limited Partnership Allocation
- Closely monitored the High Yield Bond Allocation

Our firm's goal is to provide valuable perspective and guidance for the System's investments. Along with the Board and the Investment Committee, we work diligently to maintain a patient, long-term focus on the System's investments, despite short term market volatility. We look forward to continuing our relationship with the Board and Staff.

Respectfully submitted,



Douglas J. Anderson
Senior Consultant

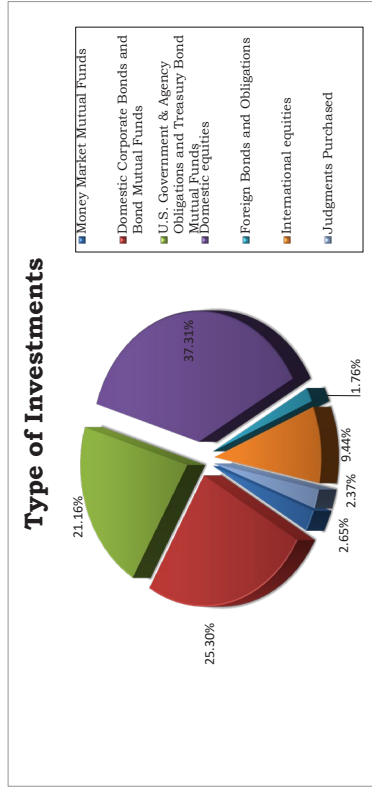
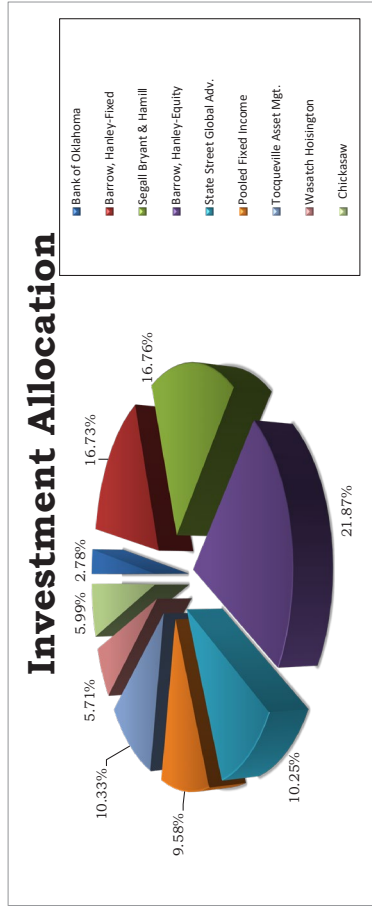
¹ Returns shown are time-weighted rates of return, gross of investment management fees, based on market value of the assets.

TULSA COUNTY EMPLOYEES' RETIREMENT SYSTEM
Administered by the Tulsa County Clerk

**Type of Investments at Fair Value/Investment Allocation
For Fiscal Year Ended June 30, 2018**

Types of Investments	Bank of Oklahoma	Barrow, Hanley-Fixed	Segall Bryant & Hamill	Barrow, Hanley-Equity	State Street Global Adv.	Pooled Fixed Income	Tocqueville Asset Mgt.	Wasatch Hoisington	Chickasaw	Total at Fair Value	% of total 2017-2018
Money Market Mutual Funds	\$ 1,184,419	\$ 813,628	\$ 397,521	\$ 2,331,223	\$ 0	\$ 195	\$ 2,568,927	\$ 5	\$ 389,742	\$ 7,685,659	2.65%
Domestic Corporate Bonds and Bond Mutual Funds	0	23,994,322	26,662,139	0	0	0	0	0	0	73,308,025	25.30%
U.S. Government & Agency Obligations and Treasury Bond Mutual Funds	0	23,659,475	21,097,924	0	0	0	0	16,536,562	0	61,293,960	21.16%
Domestic equities	0	0	404,147	61,027,125	29,700,884	0	0	0	16,959,223	108,091,378	37.31%
Foreign Bonds and Obligations	0	0	0	0	0	5,091,363	0	0	0	5,091,363	1.76%
International equities	0	0	0	0	0	0	27,359,739	0	0	27,359,739	9.44%
Judgments Purchased	6,874,122	0	0	0	0	0	0	0	0	6,874,122	2.37%
Total	\$ 8,058,541	\$ 48,467,425	\$ 48,561,730	\$ 63,358,348	\$ 29,700,884	\$ 27,743,122	\$ 29,928,666	\$ 16,536,567	\$ 17,348,964	\$ 289,704,246	100.00%
Percent of total investments	2.78%	16.73%	16.76%	21.87%	10.25%	9.58%	10.33%	5.71%	5.99%	100.00%	

**Investment Portfolio
For Fiscal Year Ended June 30, 2018**



TULSA COUNTY EMPLOYEES' RETIREMENT SYSTEM
Administered by the Tulsa County Clerk

Investment Portfolio Summary
For Fiscal Year Ended June 30, 2018 and June 30, 2017

2018					
	Fair Value	Percentage	Cost	Percentage	
Money Market Mutual Funds	\$ 7,685,659	2.65%	\$ 7,685,659	3.21%	
Domestic Corporate Bonds and Bond Mutual Funds	73,308,025	25.30%	74,686,169	31.21%	
Foreign Bonds and Obligations	5,091,363	1.76%	5,213,013	2.18%	
U.S. Government and Agency obligations and treasury bond mutual funds	61,293,960	21.16%	61,426,681	25.67%	
Domestic Equities	108,091,378	37.31%	62,118,632	25.96%	
International Equities	27,359,739	9.44%	21,295,118	8.90%	
Judgments Purchased	6,874,122	2.37%	6,874,122	2.87%	
Total	\$ 289,704,246	100.0%	\$ 239,299,394	100.0%	

2017					
	Fair Value	Percentage	Cost	Percentage	
Money Market Mutual Funds	\$ 8,683,712	3.00%	\$ 8,683,712	3.71%	
Domestic Corporate Bonds and Bond Mutual Funds	76,092,550	26.27%	75,267,208	32.16%	
Foreign Bonds and Obligations	4,178,504	1.44%	4,158,743	1.78%	
U.S. Government and Agency obligations and treasury bond mutual funds	62,919,061	21.72%	61,907,275	26.45%	
Domestic Equities	102,863,819	36.40%	62,110,747	26.53%	
International Equities	27,447,998	9.47%	21,488,537	9.18%	
Judgments Purchased	455,244	0.16%	455,244	0.19%	
Total	\$ 282,640,888	98.5%	\$ 234,071,466	100.0%	

