



# GAINING MOMENTUM

2020 Comprehensive Annual Financial Report  
for the Fiscal Year Ended June 30, 2020

 **KPERS**

Kansas Public Employees Retirement System  
a component unit of the State of Kansas

2020 COMPREHENSIVE  
ANNUAL  
FINANCIAL  
REPORT

Kansas Public Employees Retirement System  
A component unit of the State of Kansas  
Fiscal Year Ended June 30, 2020

Prepared by KPERS staff  
611 S. Kansas Ave., Ste 100 | Topeka, KS 66603-3869

Alan D. Conroy, Executive Director  
Judy McNeal, Chief Fiscal Officer

# OUR MISSION

KPERS, in its fiduciary capacity, exists  
to deliver retirement, disability and  
survivor benefits to its members  
and their beneficiaries.

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# INTRODUCTORY SECTION



# TRANSMITTAL LETTER



## KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM

October 30, 2020

We are pleased to present the Kansas Public Employees Retirement System's (KPERS) Comprehensive Annual Financial Report (CAFR) for Fiscal Year 2020. In addition to informing the Board of Trustees, members and employers, our annual report fulfills KPERS' reporting responsibilities as defined in Kansas statute. Printed copies are readily available to the public and a full version is posted on our website, [kpers.org](http://kpers.org).

As the first item in the CAFR, this transmittal letter provides a high-level overview of the Retirement System. The Management's Discussion and Analysis section provides a narrative introduction and analysis of our financial activities over the past fiscal year. This letter is intended to complement the Management's Discussion and Analysis, and they should be read together.

### ENSURING ACCURACY

Responsibility for the preparation, accuracy and completeness of this report, including all disclosures, rests firmly with KPERS' management. Information is presented in accordance with generally accepted accounting principles. To the best of our knowledge, the included data is accurate in all material respects and fairly presents our financial position and operating results.

The Retirement System maintains a framework of internal controls to establish reasonable assurance that assets are safeguarded, transactions are completed accurately and financial statements are fair and reliable. We also have an internal audit program that reports to the Board of Trustees. There are inherent limitations to internal controls, and risk cannot always be foreseen or completely eliminated. KPERS' objective is to provide reasonable, rather than absolute, assurance that the financial statements are free of any material misstatements, since the cost of internal

control should not exceed the benefits obtained. In addition to internal controls, the independent certified public accounting firm CliftonLarsonAllen LLP conducted an independent audit of the Retirement System's financial statements for Fiscal Year 2020.

### OUR PROFILE

The Kansas Legislature created the Kansas Public Employees Retirement System in 1962 to secure a financial foundation for those spending their careers in Kansas public service. The Retirement System provides disability and death benefits while employees are still working, and a dependable pension benefit when they retire.

We are a statewide, cost-sharing multiple employer defined benefit retirement plan containing three different groups:

- Public Employees
- Kansas Police and Firefighters
- Judges

Retirement System benefits are offered by slightly over 1,500 state and local employers. KPERS has about 325,000 members, including active, inactive and retired members. The Retirement System paid about \$1.8 billion in retirement benefit payments for Fiscal Year 2020. Over 85 percent of those benefits remained in Kansas. Retirement System assets totaled \$20.6 billion on June 30, 2020.

Along with the defined benefit plan, KPERS also oversees KPERS 457, a voluntary 457(b) deferred compensation plan for State of Kansas employees. In addition, 372 local public employers also participate. The plan has over 25,324 total and about 13,023 actively contributing participants. Total KPERS 457 plan assets equaled about \$1.2 billion at the end of Fiscal Year 2020. The



KPERS 457 plan's financial information is not included in this CAFR.

A nine-member Board of Trustees oversees the Retirement System: four are appointed by the Governor; one is appointed by the President of the Kansas Senate; one is appointed by the Speaker of the Kansas House of Representatives; two are elected by Retirement System members; and one is the statewide elected State Treasurer. The Board appoints an executive director who manages a staff to carry out daily operations. The Board approves the System's annual operating budget. As a component unit of the State of Kansas, the budget is also approved by the Kansas Legislature and Governor as part of the regular legislative budgetary process.

## INVESTMENTS

KPERS' assets are invested according to the "prudent expert standard of care" for the sole purpose of providing benefits to members and beneficiaries. We have designed our investment portfolio to withstand short-term market volatility and economic downturns, as well as to benefit from strong economic and market environments.

Over time, solid investment performance is an important component to sound funding. Our actuarial projections assume an average, long-term net investment return of 7.75 percent. In 2017, the Board changed from an 8 percent assumption to 7.75 percent. For some years, returns will be below that rate and, in other years, returns will exceed it. As of June 30, 2020, KPERS' 25-year annualized total return average was 7.8 percent, slightly exceeding the 7.75 percent target.

Fiscal Year 2020 was marked by historical financial market volatility, both on the downside and the upside. The Retirement System's broadly diversified investment portfolio produced a 2.1 percent total return, underperforming the Policy Index benchmark by 0.3 percent and underperforming the actuarial return assumption of 7.75 percent.

The Retirement System's investment portfolio ended the fiscal year at approximately \$20.2 billion in assets. For more information about KPERS diversified and disciplined approach to executing our investment strategy, please refer to the investment section in this report, beginning on page 51. This section also provides details about our asset allocation and a general overview of each asset class and its performance.

KPERS contracts for the services of various independent consultants essential to the effective and professional operation of the System. A list of the consultants and advisors is included in the Introductory Section on page 14. In the Investments Section a schedule of entities to whom KPERS paid broker commissions is on page 64.

## FINANCIAL POSITION AND FUNDING OUTLOOK

For many years, KPERS has been facing a long-term funding shortfall, significantly affected by two recessions and less than the required employer contributions for 25 years.

The Legislature has taken steps over the last decade to incrementally address the long-term funding shortfall, including pension bonds, increasing member contributions, creating a new cash balance plan for new members and commitments to increase employer contributions over time.

For the first time in decades, the System received the full actuarial contribution amount for all plans and groups in Fiscal Years 2019 and 2020. Both were the result of payments from the Kansas Legislature to make up for previously skipped payments. Past legislation also outlines provisions to pay for some of the shortfalls in annual payments, with interest, over 20 years.

In addition, KPERS is reaching another significant milestone. Beginning in Fiscal Year 2021 the State/School group will be at the actuarially required contribution rate, joining Local employers who have been at the required rate since 2015.

Consistent employer contributions over time are one of the most important factors for plan funding and continuing to improve the System's funded status.

At the date of this report, projections show the legacy unfunded actuarial liability will extinguish in 2033 as scheduled. It is important to remember that to meet this projection, long-term investment returns are crucial. Continued funding improvement hinges on meeting our investment target over time and consistent employer contributions to match actuarial funding requirements.

For information on KPERS' funding projections by plan and group, please see the actuarial section beginning on page 65.

## UNFUNDED ACTUARIAL LIABILITY

The UAL amount is the gap between the actuarial value of assets and the actuarial liability for service already earned by public employees.

According to the December 31, 2019, actuarial valuation, the System's unfunded actuarial liability (UAL) improved by about \$200 million to \$9.0 billion, due in part to a strong 17 percent market value return in Calendar Year 2019. The UAL was previously \$9.2 billion as of December 31, 2018. The Retirement System's UAL may increase somewhat over the next few years as the System recognizes negative investment experience from Calendar Year 2018.

## FUNDED RATIO

The funded ratio is the ratio of assets to future liabilities.

The valuation showed the System's funded ratio improved to 70 percent, up from 68 percent the previous year and up from a low of 56 percent in 2012. Over the long-term, it is expected to improve steadily if assumptions are met and scheduled contributions are made.

For public pension plans like KPERS, funding over 80 percent and rising is generally good. Funding below 60 percent is poor and needs prompt attention. While the System does not have an immediate crisis, long-term funding requires ongoing, careful oversight.

## MAJOR INITIATIVES AND ACCOMPLISHMENTS

### Triennial Experience and Asset/Liability Study

KPERS completed its triennial experience and asset/liability study. The study uses statistical and actuarial methods to project the future growth path of both assets and liabilities. These projections help determine the asset allocation that, when combined with future contributions, most effectively and efficiently supports benefit payments.

As a result of the triennial experience study, KPERS' Board of Trustees elected to adopt all of the recommended changes to the demographic assumptions, but did not adopt any of the recommended sets of economic assumptions. The changes to the demographic assumptions included adjusting retirement, termination and disability rates, and the final average salary assumption. There was no significant cost impact for these changes. Study data suggested the investment return assumption should be lowered, but how and when is a KPERS Board decision. The Board chose to maintain KPERS' current investment return assumption of 7.75 percent.

However, the Board did adopt a new long-term asset allocation mix associated with the "funding oriented" risk philosophy. The funding oriented risk philosophy is projected to incrementally improve the probabilities of long-term success relative to the current policy while taking on a similar level of risk.

### Important Funding Milestones

For about 25 years, KPERS has been receiving less than the required employer contributions, contributing to a significant and ongoing long-term funding shortfall. Fiscal Year 2020 was the second consecutive year that the Retirement System received the full actuarially required amount. This milestone has

set the stage for the next one. For the first time in decades, all KPERS employers will be contributing at the actuarially required contribution rate beginning with Fiscal Year 2021. These contribution increases are a critical component in the long-term financial health of the Retirement System.

Fiscal Year 2020 brought with it another significant funding milestone, reaching the 70 percent funded ratio mark. It has been a slow and difficult climb from the System's lowest funded ratio of 56.4 percent in 2012. In addition to improved employer contributions, a strong market investment return for Calendar Year 2019 of 17 percent also helped attain the milestone.

Assuming future contribution commitments are fulfilled and Trust Fund investments meet the target investment return over time, KPERS is projected to pay off the legacy unfunded liability in 2033, positioning us to finally be at 100 percent funding.

### KPERS Roadmap to Our Future

After an extensive request for proposal process, KPERS selected and began partnering with Segal to complete a comprehensive pension administration system assessment and a review of existing business processes. Segal provides administration and technology consulting for both private and public sector organizations, with significant experience in the public retirement industry.

Late in the fiscal year, KPERS began the three-month assessment project with the long-term goal of creating a roadmap to our future—an improved pension administration system with efficient business processes, tools for increased organization productivity, and the highest quality interactions with our members and employers. We anticipate the overall initiative will take about four years, beginning next fiscal year with "foundational" projects and data improvements. This will lay the groundwork for the pension administration system modernization and business process improvements to follow.

### BY THE NUMBERS—IN FISCAL YEAR 2020:

- About 1.3 million retirement benefit payments paid totaling over \$1.8 billion
- 5,319 pension inceptions completed
- 42,000 beneficiary designations processed
- \$26 million in life insurance benefits paid
- 34,500 member enrollments and transfers processed
- 9,000 withdrawals paid totaling \$66.9 million
- \$18 million in benefits paid to 2,000 disabled employees
- 90,000 incoming calls answered with an average wait time of 21 seconds
- 20,500 emails answered

## AWARDS & ACKNOWLEDGMENTS

KPERS participated in a benchmarking survey conducted by CEM Benchmarking, Inc. When compared with other public pensions in the 2019 survey, KPERS earned an overall service score of 81, equal to the peer median score. KPERS' peer group is a high service group, including six of the top 10 scoring retirement systems in the CEM database. In addition, we measured very favorably with regard to cost. KPERS' administrative cost per member is \$49, well below the peer median cost of \$83. Benchmarking results continue to show KPERS is delivering good customer service for a low, economical cost.

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Retirement System for the 2019 CAFR. The Certificate of Achievement is a prestigious national award, recognizing conformance with the highest standards for preparation of state and local government financial reports.

To be awarded a Certificate of Achievement, a governmental unit must publish an easily readable and efficiently organized comprehensive annual financial report, the contents of which must conform to program standards. The comprehensive annual financial 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 Retirement System has received the Certificate of Achievement for each of the last 26 fiscal years. We believe our current report again conforms to the program requirements, and we will submit it to the GFOA to determine its eligibility for another certificate.

In addition to the GFOA certificate, KPERS also earned the Public Pension Standards Award for Funding and Administration in 2020 from the Public Pension Coordinating Council (PPCC). The standards serve as a benchmark by which to measure public defined benefit plans in the areas of benefits, actuarial valuation, independent audit, investments, communications and long-term funding.

The CAFR continues to be the product of team effort, both KPERS staff and advisors. We thank the Board for its leadership and our entire dedicated staff whose work this report represents. The CAFR is an important asset to our organization, and we use the information in this report to make key decisions. It helps us honor our fiduciary commitment and provide members with the service they need to get the most from their benefits.

Sincerely,



Alan D. Conroy,  
Executive Director



Judy McNeal  
Chief Fiscal Officer

## BOARD OF TRUSTEES

### KELLY ARNOLD, CHAIRPERSON

Wichita, County Clerk, Sedgwick County  
Appointed by the Governor

### SURESH RAMAMURTHI, VICE-CHAIRPERSON

Topeka, Chairman, CBW Bank  
Appointed by the President of the Senate

### ERNIE CLAUDEL

Olathe, Retired Teacher and Administrator  
Elected Member – School

### EMILY HILL

Lawrence, Partner, Bowersock Capital Partners  
Appointed by the Governor

### RON JOHNSON

Seneca, Retired President and CEO of Community National  
Bank in Seneca  
Appointed by the Speaker of the House

### JAKE LaTURNER

Pittsburg, Kansas State Treasurer  
Statutory Member

### BRAD STRATTON

Overland Park, President and CEO, Overland Park Wealth  
Management  
Appointed by the Governor

### RYAN TRADER

Olathe, Firefighter/Paramedic, Olathe Fire Department  
Elected Member – Non-School

### JAMES ZAKOURA

Overland Park, Partner, Smithyman & Zakoura Law Firm  
Appointed by the Governor

## OUR ORGANIZATION

### BOARD OF TRUSTEES

#### EXECUTIVE DIRECTOR

Alan D. Conroy

#### ADMINISTRATION

General Counsel, Laurie McKinnon  
Internal Audit, Janette Martin  
Planning and Research, Jarod Waltner  
Human Resources, Julie Baker  
KPERS 457, Arlen Zentner  
Communications, Kristen Basso

#### INVESTMENTS

Chief Investment Officer, Elizabeth B.A. Miller  
Equity Investments  
Real Estate Investments  
Fixed Income Investments  
Alternative Investments

#### FISCAL SERVICES

Chief Fiscal Officer, Judy McNeal  
Corporate Accounting  
Employer Reporting  
Investment Accounting  
Employer Auditing

#### BENEFITS AND MEMBER SERVICES

Chief Benefits Officer, Mary Beth Green  
Post-Retirement  
Benefits  
Withdrawals

#### INFORMATION TECHNOLOGY

Chief Information Officer, John Cahill  
Application and Data Management  
Cyber-Security  
Operations

