2018
Comprehensive Annual

Financial Report

Fiscal Year Ended December 31, 2018

CELEBRATING THE 150TH YEAR OF THE CHISHOLM TRAIL

Pension Trust Funds of the

CITY OF
WICHITA
wichita.gov
KANSAS

Wichita Retirement Systems

- Police & Fire Retirement System of Wichita, Kansas
- Wichita Employees' Retirement System
- Wichita Employees' Retirement System Plan 3B

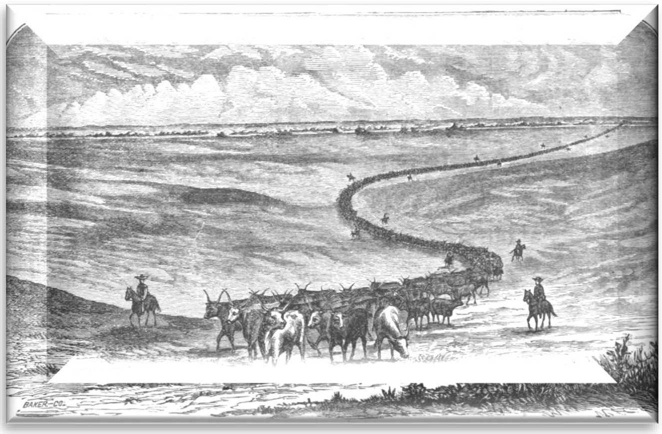
The Chisholm Trail

The Chisholm Trail

Wichita owes much of its early development to the Chisholm Trail, which celebrates its 150th anniversary this year. The trail earned its name from Jesse Chisholm, whose mother was Cherokee. Chisholm was a trader, guide, and interpreter who worked among the Plains Indians and served as a mediator in their dealings with the Cherokee Nation, the Republic of Texas, and the United States.[1] He opened a trading post at the confluence of the Arkansas and Little Arkansas rivers - where the Keeper of the Plains monument is now located in Wichita. Jesse Chisholm then blazed a trail from his trading post down to the Indian Territory, present-day Oklahoma, in order to trade with Native American tribes.[2]

While the trail bears his name, it was the cattle drives that made use of Chisholm's trail beginning in 1867 that established its place in American history.[2] At the close of the Civil War and as the railroad developed west, businessmen and cattle ranchers sought to move the overabundance of Texas longhorn cattle to market in the east where the demand and prices were much higher.[2] William Mathewson, the original "Buffalo Bill," went south to Texas and led what is believed to be the first herd of cattle to pass over the Chisholm Trail.[2]

Wichita's position on the Chisholm Trail made it a popular destination for cattle drives headed north to access railroads to eastern markets. The Chisholm Trail ran along the east side of Wichita from 1867-1871.[2] By 1872, the railway had completed a line from Wichita to Newton, making Wichita a railhead with some of the busiest stockyards in the country.



Delano

The burgeoning cattle trade business provided an opportunity for growth in newly settled Kansas towns such as Wichita. While the economic development from the cattle was desired, the rowdy ways of the cowboys that came along with it were often in conflict with the local townspeople. Thus, it became common for towns to segregate the cowboys.[3]

Since Wichita required cattlemen to check their guns with the town marshal upon arrival, a neighboring town of Delano, just west of the Arkansas river bank, welcomed the cowboys, providing all manner of vice from saloons to dancehalls. This effectively drove the more nefarious behavior just outside Wichita.[3] Civility was largely maintained on the east side of the river, in Wichita, thanks to well-known lawmen such as Wyatt Earp.[2] After much of the cattle trade activity had moved on, Wichita annexed Delano in 1880.[2]

An Entrepreneurial Legacy

While the cattle trade along the Chisholm Trail through Wichita only lasted four years, it greatly influenced the settlement of many towns and cities throughout Texas, Oklahoma, and Kansas. It is being celebrated in 2007 including the Adventures on the Chisholm Trail celebration at the Old Cowtown Museum with descendants of Jesse Chisholm, cowboy poetry and music, and activities for children and adults on July 22-23.[3]

The presence of the Chisholm Trail provided Wichita with a foundation as a center for commerce, laying the groundwork for the successful manufacturing and agriculture industries which would follow. Jesse Chisholm's entrepreneurial spirit, hard work and vision helped establish Wichita. His legacy is demonstrated today in the City of Wichita: a community proud of its longstanding history of entrepreneurship and hard work, and a community which continues to serve as a center of trade - not just for the over 1 million Kansans living within 100 miles, but also to marketplaces throughout the world.

Sources:

1 http://www.okhistory.org/publications/enc/entry.php?entry=CH067 "Chisholm, Jesse (ca. 1805-1868)."

2 https://www.kshs.org/p/kansas-historical-quarterly-the-chisholm trail/12670. "The Chisholm Trail."

3 http://www.ct-150.com/cowtowns/Wichita.php. "Chisholm Trail Anniversary 1867-2017 Kansas Cattle Town Celebrations."

Cover photo courtesy of Maxine Arnoldy, Jefferson City, Missouri.

Pension Trust Funds of
the City of Wichita, Kansas

Comprehensive Annual Financial Report

For the Year Ended December 31, 2018

CITY OF
WICHITA

WICHITA RETIREMENT SYSTEMS

Police and Fire Retirement System of Wichita, Kansas

Wichita Employees' Retirement System

Wichita Employees' Retirement System Plan 3b

Prepared by the Pension Management Office

Department of Finance

455 N. Main Street, 12th floor

Wichita, Kansas 67202

(316) 268-4544

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CITY OF WICHITA

WICHITA RETIREMENT SYSTEMS

COMPREHENSIVE ANNUAL FINANCIAL REPORT
For the year ended December 31, 2018

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WICHITA RETIREMENT SYSTEMS

COMPREHENSIVE ANNUAL FINANCIAL REPORT
For the year ended December 31, 2018

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COMPREHENSIVE ANNUAL FINANCIAL REPORT
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CITY OF WICHITA

INTRODUCTORY SECTION

Department of Finance
Pension Management
City Hall – 12th Floor
455 North Main
Wichita, Kansas 67202

June 28, 2019

The Honorable Mayor and City Council
Police and Fire Retirement System of Wichita Board of Trustees
Wichita Employees' Retirement System Board of Trustees

We are pleased to submit the Comprehensive Annual Financial Report (CAFR) of the Wichita Retirement Systems (WRS or Systems); a single employer retirement system comprised of the Police and Fire Retirement System of Wichita, Kansas (PFRS) and the Wichita Employees' Retirement System (WERS) for the year ended December 31, 2018. To the best of our knowledge and belief, the enclosed data is accurate in all material respects and is reported in a manner designed to present fairly the financial position and results of operations of the Systems.

Management assumes full responsibility for the completeness and reliability of the information contained in this report, based upon a comprehensive framework of internal controls established for this purpose. Because the cost of internal controls should not exceed anticipated benefits, the objective is to provide reasonable, rather than absolute, assurance that the financial statements are free of any material misstatements.

Kansas statutes require an annual audit of all funds of the City by independent certified public accountants. The certified public accounting firm of Allen, Gibbs & Houlik, L.C. issued an unmodified opinion on the financial statements of the WRS for the year ended December 31, 2018. The independent auditor's letter begins on page A-1 in the Financial Section of this report.

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

Plan History

The WERS was established in 1948 to provide pension benefits to all civilian employees, their surviving spouses and beneficiaries. The PFRS was established in 1965 to provide pension benefits to commissioned police and fire officers, their surviving spouses and beneficiaries. With the exception of the Teamster represented Transit employees, all full-time employees of the City of Wichita participate in one of these two Systems unless the employee is provided an option to elect to participate in the International City Management Association retirement programs.

In October 1999, the assets of the WRS were combined into a single fund for investment purposes. Then, in October 2000, assets of WERS Plan 3 were separated from the combined WERS and PFRS funds for investment, custodial and participant record keeping purposes. Finally, in January 2004, WERS Plan 3 assets were liquidated and the proceeds were reinvested with the other assets of the WRS, which resulted in a combined single fund for investment purposes.

Plan Governance

A 16-member Board of Trustees oversees the PFRS. The members include the City Manager (or designee), the Police Chief, the Fire Chief, three fire officers and three police officers elected by PFRS members of their respective departments and seven members appointed by the City Council. A separate 16-member Board of Trustees oversees the WERS. The members include the City Manager (or designee), the City Manager's appointee, seven members elected by WERS members and seven members appointed by the City Council. The Joint Investment Committee (JIC) is comprised of the President of each Board, two elected members from each Board, two City Council appointees from each Board and a City Manager's designee. The City Manager appoints a Pension Manager who manages staff to carry out the daily operations of the Systems.

System Funding and Financial Position

Funding is the process of setting aside resources for current and future use for the WRS defined benefit plans. The objective of the WRS is to meet funding requirements through contributions, expressed as a percent of active member payroll, and to keep the contribution rate as level from year to year as possible in the absence of plan benefit improvements.

The annual actuarial valuations prepared by the WRS' actuary, Cavanaugh Macdonald Consulting, LLC, provide an indicator of the funded status of the Systems. As of December 31, 2018, the funded ratio of the PFRS was 90.7 percent and the funded ratio of the WERS was 90.9 percent. The funded ratio is the ratio of actuarial assets to actuarial liabilities. The actuarial liability is that portion of the present value of future benefits that will not be paid by future employer normal costs or member contributions. The difference between this liability and the actuarial value of assets at the same date is referred to as the unfunded actuarial liability (UAL), or surplus if the asset value exceeds the actuarial liability. The Systems' unfunded actuarial liability (or surplus) is amortized over a 20-year rolling period.

In 2018, the funded ratios for PFRS and WERS declined by 4.7 and 3.4 percentage points, respectively, due to an unfavorable investment experience. The results of the actuarial valuation determine the City's contribution rate for the second calendar year following the valuation date. In 2018, employer contributions for the PFRS increased from 19.2 percent to 19.9 percent of annual covered payroll, and employer contributions for the WERS increased from 12.3 percent to 12.8 percent of annual covered payroll. Additional information regarding the financial condition and funding status of the Systems can be found in the Financial and Actuarial Sections of this report.

Investments

The WERS Board of Trustees' investment authority is found in the City of Wichita's Municipal Code, Section 2.28.090. Investment authority for the PFRS Board of Trustees is contained in Section 12 of Charter Ordinance 230.

As of December 31, 2018, the fiduciary net position was $1.19 billion, a decrease of 9.8% over the December 31, 2017 net position of $1.32 billion. The investment return of the WRS' combined investment portfolio was (6.04%) for the year ended December 31, 2018, underperforming the WRS' investment target benchmark return of (5.73%) for the same period. The investment return over the past ten-year period was 9.18%, outperforming the benchmark return of 8.23% and the Systems' long-term actuarial target of 7.50%.

The WERS and PFRS Boards of Trustees have established an overall strategic asset allocation policy based upon the financial needs of the joint fund and the Boards' tolerance for volatility, or risk. The Boards utilize external investment managers providing both passive and active strategies. The portfolio is broadly diversified among equities, fixed income, real estate and timber, with additional diversification achieved in equities and fixed income through domestic and international allocations. With the assistance of the Systems' financial consultant, Callan LLC and Pension Management staff, the Trustees continue to monitor the investment program and review the policy for future changes to the asset allocation, manager allocations and possible additional investment types. For more information on investment strategies and policies, safeguards on investments and a comparative analysis of investment results over time, please refer to the Investment Section of this report beginning on page B-1.

Major Initiatives and Significant Actions

Custodial Bank Change: On January 1, 2018, the Bank of New York Mellon (BNY Mellon) began providing custody and safekeeping, asset servicing, corporate action processing, transaction processing, income collection, accounting, GASB reporting support, proxy notification, class and corporate action support, on-line access, and cash management. WRS requires that the custodian act as the official book of record for investment activity and reconciles with external managers on a monthly basis. In 2017, a fourth quarter project plan timeline was created and followed to ensure a smooth transition to BNY Mellon from the previous custodian. Also, BNY Mellon provides retiree services processing monthly and lump sum pension payments, funeral benefits and DROP payments to our members and their beneficiaries.

PFRS Ordinance Amendment: On May 2, 2018, the Police and Fire Retirement System (PFRS) Charter Ordinance was amended to allow members to purchase Permissive Service Credit up to five years for other governmental or past City of Wichita employment. This additional benefit enhancement required coordination with our actuary to upgrade the customized pension system to accurately calculate the purchase amount for each member. Also, as part of the amendment, the Chief of Police became a mandatory member of the Retirement System on the effective date and, in the future, any new Chief of Police or Fire Chief will become members. In the past, the Ordinance provided an option of either membership in PFRS or the International City Management Association retirement programs.

Experience Study for Each Retirement System: With the recommendation of the actuary, Cavanaugh Macdonald Consulting LLC, the WERS and PFRS Boards accelerated the timing of the experience study. Typically, the Boards perform an experience study every five years; however, in conjunction with formalizing a Funding Policy and to ensure demographic experience and economic data were reflected correctly, the actuary recommended reviewing each Retirement System. Upon completion of the experience studies, the Systems' actuary recommended demographic and economic changes to each Systems' assumptions. The PFRS and WERS Boards adopted all of the recommended assumptions with the exception of one, the WERS mortality assumption was not changed since the past experience was consistent with the previous five year study. The most significant change which made the largest impact to each System was the decrease in investment return assumption from 7.75% to 7.50%. The new assumptions were used by the actuary to develop the funded status and actuarial contribution rate in the December 31, 2018 valuation.

Awards

The Government Finance Officers Association (GFOA) of the United States and Canada awarded a Certificate of Achievement for Excellence in Financial Reporting to the Wichita Retirement Systems (WRS) for its comprehensive annual financial report for the fiscal year ended December 31, 2017. This was the 19th consecutive year that the Systems have achieved this prestigious award. In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized comprehensive annual financial report. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. The System believes that this current comprehensive annual financial report continues to meet the Certificate of Achievement Program's requirements and it will be submitted to the GFOA to determine its eligibility for another certificate.

In addition, the Wichita Retirement System also received the Public Pension Coordinating Council's (PPCC) Public Pension Standards Award for the fiscal year ended December 31, 2018 in recognition of meeting professional standards for pension plan design and administration, as set forth in the Public Pension Standards. This was the 16th consecutive year the System obtained this important award. This award is presented by the PPCC, a confederation of the National Association of State Retirement Administrators (NASRA), the National Conference on Public Employee Retirement Systems (NCPERS) and the National Council on Teacher Retirement (NCTR). The System believes that its plan design and administration continued to meet the PPCC award criteria during 2019 and plans to apply for the Public Pension Standards Award.

Acknowledgments

This report was made possible through the combined efforts of Pension Management Staff, the Controller's Office, and the City Treasurer. We wish to express our appreciation to all members of the department as well as other City staff who assisted and contributed to its preparation.

Respectfully submitted,

Shawn Henning Director of Finance	Mark L. Manning City Treasurer	Pam Beim Pension Manager

Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Wichita Retirement Systems

Kansas

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

December 31, 2017

Christopher P. Morrill

Executive Director/CEO

Public Pension Coordinating Council

Public Pension Standards Award For Funding and Administration 2018

Presented to

Wichita Retirement Systems

In recognition of meeting professional standards for
plan funding and administration as
set forth in the Public Pension Standards.

Presented by the Public Pension Coordinating Council, a confederation of

National Association of State Retirement Administrators (NASRA)
National Conference on Public Employee Retirement Systems (NCPERS)
National Council on Teacher Retirement (NCTR)

Alan H. Winkle

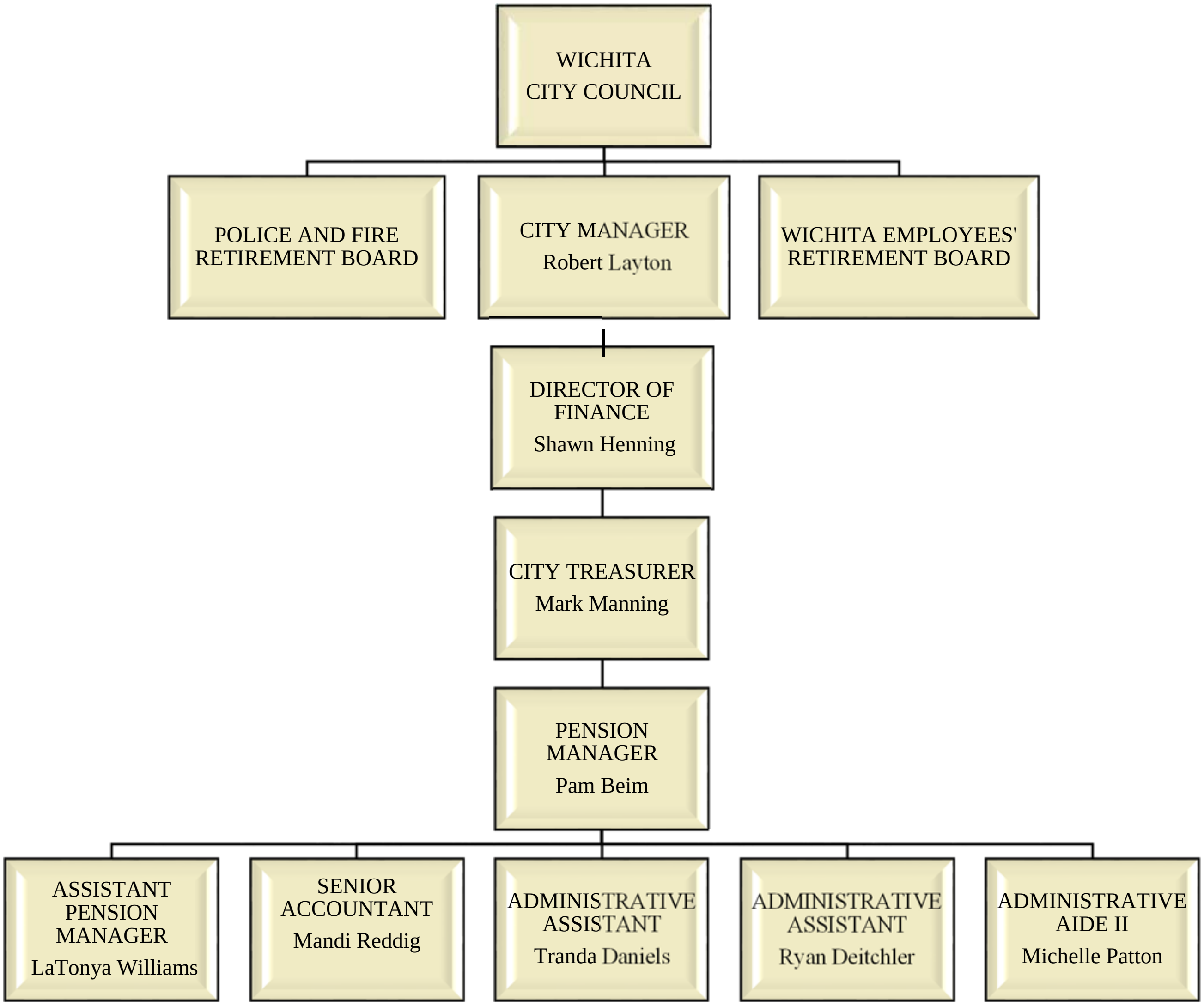
Alan H. Winkle
Program Administrator

WICHITA EMPLOYEES' RETIREMENT SYSTEM
BOARD OF TRUSTEES

Mark Hall (President)	Elected
Mark Manning (1st V.P.)	Elected
Troy Arment (2nd V.P.)	Appointed by Council Member
Carla Burgardt	Appointed by Council Member
James Deckard	Appointed by Council Member
Justin Enlow	Appointed by Council Member
Mike Hastings	Appointed by Council Member
Robert Lancaster	Appointed by Council Member
Shelly Hammond	Appointed by Mayor
Shawn Henning	City Manager Appointee
Jeff Kennedy	City Manager Designee
Maria Bias	Elected
LaDonna Lawrenz	Elected
Hannah Lang	Elected
William Perkins	Elected
Melinda Walker	Elected

POLICE AND FIRE RETIREMENT SYSTEM
BOARD OF TRUSTEES

Lance Oldridge (President)	Police Elected
Jeremy Spexarth (1st V.P.)	Fire Elected
Merle Bumgarner (2nd V.P.)	Fire Elected
Tracee Adams	Appointed by Council Member
David Cain	Appointed by Council Member
Robert Decker	Appointed by Council Member
Martha Pint	Appointed by Council Member
Gavin Seiler	Appointed by Council Member
Vacant	Appointed by Council Member
Paul O'Mara	Appointed by Mayor
Shawn Henning	City Manager Designee
Tammy Snow	Fire Chief
Jason Jones	Fire Elected
Gordon Ramsay	Police Chief
Lemuel Moore	Police Elected
Robert Schmeidler	Police Elected


WICHITA
CITY COUNCIL
POLICE AND FIRE
RETIREMENT BOARD
CITY MANAGER
Robert Layton
WICHITA EMPLOYEES'
RETIREMENT BOARD
DIRECTOR OF
FINANCE
Shawn Henning
CITY TREASURER
Mark Manning
PENSION
MANAGER
Pam Beim
ASSISTANT
PENSION
MANAGER
LaTonya Williams
SENIOR
ACCOUNTANT
Mandi Reddig
ADMINISTRATIVE
ASSISTANT
Tranda Daniels
ADMINISTRATIVE
ASSISTANT
Ryan Deitchler
ADMINISTRATIVE
AIDE II
Michelle Patton

ACTUARY
Cavanaugh Macdonald Consulting, LLC
3906 Raynor Pkwy, Suite 106
Bellevue, Nebraska 68123

CUSTODY INSTITUTION
The Bank of New York Mellon
500 Grant Street, 151-4040
Pittsburg, PA 15258

DEFINED CONTRIBUTION PARTICIPANT ACCOUNTING
Northeast Retirement Services
12 Gill Street, Suite 2600
Woburn, Massachusetts 01801

FINANCIAL CONSULTANT
Callan, LLC
1900 16th Street, Suite 1175
Denver, Colorado 80202

INDEPENDENT AUDITORS
Allen, Gibbs & Houlik, L.C.
Epic Center, 301 N. Main Street, Suite 1700
Wichita, Kansas 67202

LEGAL SERVICES
City of Wichita, Law Department
455 N. Main, 13th Floor
Wichita, Kansas 67202

LEGAL SERVICES
Ice Miller, L.L.P.
One American Square, Suite 3100
Indianapolis, Indiana 46282

PARTICIPANT EDUCATION
NestEgg Consulting, Inc.
125 N. Market Street, Suite 1050
Wichita, Kansas 67202

A list of professional investment managers and their fees are presented on page B-9. A schedule of brokerage commissions is presented on page B-10.

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CITY OF WICHITA

FINANCIAL SECTION

The Boards of Trustees
Wichita Retirement Systems
Wichita, Kansas

Report on the Financial Statements

We have audited the accompanying statement of fiduciary net position of the Wichita Retirement Systems of the City of Wichita, Kansas (Systems) as of December 31, 2018, and the related statement of changes in fiduciary net position and the related notes to the financial statements, which collectively comprise the Systems' basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditor's Responsibility

Our responsibility is to express an opinion on 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 auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Systems as of December 31, 2018, and the changes in the Systems' financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Report on Summarized Comparative Information

We have previously audited the Systems' 2017 financial statements, and we expressed an unmodified audit opinion on those audited financial statements in our report dated June 27, 2018. In our opinion, the summarized comparative information presented herein as of and for the year ended December 31, 2017, is consistent, in all material respects, with the audited financial statements from which it has been derived.

Allen, Gibbs & Houlik, L.C. aghlc.com aghemployersolutions.com aghuniversity.com 316.267.7231 301 N. Main, Suite 1700 Wichita, KS 67202-4868

Other Matters

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

Supplementary and Other Information
Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Systems' basic financial statements. The accompanying supporting schedules on pages A-37 and A-38, and the introductory, investment, actuarial and statistical sections as listed in the table of contents are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The supporting schedules on pages A-37 and A-38 are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, such information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The introductory, investment, actuarial and statistical sections 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 June 26, 2019 on our consideration of the Systems' 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 Systems' internal control over financial reporting and compliance.