Investment Transaction Summary
For Fiscal Year Ended June 30, 2018

	Money Market Mutual Funds	Domestic Corporate Bonds and Bond Mutual Funds	Gov't & Agency Issues	Domestic Equities	International Equities	Judgments	Total
Balance at beginning of year, at cost	\$ 8,683,712	\$ 79,425,951	\$ 61,907,275	\$ 62,110,747	\$ 21,488,537	\$ 455,244	\$ 234,071,466
Purchases	85,439,793	22,425,666	24,185,126	17,195,731	5,326,833	6,535,000	161,108,149
Reclassification	-	-	-	-	-	-	-
Sales and Maturities	(86,437,846)	(21,952,435)	(24,665,720)	(17,187,846)	(5,520,252)	(116,122)	(155,880,221)
Balance at end of year, at cost	<u>\$ 7,685,659</u>	<u>\$ 79,899,182</u>	<u>\$ 61,426,681</u>	<u>\$ 62,118,632</u>	<u>\$ 21,295,118</u>	<u>\$ 6,874,122</u>	<u>\$ 239,299,394</u>
Fair Value	<u>\$ 7,685,659</u>	<u>\$ 78,399,388</u>	<u>\$ 61,293,960</u>	<u>\$ 108,091,378</u>	<u>\$ 27,359,739</u>	<u>\$ 6,874,122</u>	<u>\$ 289,704,246</u>

List of Largest Assets Held

**Largest Equity Holdings (By Fair Value)
For Fiscal Year Ending June 30, 2018**

	Shares	Stock	Fair Value
1)	44,911	State Street Global Advisors S&P 500 Flagship Fund	\$ 29,700,884
2)	29,266	Texas Capital Bancshares Inc.	2,677,839
3)	80,369	Brooks Automation Inc.	2,621,637
4)	58,881	II-VI Inc.	2,558,379
5)	95,524	Allegheny Technologies Inc.	2,399,563
6)	100,399	Vishay Intertechnology Inc.	2,329,257
7)	60,321	Diodes Inc.	2,079,265
8)	30,433	Encompass Health Corp.	2,060,923
9)	86,391	Federal Signal Corp.	2,012,046
10)	32,016	Simpson Manufacturing Co Inc.	1,991,075

**Largest Bond Holdings (By Fair Value)
For Fiscal Year Ending June 30, 2018**

	Par	Bonds	Fair Value
1)	1,031,601	Wasatch Hoisington U.S. Treasury FD#0029	\$ 16,536,562
2)	2,140,659	Loomis Sayles Inst Hi Inc #1178	14,299,605
3)	1,621,631	Aberdeen Global High Income-I FD#5497	13,443,322
4)	4,050,000	U.S. Treasury Note 2.750% due 11-15-2023	4,049,231
5)	3,380,000	U.S. Treasury Note 2.000% due 11-15-2021	3,309,493
6)	2,855,000	U.S. Treasury Bond 2.000% due 02-15-2022	2,789,478
7)	2,205,000	U.S. Treasury Note 2.3750% due 08-15-2024	2,152,940
8)	1,800,000	U.S. Treasury Bond 3.125% due 11-15-2041	1,850,274
9)	1,995,000	U.S. Treasury Bond 2.500% due 05-15-2046	1,812,876
10)	1,695,000	U.S. Treasury Note 2.125% due 05-15-2025	1,622,301

A complete list of the portfolio holdings is obtainable from the Tulsa County Treasurer's office, 500 South Denver, Tulsa, Oklahoma 74103.

TULSA COUNTY EMPLOYEES' RETIREMENT SYSTEM
Administered by the Tulsa County Clerk

**Investment Performance Measurements
For Fiscal Year Ending June 30, 2018**

Portfolio Description	One Year Return	Three Year Return	Five Year Return
Total Fund	6.03%	5.41%	6.79%
Benchmark (Policy Index)	4.11%	4.34%	5.46%
Large Cap Index Fund	14.39%	11.97%	13.38%
Benchmark (S&P 500)	14.37%	11.93%	13.42%
Small/Mid (smid) Cap Equity Portfolio	18.56%	11.99%	13.23%
Benchmark (Russell Midcap Index)	12.33%	9.58%	12.22%
International Value Portfolio	6.18%	7.50%	9.55%
Benchmark (MSCI EAFE (Net) Index)	6.84%	4.90%	6.44%
Master Limited Partnership Portfolio (Chickasaw)	-6.12%	-7.76%	1.87%
Benchmark (Alerian MLP Index)	-4.58%	-5.93%	-4.09%
Intermediate Fixed Income Portfolio	0.34%	1.90%	2.39%
Benchmark (Bloomberg Barclays Intermediate US Govt/Credit Ind)	-0.58%	1.16%	1.60%
Core Fixed Income Portfolio	-0.44%	1.90%	2.42%
Benchmark (Bloomberg Barclays U.S. Aggregate Index)	-0.40%	1.72%	2.27%
Active Duration Fixed Income Portfolio	0.17%	3.39%	4.96%
Benchmark (Bloomberg Barclays U.S. Aggregate Index)	-0.40%	1.72%	2.27%
High Yield Fixed Income Portfolio	2.41%	3.64%	4.21%
Benchmark (BoFA Merrill Lynch High Yield Master II)	2.53%	5.55%	5.51%

Note: Investment returns shown in this schedule are time-weighted rates of return based on the market value of the assets.

**Schedule of Fees and Commissions
For Fiscal Year Ending June 30, 2018**

	Assets under Management	Fees	Basis Points
Investment manager's fees			
Fixed income managers	\$ 96,517,934	\$ 262,655	27
Active domestic equity managers	80,707,312	495,628	61
Active international equity managers	29,767,140	245,975	83
Passive equity manager (1)	29,700,884	14,617	5
Total investment managers' fees		\$ 1,018,875	

(1) Fees paid to the passive equity manager are net of securities lending income of \$1,659.