## KPERS STAFF

Melvin Abbott  
 Kelly Alexander  
 Crystie Amaro  
 Michael Arvidson Jr  
 Paige Ashley  
 Julie Baker  
 Yohonna Barraud  
 Kristen Basso  
 DuWayne Belles  
 Dianna Berry  
 Julie Bevitt  
 A. Kathleen Billings  
 John Black  
 Candace Blythe  
 Anita Bradley  
 Amy Brown  
 Tracy Brull  
 Annika Bush  
 John Cahill  
 Tyler Caleb  
 Andryana Campbell  
 Will Clark  
 Amanda Cobler  
 Alan Conroy  
 Becky Dekat  
 Ardith Dunn  
 Amy Dunton  
 Tisha Eastman  
 Joyce Edington  
 Yarlenis Ensley  
 Allie Estanol  
 Daniel Fairbank  
 Melissa Findlay  
 Bruce Fink  
 James Fleming  
 Jared Flewelling  
 Renae Forque  
 Elaine Gaer  
 Sue Gamblian  
 Connie Gardner  
 Raymond Gentry  
 Billie-Jo Gerisch  
 Michael Gilliland  
 Shlomo Ginsburg  
 Lisa Gonzales  
 Mary Beth Green  
 Susan Hancock  
 Alec Hawley  
 Connor Henrichs  
 Lorie Hernandez  
 Candice Heth

John Hooker  
 Mirel Howard  
 Kaylie Hughes  
 Charla Jefferson  
 Marais Johnson-Herl  
 Teresa Jurgens  
 Casey Kidder  
 Charity King  
 Shannon Kuehler  
 Lindsey Leslie  
 Debra Lewis  
 Melinda Locke  
 Joyce Mark  
 Janette Martin  
 DeAnna McColm  
 Heather McHardie  
 Laurie McKinnon  
 Jason McKinzie  
 Judy McNeal  
 Elizabeth Miller  
 Stephanie Moore  
 Noble Morrell  
 Kali Newell  
 Lisa Ngole  
 Dawn Nichols  
 Shawn Nix  
 Jennifer Osborn  
 Diana Peters  
 Sammi Peterson  
 Alissa Powell  
 Jeeva Purushothaman  
 Sarah Putman  
 Sheila Putman  
 Teresa Quick  
 Justin Quick  
 Cathy Rafferty  
 Kimberly Raines  
 Curtis Rasmusson  
 Norm Remp  
 Elizabeth Rincon  
 Dean Roney  
 Jamie Rose  
 Rika Rowe  
 Jasmine Russ  
 Teresa Ryan  
 MaryAnn Sachs  
 Crystal Schnacker  
 Alan Schuler  
 Annette Scott  
 Colin Scott  
 Adam Sester

Aditi Sharma  
 Hallie Shermoen  
 Rhonda Shumway  
 Brecken Stadler  
 Marsha Stafford  
 Rachel Swartz  
 Raquel Talavera  
 Amber Tarrant  
 Carmen Torres  
 Daniel Tritsch  
 Jacob Tritsch  
 Jessica Tufts  
 Jason Van Fleet  
 Jackie VandeVelde  
 Daniel Wadsworth  
 Cynthis Wallace  
 Jarod Waltner  
 Michaela Watson  
 Lisa Wehrly  
 Amy Whitmer  
 Eric Wigginton  
 Lane Wiley  
 Max Williams  
 Heather Williamson  
 Brandy Wilson  
 Emily Wilson  
 Susie Wires  
 Krystal Yegon  
 Arlen Zentner  
 Pat Zimmerman

## CONSULTANTS AND ADVISORS

**Auditors:** CliftonLarsonAllen LLP, Greenwood Village, CO

**Accounting:** KPMG LLP, Chicago, IL

**Actuary:** Cavanaugh Macdonald, Bellevue, NE

**Information Technology:** The Segal Company, New York, NY

## INVESTMENT CONSULTANTS

Mercer Alternatives, LLC, El Dorado Hills, CA

Meketa Investment Group, Portland, OR

The Townsend Group, Cleveland, OH

## INVESTMENT MANAGERS

Adrian Lee & Partners, Dublin, Ireland

Baillie Gifford Overseas Limited, Edinburgh, Scotland

BlackRock Institutional Trust Company, San Francisco, CA

Brookfield Asset Management, Coral Gables, FL

CenterSquare Investment Management Inc., Plymouth Meeting, PA

Franklin Templeton Institutional, San Mateo, CA

Insight Investment Inc., New York, NY

JP Morgan Investment Management Inc., New York, NY

Lazard Asset Management, LLC, New York, NY

Loomis Sayles & Company, LP, Boston, MA

Mackay Shields LLC, New York, NY

Mellon Capital Management Corporation, San Francisco, CA

Molpus Timberlands Management, Jackson, MS

Payden & Rygel Investment Counsel, Los Angeles, CA

Russell Investment Group, Tacoma, WA

State Street Global Advisors, Boston, MA

T Rowe Price Associates, Inc., Baltimore, MD

Tortoise Capital Advisors, LLC, St. Louis, MO

Wellington Management Company, Boston, MA

Western Asset Management Company, Pasadena, CA

**Investment Custodian:** State Street Bank and Trust, Boston, MA

**Life Insurance:** Standard Insurance Company, Portland, OR

**Long-Term Disability:** Self Insured, Administered by Disability Management Services, Inc., Springfield, MA

**Brokers:** See the "Schedule of U.S. Equity Commissions" on page 64.

## GFOA CERTIFICATE OF ACHIEVEMENT

The Government Finance Officers Association of the United States and Canada (GFOA) awarded the Certificate of Achievement for Excellence in Financial Reporting to KPERS for the 2019 annual report. KPERS has received the award for each of the last 26 consecutive fiscal years.



Government Finance Officers Association

Certificate of  
Achievement  
for Excellence  
in Financial  
Reporting

Presented to

**Kansas Public Employees  
Retirement System**

For its Comprehensive Annual  
Financial Report  
For the Fiscal Year Ended

June 30, 2019

*Christopher P. Morrill*

Executive Director/CEO

# PPCC PUBLIC PENSION STANDARDS AWARD

The Public Pension Coordinating Council (PPCC) awarded the Public Pension Standards Award for Funding and Administration to KPERS for 2020.



Public Pension Coordinating Council

## ***Public Pension Standards Award For Funding and Administration 2020***

Presented to

### ***Kansas Public Employees Retirement System***

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)

A handwritten signature in cursive script that reads "Alan H. Winkle".

Alan H. Winkle  
Program Administrator



FINANCIAL  
SECTION





CliftonLarsonAllen LLP  
CLAconnect.com

## INDEPENDENT AUDITORS' REPORT

Board of Trustees  
Kansas Public Employees Retirement System  
Topeka, Kansas

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

We have audited the accompanying financial statements of the Kansas Public Employees Retirement System (the System), which comprise the statements of fiduciary net position and changes in fiduciary net position, as of and for the year ended June 30, 2020, and the related notes to the financial statements, which collectively comprise the System's 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.

### ***Auditors' 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 auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the System'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 System'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.



Board of Trustees  
Kansas Public Employees Retirement System

**Opinion**

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the System as of June 30, 2020, and the respective changes in financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

**Emphasis of a Matter**

During fiscal year ended June 30, 2020, the System adopted GASB Statement No. 84, *Fiduciary Activities*. As a result of the implementation of this standard, the System reported a restatement for the change in accounting principle (see Note 2 to the financial statements) as of July 1, 2019. Our auditors' opinion was not modified with respect to the restatement.

**Other Matters****Required Supplementary Information**

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, schedule of changes in the employers' net pension liability, schedule of the employers' net pension liability, schedule of employers' contributions and schedule of investment returns, as 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.

**Other Information**

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the System's basic financial statements. The other supplementary information listed in the table of contents is presented for purposes of additional analysis and is not a required part of the basic financial statements.

The other supplementary information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the other supplementary 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, as listed in the table of contents, have not been subjected to the auditing procedures applied in the audit of the financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

Board of Trustees  
Kansas Public Employees Retirement System

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

In accordance with *Government Auditing Standards*, we have also issued our report dated October 30, 2020, on our consideration of the System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the result of that testing, and not to provide an opinion on the effectiveness of the System's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the System's internal control over financial reporting and compliance.

*CliftonLarsonAllen LLP*

**CliftonLarsonAllen LLP**

Denver, Colorado  
October 30, 2020

# MANAGEMENT'S DISCUSSION AND ANALYSIS

This section presents management's discussion and analysis of the Kansas Public Employees Retirement System's financial performance for the fiscal year ended June 30, 2020. It is presented as a narrative overview and analysis in conjunction with the Executive Director's letter of transmittal.

The Kansas Public Employees Retirement System (KPERS, the Retirement System, or the System) is the administrator of a cost sharing defined-benefit pension plan (Pension Plan) providing pension benefits to the following three statewide pension groups under one plan, as provided by chapter 74, article 49 of the Kansas Statutes:

- Public Employees
- Police and Firemen
- Judges

Substantially all public employees in Kansas are covered by the Pension Plan. The State of Kansas and Kansas schools are required to participate, while participation by local political subdivisions is optional but irrevocable once elected.

## FINANCIAL HIGHLIGHTS

The System's net position decreased approximately \$41.2 million or approximately negative 0.2 percent to \$20.6 billion as of June 30, 2020, compared to an increase of \$1.0 billion or approximately 4.8 percent, from \$19.7 billion to \$20.6 billion as of June 30, 2019.

The System's June 30, 2020, financial actuarial valuation calculated a total pension liability at June 30, 2020, of \$31.1 billion, compared to \$29.5 billion as of June 30, 2019, an increase of \$1.5 billion or 5.2 percent. The net pension liability at June 30, 2020, was \$10.5 billion, an increase over the prior year of approximately \$1.6 billion. The discount rate used to determine the total pension liability changed from 7.75% at the prior measurement date, June 30, 2019, to 7.5% at the current measurement date, June 30, 2020. A reduction of the discount rate will usually result in an increase in the total pension liability.

On a market value basis, this year's money-weighted rate of return on investments was 1.76 percent, compared to last year's return of 6.31 percent.

Monthly retirement benefits paid to retirees and beneficiaries increased 4.6 percent to approximately \$1.8 billion for Fiscal Year 2020, compared to \$1.7 billion in Fiscal Year 2019.

## OVERVIEW OF THE FINANCIAL STATEMENTS

This discussion and analysis is an introduction to the System's financial status, which comprise the following components:

- Financial statements
- Notes to the financial statements
- Required supplementary information
- Other supplementary schedules

The information available in each of these sections is summarized as follows.

## FINANCIAL STATEMENTS

A Statement of Fiduciary Net Position as of June 30, 2020, and a Statement of Changes in Fiduciary Net Position for the fiscal year ended June 30, 2020, are presented in this report. These financial statements reflect the resources available to pay benefits to retirees and other beneficiaries.

## NOTES TO THE FINANCIAL STATEMENTS

The financial statement notes provide additional information that is essential to a full understanding of the data provided in the financial statements. The notes to the financial statements can be found immediately following the financial statements.

## REQUIRED SUPPLEMENTARY INFORMATION

The required supplementary information consists of schedules and related notes concerning the financial status of the Retirement System (Pension Plan).

## OTHER SUPPLEMENTARY SCHEDULES

Other schedules include detailed information on contributions by employer coverage groups, administrative expenses, an investment income summary, a schedule of investment fees and expenses, and a schedule of expenses by type for the last ten years.

## CONDENSED FINANCIAL INFORMATION OF THE RETIREMENT SYSTEM

The System provides benefits to State of Kansas and other local and school employees. Benefits are funded by member and employer contributions and by investment earnings. Net position at June 30, 2020, amounted to \$20.6 billion. Following are two summary schedules, Fiduciary Net Position and Changes in Fiduciary Net Position, showing information for Fiscal Years 2020 and 2019 for the pension plan.

## SUMMARY STATEMENT OF FIDUCIARY POSITION

	As of June 30, 2020	As of June 30, 2019
<b>Assets</b>		
Cash and Deposits	\$ 16,335,755	\$ 13,847,253
Receivables	542,713,151	592,821,492
Investments at Fair Value	20,140,089,358	20,197,528,382
Capital Assets and Supplies Inventory	3,468,846	2,847,200
<b>Total Assets</b>	<u>20,702,607,110</u>	<u>20,807,044,327</u>
<b>Liabilities</b>		
Administrative Costs	1,618,220	1,149,385
Benefits Payable	2,381,733	3,267,515
Securities Purchased	91,733,152	154,573,540
<b>Total Liabilities</b>	<u>95,733,105</u>	<u>158,990,440</u>
<b>Fiduciary Net Position Restricted for Pensions</b>	<u>\$ 20,606,874,005</u>	<u>\$ 20,648,053,887</u>

## SUMMARY STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

	Year Ended June 30, 2020	Year Ended June 30, 2019
<b>Additions</b>		
Contributions	\$ 1,511,112,125	\$ 1,576,247,871
Net Investment Income	347,463,816	1,216,685,443
Other Miscellaneous Income	20,699,113	5,488,299
<b>Total Additions</b>	<u>1,879,275,054</u>	<u>2,798,421,613</u>
<b>Deductions</b>		
Monthly Retirement Benefits	1,828,655,721	1,747,623,791
Refunds	66,928,608	74,316,322
Death Benefits	11,263,225	11,357,122
Administrative Expenses	13,607,382	13,279,726
<b>Total Deductions</b>	<u>1,920,454,936</u>	<u>1,846,576,961</u>
Net Increase /(Decrease)	<u>(41,179,882)</u>	<u>951,844,652</u>
<b>Fiduciary Net Position Beginning of Year</b>	<u>20,648,053,887</u>	<u>19,696,209,235</u>
<b>Fiduciary Net Position End of Year</b>	<u>\$ 20,606,874,005</u>	<u>\$ 20,648,053,887</u>

## FINANCIAL ANALYSIS OF THE RETIREMENT SYSTEM

Additions to the System's fiduciary net position restricted for pensions include employer and member contributions, as well as investment income. Total contributions to the Retirement System were approximately \$1.5 billion in Fiscal Year 2020, compared to approximately \$1.6 billion in Fiscal Year 2019.

The System recognized net investment income of \$347.5 million for Fiscal Year 2020. The total time-weighted return for the portfolio, net of fees, was 1.7 percent, compared to the benchmark return of 2.4 percent. System investments at fair value amounted to \$20.2 billion at June 30, 2020. The Retirement System's time-weighted one-, three-, five-, ten- and 25-year investment performance returns, net of fees, are shown in the following table. The actuarial assumed rate of return is 7.75 percent.

2020				
1 Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 25 Years
1.7%	5.4%	5.7%	8.5%	7.5%

The System recognized net investment income of \$1.2 billion for the 2019 Fiscal Year. System investments at fair value amounted to \$20.3 billion at June 30, 2019.

At June 30, 2020, the System held \$10.2 billion in US equity and international equity securities. US equity and international equity securities earned net returns of approximately 6.5 percent and negative 1.5 percent, respectively, for Fiscal Year 2020.

At June 30, 2019, the System held \$10.4 billion in US equity and international equity securities. US equity and international equity securities earned returns of approximately 9.0 percent and 0.7 percent, respectively, for Fiscal Year 2019.