Allen, Gibbs & Houlik, L.C.
CERTIFIED PUBLIC ACCOUNTANTS

June 26, 2019
Wichita, Kansas

This management discussion and analysis (MD&A) provides an overview and analysis of the Wichita Retirement Systems' (WRS) financial activities and performance for the fiscal year ended December 31, 2018. The management discussion and analysis is presented in conjunction with the transmittal letter at the front of this report and the WRS's financial statements, which follow this section.

OVERVIEW OF THE FINANCIAL STATEMENTS

The two basic financial statements of the WRS are the Statement of Fiduciary Net Position and the Statement of Changes in Fiduciary Net Position which may be found on pages A-6 and A-7. The statements are prepared in conformity with accounting principles generally accepted in the United States.

The Statement of Fiduciary Net Position is presented for the pension trust funds as of December 31, 2018, with combined total comparative information as of December 31, 2017. The Statement of Fiduciary Net Position presents information on all of the Systems' assets and liabilities, with the difference between the two reported as net position restricted for pensions. The statement is a snapshot of the financial position of the Systems at the close of the fiscal year. The Statement of Changes in Fiduciary Net Position is presented for the pension trust funds for the year ended December 31, 2018, with combined total comparative information for the year ended December 31, 2017. This statement presents information showing how the Systems' net position changed during the fiscal year. Notes to the Financial Statements beginning on page A-9 provide additional information, which is not included in the statements themselves, but is essential for a full understanding of the financial statements.

Required Supplementary Information consists of schedules and related notes concerning significant actuarial information and assumptions. Beginning on page A-28, these schedules and notes emphasize the long-term nature of pension plans and show the progress of each system in accumulating sufficient assets to pay future benefits.

- The Schedules of Changes in the Employer's Net Pension Liability and Related Ratios presents detailed information about the pension liabilities for which the pension plans' assets are held and managed. The schedules are intended to assist financial statement users in understanding the magnitude of the pension liability and the degree to which net position restricted for pensions is sufficient to cover the liability for each plan.
- The Schedules of Employer Contributions show the amount of actuarially determined required contributions relative to the actual contributions made during the year. These schedules also present covered payroll and contributions reported for each plan.
- The Schedule of Investment Returns shows the money-weighted rate of return on investments, net of investment expense. The money-weighted rate of return is a method for calculating investment performance on pension investments that adjusts for the changing amounts actually invested.

The Supplementary Information includes a Schedule of Administrative Expenses, a Schedule of Investment Expenses and a Schedule of Payments to Consultants Other Than Investment Advisors to show detail of the administrative and investment costs to operate the Systems.

FINANCIAL STATEMENT ANALYSIS

Fiduciary Net Position. Total fiduciary net position declined by $132.5 million during the 2018 fiscal year. This change primarily consisted of a $129.8 million decrease in cash investments, excluding securities lending investments, primarily due to the net depreciation in the fair value of investment holdings. The investment return was (6.04%) for the year ended December 31, 2018. Investment returns by asset class were: domestic equity (5.72%), international equity (15.61%), fixed income (0.14%), real estate 7.73%, timber 1.85% and commodities (11.85%).

As of December 31, 2018, total securities lending obligations increased by $3.9 million as compared to December 31, 2017. Several factors influence the amount of securities lent at any point in time, including the demand for the securities, the negotiated rebate rate and the overall market volatility.

Comparative summary financial statements for the years ended December 31, 2018 and 2017 are presented in the accompanying tables:

Summary of Fiduciary Net Position
As of December 31,

	2018	2017	Increase (Decrease)
ASSETS			
Total cash and investments	$ 1,202,258,643	$ 1,332,070,154	$ (129,811,511)
Total receivables	6,564,785	46,556,228	(39,991,443)
Investment in securities lending collateral	3,891,200	-	3,891,200
Total assets	1,212,714,628	1,378,626,382	(165,911,754)
LIABILITIES			
Accounts payable and accrued expenses	2,555,054	1,563,126	991,928
Investment purchases pending	17,417,355	55,705,081	(38,287,726)
Securities lending obligations	3,891,200	-	3,891,200
Total liabilities	23,863,609	57,268,207	(33,404,598)
FIDUCIARY NET POSITION	$ 1,188,851,019	$ 1,321,358,175	$ (132,507,156)

Summary of Changes in Fiduciary Net Position
For the year ended December 31,

	2018	2017	Increase (Decrease)
ADDITIONS			
Contributions	$ 34,189,629	$ 32,009,765	$ 2,179,864
Net Investment income (loss)	(84,098,159)	196,166,844	(280,265,003)
Reclassifications due to participant conversion	179,012	191,292	(12,280)
Total additions	(49,729,518)	228,367,901	(278,097,419)
DEDUCTIONS			
Pension benefits	79,899,876	75,425,270	4,474,606
Pension administration	1,197,686	1,197,745	(59)
Employee contributions refunded	1,501,064	1,136,353	364,711
Reclassifications due to participant conversion	179,012	191,292	(12,280)
Total deductions	82,777,638	77,950,660	4,826,978
Net Increase (decrease) in net position	(132,507,156)	150,417,241	(282,924,397)
Fiduciary net position - beginning	1,321,358,175	1,170,940,934	150,417,241
Fiduciary net position - ending	$ 1,188,851,019	$ 1,321,358,175	$ (132,507,156)

Changes in Fiduciary Net Position. Additions to fiduciary net position that are necessary to finance Plan benefit obligations come primarily from employer and employee contributions and net earnings on investments. For the year ended December 31, 2018, total additions were ($49.7) million, which is approximately a $278.1 million decline from the 2017 total additions of $228.4 million. Employer and employee contributions increased from amounts reported in 2017. However, net investment income decreased by $280.3 million from the prior year.

Deductions from fiduciary net position are consistent with characteristics of a mature pension system. Pension benefits increased from $75.4 million in 2017 to $79.9 million in 2018, or approximately $4.5 million or 6.0%. This amount includes DROP and BackDROP payments, which were $6.8 million or 26.0% higher than 2017 levels.

CONTACTING THE WICHITA RETIREMENT SYSTEM

This financial report is designed to provide a general overview of the WRS finances for individuals with such an interest. Additional information is provided within the Notes to the Financial Statements. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to the Pension Management Office, City of Wichita, 455 N. Main St., 12th Floor, Wichita KS 67202.

WICHITA RETIREMENT SYSTEMS
STATEMENT OF FIDUCIARY NET POSITION

December 31, 2018
(with comparative totals as of December 31, 2017)

	Police and Fire Retirement System	Employees' Retirement System	Employees' Retirement Plan 3b	Totals 2018	Totals 2017
ASSETS					
Cash and temporary investments	$ 61,189	$ 100,629	$ 3,774	$ 165,592	$ 72,728
Receivables:					
Investment sales pending	1,629,388	1,405,239	6,377	3,041,004	42,617,128
Interest and dividends	1,565,541	1,347,885	6,934	2,920,360	2,120,275
Other receivables	411,980	174,605	16,836	603,421	1,818,825
Total receivables	3,606,909	2,927,729	30,147	6,564,785	46,556,228
Investments, at fair value:					
Government short-term investment fund	22,569,831	18,416,975	85,881	41,072,687	31,504,160
Equity:					
Domestic equity	231,668,534	199,815,086	2,097,891	433,581,511	516,961,767
International equity	157,100,759	135,485,368	420,532	293,006,659	376,859,182
Fixed income	133,689,106	115,294,287	470,203	249,453,596	222,899,416
Commodities	18,096,259	15,606,505	-	33,702,764	38,235,302
Real estate	48,358,489	41,705,142	-	90,063,631	85,239,165
Target date and money market funds	-	-	5,040,886	5,040,886	4,761,056
Timber	30,100,923	25,959,110	-	56,060,033	55,406,805
Derivative investments	59,639	51,435	210	111,284	130,573
Securities lending short-term collateral investment pool	2,081,182	1,794,802	15,216	3,891,200	-
Total investments	643,724,722	554,128,710	8,130,819	1,205,984,251	1,331,997,426
Capital assets:					
Pension software	448,990	833,838	-	1,282,828	1,282,828
Accumulated depreciation	(448,990)	(833,838)	-	(1,282,828)	(1,282,828)
Capital assets, net of depreciation	-	-	-	-	-
Total assets	647,392,820	557,157,068	8,164,740	1,212,714,628	1,378,626,382
LIABILITIES					
Accounts payable and accrued payroll	1,924,454	621,825	8,775	2,555,054	1,563,126
Investment purchases pending	9,332,567	8,048,775	36,013	17,417,355	55,705,081
Securities lending obligations	2,081,182	1,794,802	15,216	3,891,200	-
Total liabilities	13,338,203	10,465,402	60,004	23,863,609	57,268,207
NET POSITION					
Restricted for pensions	$ 634,054,617	$ 546,691,666	$ 8,104,736	$ 1,188,851,019	$ 1,321,358,175

The accompanying notes to the financial statements are an integral part of this statement.

WICHITA RETIREMENT SYSTEMS
STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

For the year ended December 31, 2018
(with comparative totals for the year ended December 31, 2017)

	Police and Fire Retirement System	Employees' Retirement System	Employees' Retirement Plan 3b	Totals 2018	Totals 2017
ADDITIONS					
Contributions:					
Employer	$ 14,331,422	$ 10,099,027	$ 202,075	$ 24,632,524	$ 23,212,328
Employee	5,599,216	3,755,812	202,077	9,557,105	8,797,437
Total contributions	19,930,638	13,854,839	404,152	34,189,629	32,009,765
Investment income:					
From investing activities:					
Net appreciation (depreciation) in the fair value of investments	(50,382,065)	(45,146,403)	(635,851)	(96,164,319)	181,636,081
Interest	4,580,023	4,146,274	18,179	8,744,476	8,569,010
Dividends	5,370,012	4,666,274	40,789	10,077,075	12,525,295
Commission recapture	16,399	12,455	84	28,938	25,521
Total investing activity income	(40,415,631)	(36,321,400)	(576,799)	(77,313,830)	202,755,907
Less investment expense	3,639,570	3,249,032	21,759	6,910,361	6,823,873
Net income (loss) from investing activities	(44,055,201)	(39,570,432)	(598,558)	(84,224,191)	195,932,034
From securities lending activities:					
Securities lending income	100,813	88,137	702	189,652	553,014
Less securities lending expense:					
Borrower rebates	9,986	8,571	62	18,619	244,050
Management fees	23,997	20,824	180	45,001	74,154
Total securities lending expenses	33,983	29,395	242	63,620	318,204
Net income from securities lending activities	66,830	58,742	460	126,032	234,810
Total net investment income (loss)	(43,988,371)	(39,511,690)	(598,098)	(84,098,159)	196,166,844
Reclassifications due to participant conversion	-	-	179,012	179,012	191,292
Total additions	(24,057,733)	(25,656,851)	(14,934)	(49,729,518)	228,367,901
DEDUCTIONS					
Pension benefits	39,120,428	40,779,448	-	79,899,876	75,425,270
Pension administration	590,098	580,204	27,384	1,197,686	1,197,745
Employee contributions refunded	261,073	890,851	349,140	1,501,064	1,136,353
Reclassifications due to participant conversion	-	179,012	-	179,012	191,292
Total deductions	39,971,599	42,429,515	376,524	82,777,638	77,950,660
Total increase (decrease) in net position	(64,029,332)	(68,086,366)	(391,458)	(132,507,156)	150,417,241
Net position, beginning	698,083,949	614,778,032	8,496,194	1,321,358,175	1,170,940,934
Net position, ending	$ 634,054,617	$ 546,691,666	$ 8,104,736	$ 1,188,851,019	$ 1,321,358,175

The accompanying notes to the financial statements are an integral part of this statement.

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1. Summary of Significant Accounting Policies

A. Reporting Entity

The Wichita Employees' Retirement System, the Wichita Employees' Retirement System Plan 3b and the Police and Fire Retirement System of Wichita are reported as pension trust funds of the City of Wichita, Kansas and its component units (the reporting entity). The plans consist of two single-employer defined benefit pension plans and a single-employer defined contribution plan, covering all full-time employees.

The defined benefit plans include the Wichita Employees' Retirement System (WERS) and the Police and Fire Retirement System (PFRS). A separate Board of Trustees administers each System. The single-employer defined contribution plan consists of the Wichita Employees' Retirement System Plan 3b, which is also administered by the Wichita Employees' Retirement System Board of Trustees.

The WERS Board of Trustees is comprised of 16 members, including the City Manager or the City Manager's designee, one employee appointed by the City Manager, seven members appointed by the City Council and seven employees elected by the WERS employee members. The PFRS Board of Trustees is comprised of 16 members, including the City Manager or the City Manager's designee, the Chief of the Police Department, the Chief of the Fire Department, seven members appointed by the City Council, three fire officers elected by PFRS employee members in the Fire Department or the Airport and three police officers elected by PFRS employee members in the Police Department.

B. Measurement Focus and Basis of Accounting

The Wichita Employees' Retirement System, the Wichita Employees' Retirement System Plan 3b and the Police and Fire Retirement System are reported as pension trust funds of the City of Wichita, Kansas in the City's financial statements using the economic resources measurement focus and the accrual basis of accounting. Employee and employer contributions are recognized as revenues in the period in which employee services are performed. Benefits and refunds are recognized when due and payable in accordance with the terms of each plan.

C. Investments

Investments are reported at fair value. The Systems invest in real estate through real estate investment trusts, timber through limited partnerships, commodities, Treasury strips and various asset-backed securities, such as collateralized mortgage obligations and credit card trusts. Short-term investments are reported at cost plus accrued interest, which approximates fair value. Investments traded on national or international exchanges are valued at the last trade price of the day. If no close price exists, then a bid price is used. Mortgages are valued on the basis of future principal and interest payments, and are discounted at prevailing interest rates for similar investments. The fair value of real estate and timber investments are estimated using the net asset value of the shares owned in each fund. Investments that do not have an established market are reported at their estimated fair value.

D. Capital Assets

Capital assets include hardware and software. Capital assets are defined as assets with an initial individual minimum cost of $5,000. Capital assets are valued at historical cost or estimated historical cost (if actual historical cost is not available). The costs of normal maintenance and repairs that do not add to the value of the asset or materially extend the life of an asset are not capitalized. Major outlays for capital assets and improvements are capitalized as projects are constructed. Capital assets are depreciated using the straight-line method over useful lives of one to 33 years for office equipment and seven to 20 years for data processing software.

E. Management of Plan Assets

The Boards of Trustees of the Systems have contractual arrangements with independent money managers for investment of the assets of the Systems. The firms have been granted discretionary authority concerning purchases and sales of investments within guidelines established by City Ordinances and the Strategic Plan and Investment Policies adopted by the Boards of Trustees. The Boards of Trustees of the Systems also have contractual arrangements with independent firms which monitor the investment decisions of the Systems' investment managers.

F. Estimates

Preparation of financial statements in conformity with Generally Accepted Accounting Principles (GAAP) requires making estimates and assumptions that affect: (1) the reported amounts of assets and liabilities, (2) disclosures such as contingencies and (3) the reported amounts of revenues and expenses included in the financial statements. Actual results could differ from those estimates. Some of the more significant estimates include the valuation of certain investments described in the Notes to the Financial Statements and the actuarial assumptions used in calculating the total pension liability and net pension liability.

G. Prior Year Comparative Information

The basic financial statements include certain prior year comparative information that is summarized in total, but not at the level of detail required for a presentation in conformity with GAAP. Accordingly, such information should be read in conjunction with the Systems' financial statements for the year ended December 31, 2017, from which the summarized information has been derived.

2. Cash, Investments and Securities Lending

City Ordinance (49-036; Section 2.28.090) authorizes the Wichita Employees' Retirement System and City Charter Ordinance (230; Section 12) authorizes the Police and Fire Retirement System to invest trust fund assets in accordance with the prudent person rule, subject to the following limitations: (1) the proportion of funds invested in corporate preferred and common stock shall not exceed 70% and (2) the proportion of funds invested in foreign securities shall not exceed 35%. Additionally, the Systems are not permitted to invest directly or indirectly in any:

1. Real estate, except in certain pooled arrangements with the amount of such investment not to exceed 10% of the Fund;
2. Private equity, except in a commingled fund-of-funds vehicle operated by a registered investment advisor or a bank with the amount of such investment not to exceed 10% of the Fund;
3. Timber, except in a commingled fund vehicle operated by a registered investment advisor or a bank. The amount of such investment shall not exceed 10% of the Fund;
4. Mortgages secured by real estate, except insured mortgages under Titles 203, 207, 220 and 221 of the Federal Housing Act;
5. Oil and gas leases or royalties;
6. Commodities (including, but not limited to, wheat, gold, gasoline, options or financial futures); provided however, that the restriction on investments contained in this paragraph shall not apply to funds which are invested in a mutual fund, separate account or commingled fund operated by a registered investment advisor or insurance company; or
7. Letter stocks.

With the exception of the $165,592 held in the City's pooled funds, as of December 31, 2018, all of the deposits and investments of the Wichita Employees' and Police and Fire Retirement Systems are held in a joint investment fund that is invested by outside money managers and are held under a custodial agreement. The Boards of Trustees have adopted the Strategic Plan and Investment Policies which set forth in detail the asset allocation for the fund and restrictions applicable to specific investment types to mitigate risk. The policies permit investment in six asset types: domestic equities, international equities, fixed income, real estate, timber and commodities.

With the assistance of the Investment Consultant, the Joint Investment Committee (JIC) establishes the investment policies which are reviewed annually. In 2018, the JIC approved a seven year time frame to achieve an annualized real rate of return of four and three quarters of a percent (4.75%) above the price inflation assumption. Each manager's performance will also be compared to a relevant market index as outlined in the investment policy.

The investments of the Wichita Retirement Systems (WRS) on December 31, 2018 are listed in the accompanying table.

Type of Investment		Fair Value
Government short-term investment fund	$	41,072,687
Domestic equity		433,581,511
International equity		293,006,659
Fixed income, including CMOs		249,453,596
Commodities		33,702,764
Real estate		90,063,631
Target date and money market funds		5,040,886
Timber		56,060,033
Derivative investments		111,284
Total investments	$	1,202,093,051

The pension funds invest in various asset-backed securities such as collateralized mortgage obligations (CMOs) and credit card trusts to maximize yields and reduce the impact of interest rate changes. These securities are based on cash flows from principal and interest payments on the underlying assets. For example, CMOs break up the cash flows from mortgages into categories with defined risk and return characteristics called tranches. The tranches are differentiated by when the principal payments are received from the mortgage pool. Changes in interest and mortgage prepayment rates may affect the amount and timing of cash flows, which would also affect the reported estimated fair values. The pension funds utilize a combination of asset-backed securities, which vary in their degree of volatility. Although considerable variability is inherent in such estimates, management believes the estimated fair values are reasonable estimates.

The pension funds also invest in real estate through real estate investment trusts (REITs).The fair values of these investments are estimated using the net asset value of the Systems' shares owned in each trust. Market conditions have had an impact on the estimated fair value of real estate investments. Restrictions on the availability of real estate financing, as well as economic uncertainties, have affected the volume of purchase and sale transactions. As a result, the estimates and assumptions used in determining the fair values of the real estate investments are inherently subject to uncertainty.

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Fair Value Measurement:

The Retirement Systems hold significant amounts of investments that are measured at fair value on a recurring basis. The framework for measuring fair value provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices for identical assets in active markets that can be assessed at the measurement date (Level 1) and the lowest priority to unobservable inputs (Level 3).

The three levels of the fair value hierarchy under GASB Statement No. 72 are described as follows:

Level 1 – Inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that a government can access at the measurement date.

Level 2 – Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of assets or liabilities.

Level 3 – Unobservable inputs which are supported by little or no market activity and are significant to the fair value of the assets or liabilities.

Specific investments that are measured using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. Such investments are identified in the accompanying tables as Net Asset Value (NAV).

The plan categorizes its fair value measurements within the fair value hierarchy established by GAAP. The Fair value of measurements for the investments of the WRS on December 31, 2018 are listed in the accompanying table.

	12/31/2018	Level 1 Inputs	Level 2 Inputs
Investments by fair value level[1]:			
Cash and cash equivalents	$ 12,429,702	$ 3,778,529	$ 8,651,173
Equity:			
Domestic equity	317,422,222	317,422,222	-
International equity	109,801,465	109,801,465	-
Fixed income	244,584,507	35,248,359	209,336,148
Money market funds	430,006	430,006	-
Derivative investments	111,284	278,471	(167,187)
Total investments by fair value level	684,779,186	$ 466,959,052	$ 217,820,134
Investments measured at net asset value (NAV):			
Government short-term investment fund	28,642,985		
Equity:			
Domestic equity	116,159,289		
International equity	183,205,194		
Fixed income	4,869,089		
Commodities	33,702,764		
Real estate	90,063,631		
Target date funds	4,610,880		
Timber	56,060,033		
Total investments measured at NAV	517,313,865		
Total investments	$ 1,202,093,051		

[1] There were no investments valued using Level 3 inputs at December 31, 2018 .

Debt, equity and other securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities.

Equity securities classified as Level 2 of the fair value hierarchy are traded on inactive markets or valued by reference to similar instruments using (1) marked based-factors, such as credit, liquidity and interest rate conditions, and (2) issuer-specific factors, such as creditworthiness of the issuer and likelihood of full repayment at maturity. Fixed income securities classified as Level 2 of the fair value hierarchy are valued using a matrix pricing technique. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices.

Derivative instruments classified as Level 1 of the fair value hierarchy include forwards and options which are traded on active exchanges. Derivative instruments classified as Level 2 of the fair value hierarchy are valued using a market approach. Options contracts derive their value from underlying asset prices, indices, reference rates and other inputs or a combination of these factors. These contracts are normally valued on the basis of pricing service providers or broker dealer quotations. Depending on the product and the terms of the transaction, the value of the financial derivative instruments can be estimated by a pricing service provider using a series of techniques, including simulation pricing models. The pricing models are inputs that are observed from actively quoted markets such as issuer details, indices, spreads, interest rates, yield curves and exchange rates. For centrally cleared credit default swaps, the clearing facility requires its members to provide actionable price levels across complete term structures. These levels along with external third party prices are used to produce daily settlement prices. Centrally cleared interest rate swaps are valued using a pricing model that references the underlying rates including the overnight index swap rate and London Interbank Offered Rate (LIBOR) forward rate to produce the daily settlement price.

Additional information relating to the investments measured at the NAV for WRS on December 31, 2018 are listed in the accompanying table.

Investments Measured at Net Asset Value (NAV)	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period (Days)
Government short-term investment fund	$ 28,642,985	-	Daily	5
Domestic equity	116,159,289	-	Daily	1
International equity	183,205,194	-	Bi-monthly, monthly	15-30
Fixed income	4,869,089	-	Daily	1
Commodities	33,702,764	-	Daily	1
Real estate	90,063,631	-	Quarterly	45-60
Target date funds	4,610,880	-	Daily	1
Timber	56,060,033	25,000,000	N/A	N/A
Total investments measured at NAV	$ 517,313,865	$ 25,000,000		

Net Asset Value: WRS reports the following types of investments valued at Net Asset Value (NAV).

Government short-term investment fund – The government short-term investment fund that is measured at the NAV is a collective trust that invests any cash balances from the actively managed fund managers of the Systems, as well as the Systems' cash fund. The investment objective of the Fund is to maintain liquidity to ensure cash availability for withdrawals while preserving the principal.

Domestic equity – The Systems have one domestic equity fund manager that is an S&P 500 securities lending index fund measured at the NAV. This Fund seeks an investment return that approximates the performance of the S&P 500 over the long term. NAV is calculated on a daily basis based upon the fair value of the underlying investments.