Other investment service fees:

Custodian fees	\$ 28,887
Total other investment service fees:	\$ 28,887

TCERS's active equity managers paid brokerage commissions totaling \$64,448 for the year.
The five brokers receiving the largest amounts of commissions were:

Brokerage Firm	Total Commissions
CAP Institutional Services, Inc.	\$ 10,276
Wells Fargo Securities LLC	7,495
UBS Securities	4,765
ITG/POSIT	4,487
Baird Robert W & Co.	3,777
	\$ 30,800

The number of shares traded through each brokerage firm is not available. TCERS has a commission recapture agreement with CAP Institutional Services. Each month, they rebate a portion of their commissions to TCERS. Rebates, which totaled \$6,977 for the year, are credited against Investment Expense.



Actuarial Section



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St. Louis, MO 63102
USA

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Fax + 314 231 0249

milliman.com

October 3, 2018

Board of Trustees
Tulsa County Employees'
Retirement System
500 South Denver
Tulsa, OK 74103

RE: Tulsa County Employees' Retirement System 2018 Actuary's Report

Dear Board of Trustees:

As part of our engagement with the Board, we performed an actuarial valuation of the Tulsa County Employees' Retirement System. Actuarial valuations are performed annually, and the most recent actuarial valuation is as of July 1, 2018 for the Plan Year ending June 30, 2019. Our findings are set forth in this actuary's report. This report reflects the benefit provision and contribution rates in effect as of July 1, 2018.

In preparing these reports, we relied, without audit, on information (some oral and some in writing) supplied by the County. This information includes, but is not limited to, statutory provisions, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete, our results may be different, and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer our best estimate of anticipated experience affecting the System. Further, in our opinion, each actuarial assumption used is reasonably related to the experience of the System and to reasonable expectations which, in combination, represent our best estimate of anticipated experience under the System. The actuarial assumptions and methods used for funding purposes meet the parameters set by Actuarial Standards of Practice.

This valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. The Board of Trustees has the final decision regarding the appropriateness of the assumptions and actuarial cost methods, and the Board has adopted them as indicated in this report.

Actuarial computations presented in the valuation report are for purposes of determining the recommended funding amounts for the System. Actuarial computations presented in the separate disclosure report under GASB Statements No. 67 and 68 are for purposes of assisting the System and participating employers in fulfilling their financial accounting requirements. The computations prepared for these two purposes may differ as disclosed in our reports. The calculations in the enclosed valuation report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in the disclosure report have been made on a basis consistent with our understanding of the plan provisions described in this report, and of GASB Statements No. 67 and 68. Determination for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman's work is prepared solely for the use and benefit of Tulsa County. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exception(s):

- (a) The County may provide a copy of Milliman's work, in its entirety, to the System's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the System.
- (b) The County may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

Milliman, Inc. has prepared the following trend data schedules presented in the Financial Section of the Comprehensive Annual Financial Report:

- Plan Membership
- Actuarial Assumptions and Methods

- Number of Members
- Net Pension Liability of the County
- Required Supplementary Information

Milliman, Inc. has prepared the following supporting schedules presented in the Actuarial Section of the Comprehensive Annual Financial Report:

- Summary of Actuarial Assumptions and Methods
- Summary of Principal Provisions of Plan
- Solvency Test
- Schedule of Active Participants and Average Monthly Accrued Benefits by Age and Service
- Retirees and Beneficiaries – Added to and Removed from Retiree Payroll
- Active Members – Valuation Data
- Ratio of Recipients to Active Members – Valuation Data
- Actuarial Analysis of Financial Experience
- Schedule of Actuarially Determined Annual Required Contribution (ARC) versus Actual Contributions as a Percentage of Payroll (restated for GASB #27)
- Schedule of Funding Progress

Milliman, Inc. has prepared the following supporting schedules presented in the Statistical Section of the Comprehensive Annual Financial Report:

- Actuarial Accrued Liabilities versus Fair Value of Assets
- Number of Benefit Recipients and Average Annual Benefit Received
- Current Period Retirees and Average Monthly Benefits and Average Salary by Age and Years of Service

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.



October 3, 2018
Board of Trustees
Page 4

We respectfully submit the following report, and we look forward to discussing it with you.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael J. Zwiener".

Michael J. Zwiener, FSA
Consulting Actuary

A handwritten signature in black ink, appearing to read "Michael A. Sudduth".

Michael A. Sudduth, FSA
Consulting Actuary

MJZ/MAS/crd

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

The actuarial assumptions and methods have been adopted by the Board of Trustees of the Tulsa County Employees' Retirement System with the recommendation of the actuary. The most recent study of plan experience is dated June 2018. The actuarial assumptions are based on that study, except for the investment rate of return, which was adopted by the Board of Trustees, effective July 1, 2016. The actuarial assumptions and methods used for funding purposes are the same as those used for financial reporting purposes.

1. **Investment rate of return and discount rate for actuarial liabilities** – Seven and one-fourth (7.25) percent per annum. Seven and three-fourths (7.75) percent per annum was assumed prior to July 1, 2016.
2. **Retirement age** - Sixty-two (62) years or Sixty-five (65) years, if hired after June 30, 2017, or younger if total years' service and age add up to at least 80 or 90, if hired after June 30, 2017. Upon reaching retirement age, the following assumptions are used:

<u>Age</u>	<u>Percent Retiring</u>
55-64	20%
65-69	30%
70	100%

3. **Salary increase rate** - Estimated rates of salary increase are as follows:

<u>Age</u>	<u>Percentage Increase</u>	<u>Components of salary increase</u>	
		<u>Inflation</u>	<u>Merit/Promotion</u>
20-34	5.0%	2.5%	2.5%
35-49	3.5%	2.5%	1.0%
50-70	2.5%	2.5%	0%

4. **Expenses** - No increases in operating expenses are expected.
5. **Return of contribution** - All employees withdrawing after five years of service are assumed to leave their contributions on deposit and receive a deferred annuitant benefit.
6. **Benefit increases after retirement** - No provisions have been made for post-retirement increases in benefits. The plan does not have an automatic cost of living adjustment.
7. **Actuarial cost method** - The Entry Age Normal Cost Method is used for calculating the plan's Actuarial Accrued Liability (as required under GASB 67 and GASB 68). Under this method, each participant's benefits are level as a percentage of salary, starting at the original participation date and continuing until the assumed retirement, termination, disability or death.