The System held \$5.6 billion in US debt and international debt securities at June 30, 2020. The net performance of the System's fixed income securities during Fiscal Year 2020 was 8.6 percent. Real estate investments amounted to \$2.5 billion at June 30, 2020, and returned approximately negative 0.1 percent for the 2020 Fiscal Year. The System held \$1.6 billion in alternative investments, which earned a return of approximately negative 3.6 percent for the 2020 Fiscal Year. At June 30, 2020, the pension plan held \$244.4 million in short-term investments and the custodial funds held \$103.2 million. Cash and deposits include investment cash and foreign currencies held at the custodial bank as of June 30, 2020, totaling approximately \$16.1 million.

The System held \$5.5 billion in US debt and international debt securities at June 30, 2019. The net performance of the System's fixed income securities during Fiscal Year 2019 was 8.0 percent. Real estate investments amounted to \$2.4 billion at June 30, 2019, and returned approximately 5.6 percent for the 2019 Fiscal

Year. The System held \$1.6 billion in alternative investments, which earned a return of approximately 12.2 percent for the 2019 Fiscal Year. At June 30, 2019, the pension plan held \$291.0 million in short-term investments and the custodial funds held \$60.8 million. Cash and deposits include investment cash and foreign currencies held at the custodial bank as of June 30, 2019, totaling approximately \$13.6 million.

Deductions from fiduciary net position restricted for pensions include retirement benefits, refunds, survivor benefits and administrative expenses. For the 2020 Fiscal Year, retirement benefits amounted to approximately \$1.8 billion, an increase of \$81.0 million or 4.6 percent from Fiscal Year 2019. For the 2020 Fiscal Year, System administrative expenses amounted to \$13.6 million, an increase of \$0.3 million from Fiscal Year 2019. The ratio of System administrative expenses to the number of members continues to be very cost-efficient compared to other statewide retirement plans.

## NET PENSION LIABILITY

The annual financial actuarial valuation for the System, as of June 30, 2020, estimates the total pension liability in accordance with requirements established by GASB Statement No. 67, Financial Reporting Standards for Pension Plans, as amended. The total pension liability (TPL) is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of plan member service. The net pension liability (NPL) is the total pension liability, net of the pension plan's fiduciary net position. As of June 30, 2020, the pension plan's fiduciary net position as a percentage of the total pension liability was 66.30 percent.

## PENSION PLAN

In response to KPERS' long-term funding shortfall, the 2012 Legislature made changes to future benefits and contributions, affecting both current members and employers, to improve KPERS long-term sustainability. The Governor signed Senate Substitute for HB 2333 into law on June 1, 2012. This legislation affects new hires, current members and employers. Beginning in 2014, the statutory cap on employer contributions was increased. For Fiscal Year 2017 and beyond, the statutory cap is 1.2 percent. The changes are expected to improve KPERS long-term funding and help all three groups reach full funding by 2033. The actual funding progress will be heavily dependent on the actual investment experience of the System in future years. The 2015 Legislature passed and the Governor approved Senate Bill 228 authorizing the issuance of \$1.0 billion in pension obligation bonds. The bonds were successfully issued in August 2015 and the proceeds transferred to the Retirement System.

Senate Sub. for HB 2052 authorized the delay of \$64.1 million in Fiscal Year 2017 contributions. These contributions were set up as a long-term receivable. Payment is scheduled to be made in a series of twenty annual payments of \$6.4 million beginning in Fiscal Year 2018. Senate Sub. for HB 2002 authorized the delay

of \$194.0 million in Fiscal Year 2019 contributions. Payment is scheduled to be made in a series of twenty annual payments of \$19.4 million starting in Fiscal Year 2020.

House Sub. For Senate Bill 109 from the 2018 Legislative session provided for additional funding for the KPERS School Group. A payment of \$56 million was paid in Fiscal Year 2018. This Bill also authorized a payment of \$82 million in Fiscal Year 2019. The 2019 legislative session authorized an additional fiscal year payment for the KPERS School Group. Senate Bill 9 authorized a payment of \$115 million for the KPERS School Group. House Sub. For Senate Bill 25 from the 2019 Legislative session authorized additional funding for the KPERS School Group in Fiscal Year 2020 of \$51 million.

The legislature and the Governor are ultimately responsible for benefits and funding. As a fiduciary devoted to the best financial interest of members, KPERS will continue to advocate for policies that promote the long-term financial health of the Retirement System.

This financial report is designed to provide a general overview of the Kansas Public Employees Retirement Systems' finances for all interested parties. An electronic copy of this report is available at the System's website [kpers.org](http://kpers.org). Requests for a printed copy of this report should be directed to the System as follows:

Kansas Public Employees Retirement System  
611 S. Kansas Ave., Suite 100  
Topeka, KS 66603-3869  
1-888-275-5737



## STATEMENT OF FIDUCIARY NET POSITION

As of June 30, 2020

	Pension Plan	Custodial Funds
<b>Assets:</b>		
Cash	\$ 202,953	\$ 7,673,542
Cash at Custodial Bank	16,132,802	-
Deposits with Insurance Carrier	-	-
<b>Total Cash</b>	<u>16,335,755</u>	<u>7,673,542</u>
<b>Receivables:</b>		
Contributions	416,877,051	340,853
Investment Income	51,748,363	25,714
Sale of Investment Securities	74,087,737	-
<b>Total Receivables</b>	<u>542,713,151</u>	<u>366,567</u>
<b>Investments at Fair Value:</b>		
Domestic Equities	5,901,085,796	-
International Equities	4,345,379,576	-
Short Term	244,424,479	103,208,871
Fixed Income	5,562,200,350	-
Alternative Investments	1,596,879,284	-
Real Estate	2,490,119,873	-
<b>Total Investments</b>	<u>20,140,089,358</u>	<u>103,208,871</u>
Capital Assets and Supplies Inventory	3,468,846	-
<b>Total Assets</b>	<u>20,702,607,110</u>	<u>111,248,980</u>
<b>Liabilities:</b>		
Administrative Costs	1,618,220	-
Benefits Payable	2,381,733	5,311,898
Securities Purchased	91,733,152	-
<b>Total Liabilities</b>	<u>95,733,105</u>	<u>5,311,898</u>
<b>Net Position</b>		
Restricted for:		
Pensions	20,606,874,005	-
Postemployment benefits other than pensions	-	105,339,639
Individuals, organizations, and other governments	-	597,443
	<u>\$ 20,606,874,005</u>	<u>\$ 105,937,082</u>

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

## STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

*Fiscal Year Ended June 30, 2020*

	Pension Plan	Custodial Funds
<b>Additions:</b>		
Contributions:		
Member Contributions	\$ 451,568,458	\$ 7,367,905
Employer Contributions	1,059,543,667	67,340,305
<b>Total Contributions</b>	<u>1,511,112,125</u>	<u>74,708,210</u>
<b>Investments:</b>		
Net Depreciation in Fair Value of Investments	(9,577,522)	-
Interest	152,608,428	1,812,385
Dividends	206,409,770	-
Real Estate Income, Net of Operating Expenses	93,651,199	-
Other Investment Income	17,622,755	-
	<u>460,714,630</u>	<u>1,812,385</u>
Less Investment Expense	113,250,814	-
Net Investment Income	347,463,816	1,812,385
Other Miscellaneous Income	20,699,113	84,928
<b>Total Additions</b>	<u>1,879,275,054</u>	<u>76,605,523</u>
<b>Deductions:</b>		
Monthly Retirement Benefits Paid	1,828,655,721	-
Refunds of Contributions	66,928,608	-
Death Benefits	11,263,225	-
Insurance Premiums and Disability Benefits	-	45,484,334
Administrative Expenses	13,607,382	573,438
<b>Total Deductions</b>	<u>1,920,454,936</u>	<u>46,057,772</u>
<b>Net Increase (Decrease) in Fiduciary Net Position</b>	(41,179,882)	30,547,751
<b>Fiduciary Net Position Restricted for Pensions</b>		
<b>Beginning of Year</b>	<u>20,648,053,887</u>	<u>75,389,331</u>
<b>End of Year</b>	<u>\$ 20,606,874,005</u>	<u>\$ 105,937,082</u>

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

## NOTE 1 – ORGANIZATION AND PLAN DESCRIPTION

The Kansas Public Employees Retirement System (KPERs, or the System) is a body corporate and an instrumentality of the State of Kansas. KPERs is governed by a nine-member board of trustees of which: four trustees are appointed by the Governor, one by the President of the Senate, one by the Speaker of the House of Representatives, two are elected by Retirement System members and one is the elected State Treasurer. The Board of Trustees appoints the executive director, who is the System's managing officer. KPERs is a component unit of the State of Kansas.

KPERs is the administrator of a cost-sharing defined-benefit pension plan (Pension Plan) for the State of Kansas providing pension benefits to the following three statewide pension groups under one plan, as provided by K.S.A. 74, article 49:

- Public Employees
- Police and Firemen
- Judges

Substantially all public employees in Kansas are covered by the plan. The State of Kansas and Kansas schools are required to participate, while participation by local political subdivisions is optional but irrevocable once elected.

KPERs pays Death and Disability Plan benefits to members on behalf of employers as provided by K.S.A. 74, article 4927. KPERs also collects and pays premiums for the optional group life insurance plan, as authorized by K.S.A. 74, article 4927. This plan provides additional employee paid life insurance coverage for active members. These benefits are not administered through qualifying trusts based on the criteria in Governmental Accounting Standards Board (GASB) Statement No. 74. Accordingly, the activity for these benefits are presented in custodial funds.

### PLAN MEMBERSHIP BY EMPLOYEE GROUP

Participating membership by statewide pension group as of December 31, 2019, (most recent actuarial valuation date) is as follows:

#### MEMBERSHIP BY RETIREMENT SYSTEMS <sup>(1)</sup>

	KPERs	KP&F	Judges	Total
Retirees and beneficiaries				
currently receiving benefits <sup>(2)</sup>	99,989	5,773	296	106,058
Terminated employees entitled to benefits but not yet receiving them	23,653	224	9	23,886
Inactive members, deferred disabled	1,650	192	-	1,842
Inactive members not entitled to benefits	36,093	1,436	-	37,529
Current employees	148,199	7,797	257	156,253
Total	<u>309,584</u>	<u>15,422</u>	<u>562</u>	<u>325,568</u>

(1) Represents System membership at December 31, 2019.

(2) Number of retirement payees as of December 31, 2019.

#### NUMBER OF PARTICIPATING EMPLOYERS

	KPERs	KP&F	Judges
State of Kansas	1	1	1
Counties	105	39	-
Cities	367	69	-
Townships	61	-	-
School Districts	286	-	-
Libraries	122	-	-
Conservation Districts	83	-	-
Extension Councils	61	-	-
Community Colleges	19	-	-
Educational Cooperatives	23	-	-
Recreation Commissions	47	1	-
Hospitals	27	-	-
Cemetery Districts	13	-	-
Other	208	-	-
Total	<u>1,423</u>	<u>110</u>	<u>1</u>

### PLAN BENEFITS

Benefits are established by statute and may only be changed by the Legislature. Members (except Police and Firemen) with ten or more years of credited service, may retire as early as age 55 (Police and Firemen may be age 50 with 20 years of credited service), with an actuarially reduced monthly benefit. Normal retirement is at age 65, age 62 with ten years of credited service or whenever a member's combined age and years of credited service equal 85 "points" (Police and Firemen normal retirement ages are age 60 with 15 years of credited service, age 55 with 20 years, age 50 with 25 years or any age with 36 years of service).

Monthly retirement benefits are based on a statutory formula that includes final average salary and years of service. When ending employment, members may withdraw their contributions from their individual accounts, including interest. Members who withdraw their accumulated contributions lose all rights and privileges of membership. For all pension coverage groups, the accumulated contributions and interest are deposited into and disbursed from the membership accumulated reserve fund as established by K.S.A. 74-4922.

Members choose one of seven payment options for their monthly retirement benefits. At retirement a member may receive a lump-sum payment of up to 50 percent of the actuarial present value of the member's lifetime benefit. Their monthly retirement benefit is then permanently reduced based on the amount of the lump sum. Benefit increases, including ad hoc post retirement benefit increases, must be passed into law by the Kansas Legislature. Benefit increases are under the authority of the Legislature and the Governor of the State of Kansas.

The 2012 Legislature made changes affecting new hires, current members and employers. A new KPERS 3 cash balance retirement plan for new hires starting January 1, 2015, was created. Normal retirement age for KPERS 3 is 65 with five years of service or 60 with 30 years of service. Early retirement is available at age 55 with ten years of service, with a reduced benefit. Monthly benefit options are an annuity benefit based on the account balance at retirement.

For all pension coverage groups, the retirement benefits are disbursed from the retirement benefit payment reserve fund as established by K.S.A. 74-4922.

For active members (except Police and Firemen) in cases of death as a result of an on-the-job accident for Public Employees, there is a \$50,000 lump-sum benefit and a monthly benefit payable to a spouse, minor children or dependent parents (in this order). Service-connected accidental death benefits are in addition to any life insurance benefit. There is a \$4,000 death benefit payable to the beneficiary(ies) when a retired member dies from any group.

## CONTRIBUTIONS

Member contribution rates are established by state law and are paid by the employee according to the provisions of Section 414(h) of the Internal Revenue Code. State law provides that the employer contribution rates be determined based on the results of each annual actuarial valuation for each of the three statewide pension groups. The contributions and assets of all three groups are deposited in the Kansas Public Employees Retirement Fund established by K.S.A. 74-4921. All of the retirement groups are funded on an actuarial reserve basis.

For fiscal years beginning in 1995, Kansas legislation established statutory limits on increases in contribution rates for KPERS employers, which includes the state, school and local employers. Annual increases in the employer contribution rates related to subsequent benefit enhancements are not subject to these limitations. The statutory cap increase over the prior year contribution rate is 1.2 percent of total payroll.

The actuarially determined employer contribution rate and the statutory contribution rates are as follows:

	Actuarial Employer Rate	Statutory Cap Rate
State Employee <sup>(1)</sup>	9.49%	14.41%
School Employee <sup>(1)</sup>	16.15	14.41
Judges <sup>(1)</sup>	18.65	18.65
Local Government Employee <sup>(2)</sup>	8.61	8.61
Police and Firemen <sup>(2)</sup>	21.93	21.93

*(1) Rates shown for KPERS State, School and Judges represent the rates for fiscal year ending June 30.*

*(2) KPERS Local and KP&F rates are reported for the calendar year.*

Employee contribution rates as a percentage of eligible compensation in Fiscal Year 2020 were 6.0 percent for Public Employees, 7.15 percent for Police and Firemen and 6.0 percent or 2.0 percent for Judges.

## NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The accompanying financial statements have been prepared on the accrual basis of accounting in conformity with US generally accepted accounting principles (GAAP), as prescribed by the Governmental Accounting Standards Board (GASB). KPERS' financial statements include the pension trust fund and custodial funds.

The pension trust fund is accounted for on the flow of economic resources measurement focus and the accrual basis of accounting. Contributions are recognized as revenues when due pursuant to statutory requirements. Benefits and refunds are recognized when due and payable and expenses are recorded when the corresponding liabilities are incurred, regardless of when contributions are received or payment is made.