International equity – The Systems have three fund managers with commingled investments in international equities that are measured using NAV. These fund managers are structured as limited partnerships and a MSCI securities lending index fund. The limited partnerships calculate NAV through a capital account maintained for each partner. The MSCI securities lending index fund calculates NAV on a per unit basis of the Fund and is determined as of the last business day of each month and at least one other business day during the month.

Fixed Income – The Systems have one fund manager that invests in commingled fixed income funds. These investments are structured within three funds; Opportunistic US$ High Yield Securities, Floating Rate High Income and Opportunistic Non-Dollar Hedged. The NAV for these funds is calculated daily on a per share value from the fair value of the underlying investments at the end of each day that the New York Stock Exchange is open as of the close of regular trading.

Commodities – The Systems have one fund manager that is a commingled commodities fund. This fund is structured as a trust. NAV is calculated on a per unit basis at the end of each day that the New York Stock Exchange is open as of the close of regular trading.

Real Estate – The Systems have two fund managers that invest in real estate measured at the NAV. These investments are in Real Estate Investment Trusts (REITs) and commingled real estate through a limited partnership. Both fund managers calculate NAV per unit from fair value estimates based on values from independent appraisals on a quarterly basis.

Target date funds – The Systems have various target date funds that are measured at the NAV. The NAV is determined each business day based on the value the underlying investments.

Timber – The Systems have one fund manager that invests in timber measured at the NAV. This fund manager is structured as a limited partnership and calculates NAV from independent appraisals in capital accounts maintained for each partner.

Custodial Credit Risk: The custodial credit risk for deposits is the risk that in the event of a bank failure, the WRS' deposits may not be recovered. On December 31, 2018, the WRS' cash deposits in the amount of $165,592 were included in the City's pooled cash and temporary investments. The WRS' debt securities investments were registered in the name of WRS and were held in the possession of the WRS' custodial bank, The Bank of New York Mellon. Amounts held in the City's pooled cash and temporary investments were fully collateralized as of December 31, 2018. Additional information about the City's pooled cash and investments is available in the City's separately issued Comprehensive Annual Financial Report, available upon request from the Pension Management Office.

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Interest Rate Risk: Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. Interest rate risk is managed using the modified duration methodology. Duration is a measure of fixed income cash flow using present values, weighted for cash flows as a percentage of the investment's full price. The modified duration methodology estimates the sensitivity of a bond's price to interest rate changes. WRS manages their exposure to fair value loss arising from increasing interest rates by complying with the following policies:

1. Fixed income managers have full discretion over the issuers selected and may hold any mix of fixed income securities and cash equivalents.
2. Portfolio duration for nominal fixed income managers must not be less than 80% or more than 120% of the duration of the Bloomberg Barclays Capital Aggregate Bond Index (Index), unless the Joint Investment Committee prospectively grants a written exception. As of December 31, 2018, the duration of the Index was 5.87 years, which equated to a minimum and maximum range for each fixed income portfolio of 4.70 years and 7.04 years, respectively.

Investment Type	Fair Value	Percent of all Fixed Income Assets	Weighted Average Modified Duration (years)
Government securities long-term	$ 37,452,024	12.9 %	11.4
Corporate debt instruments, long-term	89,921,101	30.9	4.9
Mortgage and asset-backed securities	69,324,844	23.9	5.0
Global fixed income	47,583,495	16.4	7.0
Actively managed investments	244,281,464	84.1	6.3
Government short-term investment fund	41,072,687	14.2	-
Pooled high-yield fixed income securities	4,864,468	1.7	-
Pooled international fixed income securities	4,607	-	2.2
Total investment in debt securities	$ 290,223,226	100.0 %	

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Credit Risk of Debt Securities: Credit risk is the risk that an issuer of an investment will not fulfill its obligations. The WRS manages exposure to investment credit risk by adhering to the following policies: (1) for active core domestic fixed income investments, at the time of purchase, bonds and preferred stocks must be rated at least "A2/A/A" or higher using the middle rating of Moody's, Standard and Poor's and Fitch after dropping the highest and lowest available ratings. When a rating from only two agencies is available, the lower ("more conservative") rating is used. When a rating from only one agency is available, that rating is used to determine credit quality; and (2) for core-plus domestic fixed income investments, the weighted average credit quality of the portfolio will not fall below "A2/A/A" or equivalent; when determining credit quality, the middle rating of Moody's, Standard and Poor's and Fitch is used after dropping the highest and lowest available ratings. When a rating from only two agencies is available, the lower ("more conservative") rating is used. When a rating from only one agency is available, that rating is used to determine credit quality. Throughout 2018, no securities were purchased that were below the established credit quality minimum in the active core portfolio and the weighted average credit quality of the active core plus portfolio did not fall below the established credit quality rating. The accompanying table shows the debt investments held by the WRS on December 31, 2018 and their respective ratings by Standard and Poor's or an equivalent nationally recognized statistical rating organization.

Quality Rating		Total Debt Securities
AAA	$	17,207,708
AA+		83,640,441
AA		4,893,811
AA-		6,426,273
A+		12,443,873
A		16,519,020
A-		24,509,372
BBB+		25,518,943
BBB		12,027,475
BBB-		13,039,524
BB+		3,503,260
BB		1,620,137
BB-		3,099,002
B+		839,896
B		1,105,865
B-		462,820
CCC+		113,358
CCC		326,320
CCC-		5,653
CC		224,112
C		253,654
D		350,262
NR		20,843,287
WR		176,473
Total credit risk debt securities		249,150,539
Government short-term investment fund*		41,072,687
Total investment in debt securities	$	290,223,226

*The collective trust government short-term investment fund itself is not rated. Each holding within the fund is rated, but an average rating is not available.

Credit risk for investment derivative instruments results from counterparty risk assumed by the WRS. This is essentially the risk that the counterparty to a WRS' transaction will be unable to meet its obligation. Information regarding the WRS' credit risk related to derivatives is found in the derivatives disclosures that follow.

Concentration of Credit Risk: Concentration of credit risk is the risk of loss that may be attributed to the magnitude of an entity's investment with a single issuer. The WRS' investment in debt securities had no single issuer of investments that represented 5% or more of the plan assets, with exception of investments issued or implicitly guaranteed by the U.S. government and investments in mutual funds, as delineated in the WRS' investment policy.

Rate of Return: The annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was (5.9%) for the year ended December 31, 2018. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for changing amounts actually invested.

Derivatives: Investment derivative instruments are financial contracts for which the value of the contract is dependent on the values of one or more underlying asset, reference rate or financial index. They include futures contracts, swap contracts, options contracts, rights and forward foreign currency exchanges. While the WRS has no formal policy specific to investment derivatives, the WRS, through its external investment managers, held a variety of these instruments as of December 31, 2018. The WRS enters into these investment derivative instruments primarily to enhance the performance, reduce the volatility of its investment portfolio and to manage interest rate risk. The investment derivative instruments held by the WRS on and during the year ended December 31, 2018 are shown on the following pages. The notional values associated with these derivative instruments are generally not recorded in the financial statements; however, the exposure amounts on these instruments are included in the fair value of investments in the Statement of Fiduciary Net Position and the total changes in fair value for the year are included as investment income (loss) in the Statement of Changes in Fiduciary Net Position.

The fair value of derivative investments is based on the exchanges when available. When an exchange is not available, estimated fair values are determined in good faith by using information from J.P. Morgan traders and other market participants, including methods and assumptions considering market conditions and risks existing at the date of the Statement of Fiduciary Net Position. Such methods and assumptions incorporate standard valuation conventions and techniques, such as discounted cash flow analysis and option pricing models. All methods utilized to estimate fair values result only in general approximations of value.

The WRS' investments in derivative instruments on December 31, 2018 are presented in the accompanying tables.

Derivative Investments Summary

Classification and Type	Change in Fair Value	Notional Value	Exposure/ Fair Value
Foreign currency forward (FFX) contracts	$ 366,289	$ 38,221,037	$ (136,050)
Futures contracts	347,616	36,881,399	486,350
Options	(88,683)	-	(25,663)
Swaps	32,193	183,174,200	(213,353)
Total derivative investments	$ 657,415	$ 258,276,636	$ 111,284

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Derivative Investments Detail				
Classification and Type	Change in Fair Value	Notional Value	Exposure/ Fair Value	Counterparty (Counterparty Rating)
FFX contracts:				
Argentina peso	$ -	$ 62,249	$ (119,222)	N/A[1]
Australian dollar	-	506,328	(968,673)	N/A[1]
Brazilian real	-	1,126,729	1,049,848	N/A[1]
Canadian dollar	-	1,713,929	(151,127)	N/A[1]
Chilean peso	-	124,747	7,023	N/A[1]
Chinese r yuan hk	-	-	(352,236)	N/A[1]
Chinese yuan renminbi	-	-	(78,607)	N/A[1]
Colombian peso	-	37,490	35,767	N/A[1]
Czech koruna	-	715,637	720,596	N/A[1]
Euro currency unit	-	1,570,019	(12,249,741)	N/A[1]
Hong Kong dollar	-	-	(512,353)	N/A[1]
Hungarian forint	-	-	(200,735)	N/A[1]
Indian rupee	-	232,566	245,913	N/A[1]
Indonesian rupiah	-	1,616,772	1,671,985	N/A[1]
Japanese yen	-	-	(3,784,623)	N/A[1]
Malaysian ringgit	-	-	(123,451)	N/A[1]
Mexican peso	-	521,244	(509,683)	N/A[1]
New Taiwan dollar	-	6,117	6,185	N/A[1]
New Zealand dollar	-	-	(1,999,263)	N/A[1]
Norwegian krone	-	1,122,790	1,111,226	N/A[1]
Peruvian sol	-	-	(236,432)	N/A[1]
Philippines peso	-	-	(606,917)	N/A[1]
Pound sterling	-	213,050	(738,506)	N/A[1]
Romanian leu	-	-	(274,719)	N/A[1]
Russian ruble (new)	-	109,371	105,153	N/A[1]
Singapore dollar	-	227,198	227,708	N/A[1]
South Korean won	-	-	(498,142)	N/A[1]
Swedish krona	-	-	(308,055)	N/A[1]
Swiss franc	-	13,509	13,484	N/A[1]
U.S. dollar	-	28,301,292	18,381,547	N/A[1]
Aggregated	366,289	-	-	N/A[1]
Total FFX contracts	366,289	38,221,037	(136,050)	
Futures contracts:				
Currency futures	(3,075)	(429,019)	(3,075)	Goldman Sachs & Co, NY (BBB+)
Currency futures	8,550	-	-	N/A
Eurodollar futures	240,340	43,114,185	236,940	Goldman Sachs & Co, NY (BBB+)
Eurodollar futures	(52,763)	-	-	N/A
Intl govt bond futures	(62,385)	(10,236,021)	(62,385)	Goldman Sachs & Co, NY (BBB+)
Intl govt bond futures	(4,617)	888,096	(4,617)	Bank of America Corp (A-)
Intl govt bond futures	(7,631)	-	-	N/A
Intl govt bond futures - UK	(4,025)	621,015	(4,025)	Bank of America Corp (A-)
Intl govt bond futures - UK	3,287	-	-	N/A
Treasury bonds	210,189	2,072,248	210,189	Goldman Sachs & Co, NY (BBB+)
Treasury bonds	(119,097)	-	-	N/A
Treasury notes	114,042	1,062,489	114,042	Goldman Sachs & Co, NY (BBB+)
Treasury notes	(719)	(211,594)	(719)	Bank of America Corp (A-)
Treasury notes	25,520	-	-	N/A
Total futures contracts	347,616	36,881,399	486,350	

[1] Counterparty ratings for FFX contracts are not available by currency. See table on the following page summarizing FFX contract ratings by counterparty.

Derivative Investments Detail (continued)				
Classification and Type	Change in Fair Value	Notional Value	Exposure/ Fair Value	Counterparty (Counterparty Rating)
Options:				
Credit default swaps	(953)	N/A	(975)	N/A
Eurodollar futures	(3,526)	N/A	225	Goldman Sachs & Co, NY (BBB+)
Eurodollar futures	(1,548)	N/A	-	N/A
Foreign currency options	3,634	N/A	7,698	HSBC Holdings PLC (A)
Foreign currency options	1,359	N/A	6,035	Morgan J P Secs Inc, New York (NR)
Foreign currency options	(52,256)	N/A	33,408	N/A
International govt bond futures	(444)	N/A	-	N/A
Treasury bonds	3,160	N/A	(3,156)	Goldman Sachs & Co, NY (BBB+)
Treasury bonds	(417)	N/A	-	N/A
Treasury notes	(38,162)	N/A	(68,898)	Goldman Sachs & Co, NY (BBB+)
Treasury notes	470	N/A	-	N/A
Total options	(88,683)		(25,663)	
Swaps:				
Cleared credit default swaps	(47,506)	1,440,000	(47,506)	Barclays PLC (BBB)
Cleared credit default swaps	(68,510)	11,000,000	61,061	Intercontinental Exchange Inc (A)
Cleared credit default swaps	321,598	1,360,000	(27,109)	N/A
Cleared interest rate swaps	(323,780)	119,516,200	(429,769)	CME Group Inc (AA-)
Cleared interest rate swaps	18,479	10,866,000	18,824	Morgan Stanley (BBB+)
Cleared interest rate swaps	125,354	18,125,000	216,995	N/A
Cleared zero coupon swaps	(27,786)	6,237,000	(27,786)	CME Group Inc (AA-)
Cleared zero coupon swaps	3,805	-	-	N/A
Credit default swaps	(13,867)	500,000	(9,967)	Barclays PLC (BBB)
Credit default swaps	16,255	-	-	N/A
Interest rate swaps	(521,738)	-	(521,738)	Bank of America Corp (A-)
Interest rate swaps	87,495	12,410,000	91,248	Citigroup Inc (BBB+)
Interest rate swaps	(33,813)	980,000	(33,813)	Goldman Sachs Group Inc (BBB+)
Interest rate swaps	496,207	740,000	496,207	N/A
Total swaps	32,193	183,174,200	(213,353)	
Total derivative investments	$ 657,415	$ 258,276,636	$ 111,284	

FFX Contracts Rating by Counterparty[2]	
Counterparty (Counterparty Rating)	Exposure/ Fair Value
Bank of America (A-)	$ (11,590)
Bank of New York Mellon Corp/The (A)	(4)
Barclays PLC (BBB)	(75,372)
Citigroup Inc (BBB+)	11,462
Goldman Sachs Group Inc/The (BBB+)	(94,880)
HSBC Holdings PLC (A)	23,392
JPMorgan Chase & Co (A-)	11,093
Morgan Stanley (BBB+)	(151)
Total FFX counterparties	$ (136,050)

[2] Counterparty ratings for FFX contracts are not available by currency, thus, summarized by Counterparty

Foreign Currency Risk: Currency risk arises due to foreign exchange rate fluctuations. The WRS' investment policies manage the exposure to foreign currency risk by allowing international securities investment managers to enter into forward exchange or future contracts on foreign currency provided such contracts have a maturity of less than one year. Currency contracts are only to be utilized for the settlement of securities transactions and defensive hedging of currency positions. The WRS' exposure to foreign currency risk on December 31, 2018 is presented in the accompanying table.

Currency	Cash and Cash Equivalents	Equities	Fixed Income	Derivatives
Argentina peso	$ (67,905)	$ -	$ 414,464	$ -
Australian dollar	(962,778)	8,283,317	1,133,618	2,926
Brazilian real	1,121,310	-	1,220,780	91,248
Canadian dollar	(119,004)	-	1,777,955	(9,665)
Chilean peso	7,023	-	238,824	-
Chinese r yuan hk	(352,236)	-	-	-
Chinese yuan renminbi	(72,531)	-	353,365	-
Colombian peso	35,767	-	-	-
Czech koruna	720,596	-	-	-
Danish krone	-	725,574	-	-
Euro currency unit	(11,861,883)	39,079,847	12,548,926	(63,732)
Hong Kong dollar	(512,353)	7,031,206	-	-
Hungarian forint	(182,553)	-	-	-
Indian rupee	245,913	-	198,628	-
Indonesian rupiah	1,671,985	-	-	-
Japanese yen	(3,740,499)	24,768,545	4,254,309	5,198
Malaysian ringgit	(123,451)	-	-	-
Mexican peso	(237,868)	-	2,052,819	(166,875)
New Taiwan dollar	6,185	-	-	-
New Zealand dollar	(1,994,378)	616,401	1,935,582	(59,344)
Norwegian krone	1,111,453	961,848	-	-
Peruvian sol	(236,432)	-	-	-
Philippines peso	(606,917)	-	-	-
Pound sterling	(620,905)	15,313,659	1,061,135	(3,706)
Romanian leu	(274,719)	-	-	-
Russian ruble (new)	105,153	-	-	-
Singapore dollar	227,708	975,062	-	-
South African rand	12	-	-	-
South Korean won	(498,142)	-	-	-
Swedish krona	(272,948)	1,542,333	774,975	-
Swiss franc	13,484	8,355,855	-	-
Total subject to foreign currency risk	$ (17,470,913)	$ 107,653,647	$ 27,965,380	$ (203,950)

All forward foreign currency contracts are carried at fair value by the WRS. As of December 31, 2018, the Systems held forward currency contracts with an unrealized loss of $136,050. If held, forward foreign currency contracts are reported as derivative investments in the financial statements.

Securities Lending Transactions: Policies of the Board of Trustees for the Wichita Employees' Retirement and Police and Fire Retirement Systems permit the lending of securities to broker-dealers and other entities (borrowers) with a simultaneous agreement to return the collateral for the same securities in the future. The WRS' custodial bank, The Bank of New York Mellon, is the lending agent for the Systems' domestic securities for initial collateral of 102% of the fair value of the loaned securities and international equity securities for initial collateral of 105% of the fair value of such securities. Collateral may consist of cash (U.S.currency only); securities issued or guaranteed by the U.S. government or its agencies or instrumentalities; and such other collateral as the parties may agree to in writing.

The collateral securities cannot be pledged or sold by the WRS unless the borrower defaults. The lending agent shall require additional collateral from the borrower whenever the value of loaned securities exceeds the value of the collateral in the agent's possession, so that collateral always equals or exceeds 100% of the fair value of the loaned securities. Contracts with the lending agent require them to indemnify the WRS, if the borrowers fail to return the securities (and if the collateral is inadequate to replace the securities lent) or fail to pay the WRS for income distributions by the securities' issuers while the securities are on loan.

At year-end, the WRS had no credit risk exposure to borrowers because the amounts the WRS owes the borrowers exceeded the amounts the borrowers owed the Systems. All securities loans, whether domestic or international, are open loans and can be terminated on demand by either the system or the borrower. At year-end, loaned securities were secured with cash collateral or securities collateral. The amount shown on the Statement of Fiduciary Net Position only reflects transactions where cash collateral was received. Cash collateral is invested in a separately managed cash collateral account. Also, since securities loans are terminable at will, the duration of the securities loans do not generally match the duration of the investments made with the cash collateral received from the borrower.

Custodial Credit Risk Related to Securities Lending: Custodial credit risk for lent securities is the risk that, in the event of the failure of the counterparty, the WRS will not be able to recover the value of its investments or collateral securities that are in possession of an outside party. Consistent with the WRS' securities lending policy, $47,307,773 was held by the counterparty acting as the WRS' agent in securities lending transactions on December 31, 2018.

Other Risk Information: Recent market conditions have resulted in an unusually high degree of volatility and increased risks associated with certain investments held by the Wichita Employees' Retirement System and the Police and Fire Retirement System. As a result, it is at least reasonably possible that changes in the fair values of investment securities will occur in the near term and such changes could materially affect the amounts reported in the financial statements. In addition, declines in the fair values of Systems' assets could ultimately affect the funded status of the WRS. The ultimate impact on the funded status will be determined based upon market conditions in effect when the annual valuation is performed.

3. Capital Assets

Capital asset activity for the year ended December 31, 2018 is presented in the following table (expressed in thousands of dollars).

	Beginning Balance	Increases	Decreases	Ending Balance
Pension administration hardware and software	$ 1,283	$ -	$ -	$ 1,283
Less: accumulated depreciation	(1,283)	-	-	(1,283)
Capital assets, net	$ -	$ -	$ -	$ -

4. Wichita Employees' Retirement System

Plan Description: The Wichita Employees' Retirement System (WERS) was established to provide retirement and survivor annuities, disability benefits, death benefits and other benefits for all regular full-time civilian employees of the reporting entity and their dependents. Plan 1 was established by City Ordinance on January 1, 1948 and became closed to new entrants prior to July 18, 1981. With the initiation of Plan 2, which was established by City Ordinance on July 18, 1981, all covered employees of Plan 1 were given the option of converting to the new plan. Plan 2 was closed to new entrants with the establishment of Plan 3 by City Ordinance, effective January 1, 1994.

Plan 3 was established by City Ordinance on April 9, 1993 and amended on February 8, 2000. The reporting entity's contributions and earnings for each employee are 25% vested after three years of service, 50% vested after five years of service and are fully vested after seven years of service. Upon completion of seven years of service, employees participating in Plan 3 automatically convert to participation in Plan 2 unless they make an irrevocable election to convert to Plan 3b, a defined contribution plan, within 90 days thereafter. Establishment of and amendments to the benefit provisions for the WERS are authorized by the City Council.

Benefits Provided: The primary benefits provided are retirement benefits. However, the System also provides ancillary benefits in the event of pre-retirement death, disability or termination of employment prior to meeting the eligibility requirements to retire.

Plan 1 members are eligible to retire at age 60 with seven years of actual service or at any age with 30 years of creditable service. Plan 2 members may retire at age 62 with seven years of actual service. Benefits for Plan 1 members are calculated using Final Average Salary (FAS), which is the member's compensation for the three highest consecutive years of service within the last 10 years, multiplied by the total years of creditable service and a factor of 2.5%, subject to a maximum of 75% of the FAS. Benefits for Plan 2 members are the same as Plan 1 except they are calculated using a factor of 2.25% instead of 2.5%. Benefits vest with seven years of actual service. The calculation is reduced with early retirement.

When a Plan 1 member has been retired for 12 months, the member receives an annual post-retirement adjustment of 3% of the original base amount of the benefit. The annual post-retirement adjustment for Plan 2 members is 2%.

As of December 31, 2018, the WERS plan membership consisted of the following:

Member Category	Plan 1	Plan 2	Plan 3	Total
Inactive employees or beneficiaries currently receiving benefits	649	772	-	1,421
Inactive employees entitled to but not yet receiving benefits	-	139	-	139
Active employees	2	852	675	1,529
Total membership	651	1,763	675	3,089

Deferred Retirement Option Plan (DROP) Provision: The benefit structure of both Plan 1 and Plan 2 include a Deferred Retirement Option Plan (DROP) provision. Members must be eligible to receive a service retirement benefit as of the DROP retirement date to participate in the DROP. The DROP period is one to 60 months. The monthly benefit amount is computed as of the DROP election date based on the final average salary and years of service as of that date. The benefit is paid into the member's notional DROP account during the deferral or DROP period. The member and City both continue to make the required contributions during the deferral period. These contributions are not credited to the member's DROP account, but are credited to general System assets to improve funding. Interest at an annual rate of 5.0%, compounded monthly, is credited to the notional DROP account. Voluntary termination of employment during the DROP period results in loss of accrued interest. When the member terminates employment, the balance of the DROP account is paid as a lump sum and future monthly benefits are paid to the member. The balance of the notional DROP accounts as of December 31, 2018 was $5,825,942.