Effective July 1, 2018, each year's change in unfunded accrued liability is amortized as a separate layer over 20 years as a level percent of pay, with 2.5% per year projected payroll growth. The unfunded accrued liability that existed prior to July 1, 2018 will continue to be amortized on a closed basis over a 30-year period, measured from July 1, 2003, as a level percent of pay, with 2.5% per year projected payroll growth. Prior to July 1, 2003, actuarial gains and losses were amortized over 15 years and benefit improvements over 20 years.

8. **Asset valuation method** - Asset valuation is based on the five-year expected return method for actuarially determined assets. Prior to July 1, 2014, asset valuation was based on market value.
9. **Marital status** - Husbands are assumed to be four years older than wives and 85% of the participants are assumed to be married.

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS – continued

10. **Valuation compensation** - Annual rate of pay at the valuation date of July 1, 2018.
11. **Maximum benefit** - The maximum benefit limitation in effect as of June 30, 2018, under the Internal Revenue Code, Section 415.
12. **Mortality Rates** – Active mortality is based on the RP-2014 Employees Mortality Table, male and female rates. Healthy inactive mortality is based on the RP-2014 Healthy Annuitant Mortality Table, male and female rates. Disabled inactive mortality is based on the RP-2014 Disabled Mortality Table, male and female rates. All healthy mortality rates incorporate a generational projection based on the MP-2017 scale.
13. **Terminations** - Crocker, Sarason & Straight T-7 rates, increased by 0.2 for the first year of employment and 0.1 for the second year. Sample ultimate rates are presented below:

<u>Age</u>	<u>Rate</u>
20	9.945%
25	9.682%
30	9.312%
35	8.718%
40	7.770%
45	6.377%
50	4.252%
55	1.565%
60	0.149%
63+	0.000%

14. **Disability Rates** – A Disability Table with sample rates is presented below:

Annual Disability Rates per 1000		
Individuals		
<u>Age</u>	<u>Males</u>	<u>Females</u>
25	.106	.124
30	.128	.128
40	.173	.198
50	.226	.399
55	.366	.573
60	.492	.623
65	.570	.605

15. **Changes in Actuarial Assumptions** - These actuarial assumptions and methods have been in effect since July 1, 1990, except for the following:
- The change in inflation rate from 4% to 3%, effective July 1, 1997, and from 3% to 2.5%, effective July 1, 2014.
 - The changes in the amortization period for actuarial gains/losses and benefit enhancements, effective July 1, 2003 and July 1, 2018.
 - The change in the rate of return from 8.00% to 7.75%, effective July 1, 2008 and from 7.75% to 7.25%, effective July 1, 2016.
 - The change in mortality from the 1983 GAM Mortality Tables to the RP-2000 Mortality Tables, projected five years using Scale AA, effective July 1, 2008, and projected ten years using Scale AA, effective July 1, 2014 and with generational projection, effective July 1, 2015, and the change to the RP-2014 Mortality Tables with generational projection from 2006 of healthy rates using the MP-2017 scale effective July 1, 2018.

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS – continued

- The change in the retirement rates from 75% at age 62 and 50% at ages 63-69 to 40% at ages 62-69, effective July 1, 2008, and 30% at ages 62-69, effective July 1, 2014, and the change in retirement rates from 15% to 20% at ages 55-59, from 25% to 20% at age 61, and from 30% to 20% at ages 62-64 effective July 1, 2018.
- The change in the turnover rates from the T-6 rates increased by 0.6 in the first year of employment and 0.3 in the second year of employment to the T-6 rates increased by 0.3 in the first year of employment and 0.1 in the second year of employment, effective July 1, 2008, and to the T-7 rates increased by 0.2 in the first year of employment and 0.1 in the second year of employment, effective July 1, 2014, and the change in retirement rates from 15% to 20% at ages 55-59, from 25% to 20% at age 61, and from 30% to 20% at ages 62-64 effective July 1, 2018.
- The change in the salary scale from 6% grading down to 4% to 5% grading down to 3%, effective July 1, 2012, and 5% grading down to 2.5%, effective July 1, 2014.
- The change in the asset valuation method from market value to the five-year expected return method, effective July 1, 2014.

SUMMARY OF PRINCIPAL PROVISIONS OF PLAN

The Board of Trustees of the Employees' Retirement System of Tulsa County is responsible for establishing and maintaining a funding policy.

1. **Eligibility** - Employee membership in the Tulsa County Employees' Retirement System (TCERS) is mandatory for all eligible employees. An employee becomes eligible on the first day of employment as a full-time regular employee.
2. **Average salary** - The average salary is the average of the three highest years of annual salary.
3. **Contributions** - Members currently contribute 2.5% of base pay per month. The County contributes 14% of the employee's base pay per month.
4. **Normal retirement benefit** - a) After attainment of age 62 and five years of service, or any age with the completion of the Rule of 80, b) The benefit is based on the average of the highest three years of the employee's annual salary, and c) The benefit is a percentage of the average salary per year of service.
5. **Normal retirement benefit for Employees hired after June 30, 2017** - a) After attainment of age 65 and five years of service, or any age with the completion of the Rule of 90, b) The benefit is based on the average of the highest three years of the employee's annual salary, and c) The benefit is a percentage of the average salary per year of service.
6. **Early retirement benefit** - a) As of November 1, 2000, after attainment of age 55 and five years of service, b) The benefit is equal to the normal retirement benefit actuarially reduced from age 62 for early commencement, c) For employees hired after June 30, 2017, the benefit is equal to the normal retirement benefit actuarially reduced from age 65 for early commencement.
7. **Disability benefits** - The disability must be a direct result of performance of duties to the County and the employee must have a minimum of eight years of credited service. The same salary computation will be applied to disability percentages except that the maximum percentage, which may be applied, is 40% (for a disability retiree having 15 or more credited years of service).
8. **Survivor death benefits** - Beneficiaries of participants who are vested receive benefits based on the average of the highest three years' salary received. This amount is applied to applicable percentages. For participants vested as of June 30, 2010, the calculated monthly benefit is 70% of what the participant would have been eligible to receive as of the date of the participant's death. For participants not vested as of June 30, 2010, the calculated monthly benefit is 67% of what the participant would have been eligible to receive as of the date of the participant's death. In all cases the benefit is deferred to the date the employee would have been eligible for benefits.
9. **Other separation benefits** - For nonvested participants, the employee may make a request for refund of his/her contributions excluding interest or in the case of a deceased employee, the beneficiary may make a request for refund of the deceased employee's contribution.
10. **Actuarial cost method** - The actuarial cost method used for funding purposes is the same as the actuarial cost method used for financial reporting purposes.