KPERS adopted GASB Statement No. 84, *Fiduciary Activities*, for Fiscal Year 2020, which resulted in the reclassification of the two

agency funds, the Group Death and Disability Benefits Plan and the Optional Group Life Insurance Plan, to custodial funds. The Group Death and Disability Benefits Plan administers employer paid term group life insurance for active members, and employer funded disability benefits. The Optional Group Life Insurance Plan administers employee paid term life insurance.

With adoption of GASB Statement No. 84, these custodial funds report fiduciary activities that are not required to be reported in other fiduciary funds. A liability to the beneficiaries is recognized when an event has occurred that compels the government to disburse fiduciary resources, which is when a demand for the resources has been made or when no further action, approval, or condition is required to be taken or met by the beneficiary to release the asset.

### SHORT TERM INVESTMENTS

The Retirement System considers Short Term Investments to include both Money Market Investments (MMI) and Short Term Investment Funds (STIF). MMI are highly liquid debt instruments purchased within one year of maturity, including US Treasury and Agency obligations. Asset-backed securities, derivatives and structured notes are not included in MMI.

STIF funds are an open-end mutual fund provided and operated by the custodian bank, that serves the daily cash needs of specific investment managers. The STIF funds are not a 2a-7 like investment pool. As such, the unit of account is each share held, and the value of the position is the fair value of the total fund's price multiplied by the number of shares held.

More information regarding the measurement of the fair value of the MMI and STIF Funds is available in Note 5 – Fair Value Measurement.

### METHODS USED TO VALUE INVESTMENTS

Investments are reported at fair value. The fair value of active, publicly traded securities are quoted market prices. Securities traded on a national or international securities exchange are valued at the last reported sales price at current exchange rates. The fair value of real estate investments is based on independent annual appraisals. Fair value of other securities is determined by the mean of the most recent bid and asked prices as obtained from dealers that make markets in such securities. Fair values of the limited partnership investments are based on valuations of the partnerships as reported by the general partner. Dividends are recorded on the ex-dividend date.

More information regarding the measurement of the fair value of investments is available in Note 5 – Fair Value Measurements.

### INVESTMENTS

Investments and the investment process are governed by K.S.A. 74-4921. The Board of Trustees maintains a formal Statement of Investment Policy, which addresses the governing provisions of the law, as well as specifying additional guidelines for the investment process.

Statutory authority for the Retirement System's investment program is provided in K.S.A. 74-4901 et seq., effective July 1, 1993. The Retirement Act addresses the following areas:

- Established the structure of the Board of Trustees, defines the Trustees' responsibilities, imposing the prudent expert standard upon their actions with respect to managing the assets of the Retirement System.
- Requires that the assets be invested to preserve capital and solely to provide benefits to members and the members' beneficiaries.
- Limits the possible allocations of common stock to 60.0 percent of the total book value of the fund.
- Limits the possible allocation of total alternative investments to 15.0 percent of the total investment assets of the fund.
- The annual allowance for new alternative (non-publicly traded) investments is limited to 5.0 percent of the market value of the total investment assets of the fund as measured from the end of the preceding calendar year.
- Establishes limits on the structure of future investments in real estate or alternative investments.
- Requires that the Board develop investment policies and objectives to invest fund assets.
- Authorizes the Board to hire qualified professionals/ firms to assist in investing the fund and requires that such professionals/ firms obtain errors and omissions insurance coverage and fidelity bond insurance coverage.
- Authorizes the Board to pay for the services of retained professionals/firms at the rates fixed by the Board, excluding any reimbursement for expenses and subject to the provisions of the appropriations act.
- Provides for an annual audit and requires that the Board annually examine the investment program, specific investments and its policies and practices.

In fulfilling its responsibilities, the Board of Trustees has contracted with 20 investment management firms and a master global custodian. The Retirement System has six permissible investment categories: 1) equities, 2) real estate, 3) fixed-income securities,

4) derivative products, 5) cash equivalents, 6) alternative investments.

The Pension Plan's policy in regard to the allocation of invested assets is established and may be amended by the Board of Trustees. Plan assets are managed on a total return basis with a long-term objective of achieving and maintaining a fully funded status for the benefits provided through the pension plan. The following was the Board of Trustee's adopted asset allocation policy as of June 30, 2020:

<b>Asset Class</b>	<b>Interim Target Allocations</b>
Domestic Equities	23.0%
International Equities	23.0
Yield Driven <sup>(1)</sup>	6.0
Real Return <sup>(2)</sup>	12.0
Fixed	11.0
Short Term Investments	5.0
Real Estate	11.0
Alternatives	9.0
	100.0%

*(1) The Yield Driven asset class above is reported in domestic equities and fixed income on the Statement of Fiduciary Position.*

*(2) The Real Return asset class above is reported in fixed income and real estate on the Statement of Fiduciary Position.*

The System's asset allocation and investment policies include active and passive investments in international securities. The Systems target allocation is to have 23 percent of assets in dedicated international equities. At June 30, 2020, the System utilized two currency overlay managers to reduce risk by hedging up to 100 percent of the developed foreign currency market for international equity portfolios. At June 30, 2020, the System's total foreign currency exposure was 34.6 percent hedged.

Equities are considered to be common or preferred corporate stocks; warrants or rights; preferred stock that is convertible into common stock; investment trusts; or participation in commingled (equity) funds managed by a bank, insurance company or other professional equity investment manager. These stocks are listed on well-recognized or principal exchanges of the United States or foreign countries.

Fixed income securities are considered to be US and foreign treasury or government agency obligations; US or foreign corporate bonds; asset backed securities such as CMOs, mortgage-backed securities and segments of these types of vehicles; or participation in commingled (fixed income) funds, managed by a bank, insurance company or other professional fixed income investment manager. Core fixed managers invest in large, liquid sectors generally consistent with their benchmark. Strategic fixed managers seek investments from the complete range of global fixed income securities. Subject to the Board's

limitations, these investments also include the debt of emerging markets. Emerging markets are considered to be those countries that are included in the JP Morgan Emerging Markets Index Global (EMBI Global).

Alternative investments are those investments that do not trade publicly on an organized exchange. Examples include, but are not limited to, partnership funds that focus on private equity, venture capital, buyout, mezzanine financing or special situations or natural resources. Prospective investment in any alternative investments are subject to the following requirements:

- There are at least two other sophisticated investors.
- The System's portion of an investment will not be more than 20.0 percent of the total investment.
- Any individual investment (standing alone or within a pool) must not be more than 2.5 percent of the Fund's total alternative investment commitments.
- A favorable recommendation has been received from an independent expert.
- The investment is consistent with the Investment Policy Statement.
- The Board has received and considered the due diligence findings regarding the investment.
- Criteria have been established that will be used as a guideline to determine when no additional investments will be made and when the investment will be liquidated.

A security's duration is determined by a third-party pricing agency. Real estate investments are investments in real property on a direct ownership basis, through a realty holding corporation, joint partnership, private real estate investment trusts (REITs) (contained within the real estate portfolio), participation in commingled real estate funds (managed by a bank, insurance company or other professional real estate investment manager) or through debt secured by real estate. Any real estate investment shall support the System's intent to hold a real estate portfolio that is diversified by geographic location, property type, stage of development and degree of leverage.

## RECEIVABLES

In addition to statutorily determined contractually required contributions, certain agencies also make payments through an additional component of their required employer contribution rate or annual installment payments, both options include interest at 8.0 percent per year, for the cost of service credits granted retroactively when the agency initially joined the Retirement System. As of June 30, 2020, the outstanding balance

was \$3,845,439. These payments are due over various time periods up through December 31, 2032.

The 2016 Legislature passed Senate Bill 161 authorizing the delay of \$64.1 million in Fiscal Year 2017 contributions. Payment was authorized to be made in a series of twenty annual payments of \$6.4 million beginning in Fiscal Year 2018. Senate Sub. for HB 2002 authorized the delay of \$194 million in Fiscal Year 2019 contributions. Payment was authorized to be made in a series of twenty annual payments of \$19.4 million beginning in Fiscal Year 2020. These amounts have been set up as receivables, the balance as of June 30, 2020, was \$249,338,993. The implicit interest rate for these receivables is the assumed investment rate of return, 7.75%.

### CAPITAL ASSETS

Furniture, fixtures and equipment are reported on the Statement of Fiduciary Net Position at historical cost, net of accumulated depreciation. These assets are depreciated on a straight-line basis over an average useful life of three to ten years with no salvage value. The book value of furniture, fixtures, equipment and land as of June 30, 2020, was \$24,273,249, with accumulated depreciation of \$20,838,822. In Fiscal Year 1999, the Retirement System purchased an office building and garage in Topeka, Kansas. Fifty percent of the floor space of the office building is used as the System's administrative headquarters and the remaining 50 percent is a real estate investment. The administrative portion of the building and garage are reported on the Statement of Fiduciary Net Position as a capital asset and are being depreciated. Accumulated depreciation on the administrative portion of the building and garage as of June 30, 2020, was \$3,034,301. The office building and garage are being depreciated over a period of 33 years on an accelerated method. At June 30, 2020, the carrying value of the System's administrative headquarters was \$583,856.

### USE OF ESTIMATES

The preparation of financial statements in conformity with GAAP requires the System's management to make estimates and assumptions that affect the reported amounts of assets, liabilities and changes therein, disclosure of contingent assets and liabilities and the total pension liability at the date of the financial statements. Actual results could differ from those estimates.

### RISKS AND UNCERTAINTIES

The System invests in various investment securities. Investment securities are exposed to various risks such as interest rate, market and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect the amounts reported in the statement of fiduciary net position.

### FEDERAL INCOME TAX

The System is a qualified pension plan under Section 401(a) of the Internal Revenue Code (IRC) and, as such, is required to withhold federal income tax from member and benefit recipient payments in accordance with IRC. As a public entity, the System is not required to file a federal income tax return with the Internal Revenue Service.

### NEW ACCOUNTING PRONOUNCEMENTS

KPERS adopted GASB Statement No. 84, *Fiduciary Activities* for Fiscal Year 2020. This Statement establishes criteria for identifying fiduciary activities for state and local governments. The focus of the criteria generally is on (1) whether a government is controlling the assets of the fiduciary activity and (2) the beneficiaries with whom a fiduciary relationship exists. Separate criteria are included to identify fiduciary component units and postemployment benefit arrangements that are fiduciary activities. An activity meeting the criteria should be reported in a fiduciary fund in the basic financial statements. This statement was implemented during Fiscal Year 2020 and resulted in the System's Group Death and Disability Benefits Plan and the Optional Group Life Insurance Plan to be presented as custodial funds. Accordingly, net positions as of July 1, 2019 were restated. The Group Death and Disability Benefits Plan's net position as of July 1, 2019 was restated to \$74,833,837, and the Optional Group Life Insurance Plan's net position as of July 1, 2019 was restated to \$555,494.

GASB Statement No. 96, *Subscription-Based Information Technology Arrangements*; or a SBITA. A SBITA is defined as a contract that conveys control of the right to use another party's information technology software, alone or in combination with tangible capital assets. Under this Statement, a government should recognize a right-to-use subscription asset and a corresponding subscription liability. Retirement management is currently evaluating the impact of GASB Statement No. 96, which will be implemented in Fiscal Year 2023. Retirement management has reviewed upcoming standards and has identified GASB Statement No. 96 as potentially applicable to the plan.

## NOTE 3 – CASH AND INVESTMENTS

### CASH

The System advances cash deposits to a disability administrator for monthly disability benefits and death benefits for members who are disabled. As of June 30, 2020, the System's deposits with its disability administrator were \$0, with an amount due the administrator of \$49,826. The System does not have a deposit policy for custodial credit risk associated with these deposits.

## INVESTMENTS

The following table presents a summary of the Retirement System's investments by type as of June 30, 2020, at fair value:

Investment Type	Fair Value
Domestic Equities	\$5,901,085,796
International Equities	4,345,379,576
Fixed Income:	
US Government	2,271,379,932
US Agencies	503,647,813
US Corporate	2,317,940,439
Foreign Fixed Income	469,232,166
Short Term Investments	347,633,350
Real Estate:	
Partnerships	867,328,940
Commingled Funds	1,547,916,876
Separate Accounts	74,874,057
Alternatives	1,596,879,284
Total	<u>\$20,243,298,229</u>

## CUSTODIAL CREDIT RISK

The custodial credit risk for investments is the risk that, in the event of the failure of the custodial counterparty to a transaction, the System will not be able to recover the value of investments or collateral securities that are in the possession of the custodial

bank. At June 30, 2020, the System had US Dollar and foreign currency balances at custodial banks with a net value of \$16.1 million. This is primarily foreign currency deposits facilitating international investments in the respective local markets. The System's deposits of approximately \$8.0 million held at the State Treasury were fully collateralized at fiscal year end by FDIC insurance or pledged collateral (government securities or FHLB letters of credit).

## CONCENTRATION OF CREDIT RISK

No single issuer represents 1.0 percent or more of System assets other than US Government (10.9 percent) and Agencies (2.8 percent). KPERS' investment policy does not prohibit holdings above 5.0 percent in the debt securities of US government issuers. Government sponsored enterprises (GSEs, such as FNMA) are considered government issuers for the purpose of implementing KPERS investment policy.

## FOREIGN CURRENCY RISK

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit. The System does not have a formal investment policy that limits its exposure to foreign currency risk. The following table presents the foreign currency risk by type of investment as of June 30, 2020:

### FOREIGN CURRENCY RISK

USD Equivalent				
Equity	Fixed	Currency	Total	Percent
\$ 50,325,729	\$ 7,735,386	Australian Dollar	\$ 58,061,115	1.50%
33,398,874	-	Brazilian Real	33,398,874	0.86
470,339,432	251,120,391	British Pound Sterling	721,459,823	18.66
161,046,885	16,100,562	Canadian Dollar	177,147,447	4.58
121,278,733	1,856,602	Danish Krone	123,135,335	3.19
1,102,713,047	157,542,743	Euro Currency Unit	1,260,255,790	32.59
368,240,274	-	Hong Kong Dollar	368,240,274	9.52
15,159,347	-	Indonesian Rupiah	15,159,347	0.39
10,868,434	-	Israeli New Shekel	10,868,434	0.28
547,758,941	25,603,796	Japanese Yen	573,362,737	14.83
11,007,903	-	Mexican New Peso	11,007,903	0.29
71,973,308	-	New Taiwan Dollar	71,973,308	1.86
264,318	4,103,637	New Zealand Dollar	4,367,955	0.11
16,138,543	-	Norwegian Krone	16,138,543	0.42
26,112,836	-	Singapore Dollar	26,112,836	0.68
32,883,817	-	S African Comm Rand	32,883,817	0.85
37,454,195	-	South Korean Won	37,454,195	0.97
71,133,963	5,169,049	Swedish Krona	76,303,012	1.97
239,331,384	-	Swiss Franc	239,331,384	6.19
10,031,958	-	Thailand Baht	10,031,958	0.26
<u>\$ 3,397,461,921</u>	<u>\$ 469,232,166</u>		<u>\$ 3,866,694,087</u>	<u>100.00%</u>



**CREDIT RISK**

Credit risk is the risk that an issuer or other counterparty to a debt investment will not fulfill its obligations. Each fixed portfolio manager is required to maintain a reasonable risk level relative to its benchmark.