Funding Policy: The contribution requirements of plan members and the reporting entity are established by City Ordinance and may be amended by the governing body. Members of Plan 1 and 2 are required to contribute 6.4% and 4.7% of covered salaries, respectively. Members of Plan 3 are required to contribute 4.7% of covered salaries. From its various operating funds, the City is required to contribute at an actuarially determined rate; the rate for 2018 was 12.8% of annual covered payroll for Plans 1, 2 and 3 (excluding compensation attributable to members who have made an irrevocable election to remain in the defined contribution plan after fully vesting at seven years of service). The actuarially determined rate is the estimated amount necessary to finance the cost of benefits earned by employees during the year, with an additional amount to finance any unfunded liability. The City may provide for pension expenses by levying ad valorem property taxes each year in the amount necessary to meet its obligation as determined by the WERS consulting actuary. For the year ended December 31, 2018, WERS received $10,099,027 in contributions from the employer for Plans 1, 2 and 3.

Actuarial Assumptions: A summary of the actuarial assumptions and other inputs used in measuring the total pension liability are presented in the accompanying table. The actuarial assumptions used in the December 31, 2018 valuation were based on the results of the most recent experience study, which covered a three-year period ending December 31, 2016. The experience report is dated April 17, 2018.

Price inflation	2.75%
Wage inflation	3.25%
Salary increases, including wage inflation	3.5% to 6.5%
Long-term rate of return, net of investment expense, including price inflation	7.59%
Active Members	based on the RP-2000 Employee Table, projected generationally using Scale AA (ages set forward two years for males, zero for females).
Healthy Retirees And Beneficiaries	based on the RP-2000 Healthy Annuitant Table, projected generationally using Scale AA (ages set forward two years for males, zero for females)
Disabled Retirees	based on the RP-2000 Disabled Table for Males and Females, projected generationally using Scale AA.

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return*
Large cap equity	31%	5.25%
Small cap equity	8%	5.85%
International equity	26%	5.75%
Fixed Income	19%	1.75%
Real Estate	7%	4.25%
Timber	5%	4.85%
Commodities	3%	0.95%
Cash	1%	0.55%
Total	100%	

* Geometric mean, net of investment expenses.

Actuarial Rate of Return Assumption: The long-term expected rate of return on pension plan investments is reviewed as part of the regular experience study prepared for the System. Several factors are considered in evaluating the long-term rate of return assumption, including long term historical data, estimates inherent in current market data, and an analysis in which best-estimate ranges of expected future real rates of return (expected return, net of investment expense and inflation), along with estimates of variability and correlations for each asset class. These ranges were combined to develop the long-term expected rate of return by weighting the expected future real rates of return the target asset allocation percentage and then adding expected inflation. The long-term rate of return assumption is intended to be a long-term assumption (30 to 50 years) and is not expected to change absent a significant change in the asset allocation, a change in the inflation assumption, or a fundamental change in the market that alters expected returns in future years. The target asset allocation and best-estimates of geometric real rates of return (net of 2.25% inflation assumption) for each major asset class are summarized in the accompanying table.

Discount Rate: The fiduciary net position is not projected to become depleted; therefore, a Municipal Bond Index Rate was not used in the determination of the Single Equivalent Interest Rate (SEIR) for either the December 31, 2018 or the December 31, 2017 valuations. Thus, the discount rate, or the SEIR, is equal to the long-term assumed rate of return on investments, as determined in the last experience study. The discount rate used to measure the total pension liability as of the December 31, 2018 valuation is 7.31%. Please note 7.50% is used in the annual funding valuation to determine the City's contribution rate.

The projection of cash flows used to determine the discount rate assumed that the employee contributions will be made at the current contribution rate and that the City contributions will be made at rates equal to the difference between the actuarially determined contribution rates and the employee rate. Projected future benefit payments for all current plan members were projected through 2118. Based on those assumptions, the System's fiduciary net position was projected to be available to make all projected future benefit payments of current and inactive employees. 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.

Total Pension Liability (TPL)	$	671,665,565
Less: Fiduciary Net Position (FNP)		(546,691,666)
Net Pension Liability (NPL)	$	124,973,899
Ratio of FNP to TPL		81.39%

Net Pension Liability of the City: The components of net pension liability as of December 31, 2018, are shown in the accompanying table. Actuarial valuation of an ongoing plan involves estimates of reported amounts and assumptions about the probability of occurrence of events far into the future. Amounts determined regarding the net pension liability are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The total pension liability was determined by an actuarial valuation as of December 31, 2017. A Schedule of Changes in the Employer's Net Pension Liability and Related Ratios is presented in the required supplementary information of this report on page A-28.

Sensitivity Analysis: The accompanying table presents the net pension liability of the City using the discount rate of 7.31%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1.0% lower (6.31%) or 1.0% higher (8.31%) than the current rate.

	Rate	City's Net Pension Liability
1.0% Decrease	6.31%	$ 199,651,517
Current Rate	7.31%	124,973,899
1.0% Increase	8.31%	61,721,810

5. Wichita Employees' Retirement System Plan 3b

The City contributes to Wichita Employees' Retirement System Plan 3b, a defined contribution pension plan, for all of its full-time civilian employees hired or rehired on or after January 1, 1994. Benefits depend solely on amounts contributed to the plan plus investment earnings.

Plan 3, established by City Ordinance on April 9, 1993 and amended on February 8, 2000, requires that both the employee and the reporting entity contribute an amount equal to 4.7% of covered salaries. The reporting entity's contributions and earnings for each employee are 25% vested after three years of service, 50% vested after five years and are fully vested after seven years of service.

The employees participating in the Plan will be converted to WERS Plan 2, a defined benefit plan, unless they make an irrevocable election to remain in the defined contribution plan within 90 days of becoming vested. If an employee converts to Plan 2, the employee's Plan 3 account balance becomes part of WERS assets available to pay future benefits of WERS defined benefit plan members. For this reason, Plan 3 members who have not made an irrevocable election to remain in the defined contribution plan are reported with the WERS defined benefit plan. Fully vested Plan 3 members who elect to remain in the defined contribution plan are referred to as Plan 3b members and are reported as a separate plan on the combining financial statements beginning on page A-6.

Fully vested employees who elect to continue participation in Plan 3b may contribute additional amounts into the plan as permitted by the rules of the Internal Revenue Code in effect at the time of the contribution. Contributions of the reporting entity and earnings forfeited by employees who leave employment before seven years of service are used to reduce the reporting entity's contribution requirements. Benefit terms, including contribution requirements, are established and may be amended by the City Council. For the year ending December 31, 2018, employee and employer contributions to Plan 3b totaled $202,077 and $202,075, respectively. As of December 31, 2018, there were 88 members covered under the defined contribution Plan 3b.

6. Police and Fire Retirement System of Wichita, Kansas

Plan Description: The Police and Fire Retirement System (PFRS) consists of three plans: Plan A, Plan B and Plan C-79. The plans were established to provide retirement and survivor annuities, disability benefits, death benefits and other benefits for Police and Fire Officers of the reporting entity and their dependents. All full-time active "commissioned" Police and Fire department personnel are required to participate in the plans. Plans A and B were established by City Ordinance on January 1, 1965 and Plan C-79 was established January 1, 1979 by City Ordinance. Plan B was closed to new entrants as of January 1, 1965 and Plan A was closed to new entrants as of December 31, 1978. Establishment of and amendments to the benefit provisions for the PFRS are authorized by the City Council.

Benefits Provided: The primary benefits provided are retirement benefits. However, the System also provides ancillary benefits in the event of pre-retirement death, disability or termination of employment prior to meeting the eligibility requirements to retire.

Plan A and Plan B members are eligible to retire at 20 years of actual service regardless of age. Plan C members are eligible to retire at 30 years of creditable service regardless of age, 20 years of actual service and age 50 or 10 years of actual service and age 55. Benefits are calculated using Final Average Salary (FAS), which is the member's compensation for the three highest consecutive years of service within the last 10 years, multiplied by the total years of creditable service and a factor of 2.5%, subject to a maximum of 75% of the FAS. Benefits vest after 10 years of service.

When a member has been retired for 36 months, they will receive an annual post-retirement adjustment to their benefit of 2% of the original base amount of the benefit.

As of December 31, 2018, the PFRS defined benefit plan membership consisted of the following:

Member Category	Plan A	Plan B	Plan C-79	Total
Inactive employees or beneficiaries currently receiving benefits	434	176	405	1,015
Inactive employees entitled to, but not yet receiving benefits	-	-	39	39
Active employees	2	-	1,065	1,067
Total membership	436	176	1,509	2,121

Backward Deferred Retirement Option Plan (DROP) Provision: The benefit structure of the Wichita Police and Fire Retirement System includes a Backward Deferred Retirement Option Plan (DROP). The Backward DROP is available to Plan A and Plan C-79 members. Members must be eligible to receive a service retirement benefit as of the Backward DROP retirement date. The DROP period is one to 60 months. The DROP period is the time between the Backward DROP retirement date and the date the employee terminates service. The retirement benefit is calculated as of the day prior to the Backward DROP retirement date. The employee's monthly retirement benefits (for the DROP period) plus applicable post retirement adjustments and interest at an annual rate of 5.0%, compounded monthly, is payable upon the employee's termination of service. When the member terminates employment, the balance of the DROP account is paid as a lump sum and the member begins to receive monthly retirement benefits on the month following termination of service.

Funding Policy: The contribution requirements of plan members and the reporting entity are established by City Ordinance and may be amended by the governing body. PFRS members are required to contribute 6% to 8% of covered salaries. From its various operating funds, the City is required to contribute at an actuarially determined rate; the rate for 2018 was 19.9% of annual covered payroll. The actuarially determined rate is the estimated amount necessary to finance the cost of benefits earned by employees during the year, with an additional amount to finance any unfunded liability. The City may provide for pension expenses by levying ad valorem property taxes each year in the amount necessary to meet its obligation as determined by the PFRS consulting actuary. For the year ended December 31, 2018, PFRS received $14,331,422 in contributions from the employer.

Actuarial Assumptions: A summary of the actuarial assumptions and other inputs used in measuring the total pension liability are presented in the table on the following page. The actuarial assumptions used in the December 31, 2018 valuation were based on the results of the most recent experience study, which covered the three-year period ending December 31, 2016. The experience report is dated April 17, 2018.

Price inflation	2.75%
Wage inflation	3.25%
Salary increases, including wage inflation	4.00% to 5.75%
Long-term rate of return, net of investment expense, including price inflation	7.58%
Active Members	based on the RP-2000 Employee Table for Males and Females projected generationally using Scale AA.
Healthy Retirees And Beneficiaries	based on the RP-2000 Healthy Annuitant Table for Males and Females projected generationally using Scale AA.
Disabled Retirees	based on the RP-2000 Disabled Table for Males and Females projected generationally using Scale AA.

Actuarial Rate of Return Assumption and Discount Rate: Information about the actuarial rate of return assumption and the discount rate is disclosed in Note 4 - Wichita Employees' Retirement System. Because the assets of the plans are pooled for investment purposes, the assumptions for the Police and Fire Retirement System are identical to those of the Wichita Employees' Retirement System.

Net Pension Liability of the City: The components of net pension liability as of December 31, 2018, are shown in the accompanying table. Actuarial valuation of an ongoing plan involves estimates of reported amounts and assumptions about the probability of occurrence of events far into the future. Amounts determined regarding the net pension liability are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The total pension liability was determined by an actuarial valuation as of December 31, 2018. A Schedule of Changes in the Employer's Net Pension Liability and Related Ratios is presented in the required supplementary information of this report on page A-30.

Total Pension Liability (TPL)	$	766,456,374
Less: Fiduciary Net Position (FNP)		(634,054,617)
Net Pension Liability (NPL)	$	132,401,757
Ratio of FNP to TPL		82.73%

Sensitivity Analysis: The accompanying table presents the net pension liability of the City using the discount rate of 7.45%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1.0% lower (6.45%) or 1.0% higher (8.45%) than the current rate.

	Rate		City's Net Pension Liability
1.0% Decrease	6.45%	$	228,648,164
Current Rate	7.45%		132,401,757
1.0% Increase	8.45%		52,666,153

7. Insurance

The WRS participate in the City of Wichita's self-insurance fund programs for workers' compensation, group life insurance, employee liability, property damage, auto liability and general liability. There were no settlements in excess of insurance coverage in any of the three most recent fiscal years. Additional information, including a general description of each program, can be found in the Comprehensive Annual Financial Report issued by the City of Wichita.

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WICHITA RETIREMENT SYSTEMS

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF CHANGES IN THE EMPLOYER'S NET PENSION LIABILITY AND RELATED RATIOS
WICHITA EMPLOYEES' RETIREMENT SYSTEM

For the years ended December 31, 2014 through December 31, 2018[1]

	2018	2017	2016	2015
TOTAL PENSION LIABILITY				
Service cost	$ 10,067,053	$ 10,049,029	$ 9,679,684	$ 9,644,456
Interest	47,789,825	46,669,189	45,634,881	44,305,832
Benefit term changes	-	-	-	-
Differences between expected and actual experience	(2,668,930)	(1,893,808)	(2,791,029)	(656,102)
Assumption changes	32,865,478	-	-	(8,877,507)
Reclassification due to conversion of members to Plan 3b	(179,012)	(191,292)	(244,793)	(465,171)
Benefit payments, including member refunds	(41,670,299)	(39,282,815)	(39,144,783)	(37,089,403)
Net change in total pension liability	46,204,115	15,350,303	13,133,960	6,862,105
Total pension liability - beginning	625,461,450	610,111,147	596,977,187	590,115,082
Total pension liability - ending (a)	671,665,565	625,461,450	610,111,147	596,977,187
PLAN FIDUCIARY NET POSITION				
Employer contributions	10,099,027	9,642,540	8,946,064	9,031,463
Employee contributions	3,755,812	3,682,056	3,642,007	3,574,026
Reclassification due to conversion of members to Plan 3b	(179,012)	(191,292)	(244,793)	(465,171)
Net investment income	(39,511,690)	91,773,973	35,956,780	13,380
Benefit payments, including member refunds	(41,670,299)	(39,282,815)	(39,144,783)	(37,089,403)
Administrative expenses	(580,204)	(633,379)	(615,829)	(624,085)
Net change in plan fiduciary net position	(68,086,366)	64,991,083	8,539,446	(25,559,790)
Plan fiduciary net position - beginning	614,778,032	549,786,949	541,247,503	566,807,293
Plan fiduciary net position - ending (b)	546,691,666	614,778,032	549,786,949	541,247,503
Net pension liability - ending (a) - (b)	$ 124,973,899	$ 10,683,418	$ 60,324,198	$ 55,729,684
Plan fiduciary net position as a percentage of the total pension liability	81.39%	98.29%	90.11%	90.66%
Covered payroll	78,898,648	78,394,634	77,121,241	74,028,385
Employer's net pension liability as a percentage of covered payroll	158.40%	13.63%	78.22%	75.28%

	2014
$	9,278,998
	43,680,283
	-
	(3,427,255)
	(3,550,489)
	(571,242)
	(37,681,042)
	7,729,253
	582,385,829
	590,115,082
	9,423,640
	3,394,544
	(571,242)
	28,659,491
	(37,681,042)
	(621,460)
	2,603,931
	564,203,362
	566,807,293
$	23,307,789
	96.05%
	71,391,212
	32.65%

NOTES TO SCHEDULE

Benefit changes:

- There have been no benefit changes in the plan in the last ten years.

Changes in actuarial assumptions:

December 31, 2018 valuation

- Decrease in the price inflation rate from 3.25% to 2.75%.
- Decrease in the investment return assumption from 7.75% to 7.50%.
- Decrease in the general wage growth assumption from 4.0% to 3.25%.
- Decrease in the covered payroll growth from 4.00% to 3.25%.
- Decrease in the indexation of terminated vested benefits from 4.00% to 3.50%.
- Modification of the retirement rates to better reflect the actual experience.
- Increase in the probability of entering the DROP from 70% to 75%.
- Change the termination of employment assumption.
- Decrease the merit component of the salary increase assumption.
- Reduce the sick leave load assumption from 2.50% to 1.75%.

December 31, 2015 valuation

- There were no changes to the assumptions used for the funding valuation, even though, the Single Equivalent Interest Rate (SEIR) at the measurement date was changed for GASB 67 valuation.

December 31, 2014 valuation

- Decrease in the price inflation rate from 3.50% to 3.25%.
- Modify Plan 2 retirement assumption to partially reflect experience. The changes increased rates at some ages and decreased them at others.
- Eliminate the disability assumption.
- Change the termination of employment assumption to a pure service-based assumption.
- Reduce the sick leave load from 4.0% to 2.5%.
- A 20% corridor was added to the actuarial value of assets calculation.

December 31, 2009 valuation

- Decrease in the price inflation rate from 4.0% to 3.5%.
- Decrease in the general wage growth assumption from 4.5% to 4.0%.
- Modification of the retirement rates for both Plans 1 and 2 to better reflect actual experience.
- Increase in the rates of termination of employment for ages under 32 for the ultimate assumption.
- Lower assumption for indexation of benefits for terminated vested members from 4.5% to 4.0% to be consistent with the general wage growth assumption.
- Non-disabled mortality tables were updated to reflect an additional year of mortality improvements.

[1] Schedule is intended to show a 10-year trend. Additional years will be reported as available.

WICHITA RETIREMENT SYSTEMS

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF CHANGES IN THE EMPLOYER'S NET PENSION LIABILITY AND RELATED RATIOS
POLICE AND FIRE RETIREMENT SYSTEM

For the years ended December 31, 2014 through December 31, 2018[1]

	2018	2017	2016	2015
TOTAL PENSION LIABILITY				
Service cost	$ 15,754,976	$ 15,178,226	$ 14,772,379	$ 14,981,100
Interest	53,649,438	51,532,754	49,519,284	47,600,166
Benefit term changes	-	-	-	-
Differences between expected and actual experience	11,768,665	(1,784,785)	(2,576,401)	(3,259,180)
Assumption changes	26,241,485	-	-	(10,871,013)
Benefit payments, including member refunds	(39,381,501)	(36,930,533)	(35,552,267)	(36,090,820)
Net change in total pension liability	68,033,063	27,995,662	26,162,995	12,360,253
Total pension liability - beginning	698,423,311	670,427,649	644,264,654	631,904,401
Total pension liability - ending (a)	766,456,374	698,423,311	670,427,649	644,264,654
PLAN FIDUCIARY NET POSITION				
Employer contributions	14,331,422	13,369,785	12,585,895	13,964,379
Employee contributions	5,599,216	4,915,378	4,776,958	4,603,331
Net investment income	(43,988,371)	103,236,679	39,901,640	(163,702)
Benefit payments, including member refunds	(39,381,501)	(36,930,533)	(35,552,267)	(36,090,820)
Administrative expenses	(590,098)	(554,641)	(548,171)	(521,018)
Net change in plan fiduciary net position	(64,029,332)	84,036,668	21,164,055	(18,207,830)
Plan fiduciary net position - beginning	698,083,949	614,047,281	592,883,226	611,091,056
Plan fiduciary net position - ending (b)	634,054,617	698,083,949	614,047,281	592,883,226
Net pension liability - ending (a) - (b)	$ 132,401,757	$ 339,362	$ 56,380,368	$ 51,381,428
Plan fiduciary net position as a percentage of the total pension liability	82.73%	99.95%	91.59%	92.02%
Covered payroll	72,017,196	69,634,297	66,946,250	65,560,465
Employer's net pension liability as a percentage of covered payroll	183.85%	0.49%	84.22%	78.37%

2014
$ 15,894,290
46,490,734
-
(12,040,126)
226,376
(36,415,156)
14,156,118
617,748,283
631,904,401
14,464,181
4,529,895
30,596,067
(36,415,156)
(542,207)
12,632,780
598,458,276
611,091,056
$ 20,813,345
96.71%
64,572,237
32.23%

NOTES TO SCHEDULE

Benefit changes:

- There have been no benefit changes in the plan in the last ten years.

Changes in actuarial assumptions:

December 31, 2018 valuation

- Decrease in the price inflation rate from 3.25% to 2.75%.
- Decrease in the investment return assumption from 7.75% to 7.50%.
- Decrease in the general wage growth assumption from 4.0% to 3.25%.
- Decrease in the covered payroll growth from 4.00% to 3.25%.
- Decrease in the indexation of terminated vested benefits from 4.00% to 3.50%.
- Modification to the retirement rates to reflect experience and created an assumption for members with more than 30 years of service to better reflect the actual retirement and BackDROP experience.
- Change the termination of employment assumption.
- Changed the probability of refund assumptions.
- Decrease the merit component of the salary increase assumption.
- Reduce the sick leave load assumption from 3.00% to 2.50%.

December 31, 2015 valuation

- There were no changes to the assumptions used for the funding valuation, even though, the Single Equivalent Interest Rate (SEIR) at the measurement date was changed for GASB 67 valuation.

December 31, 2014 valuation

- Decrease in the price inflation rate from 3.50% to 3.25%.
- Modify Plan C retirement assumption to partially reflect experience. Created separate rates for less than or more than 30 years of service.
- Lower assumed disability rates.
- Change the termination of employment assumption to a pure service-based assumption.
- Modify the probability of electing a refund to partially reflect actual, observed experience.
- Reduce the sick leave load from 4.0% to 3.0%.
- A 20% corridor was added to the actuarial value of assets calculation.

December 31, 2009 valuation

- Decrease in the price inflation rate from 4.0% to 3.5%.
- Decrease in the general wage growth assumption from 4.5% to 4.0%.
- Lower the retirement rates for Plan A and extend them to 35 years of service.
- Lower the retirement rates for Plan C members at ages before 53 and ages 58-60 and increase rates at ages 56 and 57.
- Increase the rates of termination of employment for ages under 44 and decrease rates at ages over 44.
- Lower assumption for indexation of benefits for terminated vested members from 4.5% to 4.0%.

[1] Schedule is intended to show a 10-year trend. Additional years will be reported as available.

WICHITA RETIREMENT SYSTEMS

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF EMPLOYER CONTRIBUTIONS
WICHITA EMPLOYEES' RETIREMENT SYSTEM

For the years ended December 31, 2009 through December 31, 2018
(dollars expressed in thousands)

	2018	2017	2016	2015	2014
Actuarially determined employer contributions	$ 10,099	$ 9,643	$ 8,946	$ 9,031	$ 9,424
Actual employer contributions	10,099	9,643	8,946	9,031	9,424
Annual contribution deficiency (excess)	$ -	$ -	$ -	$ -	$ -
Covered payroll	$ 78,899	$ 78,395	$ 77,121	$ 74,028	$ 71,391
Contributions as a percentage of covered payroll	12.80%	12.30%	11.60%	12.20%	13.20%

NOTES TO SCHEDULE

The system is funded with fixed contribution rates for members and actuarially determined amounts for the City of Wichita. The Actuarially Determined Employer Contributions in the Schedule of Employer Contributions are calculated as of December 31, two years prior to the end of the fiscal year in which contributions are reported.

The following actuarial methods and assumptions were used to determine the Actuarially Determined Contribution reported as of December 31, 2018.

Actuarial cost method	Entry age normal
Amortization method	Level percentage of payroll, open
Remaining amortization period	Rolling 20 years
Asset valuation method	Expected Value + 25% of (Fair Value - Expected Value)
Price inflation	3.25%
Salary increases, including wage inflation	4.25% - 7.20%
Long-term rate of return, net of investment expense and including inflation	7.75%

	2013	2012	2011	2010	2009
	$ 8,940	$ 7,503	$ 7,695	$ 6,689	$ 3,887
	8,940	7,503	7,695	6,689	3,887
	$ -	$ -	$ -	$ -	$ -
	$ 70,953	$ 70,783	$ 75,444	$ 79,636	$ 82,704
	12.60%	10.60%	10.20%	8.40%	4.70%

WICHITA RETIREMENT SYSTEMS

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF EMPLOYER CONTRIBUTIONS
POLICE AND FIRE RETIREMENT SYSTEM

For the years ended December 31, 2009 through December 31, 2018
(dollars expressed in thousands)

	2018	2017	2016	2015	2014
Actuarially determined employer contributions	$ 14,331	$ 13,370	$ 12,586	$ 13,964	$ 14,464
Actual employer contributions	14,331	13,370	12,586	13,964	14,464
Annual contribution deficiency (excess)	$ -	$ -	$ -	$ -	$ -
Covered payroll	$ 72,017	$ 69,634	$ 66,946	$ 65,560	$ 64,572
Contributions as a percentage of covered payroll	19.90%	19.20%	18.80%	21.30%	22.40%

NOTES TO SCHEDULE

The system is funded with fixed contribution rates for members and actuarially determined amounts for the City of Wichita. The Actuarially Determined Employer Contributions in the Schedule of Employer Contributions are calculated as of December 31, two years prior to the end of the fiscal year in which contributions are reported.