TULSA COUNTY EMPLOYEES' RETIREMENT SYSTEM
Administered by the Tulsa County Clerk

Solvency Test										Last Ten Years				
Actuarial Accrued Liability										Portion of Accrued Liability				Market Value of Assets
	(1)	(2)		(3)		(4)	Actuarial Accrued Liabilities	Actuarial Value of Assets	Covered by Actuarial Assets					
		Active Member Contributions	Retired, Vested Terminations and Beneficiaries	Active Member Employer Financed	Total				(1)	(2)	(3)	(4)		
6-30-18	\$	4,998,041	\$ 238,712,603	\$	135,479,882	\$	379,190,526	\$ 304,409,317	100%	100%	45%	80%	\$ 291,452,345	
6-30-17		3,698,339	218,662,356		132,220,241		354,580,936	296,144,461	100%	100%	56%	84%	266,628,249	
6-30-16		2,585,700	207,678,435		133,813,256		344,077,391	284,471,252	100%	100%	55%	83%	272,830,244	
6-30-15		1,939,471	186,513,868		124,700,080		313,153,419	274,395,287	100%	100%	69%	88%	278,440,894	
6-30-14		1,422,614	173,099,122		121,681,954		296,203,690	255,438,010	100%	100%	66%	86%	255,438,010	
6-30-13		892,029	162,104,869		124,308,817		287,305,715	242,984,123	100%	100%	56%	85%	242,984,123	
6-30-12		871,451	147,662,216		127,181,491		275,715,158	220,054,747	100%	100%	64%	80%	220,054,747	
6-30-11		979,910	136,480,353		131,743,799		269,204,062	221,965,809	100%	100%	49%	82%	221,965,809	
6-30-10		1,084,730	124,768,660		131,999,332		257,852,722	190,225,597	100%	100%	37%	74%	190,225,597	
6-30-09		1,228,488	114,281,538		130,603,426		246,113,452	164,211,114	100%	100%	62%	67%	164,211,114	

TULSA COUNTY EMPLOYEES' RETIREMENT SYSTEM
Administered by the Tulsa County Clerk

Schedule of Active Participants and Average Monthly Accrued Benefits by Age and Service

Age	Service									Total
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40+	
Under 20	9									9
\$	22									22
20 - 24	110	2								112
\$	70	276								74
25 - 29	170	27	1							198
\$	116	382	594							155
30 - 34	114	66	19	1						200
\$	134	497	804	893						321
35 - 39	83	47	51	9						190
\$	147	514	957	1,408						515
40 - 44	69	39	38	33	6					185
\$	153	518	899	1,670	2,068					716
45 - 49	63	30	32	27	34	8				194
\$	147	495	1,049	1,643	2,614	2,856				1,102
50 - 54	60	34	44	22	15	19	1	1		196
\$	137	428	918	1,452	2,482	2,792	3,513	3,316		981
55 - 59	53	36	43	33	27	8	10	7		217
\$	151	468	873	1,668	2,053	3,309	3,304	3,088		1,170
60 - 64	39	24	32	23	13	9	4	9	1	154
\$	207	681	880	1,621	2,338	3,303	5,046	3,832	5,179	1,363
65 - 69	5	15	15	8	7	6		1		57
\$	139	620	950	1,298	2,147	3,970		5,679		1,389
70 - 74	4	5	2	6	1					18
\$	327	324	677	1,190	1,799					735
75 +	1	2	2					1		6
\$	126	483	608					5,113		1,237
Total	780	327	279	162	103	50	15	19	1	1,736
\$	130	\$ 497	\$ 915	\$ 1,573	\$ 2,341	\$ 3,118	\$ 3,782	\$ 3,695	\$ 5,179	\$ 751
Average age		44.3	years							
Average service		8.7	years							

Note that first line of each cell is the number of participants and the second line is the average monthly accrued benefit.

TULSA COUNTY EMPLOYEES' RETIREMENT SYSTEM
Administered by the Tulsa County Clerk

Retirees and Beneficiaries - Added to and Removed from Retiree Payroll Last Ten Years

Since Previous Valuation Data				On Valuation Date				
Valuation Date	Number Added	Number Removed	Total Number	Annual Benefit Amount	Percentage Increase in Annual Allowances	Average Annual Benefit	Annual Allowances Added to the Rolls	Annual Allowances Removed from the Rolls
6-30-18	109	32	1274	\$ 21,541,142	7.66%	\$ 16,908	\$ 1,922,022	\$ 388,899
6-30-17	89	45	1197	20,008,019	5.51%	16,715	1,590,184	546,057
6-30-16	106	29	1153	18,963,892	7.49%	16,447	1,674,291	352,205
6-30-15	88	36	1076	17,641,806	5.63%	16,396	1,486,218	545,134
6-30-14	82	35	1024	16,700,722	6.15%	16,309	1,474,631	507,082
6-30-13	89	32	977	15,733,173	10.03%	16,104	1,750,160	316,119
6-30-12	76	31	920	14,299,132	8.53%	15,543	1,517,230	393,180
6-30-11	91	28	875	13,175,082	11.03%	15,057	1,576,460	267,352
6-30-10	67	40	812	11,865,974	8.17%	14,613	1,337,728	441,952
6-30-09	65	35	785	10,970,198	7.27%	13,975	1,187,636	443,950

Active Members - Valuation Data Last Ten Years

Valuation Date	Number of Active Members	Annual Covered Payroll	Average Annual Earnings	Percentage Change In Average Annual Earnings
6-30-18	1,736	\$ 76,499,726	\$ 44,067	4.03%
6-30-17	1,813	76,796,017	42,359	0.81%
6-30-16	1,822	76,560,913	42,020	3.09%
6-30-15	1,885	76,834,455	40,761	-1.15%
6-30-14	1,756	72,406,610	41,234	5.87%
6-30-13	1,730	67,382,622	38,949	2.28%
6-30-12	1,762	67,099,126	38,081	0.40%
6-30-11	1,793	68,009,247	37,930	2.89%
6-30-10	1,855	68,385,214	36,865	-1.75%
6-30-09	1,891	70,954,995	37,522	2.66%