In the following table, Short Term includes commercial paper, repurchase agreements and other short-term securities. Agency securities are those implicitly guaranteed by the US Government. US Government securities are treasury securities and agencies explicitly guaranteed. Securities with a “not rated” quality rating are primarily bank loans, certificates of deposit and preferred stock. System assets as of June 30, 2020, subject to credit risk are shown with current credit ratings.

**CREDIT RISK**

Quality Rating	Short Term Investments	Corporate (1)	US Government	Agency	Total
Not Rated	\$ 192,857,753	\$ 140,190,907	\$ -	\$ -	\$ 333,048,660
AAA	36,278,927	359,452,906	2,211,556,480	32,529,301	2,639,817,614
AA	25,623,318	437,445,946	59,823,452	452,090,556	974,983,272
A	60,508,689	514,136,801	-	2,798,153	577,443,643
A-1/P-1	-	67,633,314	-	-	67,633,314
BBB	28,628,445	733,713,297	-	14,304,485	776,646,227
BB	3,736,218	320,086,761	-	935,318	324,758,297
B	-	191,223,211	-	990,000	192,213,211
CCC	-	57,519,287	-	-	57,519,287
CC	-	3,619,143	-	-	3,619,143
C	-	1,464,576	-	-	1,464,576
D	-	219,450	-	-	219,450
Total	<u>\$ 347,633,350</u>	<u>\$ 2,826,705,599</u>	<u>\$ 2,271,379,932</u>	<u>\$ 503,647,813</u>	<u>\$ 5,949,366,694</u>

(1) Includes preferred equities subject to credit risk.

**INTEREST RATE RISK**

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. Investment policy requires all fixed portfolios maintain a reasonable risk level relative to their benchmarks. The same System assets as above are also subject to interest rate risk. These are shown in the following table grouped by effective duration ranges. The weighted effective durations shown in the following table are grouped by asset category.

**INTEREST RATE RISK**

Effective Duration	Short Term Investments	Corporate <sup>(1)</sup>	US Government	Agency	Total
0 – 1 Yr	\$ 347,633,350	\$ 354,330,657	\$ 299,015,789	\$ 275,280,318	\$ 1,276,260,114
1 – 3 Yrs	-	546,898,431	438,164,977	182,358,072	1,167,421,480
3 – 5 Yrs	-	538,987,114	131,016,081	42,575,357	712,578,552
5 – 10 Yrs	-	865,479,323	1,152,399,410	3,434,066	2,021,312,799
> 10 Yrs	-	521,010,074	250,783,675	-	771,793,749
Grand Total	<u>\$ 347,633,350</u>	<u>\$ 2,826,705,599</u>	<u>\$ 2,271,379,932</u>	<u>\$ 503,647,813</u>	<u>\$ 5,949,366,694</u>

(1) Includes preferred equities subject to interest rate risk.

**ANNUAL MONEY-WEIGHTED RATE OF RETURN**

For the year ended June 30, 2020, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 1.76 percent. This return was 6.31 percent for Fiscal Year 2019. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

## NOTE 4 – INVESTMENT DERIVATIVES

Derivative instruments are tools for use by the System's investment managers for the purposes of:

- Risk Management: Mitigating or managing portfolio risks through hedging or otherwise modifying specific risk exposure.
- Substitution: In substitution for "cash market" securities/positions, or for modifying portfolio positioning in lieu of cash market transactions.
- Derivative-based Strategies: As a structural part of an investment strategy.
- Efficiency/Cost Effectiveness: Efficiency and/or cost effectiveness in implementing: portfolio construction, trading, portfolio strategy or managing a portfolio's risk/ return profile.

The following table summarizes the derivatives held by the Retirement System as of June 30, 2020:

### INVESTMENT DERIVATIVE SUMMARY

	Asset Class <sup>(1)</sup>	Notional Value	Fair Value
Domestic Equity Futures	Domestic Equities	\$ 19,281,930	\$ -
Credit Default Swaps	Fixed	12,863,000	(77,065)
Fixed Futures	Fixed	42,461,742	-
Foreign Currency Forwards	Fixed	3,848,126,850	10,678,678

(1) The Asset Class that the Fair Values and Revenues are included in other schedules. Futures and Options reflect the summed absolute values of the exposures.

The following table summarizes the activity of the derivatives held by the Retirement System during the year ended June 30, 2020, at fair value:

### INVESTMENT DERIVATIVE FAIR VALUES

	June 30, 2019	Increases	Decreases	June 30, 2020
Credit Default Swaps	\$ -	\$ 48,671,602	\$ (48,748,667)	\$ (77,065)
TBA Agency Bonds	3,554,055	1,043	(3,555,098)	-
Foreign Currency Forwards	(19,414,207)	21,007,525	9,085,360	10,678,678
Options Purchased	-	338,554	(338,554)	-
	<u>\$ (15,860,152)</u>	<u>\$ 70,018,724</u>	<u>\$ (43,556,959)</u>	<u>\$ 10,601,613</u>

## FUTURES

Futures contracts are commitments for delayed delivery (liability) or receipt (asset) of securities in which the seller agrees to make delivery and the buyer agrees to take delivery at a specified future date, of a specified instrument, at a specified price. Market risk arises due to market price and interest rate fluctuations that may result in a decrease in the fair value of futures contracts. Futures contracts are traded on organized exchanges and require initial margin in the form of cash or marketable securities. Holders of futures contracts look to the exchange for performance under the contract. Accordingly, the credit risk due to nonperformance of counterparties to futures contracts is minimal. Daily, the net change in the futures contract value is settled in cash with the exchanges, making the fair values always equal to zero after the daily margin flow. At the close of business June 30, 2020, the System had total net margins receivable the next day of \$0. Short-term investments in amounts necessary to settle the economic value of the futures contracts were held in the payable portfolio so that no leverage was employed in accordance with the Statement of Investment Policy. The daily margin flows affect cash assets held at broker. Realized gains/losses are recognized at contract maturity and included with underlying security type returns. Total losses of \$51.1 million were associated with futures for the year ending June 30, 2020.

## OPTIONS

The Retirement System also participates in option contracts. These contractual agreements give the purchaser the right, but not the obligation, to purchase or sell a financial instrument at a specified price within a specified time. The option buyer has some counterparty risk in the event the seller cannot deliver when exercised. This involves opportunity cost and possible loss of option fees. The option seller holds the securities and has minimal counterparty risk. Options strategies used by the Retirement System are designed to provide exposures to positive market moves and limit exposures to interest rate and currency volatility.

## SWAPS

Interest rate swaps are agreements between two counterparties to exchange future cash flows. These are generally fixed vs. variable flows, and can be either received or paid. These swaps are used to adjust interest rate and yield curve exposure and substitute for physical securities. Long swap positions (receive fixed) increase exposure to long-term interest rates; short positions (pay fixed) decrease exposure. Counterparty risk is limited to monthly exchanged or netted cash flows.

Credit default swaps are used to manage credit exposure without direct purchase or sale of securities. Written credit default swaps increase credit exposure (selling protection) obligating the seller to buy the bonds from the counterparty in the event of a default. This creates credit risk, but has very

little counterparty risk. Purchased credit default swaps decrease exposure (buying protection), providing the right to “put” bonds to the counterparty in the event of a default. This decreases credit risk, and has counterparty risk in the event the seller of protection fails to cover the defaulting security. Controls are established by the investment managers to monitor the creditworthiness of the counterparties.

## TBA AGENCY BONDS

A TBA is a contract for the purchase or sale of agency mortgage-backed securities to be delivered at a future agreed-upon date; however, the actual pool identities or the number of pools that will be delivered to fulfill the trade obligation or terms of the contract are unknown at the time of the trade. A common practice is to buy a TBA security thirty to sixty days in advance of the issue date with the issue date as the trade settle date, then selling the security four days before issue date, with the same settle date. This allows the trader to realize a gain or loss on the security based on changes in interest rates, without taking possession of, or paying for, the security. The only cash cost is the broker cost of the trades. These have minimal credit risk, while this scenario is designed specifically to increase interest rate exposure.

## FOREIGN CURRENCY FORWARDS

The Retirement System’s international investment managers use forward contracts to obtain currencies necessary for trade execution and manage the exposure of the international investments to fluctuations in foreign currency. Active international investment managers use forward contracts to enhance returns or to control volatility. Currency risk arises due to foreign exchange rate fluctuations. Forward foreign exchange contracts are negotiated between two counterparties. The Retirement System could incur a loss if its counterparties failed to perform pursuant to the terms of their contractual obligations. Since the System holds the offsetting currency in the contract, and controls are established by the investment managers to monitor the creditworthiness of the counterparties, risk of actual loss is minimized. Foreign currency forwards are reflected on the financial statements in offsetting notional receivable and payable amounts for the two sides of the contract. Fair value is reflected as unrealized gains or losses when currency rates fluctuate during the life of the contract.

The Retirement System utilizes two currency overlay managers to reduce, or partially hedge, the System’s exposure to foreign currencies through the international equities portfolio. At June 30, 2020, the fair value of international equities was \$4.3 billion. The overlay managers evaluate the System’s international equities exposure to currencies, and buy/sell inverse currency forwards in relation to the overall currency exposures. The inverse relationship of these hedging investment forwards uses their exposure to currency risks to reduce overall System exposure. The Statement of Investment Policy stipulates that the overlay

manager should: "Take forward currency exchange contract positions which will have the intent and effect of hedging the currency exposure of the underlying international equity assets." The Statement of Investment Policy further states the forward currency exchange contract positions be used to "Maintain an acceptable risk level by reducing the negative volatility of the currency component of return."

The forward contracts are purchased as needs are determined by the hedge manager, and mature quarterly. Gains/losses are realized during those periods and the contracts are rolled over to the next period as appropriate. Through these processes, hedging contracts can adapt to any changes to portfolio currency exposures. Since the hedging currency forwards track to the overall exposure, and they reference the same foreign exchange rates as the underlying portfolio, this hedge is known to be effective through consistent critical terms. An investment portfolio hedge such as this does not match the hedging forwards to any specific hedged security. The accessibility and liquidity of the currency forwards market allows these hedging forwards to roll forward and seamlessly hedge the ongoing foreign currency exposures.

Following is a summary of the foreign currency forwards exposure at the fiscal year ended June 30, 2020:

#### INVESTMENT CURRENCY FORWARDS

	Notional Cost (USD)	Pending Foreign Exchange Receivables (USD)	Pending Foreign Exchange Payables (USD)	Fair Value June 30, 2020 (USD)
Australian Dollar	\$ 111,265,694	\$ 113,240,655	\$ (111,645,683)	\$ 1,594,972
British Pound Sterling	1,243,631,919	1,243,721,298	(1,238,197,968)	5,523,330
Canadian Dollar	145,370,862	145,592,671	(145,270,737)	321,934
Danish Krone	51,855,650	51,859,022	(52,081,615)	(222,593)
Euro Currency Unit	1,103,524,017	1,103,756,565	(1,102,062,263)	1,694,302
Hong Kong Dollar	203,646,802	203,671,104	(203,707,725)	(36,621)
Israeli New Shekel	9,768,095	9,744,928	(9,786,388)	(41,460)
Japanese Yen	513,084,259	512,607,906	(510,872,178)	1,735,728
New Zealand Dollar	62,153,185	62,118,177	(62,345,528)	(227,351)
Norwegian Krone	12,676,215	12,676,215	(12,934,036)	(257,821)
Singapore Dollar	84,667,608	84,482,236	(84,686,357)	(204,121)
Swedish Krona	60,512,381	60,749,676	(60,556,772)	192,904
Swiss Franc	245,970,163	246,352,275	(245,746,800)	605,475
	<u>\$ 3,848,126,850</u>	<u>\$ 3,850,572,728</u>	<u>\$ (3,839,894,050)</u>	<u>\$ 10,678,678</u>

Investment forwards counterparty exposure at June 30, 2020, is as follows:

### INVESTMENT FORWARDS COUNTERPARTY EXPOSURE

Counterparty Name	Notional \$USD	Fair Value	Lowest Long-Term Rating
Australia & New Zealand Banking Group	\$ 138,941,646	\$ 401,991	A+
Bank of America N.A.	210,384,414	(57,305)	A+
Barclays Bank PLC Wholesale	439,523,848	(213,749)	A
BNP Paribas SA	369,686,818	(657,283)	A+
Citibank N.A.	55,159,368	(137,848)	A+
Commonwealth Bank Of Australia Sydney	83,117,832	761,790	A+
Credit Agricole CIB	312,496,314	4,905,261	A+
Deutsche Bank AG	347,438,394	(114,621)	BBB
Goldman Sachs International	146,071,298	(426,577)	A+
HSBC Bank PLC	86,168,698	(505,408)	A-
HSBC Bank USA	116,311,224	1,386,600	A+
Income Repatriation Boston IBS	228,469	(174)	NR
JP Morgan Chase Bank N.A.	1,145,831	(27,438)	A+
JP Morgan Chase Bank N.A. London	179,787,418	372,566	A+
Merrill Lynch International	165,992,204	1,267,489	A-
Morgan Stanley & Co. International PLC	108,454,309	(510,575)	BBB+
National Australia Bank Limited	129,083,401	676,217	A+
Royal Bank of Canada (UK)	60,909,168	344,521	A
Standard Chartered Bank	8,335,028	(249,710)	A
State Street Bank & Trust Company	5,515,193	(16,428)	AA-
State Street Bank London	289,959,363	(650,322)	A
Toronto Dominion Bank	415,368,693	2,632,464	AA-
UBS AG	80,241,327	1,347,730	A+
Westpac Banking Corporation	97,806,592	149,487	A+
	<u>\$ 3,848,126,850</u>	<u>\$ 10,678,678</u>	

## NOTE 5 – FAIR VALUE MEASUREMENT

The Retirement System categorizes fair value measurements of investment assets and liabilities within the fair value hierarchy established by generally accepted accounting principles. As a pension fund, 100 percent of the System's custodied assets and liabilities are held primarily for income or profit for the purpose of paying current or future member benefits. These investments are valued through industry standard practices for the respective type of security at a price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

The hierarchy is based on the transparency of inputs to the valuation of the assets as of the measurement date. The three levels are defined as follows:

**Level 1** - Inputs to the valuation methodology are quoted prices for identical instruments in active markets.

**Level 2** - Inputs other than quoted prices are observable, either directly or indirectly.

**Level 3** - One or more significant inputs to the valuation methodology are unobservable.

The following table presents the Retirement System's recurring fair value measurements as of June 30, 2020:

INVESTMENTS AND DERIVATIVE INSTRUMENTS MEASURED AT FAIR VALUE

	Total as of 6/30/2020	Fair Value Measurements Using:		
		Quoted prices in active markets for identical assets Level 1	Significant other observable inputs Level 2	Significant unobservable inputs Level 3
<i>Investments by Fair Value Level</i>				
<b>Debt Securities</b>				
US Treasury	\$ 1,218,676,347	\$ 31,292,590	\$ 1,187,383,757	\$ -
US Treasury Commingled	992,880,133	-	992,880,133	-
GNMA	59,823,452	-	59,823,452	-
US Agency	503,647,813	-	503,647,813	-
US Corporate, Municipalities	1,946,435,469	-	1,946,435,469	-
US Bank Loans	28,695,937	-	27,147,537	1,548,400
Yankees	342,886,098	-	342,636,098	250,000
International	469,232,166	-	469,232,166	-
<b>Total Debt Securities</b>	<b>5,562,277,415</b>	<b>31,292,590</b>	<b>5,529,186,425</b>	<b>1,798,400</b>
<b>Equity Securities</b>				
Domestic Common Stock	5,898,871,427	5,897,684,244	-	1,187,183
Domestic Preferred	2,214,369	2,214,369	-	-
International Common	3,305,265,227	3,305,265,227	-	-
International Commingled and ETF	1,002,795,724	1,002,795,724	-	-
International Preferred Stock	37,318,625	37,318,625	-	-
<b>Total Equity Securities</b>	<b>10,246,465,372</b>	<b>10,245,278,189</b>	<b>-</b>	<b>1,187,183</b>
<b>Real Estate and Alternatives</b>				
Separate Properties	73,015,371	-	-	73,015,371
Home Office Property, Rentable	1,858,686	-	-	1,858,686
Alternatives Distribution	123,912	-	-	123,912
<b>Total Real Estate and Alternatives</b>	<b>74,997,969</b>	<b>-</b>	<b>-</b>	<b>74,997,969</b>
<b>Investments by Fair Value Level</b>	<b>15,883,740,756</b>	<b>10,276,570,779</b>	<b>5,529,186,425</b>	<b>77,983,552</b>
<i>Derivatives by Fair Value</i>				
Swaps	(77,065)	-	(77,065)	-
<b>Total Derivatives by Fair Value Level</b>	<b>(77,065)</b>	<b>-</b>	<b>(77,065)</b>	<b>-</b>
<b>Total Investments and Derivatives by Fair Value Level</b>	<b>\$ 15,883,663,691</b>	<b>\$ 10,276,570,779</b>	<b>\$ 5,529,109,360</b>	<b>\$ 77,983,552</b>
		<b>Unfunded Commitment</b>	<b>Transfer or Redemption Frequency</b>	<b>Transfer or Redemption Notice</b>
<i>Investments Measured at Net Asset Value (NAV)</i>				
Private Equity Partnerships	\$ 1,596,755,372	\$ 1,288,635,635	Quarterly	30 days
Real Estate Partnerships	867,328,940	267,285,779	Quarterly	30 days
Real Estate Core Funds	1,472,790,859	265,000,000	Quarterly	30 days
Real Estate Other Funds	75,126,017	-	Biannual	30 days
<b>Total investments measured at NAV</b>	<b>4,012,001,188</b>			
<i>Short Term Investments measured at amortized cost</i>				
STIF Funds	36,172,856			
Money Market Investments	311,460,494			
<b>Total Short Term Investments</b>	<b>347,633,350</b>			
<b>Total Investment Value</b>	<b>\$ 20,243,298,229</b>			

## DEBT SECURITIES

US Treasury Level 1 assets were actively traded “on the run” at June 30, 2020. GNMA are those agencies explicitly guaranteed by the US government. US Corporate and US Bank Loan debt in Level 3 are those securities in inactive markets where prices are provided by investment managers or other unobservable pricing inputs.

Except for the Treasury Level 1, US Corporate and US Bank Loan Level 3 securities noted above, debt securities use Level 2 inputs priced by recognized third-party vendors based on actual prices of similar securities and utilizing industry standard models that consider various assumptions including time value, yield curves, volatility factors, default rates, credit rating and treasury rates. Significant inputs are observable in the marketplace, can be derived from observable data or are supported by observable levels at which transactions are executed in the marketplace.

Yankee bonds are international corporate and government bonds that qualify to be sold on domestic exchanges in US dollars.

Bonds in the international category are traded in local currencies and are subject to currency risk. See Note 3.

## EQUITY SECURITIES

Equity securities include both direct interest in equities and equity funds. The fair value for those equity securities in Level 1 are based on quoted market prices of identical securities or equity funds traded on an established exchange. Level 3 equity securities are valued based on prices provided by investment managers or other unobservable pricing inputs.

## REAL ESTATE AND ALTERNATIVES MEASURED AT FAIR VALUE

The Retirement System wholly owns three separate properties including timberland and its home office. These are valued according to annual independent professional appraisals and can be sold at any time. Appraisals utilize comparable sales, inventory estimates and present values of cash flows to determine respective property valuations. There are no unfunded commitments for these properties. The home office property is 50 percent System occupied and 50 percent rentable space. This building was split into two units of account at purchase. The System’s portion is included in capital assets. The alternatives distribution is valued based on general partner information that is unobservable.

## FORWARDS

Currency forwards are included in payables and receivables on the Statement of Net Fiduciary Position. Fair value for these is reflected by adjusting those payable/receivable values for daily fluctuations in currency exchange rates. The System had \$3.8

billion in outstanding currency forward contract payables and receivables at June 30, 2020. The net fluctuation in currency rates at that time increased the unrealized fair value of those contracts by \$10,678,678. See Note 4 of these financial statements for more information on KPERS derivative investments.

## INVESTMENTS MEASURED AT NET ASSET VALUE (NAV)

For eighty (80) private equity partnerships, thirty-four (34) real estate partnerships and four (4) infrastructure partnerships, the fair value of each investment has been determined using the NAV per share or its equivalent of the Retirement System’s ownership interest in the partners’ capital. All partnerships provided audited December 31, 2019, financial reports with unmodified opinions, along with unaudited quarterly reports. Net asset values one quarter in arrears plus current quarter cash flows are used when recent information is not available. These partnerships are diversified across types and vintage years. The expected term of each partnership is between seven to ten years. Any sales of these would be on an inefficient secondary market that could result in values above or below those listed. Transfers to buyers is restricted to quarter end dates. One partial redemption of a real estate partnership was completed in the year ending June 30, 2020. No additional sales or redemptions are contemplated.

Eight real estate core funds holding domestic properties are owned proportionately by investors. All fund properties have annual independent external appraisals and the fair value of each fund has been determined using the NAV per share or its annual independent external appraisals and the fair value of each fund has been determined using the NAV per share or its equivalent of the Retirement System’s ownership interest in the partners’ capital. Shares may be redeemed quarterly, with notice to the respective funds, subject to cash availability. One real estate core fund has been approved for full redemption by the Board in January 2020. Real estate other funds are similar to the core funds except that shares may be redeemed biannually. No further redemptions are contemplated.

## SHORT TERM INVESTMENTS

STIF funds are an open-end mutual fund provided and operated by the custodian bank, that serves the daily cash needs of specific investment managers. The STIF funds are not a 2a-7 like investment pool and are reported at amortized cost. There are no redemption restrictions and shares were redeemable at \$1 per share as of June 30, 2020.

Money Market Investments are highly liquid debt instruments purchased within one year of maturity, including US Treasury and Agency obligations. Asset-backed securities, derivatives and structured notes are not included in money market investments. The amortized cost of the Money Market Investments is materially equivalent to fair value.

## NOTE 6 – RESERVES

K.S.A. 74-4922, K.S.A. 74-4927 and K.S.A. 74-49,110 define the title and use of the required Retirement System reserves. This law requires the actuary to:

- Make an annual valuation of the Retirement System's liabilities and reserves.
- Make a determination of the contributions required to discharge the Retirement System's liabilities.
- Recommend to the Board of Trustees employer contribution rates required to maintain the System on an actuarial reserve basis.

The Members Accumulated Contribution Reserve represents the accumulation of member contributions, plus interest, credited to individual member accounts of non-retired members. At the date of retirement, the individual member's account is transferred to the Retirement Benefit Payment Reserve. After ending employment and applying for withdrawal, employee contributions, plus accumulated interest, are charged to this reserve. Interest is credited to active member accounts on June 30 each year, based on the balance in the account as of the previous December 31. The interest-crediting rate, defined by statute as the actuarial interest assumption rate, is 7.75 percent for those who became members prior to July 1, 1993. For those who first became members after June 30, 1993, interest on employee contributions is credited at the rate of 4.0 percent per year.

The Retirement Benefit Accumulation Reserve represents the accumulation of employer contributions, net investment income not credited to any other reserve and the actuarially computed net pension liability not yet funded.

The Retirement Benefit Payment Reserve represents the actuarially computed present value of future benefits for retired members plus interest credited for the current fiscal year, based upon information as of the preceding January 1.

The Expense Reserve represents investment income, which is sufficient to maintain a year-end account balance at two times the most recent fiscal year's administrative expenses amount. The System's administrative expenses are financed from this reserve.

The Optional Term Life Insurance custodial fund accumulates employee contributions to pay their premiums for optional life insurance coverage. The balance at June 30, 2020 was \$597,443.

The KPERs Death and Disability Plan, a custodial fund, accumulates premium payments from employers for group life

insurance for active members, plus employer contributions to fund the post-employment long-term disability (OPEB) benefit program available to all members. The balance at June 30, 2020 was \$105,339,639.

The balance of the System's pension reserves and the net pension liability at June 30, 2020, were as follows:

Reserves	Balance	Net Pension Liability	Pension Reserves
Members Accumulated			
Contribution Reserve	\$ 6,506,659,520	\$ -	\$ 6,506,659,520
Retirement Benefit			
Accumulations Reserve	8,867,002,200	(10,473,565,068)	(1,606,562,868)
Retirement Benefit			
Payment Reserve	15,680,217,900	-	15,680,217,900
Expense Reserve	26,559,453	-	26,559,453
Totals	\$ 31,080,439,073	\$ (10,473,565,068)	\$ 20,606,874,005

## NOTE 7 – NET PENSION LIABILITY OF PARTICIPATING EMPLOYERS

The components of the net pension liability of the participating employers at June 30, 2020, were as follows:

State	\$ 4,732,516,433
School	16,498,698,769
Local	5,931,407,823
KP&F	3,715,609,163
Judges	202,206,885
Total Pension Liability	\$ 31,080,439,073
Fiduciary Net Position	20,606,874,005
Employers' Net Pension Liability	\$ 10,473,565,068
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	66.30%



## ACTUARIAL ASSUMPTIONS

The total pension liability was determined by an actuarial valuation as of December 31, 2019, which was rolled forward to June 30, 2020, using the following actuarial assumptions, applied to all periods included in the measurement:

Actuarial Cost Method	Entry age normal
Price Inflation	2.75 percent
Salary Increase	3.25 to 11.75 percent, including price inflation
Investment Rate of Return	7.50 percent compounded annually, net of investment expense, and including price inflation

Mortality rates were based on the RP-2014 Mortality Tables, with age setbacks and age set forwards as well as other adjustments based on different membership groups. Future mortality improvements are anticipated using Scale MP-2016.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage. Best estimates of arithmetic real rates of return for each major asset class as of the most recent experience study, dated January 7, 2020, as provided by KPERS' investment consultant, are summarized in the following table:

Asset Class	Long-Term Target Allocation	Long-Term Expected Real Rate of Return
US Equities	23.5%	5.20%
Non-US Equities	23.5	6.40
Fixed Income	11.0	1.55
Yield Driven	8.0	4.70
Real Return	11.0	3.25
Real Estate	11.0	4.45
Alternatives	8.0	9.50
Short Term Investments	4.0	0.25

## DISCOUNT RATE

The discount rate used to measure the total pension liability was 7.50 percent. The projection of cash flows used to determine the discount rate was based on member and employer contributions as outlined below.

In KPERS, the State/School and Local groups do not necessarily contribute the full actuarial contribution rate. Based on legislation first passed in 1993, the employer contribution rates certified by the Board may not increase by more than the statutory cap. Subsequent legislation in 2012 set the statutory cap at 0.90 percent for Fiscal Year 2014, 1.0 percent for Fiscal Year 2015, 1.1 percent for Fiscal Year 2016 and 1.2 percent for Fiscal Years 2017 and beyond.

In recent years, the Legislature has made several changes to statutory rates that deviate from the scheduled contribution increases set under the caps established in 2012 for the State/School group. Under 2015 SB 4, the previously certified State/School statutory rate for Fiscal Year 2015 of 11.27 percent was reduced to 8.65 percent for the last half of Fiscal Year 2015 as part of the Governor's allotment. That same session, SB 228 recertified statutory rates for the State/School group to 10.91 percent for Fiscal Year 2016 and 10.81 percent for Fiscal Year 2017 in anticipation of the issuance of \$1 billion in pension obligation bonds. Legislation in the 2016 session (SB 161) provided for the delay of up to \$100 million in State and School contributions to the Retirement System for Fiscal Year 2016. Concurrently, 2016 House Sub for SB 249 provided that the delayed contributions would be paid in full, with interest at 8 percent, by June 30, 2018. However, legislation passed by the 2017 Legislature removed the repayment provision. In addition, 2017 Senate Sub for Sub HB 2052 delayed \$64 million in Fiscal Year 2017 contributions, to be paid over 20 years in level dollar installments. The first year payment of \$6.4 million was paid in full at the beginning of Fiscal Year 2018, and appropriations for Fiscal Year 2018 were made for the State/ School group at the statutory contribution rate of 12.01 percent for that year. Additional legislation in the 2017 Session (S Sub for HB 2002) provided for a reduction of \$194 million from the previously certified contribution rate of 13.21 percent in the State/School contributions for Fiscal Year 2019. Like the Fiscal Year 2017 reduction, it is to be paid back over a 20-year period, beginning in Fiscal Year 2020. Therefore, both reductions will be accounted for as receivables by the System. The 2018 Legislature passed House Substitute for Senate Bill 109 that provided additional contributions to the school group of \$56 million in Fiscal Year 2018 and \$82 million in Fiscal Year 2019. The 2019 Legislature passed Senate Bill 9 that provided additional contributions to the school group of \$115 million in Fiscal Year 2019. House Sub for Senate Bill 25 from the 2019 Legislative session authorized additional funding for the KPERS School Group in Fiscal Year 2020 of \$51 million.

Based on the employer contribution history as described above, it is a reasonable estimate that the State/School group's contribution rate may not be certified at the statutory rate. It has been assumed that contribution rates will be made within the same range as have been seen in the past few years, between 11 to 12 percent. Using this assumption actuarial modeling

indicates that employer contribution rates for the State/School group are sufficient to avoid a depletion date.

The Local, Kansas Police and Firemen and Judges groups are contributing at the full actuarial contribution rate.

#### SENSITIVITY OF THE NET PENSION LIABILITY TO CHANGES IN THE DISCOUNT RATE

The following presents the net pension liability calculated using the discount rate of 7.50 percent, as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.50 percent) or 1-percentage-point higher (8.50 percent) than the current rate:

	1% Decrease (6.50%)	Current Discount Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability	\$14,088,186,099	\$10,473,565,068	\$7,430,982,998

## NOTE 8 – PENSION OBLIGATION BONDS

In February 2004, the State of Kansas issued \$500 million in pension obligation bonds, and KPERS received net proceeds of \$440.2 million in March 2004. The proceeds have been invested to assist with financing the State and School group's unfunded actuarial liability. The debt service on the bonds will be paid by the State of Kansas in addition to the State's regular employer contributions to KPERS.