The following actuarial methods and assumptions were used to determine the Actuarially Determined Contribution reported as of December 31, 2018.

Actuarial cost method	Entry age normal
Amortization method	Level percentage of payroll, open
Remaining amortization period	Rolling 20 years
Asset valuation method	Expected Value + 25% of (Fair Value - Expected Value)
Price inflation	3.25%
Salary increases, including wage inflation	5.00% - 6.75%
Long-term rate of return, net of investment expense and including inflation	7.75%

2013		2012		2011		2010		2009	
$	14,890	$	14,113	$	13,807	$	13,120	$	11,035
	14,890		14,113		13,807		13,120		11,035
$	-	$	-	$	-	$	-	$	-
$	65,306	$	64,150	$	62,759	$	63,077	$	63,055
	22.80%		22.00%		22.00%		20.80%		17.50%

WICHITA RETIREMENT SYSTEMS

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF INVESTMENT RETURNS

For the years ended December 31, 2014 through December 31, 2018[1]

	2018	2017	2016	2015	2014
Annual money-weighted rate of return, net of investment expenses	(5.86) %	17.40 %	7.16 %	0.63 %	5.18 %

[1] Schedule is intended to show a 10-year trend. Additional years will be reported as available.

WICHITA RETIREMENT SYSTEMS

SUPPLEMENTARY INFORMATION
SCHEDULE OF ADMINISTRATIVE EXPENSES

For the year ended December 31, 2018
(with comparative totals for the year ended December 31, 2017)

	Police and Fire Retirement System	Employees' Retirement System	Employees' Retirement Plan 3b	Totals 2018	Totals 2017
Personnel services:					
Wages	$ 244,368	$ 232,150	$ 12,218	$ 488,736	$ 544,518
Benefits	71,647	68,064	3,582	143,293	124,668
Total personnel services	316,015	300,214	15,800	632,029	669,186
Contractual services:					
Telephone	1,889	1,794	94	3,777	3,108
Postage	918	872	46	1,836	4,431
Transportation and travel	2,252	2,982	59	5,293	14,046
Data center charges	5,777	5,316	280	11,373	11,348
City adminstrative fees	26,545	26,545	-	53,090	52,932
Actuarial fees	66,153	63,533	-	129,686	80,926
Audit fees	8,893	8,893	-	17,786	16,168
Studies and consultants	21,516	7,566	-	29,082	10,940
Legal services	440	2,846	2	3,288	25,622
Advertising	235	235	-	470	160
Periodicals and manuals	182	173	9	364	266
Membership dues	400	2,260	20	2,680	2,610
Printing and photocopying	7,641	5,399	230	13,270	15,500
Plan 3 participant administration	-	20,644	11,756	32,400	32,000
Pension software expense	105,761	93,761	-	199,522	173,529
Depreciation	-	-	-	-	-
Custody transactions	22,082	33,195	40	55,317	52,543
Other	1,873	2,767	(1,012)	3,628	3,097
Total contractual services	272,557	278,781	11,524	562,862	499,226
Commodities:					
Office equipment and supplies	1,058	1,005	53	2,116	2,018
Data processing equipment	-	-	-	-	25,988
Other	468	204	7	679	1,327
Total commodities	1,526	1,209	60	2,795	29,333
Total administrative expenses	$ 590,098	$ 580,204	$ 27,384	$ 1,197,686	$ 1,197,745

WICHITA RETIREMENT SYSTEMS

SUPPLEMENTARY INFORMATION
SCHEDULE OF INVESTMENT EXPENSES

For the year ended December 31, 2018
(with comparative totals for the year ended December 31, 2017)

	Police and Fire Retirement System	Employees' Retirement System	Employees' Retirement Plan 3b	Totals 2018	Totals 2017
Investment expenses:					
Financial consulting	$ 129,000	$ 127,674	$ 1,326	$ 258,000	$ 275,096
Custodial bank	154,385	133,976	921	289,282	267,651
Investment management fees	3,356,185	2,987,382	19,512	6,363,079	6,281,126
Total investment expenses	$ 3,639,570	$ 3,249,032	$ 21,759	$ 6,910,361	$ 6,823,873

SCHEDULE OF PAYMENTS MADE TO CONSULTANTS OTHER THAN INVESTMENT ADVISORS

For the year ended December 31, 2018
(with comparative totals for the year ended December 31, 2017)

	Police and Fire Retirement System	Employees' Retirement System	Employees' Retirement Plan 3b	Totals 2018	Totals 2017
Ice Miller LLP					
(legal services)	$ 440	$ 2,846	$ 2	$ 3,288	$ 25,622
Cavanaugh Macdonald Consulting					
(actuarial services)	66,153	63,533	-	129,686	80,926
Allen, Gibbs & Houlik, L.C.					
(auditing services)	8,893	8,893	-	17,786	16,168
Northeast Retirement Services					
(participant accounting)	-	20,644	11,756	32,400	32,000
Total payments	$ 75,486	$ 95,916	$ 11,758	$ 183,160	$ 154,716

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

The Boards of Trustees
Wichita Retirement Systems
Wichita, Kansas

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Wichita Retirement Systems of the City of Wichita, Kansas (Systems), which comprise the statement of fiduciary net position as of December 31, 2018, the related statement of changes in fiduciary net position for the year then ended, and the related notes to the financial statements, and have issued our report thereon dated June 26, 2019.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Systems' internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Systems' internal control. Accordingly, we do not express an opinion on the effectiveness of the Systems' internal control.

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

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

Compliance and Other Matters

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

Allen, Gibbs & Houlik, L.C. aghlc.com aghemployersolutions.com aghuniversity.com 316.267.7231 301 N. Main, Suite 1700 Wichita, KS 67202-4868

Purpose of this Report

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

Allen, Gibbs & Houlik, L.C.
CERTIFIED PUBLIC ACCOUNTANTS

June 26, 2019
Wichita, Kansas

INVESTMENT SECTION

Callan

Callan LLC
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May 28, 2019

The Wichita Retirement Systems
Wichita Employees' Retirement System and Police & Fire Retirement System of Wichita
455 North Main Street, 12th Floor
Wichita, KS 67202

RE: Report on 2018 Investment Activities

Dear Board Members:

The City of Wichita created the Wichita Retirement Systems in order to make investments for the sole interest of the participants and beneficiaries of the Retirement Fund. Accordingly, the assets of the Fund are invested with these investment objectives: (1) to fulfill current benefit obligations; (2) to maximize return within reasonable and prudent levels of risk; and (3) to maintain sufficient liquidity to meet benefit payment obligations when due.

Trust Fund assets are to be invested with the care, skill, and diligence that a prudent person acting in a like capacity would undertake. The Boards acknowledge that they have the objective of controlling the costs involved with administering and managing the investments of the Fund.

The Boards, with information provided by their Financial Consultant, closely monitor the Fund's asset mix to assure compliance with the adopted Investment Policy Statement and appropriate City ordinances that regulate the investment process.

On an ongoing basis, the Boards implement a performance measurement and evaluation process that examines rates of return for the Trust Fund in total, the major asset classes, and individual managers. The Boards compare returns to broad market indices and relevant "peer groups" of investment managers with similar investment styles. All returns are time-weighted rates of return calculated by the Fund's Financial Consultant on the basis of fair value and cash flow data provided by the Fund's custodian bank.

Investors' appetite for risk evaporated as 2018 drew to a close and wiped out positive returns for the year across risk assets. Concerns over tighter monetary policy and the global withdrawal of stimulus measures, unresolved trade disputes, falling oil prices, and slower global growth overshadowed other robust aspects of the domestic economy. U.S. Treasury prices rose, expectations for Fed hikes in 2019 dissipated, and the S&P 500 had its worst December since 1931. At one point the S&P 500 index fell nearly 20% from a record high during the fourth quarter.

The fourth quarter saw volatility return with a vengeance in December. The S&P 500 gained/lost more than 1% in a day 10 times in December alone; in the entire year of 2017 this occurred only eight times. For the quarter, the S&P 500 Index fell 13.5%, its worst quarterly result since 3Q 2011, erasing gains for the year (2018: -4.4%). Small cap stocks suffered the most (Russell 2000

Index: -20.2% vs. Russell 1000 Index: -13.8%) during the quarter and also underperformed for the full year (Russell 2000 Index: -11.0% vs. Russell 1000 Index: -4.8%). Overseas, the MSCI EAFE Index returned -12.5% in the fourth quarter of 2018 and -13.8% for the calendar year.

The Federal Open Market Committee increased its federal funds rate target by 25 bps at the December meeting, bringing it to a range of 2.25% - 2.50%. The Fed reduced its projections for 2019 rate hikes from three to two. The year-end fed funds futures prices indicated a nearly 90% probability of no rate hikes in 2019. Broad fixed income markets, as measured by the Bloomberg Aggregate Index, returned 0.0% for the year. The private real estate markets, as measured by the NCREIF Total Property Index, continued its upward climb and gained 6.7% during the year. The NCREIF Timberland Index returned 3.4%, while the Bloomberg Commodity Index fell 11.3%.

As noted in the Schedule of Investment Results, the Fund generated a total return of -6.0% for the year ended December 31, 2018, which trailed the -5.7% return of the Fund's target benchmark. In aggregate, active management detracted value during the year, particularly in international equities.

Yours truly,

Paul Erlendson
Senior Vice President
Callan LLC

Gordon Weightman, CFA
Senior Vice President
Callan LLC

Investment Policy Summary

Strategic Plan: Assets of the Wichita Employees' and Police and Fire Retirement Systems (Fund) are invested in a diversified mix of domestic and international equities, domestic and international fixed income securities, real estate, timber, commodities and cash equivalents. The Fund is overseen by the Joint Investment Committee (JIC), comprised of the President of each Board, two elected members from each Board, two City Council appointees from each Board and a City Manager's designee.

Investment Policies: The duties of the Boards include, but are not limited to, approving the Asset Allocation Plan and Investment Policy contained in the Strategic Plan, annual performance review of the investment portfolio and the hiring of a common financial consultant and actuary.

The duties of the JIC include, but are not limited to, making recommendations to the Boards on the Asset Allocation Plan and Investment Policy and the hiring of a common financial consultant and actuary; quarterly performance review of the investment portfolio; and retention and termination of the Fund's investment managers and the custodial bank.

The assets of the Fund are managed solely in the interest of each System's participants and beneficiaries. Fund assets are allocated to professional investment managers who are given full investment discretion with respect to assets under their management, subject to mandated investment guidelines. In the event an investment manager search is deemed prudent by the JIC, a "candidate profile" will be created for each search that lists the rationale and objective in addition to any preferences and requirements relevant to the selection of candidates.

Investment Objectives: The goal of the Fund is to ensure sufficient resources to meet or exceed benefit obligations. Pursuing these objectives, the Boards will endeavor to earn the maximum total return on assets consistent with maintaining a prudent level of risk. In investing and reinvesting monies in the Fund, there shall be exercised the judgment and care under the circumstances then prevailing which people of prudence, discretion and intelligence exercise in the management of their own affairs.

Total Fund returns are compared to a blended target index composed of market indexes weighted to the applicable asset class median. As of December 31, 2018, the blended target consisted of the following:

Asset Class	Target Allocation	Relevant Index
Domestic Equity	39%	Russell 3000 Index
International Equity	26%	Morgan Stanley Capital International, All Country World ex-U.S. Index.
Fixed Income	19%	Bloomberg/Barclays Aggregate Bond Index
Real Estate	7%	National Council of Real Estate Investment Fiduciaries (NCREIF) Total Property Index
Timber	5%	National Council of Real Estate Investment Fiduciaries (NCREIF) Timberland Index
Commodities	3%	Bloomberg Commodity Index
Cash	1%	3 month Treasury Bill Index
Total	100%	

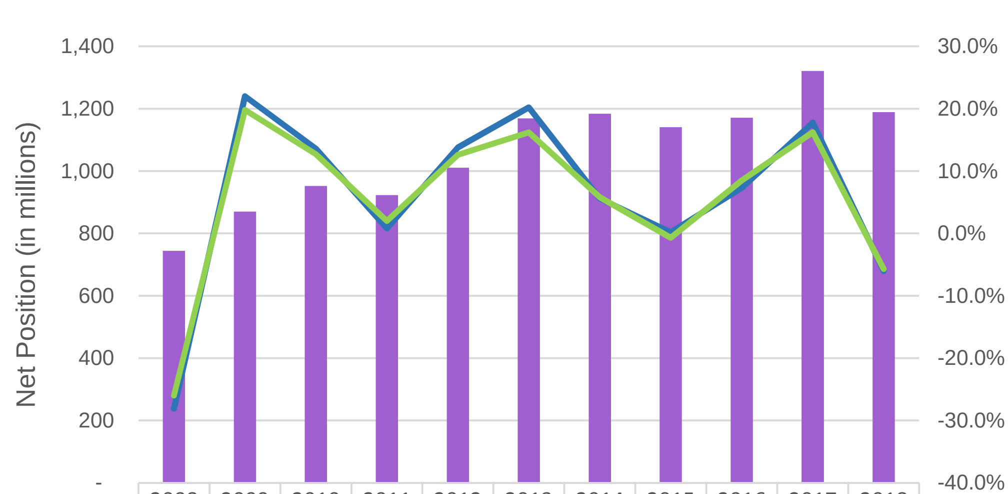
The Boards expect the Fund's overall returns to be less volatile than the relevant market indices. The Fund's long-term objective is to achieve an annualized rate of return that is 4.75% higher than the price inflation assumption.

Each equity and fixed income manager's total fund return on a time-weighted basis is compared to a universe of managers employing a similar investment style. Performance relative to a manager's style group is expected to be above median over rolling seven year periods. Over the long term, (ie. a market cycle or periods greater than seven years), each manager's performance will also be compared to a relevant market index.

Investment Performance

The accompanying chart illustrates annual portfolio investment performance compared to the benchmark and changes in the Fund's net position based on asset class allocations at year-end. After a volatile investment environment in 2008, returns in 2009 through 2013 helped stabilize the fund. The 2018 Fund return of (6.0%) outperformed the benchmark return of (5.7%). The Fund's net position decreased by $132.5 million, or (10.0%).

Investment Return and Fund Net Position



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Net Position	744	870	952	923	1,011	1,169	1,184	1,141	1,171	1,321	1,189
System Return	-28.1%	22.0%	13.6%	0.8%	13.8%	20.2%	5.6%	0.2%	7.3%	17.8%	-6.0%
Benckmark Return	-26.0%	19.8%	12.7%	2.0%	12.6%	16.2%	5.8%	-0.7%	8.5%	16.2%	-5.7%

The accompanying table illustrates Fund performance compared with plan target and relevant index comparisons.

	Annualized Returns [1]			
	1 year	3 years	5 years	10 years
Fund performance[2]	(6.04%)	5.90%	4.68%	9.18%
Fund target performance [3]	(5.73%)	5.94%	4.51%	8.23%
Domestic equity	(5.72%)	8.51%	7.34%	13.65%
Russell 3000 Index	(5.24%)	8.97%	7.91%	13.18%
International equity	(15.61%)	3.63%	0.95%	6.48%
MSCI All Country World ex-US Index	(14.09%)	3.11%	0.34%	6.24%
Fixed income	(0.14%)	2.92%	3.16%	5.23%
Bloomberg Barclay's Agregate Bond Index	0.01%	2.06%	2.52%	3.48%
Real Estate	7.73%	7.39%	10.22%	6.09%
NCREIF-ODCE Index	7.30%	7.53%	9.60%	5.92%
Timber	1.85%	2.43%	3.45%	-
NCREIF Timberland Index	3.44%	3.22%	4.98%	-
Commodities	(11.85%)	3.92%	-	-
Bloomberg Commodity Index	(11.25%)	0.30%	(8.80%)	-

[1] Performance returns are calculated using a time-weighted return on market values.

[2] Performance is gross of fees. Timber was funded after January 2011. Commodities were funded in 2014.

[3] Fund target performance is as follows:

(a) From 01/01/07 until 12/31/2010; 38% S&P 500 Index; 9% Russell 2000 Index; 20% Morgan Stanley Capital International EAFE Index; 28% Barclays Capital Aggregate Bond Index; 5% NCREIF Total Property Index.

(b) From 01/01/11 until 09/30/2011; 32% Russell 1000 Index; 9% Russell 2000 Index; 20% Morgan Stanley Capital International All Country World (ex-U.S.) Index; 28% Barclays Captial Aggregate Bond Index; 5% NCREIF Total Property Index.

(c) From 10/01/11 until present; 32% Russell 1000 Index; 8% Russell 2000 Index; 22% Morgan Stanley Capital International All Country World (ex-U.S.) Index; 22% Barclays Capital Aggregate Bond Index; 5% NCREIF Total Property Index; 5% NCREIF Timberland Index; 3% Barclays Capital U.S. TIPS Index; 3% Dow Jones-UBS Commodity Index.

(d) From 10/01/16 until present; 31% Russell 1000 Index; 8% Russell 2000 Index; 26% Morgan Stanley Capital International All Country World (ex-U.S.) Index; 19% Bloomberg/Barclays Aggregate Index; 7% NCREIF Total Property Index; 5% NCREIF Timberland Index; 3% Bloomberg Commodity Trust Index; 1% 3-month Treasury Bill.

Asset Allocation

The Wichita Employees' and the Police and Fire Retirement Boards believe that a diversified portfolio aids in the preservation of investment principal. Growth with limited risk is the Fund's objective. The Boards established the Joint Investment Committee (JIC) to manage the assets of both Systems. Asset allocation, in conjunction with investment manager selection, has a significant impact on investment performance. The JIC is responsible for recommending an Asset Allocation Plan developed with the assistance of Callan, LLC, the Board's financial consultant.

The Boards review the adopted Asset Allocation Plan at least every three years. In 2016, the JIC conducted an Asset-Liability Study to determine whether asset classes should be added, removed, or changed from the existing asset mix. The Boards' financial consultant assisted with asset modeling to define appropriate capital market and liability assumptions to create asset mix alternatives that help simulate financial conditions, define risk tolerance, and identify the appropriate target mix for the portfolio. After a thorough review, the JIC made the following asset allocation changes: (1) eliminated the 3% allocation in the Treasury Inflation Protected Securities (TIPS) fund; (2) reduced domestic equity exposure by 1%; (3) reduced fixed income exposure by 3%; (4) increased the cash position by 1%; (5) increased international equities by 4%; and (6) increased the real estate allocation by 2% in the portfolio. The implementation of the changes began in September 2016 and was completed as of December 31, 2017.

The Boards' commitment to the adopted Asset Allocation Plan, which ensures a diversified portfolio, is especially important to minimize the Fund's exposure to market volatility and to help preserve sufficient funding for future generations. As of December 31, 2018, 64.5% of the Fund's assets were invested in equities, 19.95% in fixed income, 7.16% in real estate, 4.57% in timber, 2.77% in commodities and 1.05% in cash. The accompanying table displays the Fund's target and actual asset allocations on December 31, 2018.

	Asset Allocation			
Asset Class	Minimum[1]	Target	Maximum[1]	Actual
Domestic equity:				
Large/mid-cap	17.50%	20.80%	24.00%	21.42%
Large-cap passive	8.50%	10.40%	11.50%	10.23%
Small-cap	7.00%	7.80%	9.50%	7.95%
Total domestic equity	33.00%	39.00%	45.00%	39.60%
International equity:				
Active core	9.00%	10.40%	12.00%	9.49%
Passive core	5.50%	6.50%	7.50%	6.11%
Small-cap	3.00%	3.90%	4.50%	3.69%
Emerging markets	4.50%	5.20%	6.00%	5.61%
Total international equity	22.00%	26.00%	30.00%	24.90%
Fixed income:				
Active core	6.50%	7.60%	8.50%	8.02%
Active core plus	6.50%	7.60%	8.50%	7.99%
Global	3.00%	3.80%	5.00%	3.94%
Total fixed income	16.00%	19.00%	22.00%	19.95%
Real estate:				
Core	5.00%	7.00%	9.00%	7.16%
Timber	3.00%	5.00%	7.00%	4.57%
Commodities	2.00%	3.00%	4.00%	2.77%
Cash	0.00%	1.00%	5.00%	1.05%

[1] Because the styles within each asset class are more restrictive than the overall asset class, the min/max ranges for the styles within each asset class may not total the min/max for the overall asset class.

Investment Holdings

The Fund's top ten largest equity holdings by fair value and top ten largest fixed income holdings by fair value as of December 31, 2018 are summarized in the accompanying tables. A complete listing of the portfolio of investments is available from the Pension Management Office upon request.

Ten Largest Equity Holdings
As of December 31, 2018

Holding	Fair Value	Number of Shares	Percent of Total Portfolio
Microsoft Corporation	$ 10,836,605	106,691	0.90%
Amazon.com, Inc.	9,423,360	6,274	0.78
Alphabet, Inc. Class C	7,102,213	6,858	0.59
VISA Inc. Class A	5,884,392	44,599	0.49
United Health Group, Inc.	5,287,323	21,224	0.44
Adobe Inc.	4,191,775	18,528	0.35
Salesforce.com Inc.	4,087,733	29,844	0.34
Facebook, Inc. A	3,312,382	25,268	0.28
Royal Dutch Shell Plc	3,251,600	110,872	0.27
Apple, Inc.	3,208,905	20,343	0.27
Total	$ 56,586,288	390,501	4.71%

Ten Largest Fixed Income Holdings
As of December 31, 2018

Holding	Fair Value	Number of Shares	Percent of Total Portfolio
US Treasury Bond	$ 7,974,329	8,420,000	0.66%
Merrill Lynch Rev Repo	7,600,000	7,600,000	0.63
US Treasury Note	5,311,971	5,510,000	0.44
Japanese Government CPI Linked	3,787,502	403,051,212	0.32
US Treasury Note	3,672,886	3,610,000	0.31
US Treasury Bond	2,134,585	1,890,000	0.18
US Treasury Note	2,024,666	1,990,000	0.17
FNMA Pool 0BM4580	1,977,092	1,972,988	0.16
FNMA Pool 0BH2594	1,975,328	1,974,380	0.16
Bundesrepublik Deutschland	1,939,200	1,205,000	0.16
Total	$ 38,397,559	437,223,580	3.19%

The tables presented on the following pages provide additional information about portfolio investments, including fair value of investment assets by investment, assets under management and related investment management fees by manager and brokerage commissions earned for the year ended December 31, 2018.