Ratio of Recipients to Active Members - Valuation Data Last Ten Years

Valuation Year	Number of Recipients	Active Members	Ratio of Recipients to Active Members
2018	1,274	1,736	73.39%
2017	1,197	1,813	66.02%
2016	1,153	1,822	63.28%
2015	1,076	1,885	57.08%
2014	1,024	1,756	58.31%
2013	977	1,730	56.47%
2012	920	1,762	52.21%
2011	875	1,793	48.80%
2010	812	1,855	43.77%
2009	785	1,891	41.51%

TULSA COUNTY EMPLOYEES' RETIREMENT SYSTEM
Administered by the Tulsa County Clerk

Actuarial Analysis of Financial Experience											Last Ten Years
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	
Prior Valuation Unfunded Actuarial											
Accrued Liability (Surplus)	\$ 58,436,475	\$ 59,606,139	\$ 38,758,132	\$ 40,765,680	\$ 44,321,592	\$ 55,660,411	\$ 47,238,253	\$ 67,627,125	\$ 81,902,338	\$ 47,325,130	
Expected Increase (Decrease) from											
Prior Valuation	5,948,629	(1,104,473)	15,542,865	5,069,859	18,856,382	349,633	577,343	2,429,649	5,094,379	2,099,440	
Salary Increases Greater (Less) than Expected	2,042,783	(538,392)	52,160	(781,877)	707,817	(563,951)	(2,773,083)	(2,349,292)	(3,608,960)	(173,840)	
Asset Return Less (Greater) than Expected	4,518,750	1,746,524	4,644,090	(5,398,093)	(22,738,932)	(11,352,659)	14,947,097	(19,887,215)	(16,330,315)	35,330,493	
All Other Experience	3,834,572	(1,035,097)	1,078,628	(897,437)	(381,179)	228,158	(4,329,199)	1,153,618	569,683	(2,695,290)	
Change in Benefits	0	(238,226)	(469,736)	-	-	-	-	(1,735,632)	-	16,405	
Ending Unfunded Actuarial											
Accrued Liability (Surplus)	\$ 74,781,209	\$ 58,436,475	\$ 59,606,139	\$ 38,758,132	\$ 40,765,680	\$ 44,321,592	\$ 55,660,411	\$ 47,238,253	\$ 67,627,125	\$ 81,902,338	

**Schedule of Actuarially Determined Annual Required Contributions (ARC) versus
Actual Contributions as a Percentage of Payroll (restated for GASB #27)**

Last Ten Years

<u>Plan Year</u>	<u>Actuarial Valuation</u>	<u>Employer Plus Employee Contribution Rate</u>
2018 - 2019	18.4%	16.50%
2017 - 2018	16.3%	16.50%
2016 - 2017	16.2%	16.00%
2015 - 2016	12.6%	15.00%
2014 - 2015	13.0%	15.00%
2013 - 2014	13.9%	15.00%
2012 - 2013	15.2%	14.25%
2011 - 2012	14.6%	14.05%
2010 - 2011	16.9%	14.05%
2009 - 2010	17.9%	12.00%

Required Supplementary Information

Schedule of Funding Progress

Last Ten Years

Valuation Date	(1) Actuarial Value of Assets	(2) Actuarial Liability (AAL) Entry Age	(3) Unfunded AAL (UAAL) (2)-(1)	(4) Excess of Assets over AAL (1)-(2)	(5) Funding Ratios (1)/(2)	(6) Annual Covered Payroll*	(7) UAAL as a % of Covered Payroll (3)/(6)	(8) Excess as a Percentage of Covered Payroll (4)/(6)
6-30-18	\$ 304,409,317	\$ 379,190,526	\$ 74,781,209	\$ 0	80.28%	\$ 76,499,726	97.75%	0.00%
6-30-17	296,144,461	354,580,936	58,436,475	0	83.52%	76,796,017	76.09%	0.00%
6-30-16	284,471,252	344,077,391	59,606,139	0	82.68%	76,560,913	77.85%	0.00%
6-30-15	274,395,287	313,153,419	38,758,132	0	87.62%	76,834,455	50.44%	0.00%
6-30-14	255,438,010	296,203,690	40,765,680	0	86.24%	72,406,610	56.30%	0.00%
6-30-13	242,984,123	287,305,715	44,321,592	0	84.57%	67,382,622	65.78%	0.00%
6-30-12	220,054,747	275,715,158	55,660,411	0	79.81%	67,099,126	82.95%	0.00%
6-30-11	221,965,809	269,204,062	47,238,253	0	82.45%	68,009,247	69.46%	0.00%
6-30-10	190,225,597	257,852,722	67,627,125	0	73.77%	68,385,214	98.89%	0.00%
6-30-09	164,211,114	246,113,452	81,902,338	0	66.72%	70,954,995	115.43%	0.00%

*The amount reflected in the annual covered payroll as of June 30, 2018 includes Tulsa County regular payroll, the City/County Health Department, the Public Facilities Authority, the Drainage Districts, the Law Library, the Court Fund, the Oklahoma State University Extension Agency Center and the Tulsa Area Emergency Management Agency.

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Statistical Section

The Statistical Section presents detailed information as a context for understanding the information presented in the financial statements, note disclosures, and required supplementary information and assessing the retirement system overall financial health.

Financial Trends

These schedules contain trend information to help the reader understand how the retirement system's financial performance and financial position have changed over time.