In August 2015, the State of Kansas issued \$1 billion in pension obligation bonds and KPERS received the full proceeds. The proceeds have been invested to assist with financing the State and School group's unfunded actuarial liability. The debt service on the bonds will be paid by the State of Kansas in addition to the State's regular employer contributions to KPERS.

## NOTE 9 – CONTINGENCIES

As of June 30, 2020, the Retirement System was committed to additional funding of capital expenditures on separate account real estate holdings, commitments on private equity, and capital calls on core and noncore real estate property trust investments, as disclosed in Note 5 – Fair Value Measurement.

The Retirement System is a defendant in legal proceedings and claims arising out of the ordinary course of business. The Retirement System believes it has adequate legal defenses and that the ultimate outcome of these actions will not have

a material adverse effect on the Retirement System's financial position.

## NOTE 10 – SUBSEQUENT EVENTS

The COVID-19 outbreak which began in December 2019, has caused investment, business and employment disruptions worldwide and is expected to continue into the near future. As of the date of the issuance of these financial statements, October 30, 2020, the financial impact on the Kansas Public Employees Retirement System cannot be estimated.

## REQUIRED SUPPLEMENTARY INFORMATION – RETIREMENT PLAN

## SCHEDULE OF CHANGES IN THE EMPLOYERS' NET PENSION LIABILITY

Last Seven Fiscal Years (\$ in Thousands)<sup>(1)</sup>

	2020	2019	2018	2017	2016	2015	2014
<b>Total Pension Liability:</b>							
Service Cost	\$ 581,722	\$ 563,297	\$ 552,423	\$ 570,703	\$ 571,263	\$ 571,944	\$ 572,291
Interest	2,217,512	2,146,531	2,084,822	2,046,674	1,985,329	1,926,405	1,866,797
Changes of Benefit Terms	-	-	-	713	-	1,467	-
Differences Between Expected and Actual Experience	110,055	75,441	(47,143)	(154,326)	(133,493)	(135,542)	(216,248)
Changes of Assumptions	529,310	-	-	574,844	-	(53,014)	-
Benefit Payments, Including Refunds of							
Member Contributions	(1,906,848)	(1,833,297)	(1,755,854)	(1,686,676)	(1,627,032)	(1,524,380)	(1,432,846)
Net Change in Total Pension Liability	1,531,751	951,972	834,248	1,351,932	796,067	786,880	789,994
Total Pension Liability – Beginning	29,548,688	28,596,716	27,762,469	26,410,538	25,614,471	24,827,591	24,037,597
Total Pension Liability – Ending (a)	31,080,439	29,548,688	28,596,716	27,762,469	26,410,538	25,614,471	24,827,591
<b>Plan Fiduciary Net Position:</b>							
Contributions – Employer	1,008,544	925,352	831,735	761,610	739,184	690,564	701,818
Contributions – Member	451,568	437,353	420,285	414,538	404,856	382,058	332,163
Contributions – Non-Employer <sup>(2)</sup>	51,000	213,543	56,000	-	1,000,000	-	-
Total Net Investment Income	347,464	1,216,685	1,516,929	2,060,925	49,171	561,174	2,553,843
Other Miscellaneous Income	20,699	5,488	5,734	(97,873)	2,904	1,076	242
Benefit Payments, Including Refunds of							
Member Contributions	(1,906,848)	(1,833,297)	(1,755,854)	(1,686,676)	(1,627,032)	(1,524,380)	(1,432,846)
Administrative Expenses	(13,607)	(13,280)	(12,460)	(11,116)	(12,172)	(10,768)	(9,636)
Net Change in Plan Fiduciary Net Position	(41,180)	951,845	1,062,369	1,441,408	556,911	99,724	2,145,584
Plan Fiduciary Net Position – Beginning	20,648,054	19,696,209	18,633,840	17,192,432	16,635,521	16,535,797	14,390,213
Plan Fiduciary Net Position – Ending (b)	20,606,874	20,648,054	19,696,209	18,633,840	17,192,432	16,635,521	16,535,797
<b>Employers' Net Pension Liability (a) - (b)</b>	<u>\$ 10,473,565</u>	<u>\$ 8,900,634</u>	<u>\$ 8,900,507</u>	<u>\$ 9,128,629</u>	<u>\$ 9,218,106</u>	<u>\$ 8,978,950</u>	<u>\$ 8,291,794</u>

See accompanying independent auditors' report.

(1) Schedule is intended to show information for 10 years. Additional years will be displayed as they are available. Numbers may not add due to rounding.

(2) Pension obligation bond proceeds 2015H received in Fiscal Year 2016, additional contributions for the School group in 2019 and 2020.

## SCHEDULE OF EMPLOYERS' NET PENSION LIABILITY

*Last Seven Fiscal Years (\$ in Thousands)<sup>(1)</sup>*

	2020	2019	2018	2017	2016	2015	2014
Total Pension Liability	\$31,080,439	\$29,548,688	\$28,596,716	\$27,762,469	\$26,410,538	\$25,614,471	\$24,827,591
Plan Fiduciary Net Position	20,606,874	20,648,054	19,696,209	18,633,840	17,192,432	16,635,521	16,535,797
Employers' Net Pension Liability	<u>\$10,473,565</u>	<u>\$ 8,900,634</u>	<u>\$ 8,900,507</u>	<u>\$ 9,128,629</u>	<u>\$ 9,218,106</u>	<u>\$ 8,978,950</u>	<u>\$ 8,291,794</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	66.30%	69.88%	68.88%	67.12%	65.10%	64.95%	66.60%
Covered Payroll	\$ 7,411,388	\$ 7,168,557	\$ 6,824,710	\$ 6,715,593	\$ 6,388,450	\$ 6,635,196	\$ 6,424,739
Net Pension Liability as a Percentage of Covered Payroll	141.32%	124.16%	130.42%	135.93%	144.29%	135.32%	129.06%

See accompanying independent auditors' report.

*(1) Schedule is intended to show information for 10 years. Additional years will be displayed as they are available.*

## SCHEDULE OF EMPLOYER'S CONTRIBUTIONS

*Last 10 Fiscal Years (\$ in Thousands)*

	2020	2019	2018	2017	2016
Actuarially Determined Contribution	\$ 1,022,243	\$ 921,045	\$ 937,808	\$ 920,789	\$ 891,638
Contribution In Relation to the Actuarially Determined Contribution	992,099	908,931	817,653	745,021	721,313
Contribution Deficiency (Excess)	<u>\$ 30,144</u>	<u>\$ 12,114</u>	<u>\$ 120,155</u>	<u>\$ 175,768</u>	<u>\$ 170,325</u>
Covered Payroll	\$ 7,411,388	\$ 7,168,557	\$ 6,824,710	\$ 6,715,593	\$ 6,388,450
Contributions as a Percentage of Covered Payroll	13.39%	12.70%	11.98%	11.09%	11.29%
	2015	2014	2013	2012	2011
Actuarially Determined Contribution	\$ 908,019	\$ 842,286	\$ 825,197	\$ 843,362	\$ 709,964
Contribution In Relation to the Actuarially Determined Contribution	676,173	668,811	617,925	568,015	525,727
Contribution Deficiency (Excess)	<u>\$ 231,846</u>	<u>\$ 173,475</u>	<u>\$ 207,272</u>	<u>\$ 275,347</u>	<u>\$ 184,237</u>
Covered Payroll	\$ 6,635,196	\$ 6,424,739	\$ 6,523,850	\$ 6,541,464	\$ 6,483,143
Contributions as a Percentage of Covered Payroll	10.19%	10.41%	9.47%	8.68%	8.11%

See accompanying independent auditors' report.

## SCHEDULE OF INVESTMENT RETURNS

*Last 10 Fiscal Years*

	2020	2019	2018	2017	2016
Annual Money-Weighted Rate of Return, Net of Investment Expense	1.76%	6.31%	8.34%	12.35%	0.33%
	2015	2014	2013	2012	2011
Annual Money-Weighted Rate of Return, Net of Investment Expense	3.58%	18.10%	13.87%	0.67%	22.56%

See accompanying independent auditors' report.

## NOTES TO REQUIRED SUPPLEMENTARY INFORMATION

The actuarially determined contribution rates in the schedule of the Retirement System's contributions are calculated as of June 30, 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 contribution rates reported in that schedule.

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

	KPERS	KP&F	Judges
Valuation Date	12/31/2019	12/31/2019	12/31/2019
Actuarial Cost Method	Entry Age Normal	Entry Age Normal	Entry Age Normal
Age Normal Amortization Method	Level Percent Closed	Level Percent Closed	Level Dollar Closed
Remaining Amortization Period	Layered bases 13-25 years	Layered bases 13-25 years	Layered bases 13-25 years
Asset Valuation Method	Difference between actual return and expected return on market value recognized evenly over five-year period.		
Actuarial Assumptions:			
Investment Rate of Return <sup>(1)</sup>	7.75%	7.75%	7.75%
Projected Salary Increases <sup>(1)</sup>	3.50% - 11.50%	3.50% - 12.00%	4.00%
Cost of Living Adjustment	None	None	None

*(1) Salary increases and investment rate of return include an inflation component of 2.75 percent.*

## OTHER SUPPLEMENTARY INFORMATION

## SCHEDULE OF CONTRIBUTIONS

Pension Plan

Fiscal Year Ended June 30, 2020

**Kansas Public Employees Retirement System**

## State / School Contributions

Members \$ 296,863,402

Employers 765,310,056Total State / School Contributions 1,062,173,458

## Local Contributions

Members 113,009,695

Employers 165,707,328Total Local Contributions 278,717,023**Total Contributions KPERS****1,340,890,481****Kansas Police and Firemen's System**

## State Contributions

Members 3,892,549

Employers 11,868,815Total State Contributions 15,761,364

## Local Contributions

Members 36,220,197

Employers 111,231,834Total Local Contributions 147,452,031**Total Contributions KP&F****163,213,395****Kansas Retirement System for Judges**

## State Contributions

Members 1,582,615

Employers 5,425,634Total State Contributions 7,008,249**Total Contributions Judges****7,008,249****Grand Total All Contributions****\$1,511,112,125**

## SCHEDULE OF ADMINISTRATIVE EXPENSES

Pension Plan

Fiscal Year Ended June 30, 2020

<b>Salaries and Wages</b>		<u>\$ 8,232,989</u>
<b>Professional Services</b>		
Actuarial	\$ 449,019	
Audit	123,017	
Data Processing	888,662	
Legal	435,069	
Other Professional Services	<u>1,777,879</u>	
Total Professional Services		<u>3,673,646</u>
<b>Communication</b>		
Postage	216,861	
Printing	60,298	
Telephone	<u>153,079</u>	
Total Communication		<u>430,238</u>
<b>Building Administration</b>		
Building Management	77,645	
Janitorial Service	64,913	
Utilities	<u>64,259</u>	
Total Building Administration		<u>206,817</u>
<b>Miscellaneous</b>		
Dues and Subscriptions	21,566	
Office and Equipment Rent	26,309	
Other Miscellaneous	272,699	
Repair and Maintenance	45,190	
Supplies	115,645	
Temporary Services	409,441	
Travel	66,373	
Depreciation	<u>106,469</u>	
Total Miscellaneous		<u>1,063,692</u>
<b>Total Administrative Expenses</b>		<u>\$ 13,607,382</u>

## SCHEDULE OF INVESTMENT INCOME BY ASSET CLASS

Pension Plan

Fiscal Year Ended June 30, 2020

Asset Classification	Interest, Dividends and Other Transactions	Gains and Losses	Total
Marketable Equity Securities			
Domestic Equities	\$ 134,250,335	\$ 76,198,561	\$ 210,448,896
International Equities	<u>72,159,435</u>	<u>(144,024,695)</u>	<u>(71,865,260)</u>
Subtotal Marketable Equities	206,409,770	(67,826,134)	138,583,636
Marketable Fixed Income Securities			
Government	44,715,764	136,329,211	181,044,975
Corporate	<u>104,864,862</u>	<u>(8,051,938)</u>	<u>96,812,924</u>
Subtotal Marketable Fixed	149,580,626	128,277,273	277,857,899
Temporary Investments	<u>3,027,802</u>	<u>3,129,996</u>	<u>6,157,798</u>
Total Marketable Securities	<u>359,018,198</u>	<u>63,581,135</u>	<u>422,599,333</u>
Real Estate	93,651,199	(47,808,321)	45,842,878
Alternative Investments	<u>17,622,755</u>	<u>(25,350,336)</u>	<u>(7,727,581)</u>
Total Real Estate and Alternative Investments	<u>111,273,954</u>	<u>(73,158,657)</u>	<u>38,115,297</u>
	<u>\$ 470,292,152</u>	<u>\$ (9,577,522)</u>	<u>\$ 460,714,630</u>
<b>Manager and Custodian Fees and Expenses</b>			
			(26,468,082)
			(1,238,913)
			(2,329,812)
			(80,340,495)
			<u>(2,873,512)</u>
			(113,250,814)
			<u>\$ 347,463,816</u>



## SCHEDULE OF INVESTMENT MANAGEMENT FEES AND EXPENSES

*Fiscal Year Ended June 30, 2020*

<b>Domestic Equity Managers</b>	
BlackRock Institutional Trust Co.	\$ 253,118
Mellon Capital Management Corp.	214,062
Tortoise Capital Advisors LLC	<u>1,049,711</u>
<b>Subtotal Domestic Equity Managers</b>	<b>1,516,891</b>
<b>International Equity Managers</b>	
Baillie Gifford Overseas Limited	3,566,212
Franklin Templeton Institutional	126,460
JP Morgan Investment Management	3,486,950
Lazard Asset Management LLC	2,256,804
State Street Global Advisors	377,558
Wellington Management Co.	<u>3,284,733</u>
<b>Subtotal International Equity Managers</b>	<b>13,098,717</b>
<b>Fixed Income Managers</b>	
BlackRock Institutional Trust Co.	454,371
Franklin Templeton Institutional	717,326
Loomis Sayles & Co. L.P.	1,488,020
MacKay Shields LLC	1,387,694
T Rowe Price Associates Inc.	1,125,667
Western Asset Management Co.	<u>1,264,893</u>
<b>Subtotal Fixed Income Managers</b>	<b>6,437,971</b>
<b>Currency Overlay and Securitization Managers</b>	
Adrian Lee & Partners	1,342,767
Insight Investment Inc.	1,615,947
Russell Investment Group	<u>96,669</u>
<b>Subtotal Currency Overlay and Securitization Managers</b>	<b>3,055,383</b>
<b>REIT Investment Managers</b>	
Brookfield Asset Management	805,591
CenterSquare Investment Management Inc.	<u>757,150</u>
<b>Subtotal REIT Managers</b>	<b>1,562,741</b>
<b>Cash Equivalent Manager</b>	
Payden & Rygel Investment Counsel	<u>796,379</u>
<b>Subtotal Cash Management</b>	<b>796,379</b>
<b>Total Investment Management Fees</b>	<b><u>26,468,082</u></b>
<b>Other Fees and Expenses</b>	
State Street Bank - Custodian Fees and Other Expenses	1,238,913
Consultant Fees	2,142,533
Legal Expenses	187,279
Investment Operations	2,873,512
Partnership Management Expenses	<u>80,340,495</u>
<b>Subtotal Other Fees and Expenses</b>	<b>86,782,732</b>
<b>Total</b>	<b><u>\$ 113,250,814</u></b>