Investment Summary by Type of Investment
as of December 31, 2018

Type of Investment	Fair Value	% of Total Portfolio
Government short-term investment fund	$ 41,072,687	3.41%
Equity:		
Domestic equity	433,581,511	35.95
International equity	293,006,659	24.30
Total equities	726,588,170	60.25
Fixed income	249,453,596	20.68
Commodities	33,702,764	2.79
Real estate	90,063,631	7.47
Target date and money market funds	5,040,886	0.42
Timber	56,060,033	4.65
Derivative investments	111,284	0.01
Securities lending short-term collateral investment pool	3,891,200	0.32
Total Investments	$ 1,205,984,251	100.00%

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Investment Assets Under Management and Related Management Fees

As of and for the year ended December 31, 2018

Asset Category/Investment Manager	Management Fees	Fair Value
Fixed income:		
Richmond Capital Management, Inc.	$ 181,824	$ 100,723,980
Western Asset Management Co.	265,179	101,391,547
The Bank of New York Mellon Collective Trust GSTIF[1]	-	41,072,687
Standish Mellon Asset Management	173,518	47,449,533
Total fixed income	620,521	290,637,747
Domestic equity:		
Barrow, Hanley, Mewhinney & Strauss, Inc.	636,614	117,612,680
Boston Partners Asset Management	480,365	43,646,912
Fred Alger Management, Inc.	641,295	114,948,497
Peregrine Capital Management	510,483	41,213,860
Voya Investment Management Co.	-	273
SSGA[2] S&P 500 Flagship Fund	42,139	116,159,289
Total domestic equity	2,310,896	433,581,511
International equity:		
Fidelity Investment Asset Mgmt	654,428	109,801,285
SSGA[2] MSCI World-Ex-U.S. Index	62,269	72,382,277
Brandes Investment Partners	447,322	43,676,354
AQR Emerging Markets Index Fund	632,309	67,146,563
Total international equity	1,796,328	293,006,479
Real estate:		
RREEF America REIT II	433,921	46,804,615
UBS Trumbull Property Fund	368,321	43,259,016
Total real estate	802,242	90,063,631
Timber:		
Molpus Woodlands Fund III	253,087	24,177,798
Molpus Woodlands Fund IV	299,444	31,882,235
Total timber	552,531	56,060,033
Commodities:		
Wellington	280,561	33,702,764
Defined contribution pooled funds:		
SSGA[2] Target Date Funds	-	4,610,880
SSGA[2] Cash Series Prime Fund CL C	-	430,006
Total defined contribution pooled funds	-	5,040,886
Total	$ 6,363,079	$ 1,202,093,051

[1]Government Short Term Investment Fund

[2]State Street Global Advisors

Schedule of Brokerage Commissions
For the year ended December 31, 2018

Brokerage Firm	Total Commissions	Number of Shares	Commission Per Share	Percent of Total
Cowen and Company, LLC, Jersey City	$ 35,924	1,041,382	$ 0.03450	10.85%
Goldman Sachs & Co, NY	26,150	899,894	0.02906	7.90
Goldman Sachs Intl, London	15,548	1,330,713	0.01168	4.69
Weeden & Co, New York	14,707	551,794	0.02665	4.44
UBS Securities LLC, Stamford	11,835	460,457	0.02570	3.57
Citigroup Global Markets Ltd, London	11,794	1,345,686	0.00876	3.56
Liquidnet Inc, New York	9,994	511,394	0.01954	3.02
J.P. Morgan Securities Inc, New York	9,871	356,032	0.02773	2.98
Morgan Stanley & Co, London	9,419	836,293	0.01126	2.84
JP Morgan Securities Ltd, London	8,694	561,251	0.01549	2.63
Wells Fargo Securities, LLC, New York	7,616	205,638	0.03704	2.30
Merrill Lynch Pierce Fenner Smith Inc NY	6,777	363,361	0.01865	2.05
Cowen and Co LLC, New York	6,027	241,896	0.02492	1.82
Credit Suisse (HK) Limited, Hong Kong	5,382	306,020	0.01759	1.63
Macquarie Bank Ltd, Hong Kong	5,136	305,700	0.01680	1.55
Credit Suisse, New York (CSUS)	4,767	251,014	0.01899	1.44
William Blair & Co, Chicago	4,668	193,006	0.02419	1.41
UBS Equities, London	4,586	172,549	0.02658	1.38
Merrill Lynch Gilts Ltd, London	4,531	168,600	0.02687	1.37
Baird, Robert W & Co Inc, Milwaukee	4,186	114,600	0.03653	1.26
Jefferies & Co Inc, New York	4,156	197,663	0.02103	1.25
Piper Jaffray & Co, Jersey City	3,829	98,328	0.03894	1.16
Deutsche Bank Intl Eq, London	3,731	202,725	0.01840	1.13
Instinet Clearing Ser Inc, New York	3,628	191,854	0.01891	1.10
Raymond James & Assoc Inc, St. Petersburg	3,550	100,054	0.03548	1.07
Tourmaline Partners LLC, New York	3,398	94,390	0.03600	1.03
Merrill Lynch Intl London Equities	3,321	792,890	0.00419	1.00
Other firms (Includes 140 brokerage firms, each contributing less than 1% of total	97,934	7,852,667	0.01247	29.57
Total brokerage commissions	$ 331,159	19,747,851	$ 0.01677	100.00%

ACTUARIAL SECTION

May 28, 2019

The Retirement Boards
Wichita Employees' Retirement System and
Police and Fire Retirement System of Wichita, Kansas
455 North Main Street, 12th Floor
Wichita, Kansas 67202

RE: Certification of December 31, 2018 Actuarial Valuations

Dear Board Members:

We certify that the information included herein and contained in the 2018 Actuarial Valuation Reports is accurate and fairly presents the actuarial position of the Wichita Employees' Retirement System (WER) and the Police and Fire Retirement System of Wichita, Kansas (WPF) as of December 31, 2018.

All calculations have been made in conformity with generally recognized and accepted actuarial principles and practices, and with applicable Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, the results presented comply with the requirements of the City ordinances, where applicable, the Internal Revenue Code, and the Statements of the Governmental Accounting Standards Board. The undersigned are independent actuaries who are experienced in performing valuations for public retirement systems. They are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Actuarial Valuations

The primary purpose of the actuarial valuation is to determine the City's contribution rate to fund each System on an actuarial basis, to describe the current financial condition of the Systems, and to analyze changes in the Systems' financial condition.

Actuarial computations, based on the actuarial valuation performed as of December 31, 2018, were also prepared for purposes of fulfilling financial accounting requirements for the Systems under Governmental Accounting Standards Board Number 67 (GASB 67). The assumptions used in the funding valuations were also used for GASB 67 reporting, with the exception of the discount rate which is based on the Systems' long-term rate of return. The actuarial valuation uses an investment return assumption of 7.50%, which is net of administrative expenses. The GASB 67 calculations use a discount rate of 7.59% for WER and 7.58% for WPF, which is the long-term expected rate of return prior to adjustment for administrative expenses.

Financing Objective of the Systems

The funding objective of each Retirement System is to establish and receive contributions which:

- when expressed as percents of active member payroll, will remain approximately level from generation to generation of Wichita citizens, and

- when combined with present assets and future investment returns will be sufficient to meet the financial obligations of the Systems to present and future retirees and beneficiaries.

The financial objective is addressed within the annual actuarial valuations. The valuation process develops contribution rates that are sufficient to fund the plan's current normal cost (i.e. the costs assigned by the valuation method to the year of service about to be rendered), as well as to fund unfunded actuarial liabilities as level percents of active member payroll in future years. The most recent annual actuarial valuations were completed based upon membership data, asset data and plan provisions as of December 31, 2018. For both the Wichita Employees' Retirement System and the Police and Fire Retirement System of Wichita, Kansas, actuarial liabilities exceeded valuation assets. This difference, called the unfunded actuarial liability, was $59.9 million for the Wichita Employees' Retirement System and $71.1 million for the Police and Fire Retirement System of Wichita, Kansas. The unfunded actuarial liability is amortized as a level percent of payroll over an open 20-year period in both Systems.

An asset smoothing method is used in the valuation process so actual investment experience is recognized over a period of time. On a market value basis, the rate of return on assets in 2018 was -6.5% for both Systems. As a result of the use of an asset smoothing method, the rate of return on the actuarial value of assets for 2018 was about +4.8%, lower than the assumed rate of return for 2018. As a result, there was an experience loss on assets for both systems. There was an experience gain of $3.4 million on liabilities from all sources during 2018 for the Wichita Employees' Retirement System and an experience gain from all sources of $0.8 million on liabilities for the Police and Fire Retirement System of Wichita, Kansas. An adjustment to the valuation software programming to reflect the appropriating timing of the post-retirement benefit increase for future members assumed to elect to participate in the Deferred Retirement Option Plan (DROP) also increased the liabilities of the Police and Fire Retirement System of Wichita, Kansas by $10.6 million. The actuarial value of assets exceeds the market value of assets by about 10% for both the Wichita Employees' Retirement System and the Police and Fire Retirement System of Wichita, Kansas. If investment returns over the next few years are at or below the assumed rate of return of

7.50%, the deferred investment loss will be recognized and contribution rates can be expected to increase.

On the basis of the 2018 valuations, it is our opinion that the Retirement Systems are meeting their basic financial objectives and continue to be in sound condition in accordance with the actuarial principles of the level percent of payroll financing.

Benefit Provisions

The benefit provisions used in the actuarial valuations are described on pages 56 to 59 of each of the valuation reports for the Wichita Employees' Retirement System and the Police and Fire Retirement System of Wichita, Kansas.

Data

In preparing the December 31, 2018 actuarial valuations, we have relied upon member and asset data provided by the Pension Manager. We have not subjected this data to any auditing procedures, but have examined the data for reasonableness and for consistency with prior years' data. If the underlying data or information is inaccurate or incomplete, our calculations may need to be revised.

Actuarial Methods and Assumptions

Funding valuations and GASB 67 calculations are prepared for each System annually, as of December 31 of each year, the last day of the System's plan and fiscal year.

The actuarial methods and assumptions used in the valuations have been selected by the Board of Trustees of the Systems based upon the analysis and advice of the actuary and other professionals. These assumptions and methods may be found on pages 60 to 65 of the Wichita Employees' Retirement System valuation report and pages 60 to 64 for the Police and Fire Retirement System of Wichita, Kansas valuation report. The assumptions are based on a study of actuarial experience for the four years ending December 31, 2017 that was completed in 2018. The Board of Trustees has sole authority to determine the actuarial assumptions used for the plan.

The actuarial assumptions and methods used in the valuations meet the parameters set by Actuarial Standards of Practice (ASOPs), issued by the Actuarial Standards Board, and generally accepted accounting principles (GAAP) applicable in the United States of America as promulgated by the Governmental Accounting Standards Board (GASB). In our opinion, the actuarial assumptions used are appropriate for purposes of the funding valuation and for GASB 67 purposes, are individually reasonable, are related to the experience of the Systems, and offer the best estimate of anticipated experience. Nevertheless, the emerging costs will vary from those presented in the valuation reports to the extent actual experience differs from that projected by the actuarial assumptions.

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The actuary prepared the following supporting schedules that are included in the Comprehensive Annual Financial Report. The items in the Actuarial Section can be found in the valuation report while the items in the Financial Statements Section can be found in the GASB 67 report.

Actuarial Section

Summary of Actuarial Methods and Assumptions
Schedule of Active Member Valuation Data
Retirants and Beneficiaries Added To and Removed From Rolls
Solvency Test
Derivation of System Experience Gain/(Loss)
Schedule of Funding Progress

Financial Statements Section

Calculation of the Total Pension Liability and Net Pension Liability
Sensitivity Analysis of the Net Pension Liability
Schedule of Employer Contributions
Schedule of Changes in the Employers' Net Pension Liability

Retirement System staff prepared the schedules shown in the Statistical Section of the report, based in part upon the material prepared by the actuary.

I, Patrice A. Beckham, FSA, am a Member of the American Academy of Actuaries and a Fellow of the Society of Actuaries, and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

I, Brent A. Banister, FSA, am a Member of the American Academy of Actuaries and a Fellow of the Society of Actuaries, and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sincerely,

Patrice Beckham

Patrice A. Beckham, FSA, EA, FCA, MAAA
Principal and Consulting Actuary

Brent A. Banister

Brent A. Banister, PhD, FSA, EA, FCA, MAAA
Chief Actuary

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1. Wichita Employees' Retirement System

Provisions of the plan are outlined in the financial section of this report beginning on page A-22. The Plans prepare two actuarial valuations - one for funding purposes and one for accounting and financial reporting purposes under Governmental Accounting Standards Board Statement 67, *Financial Reporting for Pension Plans - an Amendment of GASB Statement No. 25*. With the exception of the discount rate used, the actuarial cost methods and assumptions used for financial reporting purposes are consistent with those utilized for funding purposes.

A. Actuarial Cost Method

The actuarial cost method is a procedure for allocating the actuarial present value of pension plan benefits and expenses to time periods. The method used for the valuation is known as the Entry Age Normal actuarial cost method and has the following characteristics:

- The annual normal costs for each individual active member are sufficient to accumulate the value of the member's pension at time of retirement, and
- Each annual normal cost is a constant percentage of the member's year-by-year projected covered compensation.

The Entry Age Normal actuarial cost method allocates the actuarial present value of each member's projected benefits on a level basis over the member's assumed pensionable compensation rates between the entry age of the member and the assumed exit age.

The portion of the actuarial present value of retirement system benefits allocated to the valuation year is called the normal cost. The portion of the actuarial present value not provided for by the actuarial present value of future normal costs is called the actuarial liability. Deducting actuarial assets from the actuarial liability determines the unfunded actuarial liability (or surplus). The Wichita Employees' Retirement System (WERS) had an unfunded actuarial liability of $59.9 million as of December 31, 2018.

B. Actuarial Assumptions Used for Valuations

System contribution requirements and actuarial present values are calculated by applying experience assumptions to the benefit provisions and participant information of the Retirement System using the actuarial cost method. These assumptions were proposed by the Fund's actuary following the completion of an experience study covering the period January 1, 2014 through December 31, 2016, and adopted by the Board on September 19, 2018. An experience study is performed every five years.

The actuarial valuation of assets is based upon the "Expected Value plus 25%" method, which levels the effects of fair value fluctuations by recognizing 25% of the difference between the expected actuarial value and the fair value of assets. The Board first adopted this methodology for the December 31, 2002 valuation. Actuarial gains and losses reduce or increase the unfunded actuarial liability or surplus, which is amortized over a rolling 20-year amortization period.

<u>Long-Term Rate of Return</u>: The investment return rate, net of investment expenses and administrative expenses, used for the actuarial valuation performed for funding purposes is 7.50% per year, compounded annually. This rate consists of 2.75% in recognition of long-term price inflation and 4.75% in recognition of a real rate of return over price inflation. This assumption, used to equate the value of payments due at different points in time, was adopted by the Board and was first used for the December 31, 2018 valuation.

The 7.31% rate of return used for accounting purposes is based on the same underlying data as the rate used for funding purposes. However, the rate used for accounting purposes represents investment return, net of investment expenses. Administrative expenses are accounted for separately, consistent with the requirements of GASB Statement No. 67.

Salary Projections: These assumptions are used to project current salaries to determine average annual compensation. They consist of the same inflation component used for the investment return assumption, a component reflecting productivity and the competition from other employers for personnel, and a years-of-service component to reflect promotion and longevity increments.

Salary increases are assumed to occur mid-year. The salary increase assumptions are expected to produce 3.25% annual increases in active member payroll (the inflation and productivity base rate), given a constant active member group size. This is the same payroll growth assumption used to amortize the unfunded actuarial liability. The rate of return over assumed wage growth is 4.25% per year. These assumptions were first used for the December 31, 2018 valuation. Assumptions about annual rates of salary increases are summarized in the accompanying table.

Years of Service	Inflation Component	Productivity Component	Merit and Longevity	Total
Under 1	2.75%	0.50%	3.25%	6.50%
1	2.75	0.50	3.10	6.35
2	2.75	0.50	2.90	6.15
3	2.75	0.50	2.70	5.95
4	2.75	0.50	2.50	5.75
5	2.75	0.50	2.30	5.55
6	2.75	0.50	2.10	5.35
7	2.75	0.50	1.90	5.15
8	2.75	0.50	1.80	5.05
9	2.75	0.50	1.70	4.95
10	2.75	0.50	1.60	4.85
11	2.75	0.50	1.50	4.75
12	2.75	0.50	1.40	4.65
13	2.75	0.50	1.30	4.55
14	2.75	0.50	1.20	4.45
15	2.75	0.50	1.06	4.31
16	2.75	0.50	0.92	4.17
17	2.75	0.50	0.78	4.03
18	2.75	0.50	0.64	3.89
19	2.75	0.50	0.50	3.75
20	2.75	0.50	0.35	3.60
Over 20	2.75	0.50	0.25	3.50

Annual Post-Retirement Benefit Increases: Retirees in Plan 1 are entitled to annual post-retirement benefit increases of 3% of their original benefit after 12 months of retirement. Retirees in Plan 2 are entitled to annual post-retirement benefit increases of 2% of their original benefit after 12 months of retirement. Post-retirement benefit increases are not compounded.

Rates of Retirement and Deferred Retirement Option Plan (DROP) Elections: The rates displayed in the accompanying table are used to measure the probability of eligible members retiring under either the regular retirement provisions or the Deferred Retirement Option Plan. In addition, the following assumptions apply to members in this category:

- Plan 2: 75% of members with 33.33 or more years of service that are at least age 62 were assumed to elect the DROP with an average DROP period of 36 months.

- All members of the retirement system were assumed to retire on or before age 70. Deferred vested members are assumed to retire at age 62. This assumption was first used in the December 31, 2018 actuarial valuation.

Rates of Retirement		
Retirement Age	Plan 1	Plan 2
55	15%	1%
56	15	1
57	15	1
58	15	1
59	15	1
60	40	3
61	40	10
62	20	50
63	20	25
64	20	25
65	100	40
66	N/A	40
67	N/A	40
68	N/A	40
69	N/A	40
70	N/A	100

Marriage: 70% of non-retired members were assumed to be married for purposes of death benefits. In each case, the male was assumed to be three years older than the female.

Sick Leave: Accumulated unused sick leave is converted to service credits for the purpose of computing annual benefits. The calculated normal retirement benefits were increased by 1.75% to account for the inclusion of unused sick leave in the calculation of service credit. This assumption was first used with the December 31, 2018 valuation.

Forfeiture of Vested Benefits: A percentage of the actuarial present value of vested termination benefits is assumed to be forfeited by a withdrawal of accumulated contributions. This percentage is applied individually based on years of service. The data in the accompanying table was first used for the December 31, 2004 actuarial valuation.

Years of Service	Percent Forfeiting
Less than 15	60%
15 - 19	40
20 - 24	20
25 or more	-

Plan 3 Transfer: Plan 3 (defined contribution plan) members are assumed to elect Plan 2 if they acquire seven years of service. An actuarial reserve is held for the difference between the fair and actuarial value of assets. This assumption was last revised for the December 31, 2004 valuation.

Mortality Assumptions: This assumption is used to measure the probabilities of members dying before retirement and the probabilities of each pension payment being made after retirement. As summarized in the following table, the RP-2000 tables are used, with generational mortality. This table was first used for the December 31, 2004 actuarial valuation.

Active Members	based on the RP-2000 Employee Table, projected generationally using Scale AA (ages set forward two years for males, zero for females).
Healthy Retirees And Beneficiaries	based on the RP-2000 Healthy Annuitant Table, projected generationally using Scale AA (ages set forward two years for males, zero for females).
Disabled Retirees	based on the RP-2000 Disabled Table for Males and Females, projected generationally using Scale AA.

Rates of Separation from Active Membership: This assumption measures the probabilities of a member terminating employment. The rates do not apply to members who are eligible to retire. Annual probabilities of terminating are summarized in the accompanying table. This assumption was first used for the December 31, 2018 valuation.

Years of Service	Annual Probability of Termination
0	13.50 %
1	13.50
2	12.00
3	10.00
4	9.00
5	8.00
6	7.00
7	6.00
8	5.00
9-11	4.50
12	4.00
13	3.50
14	3.25
15	3.00
16	2.75
17	2.50
18	2.25
19	2.00
20	1.75
21	1.50
22	1.25
23-25	1.00
26-29	0.50
30 or more	-

Vested Deferred Pensions: Amounts are assumed to increase during the deferral period to 3.50% per year, compounded annually. This assumption was first used in the December 31, 2018 valuation.

C. Actuarial Tables

Several tables are presented on the following pages to provide information about active members of the Wichita Employees' Retirement System, as well as retirees and beneficiaries. These tables also present information about the solvency of the plan, system experience and funding progress.

Active Member Valuation Data as of December 31, 2018

Valuation Date	Number of Members: Plan 1	Plan 2	Plan 3[1]	Total	Annual Covered Payroll (in thousands)	Average Annual Pay	Percentage Change in Average Annual Pay
12/31/2009	80	998	740	1,818	$ 82,704	$ 45,492	6.1 %
12/31/2010	61	993	661	1,715	79,636	46,435	2.1
12/31/2011	31	916	611	1,558	75,444	48,424	4.3
12/31/2012	26	950	527	1,503	70,783	47,094	(2.7)
12/31/2013	15	957	517	1,489	70,952	49,068	4.2
12/31/2014	8	989	520	1,517	71,391	47,061	(4.1)
12/31/2015	5	988	539	1,532	74,028	48,321	2.7
12/31/2016	3	952	617	1,572	77,121	49,059	1.5
12/31/2017	3	891	647	1,541	78,395	50,873	3.7
12/31/2018	2	852	675	1,529	78,899	51,601	1.4

[1] Plan 3 totals do not include Plan 3b members, who have made an irrevocable election to remain in the defined contribution plan.

Retirants and Beneficiaries Added to and Removed from Rolls

Valuation Date	Added to Rolls No.	Added to Rolls Annual Pensions[1]	Removed from Rolls No.	Removed from Rolls Annual Pensions[1]	Year-End Rolls No.	Year-End Rolls Annual Pensions[1]	Annual Pensions Average Pension	Annual Pensions Percentage Increase (Decrease)
12/31/2009	66	$ 1,338,875	52	$ 708,830	1,181	$ 28,730,505	$ 24,327	3.2 %
12/31/2010	71	1,847,020	59	949,872	1,193	29,855,835	25,026	2.9
12/31/2011	164	4,305,336	47	824,103	1,310	32,885,454	25,103	0.3
12/31/2012	50	1,010,373	58	1,036,870	1,302	31,730,663	24,371	(2.9)
12/31/2013	72	1,676,296	47	744,036	1,327	33,294,857	25,090	3.0
12/31/2014	68	1,549,070	54	927,726	1,341	34,427,388	25,673	2.3
12/31/2015	90	1,830,381	51	1,132,754	1,380	35,726,088	25,888	0.8
12/31/2016	78	1,730,868	65	1,194,869	1,393	36,931,056	26,512	2.4
12/31/2017	71	1,678,547	48	1,153,410	1,416	38,125,080	26,924	1.6
12/31/2018	77	1,811,362	72	1,537,746	1,421	39,094,992	27,512	2.2

[1] Values are estimated based upon annualized pension amounts.

Solvency Test

Valuation Date	Aggregate Actuarial Liability For: (1) Active Member Contributions	(2) Retirants and Beneficiaries[1]	(3) Active Members (Employer Financed)	Reported Valuation Assets	Portion of Actuarial Liabilities Covered by Reported Assets (1)	(2)	(3)
12/31/2009	$ 49,152,328	$ 279,396,973	$ 200,722,170	$ 509,493,888	100 %	100 %	90.1 %
12/31/2010	50,473,365	293,227,477	196,734,871	516,307,845	100	100	87.7
12/31/2011	45,440,569	349,202,490	160,530,664	513,298,382	100	100	73.9
12/31/2012	49,519,050	347,350,296	174,936,109	520,320,051	100	100	70.6
12/31/2013	50,337,976	362,224,034	169,823,819	542,157,342	100	100	76.3
12/31/2014	51,408,059	369,926,908	168,780,115	560,031,764	100	100	82.2
12/31/2015	51,609,961	378,186,127	176,058,606	568,464,178	100	100	78.8
12/31/2016	53,857,062	385,231,766	181,400,097	575,971,337	100	100	75.6
12/31/2017	55,050,806	395,107,729	184,748,720	598,793,422	100	100	80.5
12/31/2018	56,965,551	408,534,420	193,208,730	598,778,588	100	100	69.0

[1] Includes vested and nonvested terminated members.