Revenue Capacity

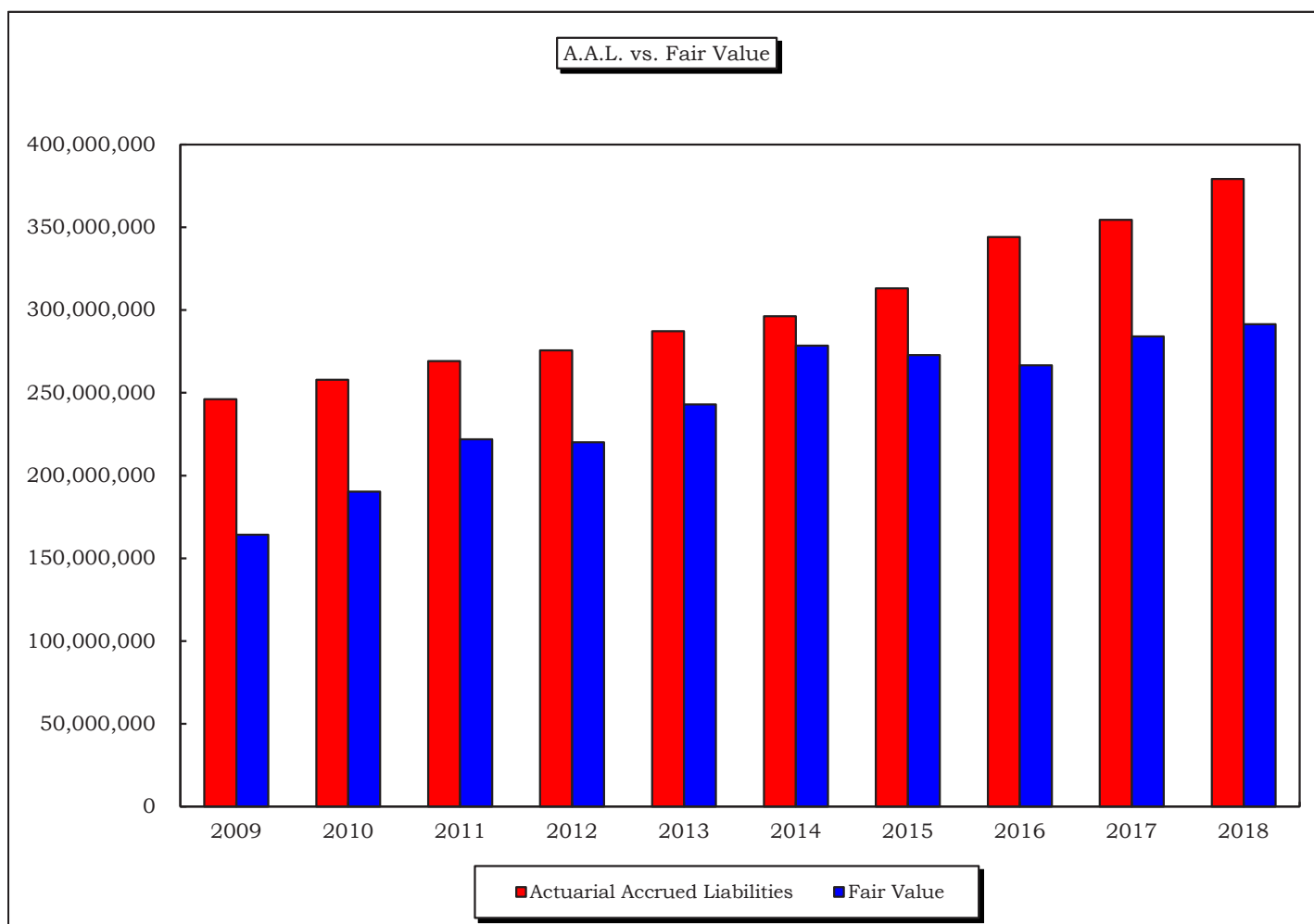
These schedules contain information to help the reader assess the retirement system's most significant revenue sources, contributions, and investment income.

Demographic and Economic Information

The schedules contain trend information to help the reader understand how benefit payments have changed as the number of retirees, beneficiaries, and disabled retirees have changed.

Operating Information

The schedule contains trend information to help the reader understand the number of active members and their average annual salary divided among the various participants in the retirement system.



June 30,	Actuarial Accrued Liabilities	Change From Prior Year	Fair Value	Change From Prior Year
2009	\$ 246,113,452	4.92%	\$ 164,211,114	-12.30%
2010	257,852,722	4.77%	190,225,597	15.84%
2011	269,204,062	4.40%	221,965,809	16.69%
2012	275,715,158	2.42%	220,054,747	-0.86%
2013	287,305,715	4.20%	242,984,123	10.42%
2014	296,203,690	3.10%	278,440,894	14.59%
2015	313,153,419	5.72%	272,830,244	-2.02%
2016	344,077,391	9.88%	266,628,249	-2.27%
2017	354,580,936	3.05%	284,151,062	6.57%
2018	379,190,526	6.94%	291,452,345	2.57%

TULSA COUNTY EMPLOYEES' RETIREMENT SYSTEM
Administered by the Tulsa County Clerk

Schedule of Changes in Fiduciary Net Position

Year Ended June 30,	Additions			Deductions			Total Changes in Fiduciary Net Position
	Employer Contributions	Employee Contributions	Investment and Miscellaneous Income (Loss) *	Benefit Payments	Administration Expenses	Refunds	
2018	\$ 10,817,651	\$ 1,922,350	\$ 15,829,765	\$ 21,060,579	\$ 140,364	\$ 67,540	\$ 7,301,283
2017	10,846,636	1,542,043	24,595,498	19,328,625	119,139	13,600	17,522,813
2016	10,892,672	968,954	221,600	18,158,915	120,026	6,280	(6,201,995)
2015	10,459,118	743,760	523,062	17,200,098	128,153	8,339	(5,610,650)
2014	9,678,256	687,550	41,471,287	16,250,014	128,012	2,296	35,456,771
2013	9,540,702	169,520	28,333,222	14,975,183	129,909	8,976	22,929,376
2012	9,594,837	34,073	2,224,020	13,631,005	123,351	9,636	(1,911,062)
2011	9,691,440	34,390	34,633,250	12,506,353	112,376	139	31,740,212
2010	8,519,675	2,267	29,035,839	11,450,062	93,224	12	26,014,483
2009	8,383,248	8,057	(20,856,346)	10,523,626	46,247	2,198	(23,037,112)