System Experience: For the year ended December 31, 2018, the Wichita Employees' Retirement System experienced an actuarial loss of approximately $15.4 million. The loss for the 2018 plan year reflects the combined impact of an actuarial net loss of $17.4 million on the actuarial value of plan assets and an actuarial gain of $2.0 million on liabilities. The gain on System liabilities were primarily due to salary increases that were lower than expected. Information about the factors that contributed to the actuarial loss is presented in the following table.

	Increase (Decrease)		
	Actuarial Liability (a)	Actuarial Value of Assets (b)	Unfunded Actuarial Liability (a) - (b)
Balances as of December 31, 2017	$ 634,907,255	$ 598,793,422	$ 36,113,833
Changes for the year:			
Normal cost	9,650,235	-	9,650,235
Plan 3 members transferring to Plan 3b	(179,012)	(179,012)	-
Contributions	-	13,854,839	(13,854,839)
Benefit payments	(41,670,299)	(41,670,299)	-
Interest	48,361,803	45,341,945	3,019,858
Impact of assumption changes	9,670,284	-	9,670,284
Expected actuarial value at December 31, 2018	660,740,266	616,140,895	44,599,371
Actual actuarial value as of December 31, 2018	658,708,701	598,778,588	59,930,113
Actuarial gain (loss)	$ 2,031,565	$ (17,362,307)	$ (15,330,742)

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Liability (AL) (b)	Unfunded AL (UAL) (b)-(a)	Funded Ratio (a)/(b)	Active Member Covered Payroll (c)	UAL as a Percentage of Active Member Covered Payroll [(b)-(a)]/(c)
12/31/2009	$ 509,494	$ 529,271	$ 19,777	96.3%	$ 82,704	23.9%
12/31/2010	516,308	540,436	24,128	95.5	79,636	30.3
12/31/2011	513,298	555,174	41,876	92.5	75,444	55.5
12/31/2012	520,320	571,805	51,485	91.0	70,783	72.7
12/31/2013	542,157	582,386	40,229	93.1	70,953	56.7
12/31/2014	560,032	590,115	30,083	94.9	71,391	42.1
12/31/2015	568,464	605,855	37,391	93.8	74,028	50.5
12/31/2016	575,971	620,219	44,248	92.9	77,121	57.4
12/31/2017	598,793	634,907	36,114	94.3	78,395	46.1
12/31/2018	598,779	658,709	59,930	90.9	78,899	76.0

A schedule of Employer Contributions, including a comparison of actuarially determined contributions to actual contributions made, is presented as Required Supplementary Information on page A-32 in the Financial Section of this report.

D. Summary of Benefit Provisions

Plan 1 is a closed plan, which is applicable to members employed prior to July 18, 1981 who did not elect to be converted to Plan 2. Plan 2 is applicable to members employed prior to July 18, 1981 who elected to be covered by Plan 2, those employed or re-employed on or after July 18, 1981 and before January 1, 1994, and Plan 3 members who, upon vesting, elect to become members of Plan 2. A summary of benefit provisions applicable to the plans is presented below. A more detailed description of Plan provisions is available upon request from the Pension Management Office.

Contributions:

- *Employee contributions:*

  Plan 1: 6.4% of base salary, longevity and overtime pay.

  Plan 2 and Plan 3: 4.7% of base salary and longevity pay (effective February 19, 2000).

- *Employer contributions:*

  Actuarially determined amounts which, together with employee contributions and investment earnings, fund the obligations of the System in accordance with accepted actuarial principles.

Unused sick leave: Accumulated unused sick leave is converted to service credits for the purpose of computing annual benefits.

Normal Retirement:

- *Eligibility:*

  Plan 1: Age 60 with seven or more years of service, or any age with 30 or more years of service.

  Plan 2: Age 62 with seven or more years of service.

- *Benefit:*

  Plan 1: Years of service times 2.5% of final average salary, to a maximum of 75%.

  Plan 2: Years of service times 2.25% of final average salary, to a maximum of 75%.

- *Final Average Salary:* Average for the three consecutive years within the last 10 years of service that produce the highest average salary.

Early Retirement:

- *Eligibility:* Age 55 with seven or more years of service.

- *Benefit:* An amount computed as for normal retirement, but reduced for each month retirement precedes age 60 under Plan 1 and age 62 under Plan 2. The amount of reduction per month of early retirement is computed as follows:

  Plan 1: A service-graduated percentage for each month retirement precedes age 60. The percentage is .05 of 1% if service is 29 years but less than 30 years, increasing by .05 of 1% for each additional year service is less than 30 years, to a maximum of .50 of 1% if service is less than 21 years.

  Plan 2: An age-graduated percentage for each month retirement precedes age 62. The percentage is 0.6% for each month that the member's age precedes age 62, up to a maximum of 50.4% at age 55.

Service-Connected Disability:

- *Eligibility:* All Plans: No age or service requirement. Disability must be permanent and total, and precludes performance of any duties for a City position commensurate with the employee's training, experience, and education.
- *Benefit:*

  Plan 1: 60% of final rate of salary.

  Plan 2: 50% of final rate of salary.

Non-Service Connected Disability:

- *Eligibility:* Seven or more years of service and under age 60, Plan 1, or age 62, Plan 2. Disability must be permanent and total and preclude performance of any duties for a City position commensurate with the employee's training, experience and education.
- *Benefit:*

  Plan 1: 30% of final average salary plus 1% of final average salary for each year of service in excess of seven years, to a maximum of 50%.

  Plan 2: 25% of final rate of salary.

Deferred Retirement Option Plan (DROP):

- *Eligibility:* Must be eligible for retirement and elect to participate in the DROP for 1 to 60 months.
- *Benefit:* Benefit computed based on years of service and final average salary as of DROP election date, which is paid into member's notional DROP account during the deferral period. Member continues to make required employee contributions during the deferral period. Interest at an annual rate of 5% is credited to the notional DROP account. Voluntary termination of employment during the DROP period results in a loss of accrued interest. Balance of DROP account is payable within 90 days of actual termination of employment.

Deferred Retirement:

- *Eligibility:*

  Plan 1: Termination of service with 7 or more years of service and under age 60.

  Plan 2: Termination of service with 7 or more years of service and under age 62.

- *Benefit:* Deferred pensioner may apply for a reduced retirement benefit upon meeting the applicable age requirement for early retirement (55 years) or an unreduced pension upon meeting the applicable age requirement for normal retirement (60 years, Plan 1 or 62 years, Plan 2). A refund of employee contributions, plus 5% annual interest, may be elected in lieu of a retirement benefit. Retirement benefit is computed as for normal retirement. Deferred pensions are adjusted during the deferral period based on changes in the National Average Earnings Index, up to 5.5% annually.

Pre-Retirement Survivor Benefits (surviving spouse and minor child):

- *Eligibility:* Death of employee with seven or more years of credited service.
- *Benefit:* 50% of the benefit earned by the deceased employee at the time of death, plus 10% of the deceased employee's final average salary for each minor child under age 18, to a maximum of 75% of final average salary. If no surviving spouse, benefit is 20% of final average salary on account of each child to a maximum of 60% of final average salary; terminates when child reaches age 18.

Pre-Retirement Survivor Benefits (designated beneficiary): When no spouse or minor child is eligible for a survivor's benefit, the retiree may designate a beneficiary.

- *Eligibility:* Death of employee with seven or more years of credited service.
- *Benefit:* Accumulated contributions plus 5% annual interest, and one month's salary for each full year of service, not to exceed six months of salary.

Post-Retirement Survivor Benefits (surviving spouse and minor child):

- *Eligibility:* Spouse must have been married to retired employee for one year or more at time of death if retired after January 1, 2000. If retired prior to January 1, 2000, must have been married to retired employee at retirement. A minor child must be under age 18.
- *Benefit:* 50% of benefit paid to retiree at time of death, plus 10% of retiree's final average salary for each minor child under age 18, to a maximum of 75% of final average salary. If no surviving spouse, benefit is 20% of final average salary on account of each child to a maximum of 60% of final average salary; terminates when child reaches age 18. Plan 1 also includes a $1,500 funeral benefit.

Post-Retirement Survivor Benefits (designated beneficiary): When no spouse or minor child is eligible for a survivor's benefit, the retiree may designate a beneficiary.

- *Benefit:* Final partial benefit due retiree through date of death plus balance, if any, of contributions and interest. Plan 1 also includes a $1,500 funeral benefit.

Refund of Contributions:

- *Eligibility:* Termination of employment without eligibility for any other benefit.
- *Benefit:* Accumulated contributions at the time of termination, plus 5% annual interest.

2. Wichita Employees' Retirement System Plan 3 and Plan 3b

The City contributes to Wichita Employees' Retirement System Plan 3, a defined contribution pension plan, for all of its full-time civilian employees hired or rehired on or after January 1, 1994. Provisions of the plan are outlined in the financial section of this report beginning on page A-22.

A. Summary of Benefit Provisions

Because Plan 3 and Plan 3b are defined contribution plans, members of those plans are only entitled to certain limited retirement benefits as described below. In the event that a Plan 3 or Plan 3b member is granted either of these benefits, the member will be required to forfeit the balance of contributions and earnings in his or her participant account.

Service-Connected Disability:

- *Eligibility:* No age or service requirement. Disability must be permanent and total and preclude the performance of any duties for a City position commensurate with the employee's training, experience and education.
- *Benefit:* 50% of final rate of salary; or distribution of vested Plan 3 account.

Non-Service Connected Disability:

- *Eligibility:* Seven or more years of service and under age 62. Disability must be permanent and total and preclude the performance of any duties for a City position commensurate with the employee's training, experience and education.
- *Benefit:* 25% of final rate of salary; or distribution of vested Plan 3 account.

3. Police and Fire Retirement System of Wichita, Kansas

Provisions of the plan are outlined in the Financial Section of this report beginning on page A-25. The Plans prepare two actuarial valuations - one for funding purposes and one for accounting and financial reporting purposes under Governmental Accounting Standards Board Statement No. 67, *Financial Reporting for Pension Plans - an Amendment of GASB Statement No. 25*. With the exception of the discount rate used, the actuarial cost methods and assumptions used for financial reporting purposes are consistent with those utilized for funding purposes.

A. Actuarial Cost Method

The actuarial cost method is a procedure for allocating the actuarial present value of pension plan benefits and expenses to time periods. The method used for the valuation is known as the Entry Age Normal actuarial cost method and has the following characteristics:

- The annual normal costs for each individual active member are sufficient to accumulate the value of the member's pension at time of retirement, and

- Each annual normal cost is a constant percentage of the member's year-by-year projected covered compensation.

The Entry Age Normal actuarial cost method allocates the actuarial present value of each member's projected benefits on a level basis over the member's assumed pensionable compensation rates between the entry age of the member and the assumed exit age.

The portion of the actuarial present value of retirement system benefits allocated to the valuation year is called the normal cost. The portion of the actuarial present value not provided for by the actuarial present value of future normal costs is called the actuarial liability. Deducting actuarial assets from the actuarial liability determines the unfunded actuarial liability (or surplus). The Police and Fire Retirement System (PFRS) had an unfunded actuarial liability of $71.1 million as of December 31, 2018.

B. Actuarial Assumptions Used for Valuations

System contribution requirements and actuarial present values are calculated by applying experience assumptions to the benefit provisions and participant information of the Retirement System, using the actuarial cost method. These assumptions were proposed by the Fund's actuary following the completion of an experience study covering the period January 1, 2014 through December 31, 2016, and adopted by the Board on September 26, 2018. An experience study is performed every five years.

The actuarial valuation of assets is based upon the "Expected Value plus 25%" method, which levels the effects of fair value fluctuations by recognizing 25% of the difference between the expected actuarial value and the fair value of assets. The Board first adopted this methodology for the December 31, 2002 valuation. Actuarial gains and losses reduce or increase the unfunded actuarial liability or surplus, which is amortized over a rolling 20-year amortization period.

Long-Term Rate of Return: The investment return rate, net of investment expenses and administrative expenses, used for the actuarial valuation performed for funding purposes is 7.50% per year, compounded annually. This rate consists of 2.75% in recognition of long-term price inflation and 4.75% in recognition of a real rate of return over price inflation. This assumption, used to equate the value of payments due at different points in time, was adopted by the Board and was first used for the December 31, 2018 valuation.

The 7.45% rate of return used for accounting purposes is based on the same underlying data as the rate used for funding purposes. However, the rate used for accounting purposes represents investment return, net of investment expenses. Administrative expenses are accounted for separately, consistent with the requirements of GASB Statement No. 67.

Salary Projections: These assumptions are used to project current salaries to determine average annual compensation. They consist of the same inflation component used for the investment return assumption, a component reflecting productivity and the competition from other employers for personnel and a years-of-service component to reflect promotion and longevity increments.

Salary increases are assumed to occur mid-year. The salary increase assumptions are expected to produce 3.25% annual increases in active member payroll (the inflation and productivity base rate), given a constant active member group size. This is the same payroll growth assumption used to amortize the unfunded actuarial liability. The rate of return over assumed wage growth is 4.25% per year. This assumption was first used for the December 31, 2018 valuation. Assumptions about annual rates of salary increases are summarized in the accompanying table.

Years of Service	Inflation Component	Productivity Component	Merit and Longevity	Total
Under 15	2.75 %	0.50 %	2.50 %	5.75 %
15-17	2.75	0.50	1.00	4.25
18+	2.75	0.50	0.75	4.00

Annual Post-Retirement Benefit Increases: Retirees in the Police and Fire Retirement System are entitled to annual post-retirement benefit increases of 2% of their original benefit after 36 months of retirement. Post-retirement benefit increases are not compounded.

Rates of Retirement and Backward Deferred Retirement Option Plan (Back DROP) Elections: The rates displayed in the accompanying table are used to measure the probability of eligible members retiring under either the regular retirement provisions or the Backward Deferred Retirement Option Plan. It is assumed that members who retire under service retirement provisions elect a Back DROP of up to five years which maximizes the actuarial value of the retirement benefit determined as of the retirement date. These rates were first used for the December 31, 2018 valuation.

Plans A & B			Plan C-79					
				Less than 30 YOS			30 or More YOS	
Years of Service (YOS)	Police	Fire	Age of Member	Police	Fire	Service of Member	Police	Fire
28 or less	5 %	5 %	50-58	10 %	10 %	30	0 %	0 %
29	5	5	59	10	10	31	0	0
30	10	5	60+	100	100	32	25	15
31	10	5				33	50	20
32	30	25				34	75	50
33	50	25				35+	100	100
34	50	25						
35	100	100						

Marriage: 80% of non-retired members were assumed to be married for purposes of death benefits. In each case, the male was assumed to be three years older than the female.

Sick Leave: Accumulated unused sick leave is converted to service credits for the purpose of computing annual benefits. The calculated normal retirement benefits were increased by 2.50% to account for the inclusion of unused sick leave in the calculation of service credit. This assumption was last revised with the December 31, 2018 valuation.

Forfeiture of Vested Benefits: A percentage of the actuarial present value of vested termination benefits is assumed to be forfeited by a withdrawal of accumulated contributions. This percentage is applied individually based on years of service. The data in the accompanying table was first used for the December 31, 2018 actuarial valuation.

Years of Service	Percent Forfeiting
10 - 14	65 %
15 - 19	10
20 or more	-

Mortality Assumptions: This assumption is used to measure the probabilities of members dying before retirement and the probabilities of each pension payment being made after retirement. As summarized in the following table, the RP-2000 tables are used, with generational mortality. The table was first used in the December 31, 2004 actuarial valuation.

Active Members	based on the RP-2000 Employee Table for Males and Females projected generationally using Scale AA.
Healthy Retirees And Beneficiaries	based on the RP-2000 Healthy Annuitant Table for Males and Females projected generationally using Scale AA.
Disabled Retirees	based on the RP-2000 Disabled Table for Males and Females projected generationally using Scale AA.

Rates of Disability: This assumption measures the probabilities of a member receiving a disability retirement. The rates do not apply to members who are eligible to retire. The rates of recovery from disability are assumed to be zero. The accompanying table provides the assumed probability of active members becoming disabled in during the next year. These rates were first used for the December 31, 2014 valuation.

Annual Probability of Becoming Disabled		
Age	Police	Fire
20	0.09 %	0.07 %
25	0.15	0.12
30	0.30	0.24
35	0.49	0.39
40	0.69	0.54
45	0.88	0.70
50	1.08	0.85
55	1.28	0.91

Rates of Separation from Active Membership: This assumption measures the probabilities of a member terminating employment. The rates do not apply to members who are eligible to retire. This assumption was last revised for the December 31, 2018 valuation.

	Percent Separating Within Year	
Years of Service	Police	Fire
0-5	5.50 %	2.00 %
6	4.50	2.00
7-8	3.00	2.00
9-13	3.00	1.50
14-16	2.00	1.50
17-22	2.00	0.00
Over 22	0.00	0.00

Vested Deferred Pensions: Amounts for Plan C-79 are assumed to increase during the deferral period to 3.50% per year, compounded annually. This assumption was most recently revised with the December 31, 2018 valuation.

C. Actuarial Tables

Several tables are presented on the following pages to provide information about active members of the Police and Fire Retirement System, as well as retirees and beneficiaries. These tables also present information about the solvency of the plan, system experience and funding progress.

Active Member Valuation Data						
	Number of Members					
Valuation Date	Plan A	Plan C-79	Total Members	Annual Covered Payroll (in thousands)	Average Annual Pay	Percentage Change in Average Annual Pay
12/31/2009	32	1,068	1,100	$ 63,055	$ 57,323	2.3 %
12/31/2010	21	1,068	1,089	63,077	57,922	1.0
12/31/2011	14	1,074	1,088	62,759	57,683	(0.4)
12/31/2012	11	1,073	1,084	64,150	59,179	2.6
12/31/2013	9	1,076	1,085	65,306	60,190	1.7
12/31/2014	8	1,060	1,068	64,572	60,461	0.5
12/31/2015	5	1,045	1,050	65,560	62,439	3.3
12/31/2016	4	1,059	1,063	66,946	62,979	0.9
12/31/2017	2	1,080	1,082	69,634	64,357	2.2
12/31/2018	2	1,065	1,067	72,017	67,495	4.9

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Retirants and Beneficiaries Added to and Removed from Rolls								
	Added to Rolls		Removed from Rolls		End of Year Rolls		Annual Pensions	
Valuation Date	No.	Annual Pensions[1]	No.	Annual Pensions[1]	No.	Annual Pensions[1]	Average Pension	Percentage Increase (Decrease)
12/31/2009	57	$ 1,959,741	24	$ 398,908	873	$ 21,357,569	$ 24,465	5.4 %
12/31/2010	47	1,439,435	28	541,662	892	22,570,141	25,303	3.4
12/31/2011	48	1,615,338	29	525,289	911	24,030,607	26,378	4.2
12/31/2012	33	1,201,800	23	435,120	921	25,226,219	27,390	3.8
12/31/2013	48	1,938,485	17	380,985	952	27,143,376	28,512	4.1
12/31/2014	63	2,400,693	42	850,741	971	29,165,652	30,037	5.3
12/31/2015	44	1,652,860	26	494,625	989	30,774,324	31,117	3.6
12/31/2016	31	1,286,489	33	629,314	987	31,914,576	32,335	3.9
12/31/2017	41	1,757,606	28	694,600	1,000	33,526,716	33,527	3.7
12/31/2018	43	1,888,265	28	544,427	1,015	35,386,980	34,864	4.0

[1] Values are estimated based on annualized pension amounts.

Solvency Test							
	Aggregate Actuarial Liability For				Portion of Actuarial Liabilities Covered by Reported Assets		
Valuation Date	(1) Active Member Contributions	(2) Retirants and Beneficiaries[1]	(3) Active Members (Employer Financed Portion)	Reported Valuation Assets	(1)	(2)	(3)
12/31/2009	$ 60,326,408	$ 257,298,665	$ 202,309,181	$ 480,555,562	100 %	100 %	80.5 %
12/31/2010	63,515,814	270,693,677	202,698,947	497,925,786	100	100	80.8
12/31/2011	66,390,179	293,730,691	202,367,017	510,946,217	100	100	74.5
12/31/2012	70,527,705	305,985,839	212,559,831	533,380,618	100	100	73.8
12/31/2013	74,238,693	325,096,785	218,412,805	571,261,929	100	100	78.7
12/31/2014	74,684,418	348,915,979	208,304,004	600,860,146	100	100	85.1
12/31/2015	77,222,492	364,943,124	212,970,051	620,148,816	100	100	83.6
12/31/2016	81,765,281	377,864,418	222,014,789	640,508,756	100	100	81.5
12/31/2017	85,753,036	393,307,456	230,956,665	677,616,328	100	100	86.0
12/31/2018	88,116,395	425,093,252	248,875,679	690,969,459	100	100	71.4

[1] Includes vested and nonvested terminated members.

System Experience: For the year ended December 31, 2018, the Police and Fire Retirement System experienced an actuarial loss of $20.2 million. The loss for the 2018 plan year reflects the combined impact of an actuarial net loss of $19 million on the actuarial value of plan assets and an actuarial loss of $1.2 million on liabilities. Information about the factors that contributed to the actuarial loss is presented in the following table.

	Increase (Decrease)		
	Actuarial Liability (a)	Actuarial Value of Assets (b)	Unfunded Actuarial Liability (a) - (b)
Balances as of December 31, 2017	$ 710,017,157	$ 677,616,328	$ 32,400,829
Changes for the year:			
Normal cost	15,122,089	-	15,122,089
Contributions	-	19,930,638	(19,930,638)
Benefit payments	(39,381,501)	(39,381,501)	-
Interest	54,700,733	51,775,608	2,925,125
Assumption changes	9,765,715	-	9,765,715
BackDROP coding revisions	10,633,465	-	10,633,465
Expected actuarial value at December 31, 2018	760,857,658	709,941,073	50,916,585
Actual actuarial value as of December 31, 2018	762,085,326	690,969,459	71,115,867
Actuarial gain (loss)	$ (1,227,668)	$ (18,971,614)	$ (20,199,282)

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Liability (AL) (b)	Unfunded AL (UAL) (b)-(a)	Funded Ratio (a)/(b)	Active Member Covered Payroll (c)	UAL as a Percentage of Active Member Covered Payroll [(b)-(a)]/(c)
12/31/2009	$ 480,556	$ 519,934	$ 39,378	92.4%	$ 63,055	62.5%
12/31/2010	497,926	536,908	38,982	92.7	63,077	61.8
12/31/2011	510,946	562,488	51,542	90.8	62,759	82.1
12/31/2012	533,381	589,074	55,693	90.5	64,150	86.8
12/31/2013	571,262	617,748	46,486	92.5	65,306	71.2
12/31/2014	600,860	631,904	31,044	95.1	64,572	48.1
12/31/2015	620,149	655,136	34,987	94.7	65,560	53.4
12/31/2016	640,509	681,644	41,135	94.0	66,946	61.4
12/31/2017	677,616	710,017	32,401	95.4	69,634	46.5
12/31/2018	690,969	762,085	71,116	90.7	72,017	98.7

A schedule of Employer Contributions, including a comparison of actuarially determined contributions to actual contributions made, is presented as Required Supplementary Information on page A-34 in the Financial Section of this report.

D. Summary of Benefit Provisions

Plan A is a closed plan which was applicable to members who entered the System between January 1, 1965 and December 31, 1978; and to members who entered prior to January 1, 1965 and elected Plan A coverage. Plan B is a closed plan which was applicable to members who entered the System prior to January 1, 1965 and elected Plan B coverage. Plan C-79 is an open plan which is applicable to members entering the System after December 31, 1978. A summary of benefit provisions applicable to the plans is presented below. A more detailed description of Plan provisions is available upon request from Pension Management.

Contributions:

- *Employee contributions:*

  Plan A: 8.0% of salary.

  Plan B: 6.0% of salary.

  Plan C-79: 7.0% of salary.

- *Employer contributions:*

  Actuarially determined amounts which, together with employee contributions and investment earnings, fund the obligations of the System in accordance with accepted actuarial principles.

Unused sick leave: Accumulated unused sick leave is converted to service credits for the purpose of computing annual benefits.

Normal Retirement:

- *Eligibility:*

  Plan A: Any age with 20 years of actual service.

  Plan B: Any age with 20 years of actual service.

  Plan C-79: Age 55 with 10 years of actual service, age 50 with 20 or more years of actual service, or any age with 30 years of creditable service.

- *Benefit:* Years of service times 2.5% of final average salary, to a maximum of 75%.
- *Final Average Salary:* Average for the three consecutive years within the last 10 years of service that produce the highest average salary.

Service-Connected Disability:

- *Eligibility:* Disability must be permanent and preclude employee from performing the duties of their position.
- *Benefit:* 75% of final salary rate if injury, 50% if disease.
- *Conditions*: Benefit plus earnings from gainful employment cannot exceed current salary for rank held at time of disability. Benefit is recomputed at age 55 using service retirement formula, updated final average salary, and service credit for period of disability.

Non-Service Connected Disability:

- *Eligibility:* Seven or more years of service and under age 55. Disability must be permanent and preclude employee from performing the duties of their position.
- *Benefit:* 30% of final average salary plus 1% of final average salary for each year of service in excess of seven years. Maximum is 50% of final average salary.
- *Conditions*: Benefit plus earnings from gainful employment cannot exceed current salary for rank held at the time of disability.

Backward Deferred Retirement Option Plan (Back DROP):

- *Eligibility:* Must be eligible to receive a service retirement benefit as of the Backward DROP retirement date and elect the Back DROP for a period of 1 to 60 months.
- *Benefit:* Under the Back DROP, the member may elect a benefit based on a retirement date up to 60 months prior to the current date. The monthly benefit is computed based on service, final average salary and benefit formula at the selected prior date. The DROP account available to the retiring member is the computed benefit multiplied by the number of months of Back DROP plus applicable post-retirement adjustments and 5% annual compounded interest.

Deferred Retirement:

- *Eligibility:* Vested members of C-79 who leave City service may defer their pension benefit by electing to leave their contributions in the Retirement System until they are eligible for a retirement benefit; age 55 with less than 20 years of actual service and age 50 with 20 or more years of actual service. A refund of employee contributions, plus 5% annual interest, may be elected in lieu of a retirement benefit.
- *Benefit:* Retirement benefit is computed as for normal retirement. Deferred pensions are indexed during the deferral period based on changes in the National Average Earnings Index, up to 5.5% annually.

Pre-Retirement Survivor Benefits Service-Connected Death:

- *Eligibility:* When death results from performance of duty as a fire fighter or police officer, there is no minimum service requirement. Spouse and minor children of member at the time of death are eligible for a survivor's benefit.
- *Benefit:* 50% of final salary plus 10% of final salary for each minor child under age 18, to a maximum of 75% of final salary. If no surviving spouse, benefit is 20% of final salary for each child under age 18 to a maximum of 60% of final salary; terminates when child reaches age 18.

Pre-Retirement Survivor Benefits Non-Service-Connected Death:

- *Eligibility:* Spouse and minor children of member at the time of death.

  Plan A: Three or more years of service.

  Plan B: 20 or more years of service.

  Plan C-79: Three or more years of service.

- *Benefit:*

  Plan A: 35% of final average salary plus 1% of final average salary for each year of service over three years to a maximum of 50% of final average salary, plus 10% of final average salary on account of each minor child under age 18 to a maximum of 66 2/3% of final average salary. If no surviving spouse, benefit is 15% of final average salary for each child under age 18 to a maximum of 50% of final average salary; terminates when child reaches age 18.

  Plan B: 50% of final salary.

  Plan C-79: Identical to Plan A benefits.

Post-Retirement Survivor Benefits:

- *Eligibility:* 20 or more years of service. If retired prior to January 1, 2000, surviving spouse must have been married to retired member at date of retirement. Effective January 1, 2000, surviving spouse must have been married to retired member for a minimum of 12 months at time of death.
- *Benefit:*

  Plan A: 35% of final average salary plus 1% of final average salary for each year of service over three years to a maximum of 50% of final average salary, plus 10% of final average salary for each minor child under age 18 to a maximum of 66 2/3%. If no surviving spouse, 15% of final average salary for each child to a maximum of 50%.

  Plan B: 50% of final salary to surviving spouse or if no surviving spouse pension's payable to children under age 18.

  Plan C-79: Identical to Plan A benefits.

Funeral Benefit:

- *Eligibility:* Plan A, B and C-79 members who retired after November 21, 1973.
- *Benefit:*

  Plan A: $750 payable to a beneficiary. Plan A members who retired prior to November 21, 1973 are not eligible for a funeral benefit.

  Plan B: $750 payable to a beneficiary. Plan B members who retired between January 1, 1965 and November 21, 1973 are eligible for a $100 funeral benefit payable to a beneficiary.

  Plan C-79: $750 payable to a beneficiary

Refund of Contributions:

- *Eligibility:* Termination of employment without eligibility for any other benefit.
- *Benefit:* Accumulated contributions at the time of termination plus 5% annual interest, beginning January 1, 2000.

STATISTICAL SECTION

Statistical Section Overview

This section includes detailed schedules showing trends related to changes in the net position, including deductions from the net position for benefits and refunds beginning on page D-2, average benefit payments beginning on page D-8, and retired members by type and benefit amount beginning on page D-12. These schedules may be considered useful in evaluating the condition of the Systems and understanding the information presented in the financial statements, note disclosures and required supplementary information.

The Schedule of Changes in Fiduciary Net Position, including deductions from the net position for benefits and refunds, is derived from the Comprehensive Annual Financial Report for the relevant fiscal year. All other information is derived from internal sources of the Systems, except for information that is derived from the actuarial valuations of the plans.

WICHITA RETIREMENT SYSTEMS

CHANGES IN FIDUCIARY NET POSITION
WICHITA EMPLOYEES' RETIREMENT SYSTEM

For years ended December 31, 2009 through December 31, 2018
(accrual basis of accounting)

	Fiscal Year			
	2018	2017	2016	2015
ADDITIONS				
Employer contributions	$ 10,099,027	$ 9,642,540	$ 8,946,064	$ 9,031,463
Employee contributions	3,755,812	3,682,056	3,642,007	3,574,026
Net income (loss) from investing activities	(39,511,690)	91,773,973	35,956,780	13,380
Reclassifications due to participant conversion	-	-	-	-
Total additions	(25,656,851)	105,098,569	48,544,851	12,618,869
DEDUCTIONS				
Benefit payments				
Service retirement	34,715,603	33,606,377	32,442,114	31,786,968
Survivor benefit	3,576,872	3,492,605	3,394,194	3,121,649
DROP lump sum payments	1,969,674	1,077,319	2,122,297	885,185
Qualified domestic relations order	135,301	150,477	142,351	99,384
Disability (service)	74,483	54,609	53,905	53,201
Disability (non-service)	253,239	239,262	220,021	216,319
Funeral benefits	54,276	48,063	86,569	59,823
Pension administration	580,204	633,379	615,829	553,844
Depreciation	-	-	-	70,241
Refunds	890,851	614,103	683,332	866,874
Reclassifications due to participant conversion	179,012	191,292	244,793	465,171
Total deductions	42,429,515	40,107,486	40,005,405	38,178,659
Net increase (decrease) in fiduciary net position	(68,086,366)	64,991,083	8,539,446	(25,559,790)
Net position - beginning, as previously reported	614,778,032	549,786,949	541,247,503	552,232,824
Prior period adjustment	-	-	-	14,574,469
Net position - beginning, restated	614,778,032	549,786,949	541,247,503	566,807,293
Net position - ending	$ 546,691,666	$ 614,778,032	$ 549,786,949	$ 541,247,503

Note: In 2015, a prior period adjustment was made to report non-vested Plan 3 participants as part of the Wichita Employees' Retirement System. Prior to 2015, those members were reported with Plan 3b members in the defined contribution plan. Reclassifications due to participant conversion represent members of Plan 3 who vest with seven years of service and move into either Plan 2 or Plan 3b.

Fiscal Year					
2014	2013	2012	2011	2010	2009
$ 8,464,927	$ 7,990,502	$ 6,471,423	$ 6,596,124	$ 4,529,765	$ 2,545,331
2,435,831	2,304,481	2,343,641	2,537,440	2,664,619	2,639,080
27,894,626	92,166,874	57,965,946	2,570,423	55,169,082	78,011,118
2,942,734	2,465,600	2,025,607	2,680,431	1,276,393	1,664,681
41,738,118	104,927,457	68,806,617	14,384,418	63,639,859	84,860,210
30,632,053	29,346,178	28,490,161	25,279,476	23,806,844	22,406,162
2,956,020	2,762,399	2,658,630	2,591,380	2,478,774	2,449,423
2,798,396	2,650,766	1,327,860	5,873,920	3,104,564	2,352,858
58,561	56,936	53,820	56,285	74,004	81,064
59,753	57,193	67,910	67,247	78,511	75,314
216,557	232,372	243,470	247,876	254,152	262,579
57,349	267,956	93,770	66,890	93,649	55,317
441,869	404,514	396,167	444,630	429,764	444,112
63,888	63,890	62,562	63,016	63,477	64,615
400,433	570,712	341,634	449,266	191,171	247,890
-	-	-	-	-	-
37,684,879	36,412,916	33,735,984	35,139,986	30,574,910	28,439,334
4,053,239	68,514,541	35,070,633	(20,755,568)	33,064,949	56,420,876
548,179,585	479,665,044	444,594,411	465,349,979	432,285,030	375,864,154
-	-	-	-	-	-
548,179,585	479,665,044	444,594,411	465,349,979	432,285,030	375,864,154
$ 552,232,824	$ 548,179,585	$ 479,665,044	$ 444,594,411	$ 465,349,979	$ 432,285,030

WICHITA RETIREMENT SYSTEMS

CHANGES IN FIDUCIARY NET POSITION
WICHITA EMPLOYEES' RETIREMENT SYSTEM PLAN 3b

For years ended December 31, 2009 through December 31, 2018
(accrual basis of accounting)

	Fiscal Year			
	2018	2017	2016	2015
ADDITIONS				
Employer contributions	$ 202,075	$ 200,003	$ 203,532	$ 190,049
Employee contributions	202,077	200,003	203,509	190,049
Net income (loss) from investing activities	(598,098)	1,156,192	467,817	(80,749)
Reclassifications due to participant conversion	179,012	191,292	244,793	465,171
Total additions	(14,934)	1,747,490	1,119,651	764,520
DEDUCTIONS				
Pension administration	27,384	9,725	7,366	5,056
Depreciation	-	-	-	-
Refunds	349,140	348,275	614,342	733,125
Reclassifications due to participant conversion	-	-	-	-
Total deductions	376,524	358,000	621,708	738,181
Net increase (decrease) in fiduciary net position	(391,458)	1,389,490	497,943	26,339
Net position - beginning, as previously reported	8,496,194	7,106,704	6,608,761	21,156,891
Prior period adjustment	-	-	-	(14,574,469)
Net position - beginning, restated	8,496,194	7,106,704	6,608,761	6,582,422
Net position - ending	$ 8,104,736	$ 8,496,194	$ 7,106,704	$ 6,608,761

Note: In 2015, a prior period adjustment was made to report non-vested Plan 3 participants as part of the Wichita Employees' Retirement System. Prior to 2015, those members were reported with Plan 3b members in the defined contribution plan. Reclassifications due to participant conversion represent members of Plan 3 who vest with seven years of service and move into either Plan 2 or Plan 3b.

Fiscal Year					
2014	2013	2012	2011	2010	2009
$ 1,147,770	$ 1,116,464	$ 1,189,456	$ 1,244,150	$ 2,298,753	$ 1,478,256
1,147,770	1,116,240	1,189,456	1,244,150	1,349,100	1,478,256
1,104,224	3,655,978	2,315,117	170,531	2,124,997	2,608,965
-	-	-	-	-	-
3,399,764	5,888,682	4,694,029	2,658,831	5,772,850	5,565,477
64,686	73,351	72,742	76,217	73,844	77,565
54,768	54,763	53,625	54,017	54,408	55,384
1,107,222	1,010,244	959,751	709,739	642,116	477,290
2,942,734	2,465,600	2,025,607	2,680,431	1,276,393	1,664,681
4,169,410	3,603,958	3,111,725	3,520,404	2,046,761	2,274,920
(769,646)	2,284,724	1,582,304	(861,573)	3,726,089	3,290,557
21,926,537	19,641,813	18,059,509	18,921,082	15,194,993	11,904,436
-	-	-	-	-	-
21,926,537	19,641,813	18,059,509	18,921,082	15,194,993	11,904,436
$ 21,156,891	$ 21,926,537	$ 19,641,813	$ 18,059,509	$ 18,921,082	$ 15,194,993

WICHITA RETIREMENT SYSTEMS

CHANGES IN FIDUCIARY NET POSITION
POLICE AND FIRE RETIREMENT SYSTEM

For years ended December 31, 2009 through December 31, 2018
(accrual basis of accounting)

	Fiscal Year			
	2018	2017	2016	2015
ADDITIONS				
Employer contributions	$ 14,331,422	$ 13,369,785	$ 12,585,895	$ 13,964,379
Employee contributions	5,599,216	4,915,378	4,776,958	4,603,331
Net income (loss) from investing activities	(43,988,371)	103,236,679	39,901,640	(163,702)
Total additions	(24,057,733)	121,521,842	57,264,493	18,404,008
DEDUCTIONS				
Benefit payments				
Service retirement	28,998,635	27,471,812	26,169,001	24,767,622
Survivor benefit	3,431,832	3,253,128	3,275,582	3,216,979
Backward DROP lump sum payments	4,836,668	4,279,460	3,951,323	5,550,489
Qualified domestic relations order	222,699	220,953	221,720	200,947
Disability (service)	1,533,354	1,439,920	1,546,440	1,818,427
Disability (non-service)	73,957	72,513	71,496	70,479
Funeral benefits	23,283	18,772	20,974	17,697
Pension administration	590,098	554,641	548,171	483,193
Depreciation	-	-	-	37,825
Refunds	261,073	173,975	295,731	448,180
Total deductions	39,971,599	37,485,174	36,100,438	36,611,838
Net increase (decrease) in fiduciary net postion	(64,029,332)	84,036,668	21,164,055	(18,207,830)
Net position - beginning	698,083,949	614,047,281	592,883,226	611,091,056
Net position - ending	$ 634,054,617	$ 698,083,949	$ 614,047,281	$ 592,883,226

Fiscal Year					
2014	2013	2012	2011	2010	2009
$ 14,464,181	$ 14,889,714	$ 14,113,014	$ 13,806,880	$ 13,119,984	$ 11,034,552
4,529,895	4,607,691	4,543,523	4,403,425	4,467,983	4,443,524
30,596,067	99,494,232	60,619,414	2,404,099	54,963,698	75,500,370
49,590,143	118,991,637	79,275,951	20,614,404	72,551,665	90,978,446
22,854,129	21,081,456	19,751,947	18,492,549	17,657,512	16,313,729
3,147,177	2,963,019	2,798,141	2,704,987	2,569,695	2,367,563
7,903,252	5,202,861	3,245,820	2,877,779	4,296,127	3,444,839
159,200	130,426	116,670	117,737	115,432	93,762
1,794,729	1,701,928	1,816,648	1,835,512	1,745,289	1,557,901
70,558	68,445	67,428	66,411	65,394	64,377
28,688	9,871	11,425	21,371	16,618	14,891
478,320	402,003	396,424	445,898	421,251	438,348
63,887	401,901	62,562	63,016	63,477	64,615
457,423	63,890	357,192	636,120	492,380	295,424
36,957,363	32,025,800	28,624,257	27,261,380	27,443,175	24,655,449
12,632,780	86,965,837	50,651,694	(6,646,976)	45,108,490	66,322,997
598,458,276	511,492,439	460,840,745	467,487,721	422,379,231	356,056,234
$ 611,091,056	$ 598,458,276	$ 511,492,439	$ 460,840,745	$ 467,487,721	$ 422,379,231

WICHITA RETIREMENT SYSTEMS

AVERAGE BENEFIT BY YEARS OF SERVICE

New Retirees by Calendar Year

WICHITA EMPLOYEES' RETIREMENT SYSTEM

For years ended December 31, 2009 through December 31, 2018

	Fiscal Year			
	2018	2017	2016	2015
AVERAGE MONTHLY PENSION BENEFIT				
0 - 5 years of service	$ -	$ -	$ -	$ -
5 - 10 years of service	709	1,092	648	746
10 - 15 years of service	989	1,332	1,159	1,095
15 - 20 years of service	1,795	2,175	1,915	1,791
20 - 25 years of service	2,291	2,299	2,249	1,861
25 - 30 years of service	2,617	2,395	2,849	2,983
More than 30 years of service	4,020	4,235	3,456	4,003
Average for all years of service	2,573	2,310	2,167	2,174
AVERAGE FINAL AVERAGE SALARY				
0 - 5 years of service	$ -	$ -	$ -	$ -
5 - 10 years of service	4,185	5,807	3,293	3,823
10 - 15 years of service	3,930	4,722	4,226	3,617
15 - 20 years of service	4,422	5,699	4,837	4,546
20 - 25 years of service	4,523	4,609	4,442	3,727
25 - 30 years of service	4,276	3,868	4,419	4,799
More than 30 years of service	5,148	5,425	4,322	5,197
Average for all years of service	4,617	4,971	4,289	4,367
NUMBER OF RETIRED MEMBERS				
0 - 5 years of service	-	-	-	-
5 - 10 years of service	5	4	7	11
10 - 15 years of service	11	14	15	7
15 - 20 years of service	9	8	8	13
20 - 25 years of service	15	10	13	9
25 - 30 years of service	8	6	7	9
More than 30 years of service	26	10	17	13
Total for all years of service	74	52	67	62

Fiscal Year					
2014	2013	2012	2011	2010	2009
$ -	$ -	$ -	$ -	$ 290	$ -
665	1,164	980	554	-	593
950	1,278	921	994	2,852	1,158
1,624	1,621	2,026	1,655	-	1,482
1,957	1,992	2,492	1,853	2,745	2,173
2,230	2,433	2,477	2,435	3,646	2,870
3,217	3,891	3,455	3,187	1,993	2,758
1,921	1,760	2,084	1,844	2,928	2,084
$ -	$ -	$ -	$ -	$ 2,956	$ -
3,206	5,437	3,361	3,110	-	2,962
3,353	4,091	3,472	3,298	5,058	3,904
4,343	3,914	4,541	4,359	-	3,451
4,027	4,288	5,275	4,021	5,100	4,192
4,065	4,397	4,762	4,090	5,134	4,225
4,495	5,388	5,125	4,703	4,269	4,008
4,026	4,409	4,460	3,995	4,839	3,929
-	-	-	-	1	-
11	8	2	11	-	6
10	17	6	21	2	10
19	12	5	23	-	5
14	6	4	31	2	5
9	7	6	18	7	23
20	4	4	19	2	4
83	54	27	123	14	53

WICHITA RETIREMENT SYSTEMS

AVERAGE BENEFIT BY YEARS OF SERVICE
New Retirees by Calendar Year
POLICE AND FIRE RETIREMENT SYSTEM

For years ended December 31, 2009 through December 31, 2018

	Fiscal Year			
	2018	2017	2016	2015
AVERAGE MONTHLY PENSION BENEFIT				
0 - 5 years of service	$ -	$ -	$ -	$ -
5 - 10 years of service	-	-	-	-
10 - 15 years of service	-	2,744	2,688	-
15 - 20 years of service	4,549	2,533	1,895	4,203
20 - 25 years of service	3,861	3,144	3,108	3,004
25 - 30 years of service	4,073	4,320	4,509	4,074
More than 30 years of service	4,359	6,304	4,658	4,589
Average for all years of service	4,116	3,972	4,235	3,979
AVERAGE FINAL AVERAGE SALARY				
0 - 5 years of service	$ -	$ -	$ -	$ -
5 - 10 years of service	-	-	-	-
10 - 15 years of service	-	5,122	5,014	-
15 - 20 years of service	5,429	4,726	3,590	5,280
20 - 25 years of service	6,062	5,596	5,586	5,490
25 - 30 years of service	6,196	6,349	6,887	5,963
More than 30 years of service	5,711	7,929	5,917	5,824
Average for all years of service	5,983	6,082	6,055	5,756
NUMBER OF RETIRED MEMBERS				
0 - 5 years of service	-	-	-	-
5 - 10 years of service	-	-	-	-
10 - 15 years of service	-	1	1	-
15 - 20 years of service	1	5	1	1
20 - 25 years of service	10	7	2	8
25 - 30 years of service	13	14	7	9
More than 30 years of service	11	4	10	11
Total for all years of service	35	31	21	29

Fiscal Year					
2014	2013	2012	2011	2010	2009
$ 3,710	$ -	$ -	$ -	$ 290	$ -
-	3,371	-	-	-	3,016
1,867	2,254	2,344	2,381	2,852	2,237
1,993	3,930	3,929	3,784	-	3,834
2,971	3,037	3,691	2,983	2,745	2,808
4,212	4,138	-	4,064	3,646	3,964
4,870	4,790	-	4,847	1,993	4,034
3,984	3,697	3,281	3,349	2,928	3,180
$ 4,890	$ -	$ -	$ -	$ 2,956	$ -
-	4,262	-	-	-	3,341
5,150	4,065	3,838	3,980	5,058	5,074
4,842	4,961	5,120	4,970	-	4,893
5,132	4,936	5,652	4,704	5,100	4,771
5,698	5,696	-	5,810	5,134	5,426
6,192	6,387	-	6,463	4,269	5,378
5,671	5,337	4,959	4,997	4,839	4,943
1	-	-	-	1	-
-	1	-	-	-	2
1	3	2	2	2	4
1	1	1	2	-	1
13	10	3	9	2	12
11	20	-	4	7	9
17	2	-	1	2	1
44	37	6	18	14	29

WICHITA RETIREMENT SYSTEMS

RETIRED MEMBERS BY TYPE AND BENEFIT AMOUNT
WICHITA EMPLOYEES' RETIREMENT SYSTEM

As of December 31, 2018

Monthly Benefit	Active in DROP	Non-Service Disability	QDRO[1]	Service	Service Disability	Survivor	Total
Less than $500	-	2	1	53	-	67	123
500 - 1,000	2	10	5	142	1	59	219
1,000 - 1,500	4	3	2	151	-	65	225
1,500 - 2,000	9	2	-	147	2	43	203
2,000 - 2,500	13	2	1	127	1	24	168
2,500 - 3,000	7	-	1	89	-	3	100
3,000 - 3,500	15	-	-	103	-	5	123
3,500 - 4,000	13	-	-	96	-	-	109
4,000 - 4,500	3	-	-	65	-	-	68
4,500 - 5,000	3	-	-	58	-	-	61
More than $5,000	11	-	-	90	-	1	102
	80	19	10	1,121	4	267	1,501

POLICE AND FIRE RETIREMENT SYSTEM

As of December 31, 2018

Monthly Benefit	Non-Service Disability	QDRO[1]	Service	Recalc. Service Disability	Service Disability	Survivor	Total
Less than $500	-	3	5	-	-	2	10
500 - 1,000	2	8	7	-	2	23	42
1,000 - 1,500	4	7	49	1	-	31	92
1,500 - 2,000	-	1	93	1	-	41	136
2,000 - 2,500	-	1	126	2	-	42	171
2,500 - 3,000	-	-	105	4	5	16	130
3,000 - 3,500	-	-	85	6	6	2	99
3,500 - 4,000	-	-	78	15	10	2	105
4,000 - 4,500	-	-	71	22	11	1	105
4,500 - 5,000	-	-	56	4	1	1	62
More than $5,000	-	-	55	5	2	1	63
	6	20	730	60	37	162	1,015

[1] Qualified Domestic Relations Order