Schedule of Revenue by Source

Year Ended June 30,	County Contributions	County Contribution as % of Covered Payroll	Employee Contributions and Reinstatements	Employee Contribution as % of Covered Payroll	Investment and Miscellaneous Income (Loss) *	Total Additions
2018	\$ 10,817,651	14.09%	\$ 1,922,350	2.50%	\$ 15,829,765	\$ 28,569,766
2017	10,846,636	14.12%	1,542,043	2.01%	24,595,498	36,984,177
2016	10,892,672	14.23%	968,954	1.27%	221,600	12,083,226
2015	10,459,118	13.61%	743,760	0.97%	523,062	11,725,940
2014	9,678,256	13.37%	687,550	0.95%	41,471,287	51,837,093
2013	9,540,702	14.16%	169,520	0.25%	28,333,222	38,043,444
2012	9,594,837	14.30%	34,073	5.00%	2,224,020	11,852,930
2011	9,691,440	14.25%	34,390	0.05%	34,633,250	44,359,080
2010	8,519,675	12.46%	2,267	0.00%	29,035,839	37,557,781
2009	8,383,248	11.81%	8,057	0.01%	(20,856,346)	(12,465,041)

* Net of Investment Expense

Schedule of Expenses by Type

Year Ended June 30,	Benefits Payments	Administration Expenses	Refunds	Total Expenses
2018	\$ 21,060,579	\$ 140,364	\$ 67,540	\$ 21,268,483
2017	19,328,625	119,139	13,600	19,461,364
2016	18,158,915	120,026	6,280	18,285,221
2015	17,200,098	128,153	8,339	17,336,590
2014	16,250,014	128,012	2,296	16,380,322
2013	14,975,183	129,909	8,976	15,114,068
2012	13,631,005	123,351	9,636	13,763,992
2011	12,506,353	112,376	139	12,618,868
2010	11,450,062	93,224	12	11,543,298
2009	10,523,626	46,247	2,198	10,572,071

Schedule of Benefit Expenses and Refunds by Type

Year Ended June 30,	Benefits			Refunds		Total Benefit Payment and Refunds
	Retiree	Survivor	Disability	Death	Separation	
2018	\$ 19,064,982	\$ 1,982,683	\$ 12,913	\$ 13,239	\$ 54,301	\$ 21,128,118
2017	17,457,235	1,858,477	12,913	2,917	10,683	19,342,225
2016	16,313,937	1,828,360	16,618	0	6,280	18,165,195
2015	15,422,634	1,767,902	9,562	5,272	3,067	17,208,437
2014	14,529,613	1,712,991	7,410	1,952	344	16,252,310
2013	13,364,569	1,603,204	7,410	8,505	471	14,984,159
2012	12,048,301	1,575,294	7,410	9,479	157	13,640,641
2011	10,971,944	1,522,665	11,744	0	139	12,506,492
2010	9,976,310	1,455,939	17,812	0	12	11,450,073
2009	9,106,460	1,399,354	17,812	2,135	63	10,525,824

TULSA COUNTY EMPLOYEES' RETIREMENT SYSTEM
Administered by the Tulsa County Clerk

Number of Benefit Recipients and Average Annual Benefit Received

Last Ten Years

Date	Regular Retirees		Beneficiaries		Disabilities Retirees		Total Benefit Recipients	Average Annual Benefit
	Number	Amount	Number	Amount	Number	Amount		
7/1/18	1069	\$ 18,168	204	\$ 10,329	1	\$ 12,913	1274	\$ 16,908
7/1/17	1003	17,596	193	10,285	1	12,913	1197	16,715
7/1/16	973	17,580	179	10,311	1	12,913	1153	16,447
7/1/15	900	17,580	174	10,344	2	10,162	1076	16,396
7/1/14	854	17,521	169	10,238	1	7,410	1024	16,309
7/1/13	811	17,346	165	10,047	1	7,410	977	16,104
7/1/12	762	16,687	157	10,039	1	7,410	920	15,543
7/1/11	715	16,240	159	9,788	1	7,410	875	15,057
7/1/10	657	15,793	153	9,624	2	8,906	812	14,613
7/1/09	626	15,129	157	9,436	2	8,906	785	13,975

Current Period Retirees, Average Monthly Benefits and Average Salary by Age and Years of Service

Current Age	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	Over 40	Total	
Under 55		3			1	1		1		6	Count
		\$ 219			\$ 1,687	\$ 3,317		\$ 3,919		\$ 1,597	Benefit
		\$ 2,004			\$ 4,304	\$ 3,522		\$ 7,415		\$ 3,542	Salary
55 - 59		15	12	15	12	13	13	4		84	Count
		192	\$ 410	\$ 719	2,045	2,727	\$ 2,952	2,842		1,528	Benefit
		2,165	\$ 2,242	\$ 3,036	3,890	5,077	\$ 4,346	4,890		3,496	Salary
60 - 64		43	41	37	27	29	26	3		206	Count
		454	755	1,233	1,971	2,596	3,045	3,882		1,531	Benefit
		2,994	2,779	3,197	3,942	4,226	4,944	5,171		3,563	Salary
65 - 69	1	71	81	48	38	31	24	11	2	307	Count
	\$ 620	491	856	1,472	2,275	2,801	2,999	4,103	\$ 5,562	1,554	Benefit
	\$ 2,083	2,809	2,804	3,621	4,270	4,522	4,633	5,372	\$ 6,744	3,546	Salary
70 - 74	5	74	52	46	31	30	23	7	3	271	Count
	845	488	897	1,299	1,870	2,560	2,807	4,289	6,019	1,454	Benefit
	2,430	2,629	3,038	3,109	3,760	4,347	4,097	5,627	6,678	3,352	Salary
75 - 79	3	31	36	37	37	22	14	2	1	183	Count
	1,122	544	862	1,165	1,817	2,039	2,510	3,244	3,615	1,375	Benefit
	2,732	2,700	2,668	2,824	3,573	3,619	3,887	4,076	5,830	3,129	Salary
80 and Over	1	39	49	53	35	26	10	2	2	217	Count
	674	494	666	1,022	1,232	1,368	1,882	4,627	2,749	1,009	Benefit
	2,297	1,926	2,113	2,427	2,754	2,705	3,485	7,040	4,195	2,459	Salary
Total	10	276	271	236	181	152	110	30	8	1,274	Count
	\$ 889	\$ 472	\$ 795	\$ 1,204	\$ 1,846	\$ 2,356	\$ 2,800	\$ 3,928	\$ 4,787	\$ 1,409	Benefit
	\$ 2,473	\$ 2,609	\$ 2,677	\$ 3,024	\$ 3,673	\$ 4,030	\$ 4,361	\$ 5,440	\$ 5,968	\$ 3,259	Salary