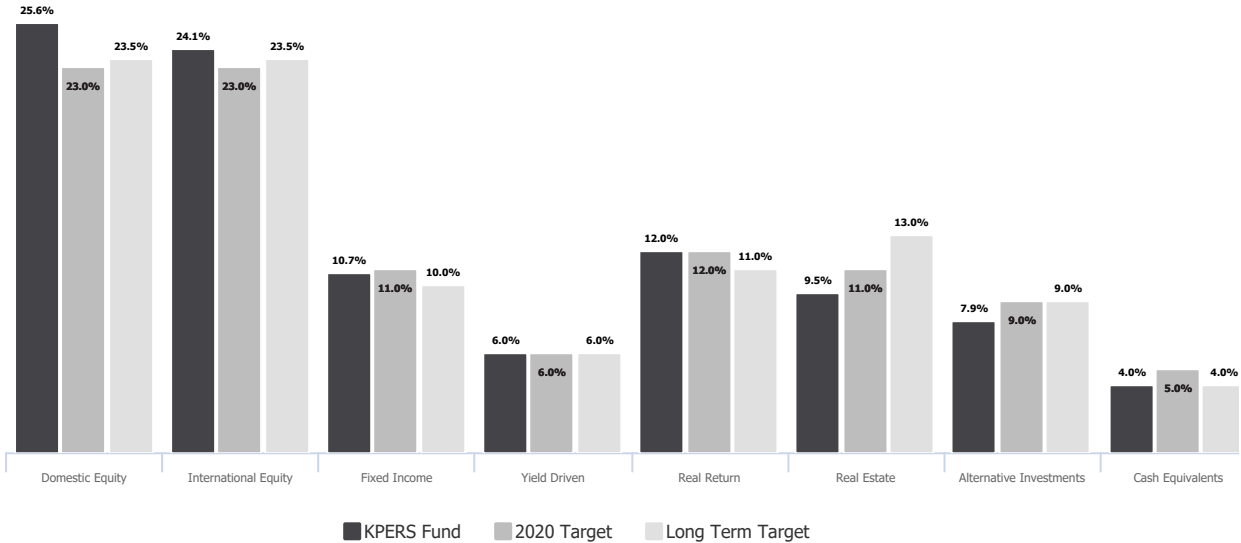
INVESTMENT  
SECTION



# CHIEF INVESTMENT OFFICER’S REVIEW

The Kansas Public Employees Retirement System investment portfolio represents all contributions to the plan, from both members and their employers, as well as net earnings on these assets. Total assets at the end of Fiscal Year 2020 were \$20.2 billion. The System’s investment portfolio is managed for the long term, in order to generate adequate returns to pay the

benefits promised to members. In order to achieve that goal, the assets receive the benefit of a broadly diversified investment portfolio which includes domestic and non-U.S. stocks, bonds, real estate, timber, infrastructure, alternative investments, and cash equivalents.



## BASIS OF PRESENTATION

The investment performance data is calculated by the Retirement System’s custodial bank and prepared by the Retirement System’s Investment Division staff. In Fiscal Year 2020, the System’s custodial bank was State Street Bank and Trust. Performance calculations were prepared using time-weighted rates of return, gross of fees, unless otherwise indicated.

## ASSET ALLOCATION

Portfolio investments are diversified among eight different asset classes for asset allocation and investment performance purposes, including: domestic equity; international (non-U.S.) equity; fixed income; “yield driven” assets; “real return” assets; real estate; alternative investments; and cash equivalents. (NOTE: For financial reporting purposes, as reported in the Financial Section and the Investment Summary in the Investment Section, investments are categorized by the underlying security.)

The Board of Trustees, working with the System’s general investment consultant, Meketa Investment Group (MIG) and investment staff, completed an asset/liability study in January 2020. The Board reviewed several investment policy options during the asset/liability study, all of which contained an emphasis on improving funding progress over time. At the

conclusion of the asset/liability study, the Board adopted a new set of long-term asset allocation targets. (The long-term asset allocation targets are reflected in the chart above.) The risk philosophy implied by the asset allocation policy targets places significant emphasis on managing and improving the funded status of the Retirement System over time. The new long-term asset allocation targets include a significant reduction in the yield driven asset class, and increases in the target allocations for private equity and real estate.

The allocation to equity investments (primarily publicly-traded stocks) continues to comprise the largest portion of the Retirement System’s investment portfolio. This allocation reflects the System’s long-term investment orientation and the expectation that equities will provide attractive real returns over time. Equity investments allow the investment portfolio to participate in the investment returns produced by companies seeking to grow and profit from their business activities. Equity investments are made globally, sourcing investment return from both domestic and foreign companies, and diversifying the accompanying investment risk across a broad spectrum of economies, currencies, economic sectors, and industries. Fixed income investments are also an important component of the System’s asset mix. Due to its relatively low correlation with

equities, the fixed income portfolio serves to diversify the equity risk in the System’s investment portfolio.

The yield driven asset class is designed to house those assets which derive a significant part of their expected return from income and have moderate exposure to growth risk, but that also provide a degree of diversification. The yield driven asset class consists of the System’s strategic fixed income portfolios and investments in domestic Real Estate Investment Trusts (REITs).

The majority of the real return asset category is made up of Treasury Inflation Protected Securities (TIPS) and global inflation linked bonds (GILBs). These two portfolios are both managed passively. The real return asset class also houses the System’s investments in infrastructure and timber assets.

Real estate investments generate returns in a different manner than equities or fixed income investments, since real estate follows a different, and typically longer, market cycle. Because it moves in a different market cycle than publicly-traded stocks and bonds, real estate provides diversification advantages, as well as some inflation protection, to the investment portfolio. The System’s real estate portfolio is heavily weighted to “core” real estate, which means that it also produces an attractive current income.

The System’s alternative investments, which consist primarily of investments in private partnerships that make venture capital investments, pursue leveraged buyout strategies or own private debt, represent the higher end of the investment risk/return spectrum. Private equity managers pursue higher growth opportunities in pursuit of higher returns, with commensurate investment risk.

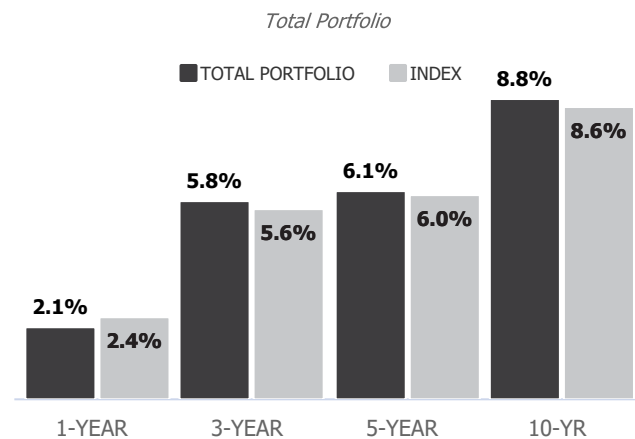
The System also holds cash equivalents investments, primarily to facilitate investment transactions and the cash flows needed to pay benefits. The cash equivalents portfolio is bifurcated, with a portion of the portfolio invested in a slightly longer duration strategy with daily liquidity, while the majority of the portfolio is invested as a short term investment fund (STIF).

**INVESTMENT POLICY**

The Board of Trustees has adopted a Statement of Investment Policy, Objectives and Guidelines (the Statement), which serves as a guide to the implementation of the System’s broad investment objectives. The Statement complements State statutes and documents the principles and standards that guide the management of the System’s assets. It is binding upon all persons with authority over the assets, including investment managers, custodians, consultants, staff and the members of the Board of Trustees. The Statement is the product of the Board’s careful and prudent study and is reviewed annually and updated as needed. It sets forth the investment policies, objectives and

guidelines that the Board of Trustees judges to be appropriate and prudent, in consideration of the needs of the System, and to comply with K.S.A. 74-4901 et seq., to direct the System’s assets. Although the System is not subject to the provisions of the Employee Retirement Income Security Act of 1974, as amended (ERISA), the Board intends to abide by the provisions of ERISA to the greatest extent practicable. As such, this Statement is written to be consistent with ERISA. Among other things, the Statement establishes the criteria against which the System’s investment managers are to be measured. In addition, it serves as a review document to guide ongoing oversight of the investment of the Fund as a yardstick of compliance with K.S.A 74-4901 et seq.

**TIME WEIGHTED TOTAL RETURN**



**FISCAL YEAR 2020 INVESTMENT PERFORMANCE**

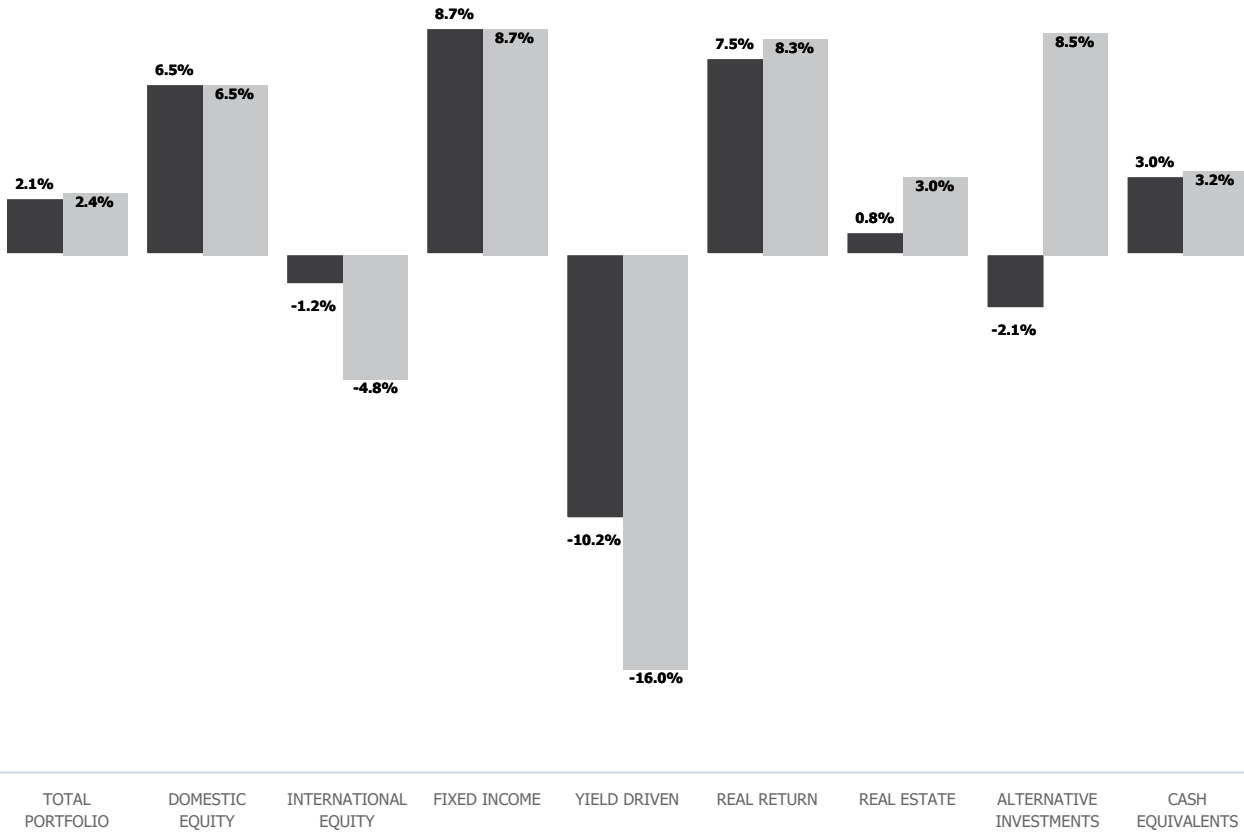
The Retirement System’s total investment portfolio experienced a 2.1 percent total return for the one year ending June 30, 2020. The 2.1 percent return underperformed the KPERS Policy Index by 0.3 percent for the fiscal year. For the three years ending June 30, 2020, the System’s total investment portfolio has produced an average annualized return of 5.8 percent, which outperformed the Policy Index by 0.2 percent. The System’s investment portfolio generated a 6.1 percent total return during the five years ending June 30, 2020, exceeding the Policy Index benchmark by 0.1 percent. For the ten-year period, total return has been 8.8 percent, and has exceeded the Policy Index by 0.2 percent.

For the 25-year period ending June 30, 2020, the System’s assets have produced an average annualized total return of 7.8 percent, only slightly exceeding the current 7.75 percent percent actuarial return assumption. (The System’s Board of Trustees took action to reduce the actuarially assumed rate of return from 8 percent to 7.75 percent in November 2016, and the 7.75 percent assumption was reaffirmed by the Board in 2020.)

TIME WEIGHTED TOTAL RETURN BY ASSET CLASS

Fiscal Year 2020

■ KPERS ■ INDEX



FINANCIAL MARKET AND PERFORMANCE OVERVIEW

Fiscal Year 2020 was a year made up of very disparate quarters from an investment performance perspective. The first quarter produced a 0.9 percent total return, as the Federal Reserve lowered short term rates and the US Treasury yield curve inverted. During the second quarter of the fiscal year, stocks and bonds both rallied, and the System’s investment portfolio produced a 4.5 percent total return. The third quarter brought unprecedented downside volatility in risk assets, as the coronavirus pandemic became widespread, and the US economy shrank by a 32.9 percent annualized rate. The System’s investment portfolio experienced a -11.7 percent total return during the third fiscal quarter. However, the fourth fiscal quarter brought a rapid recovery in risk assets, as economic reopenings drove hopes of a “V-shaped” global economic recovery. The recovery in risk assets drove a 9.7 percent total return for the System’s investment portfolio in the fourth fiscal quarter. The result of these four disparate quarters was a 2.1 percent total return for the System in Fiscal Year 2020.

experienced in the second quarter was also unprecedented. Crisis measures implemented by global central banks and fiscal stimulus undertaken by global governmental authorities, as well as the “reopening” of economies late in the second quarter underpinned a dramatic recovery in asset values for global risk based assets. Investor uncertainty abounds, however, as possible scenarios range from a meaningful resurgence in COVID-19 cases that cause reopenings to pause or reverse to a “return to normal” economy more quickly than anticipated, and the further lifting of coronavirus restrictions. Regardless of the outcome, the second quarter of 2020 was the worst quarter for US economic growth since the 1930s, and unemployment rose from 3.5 percent in early 2020 to 10.3 percent at fiscal year end. During times of historic financial market volatility and economic stress, it is more important than ever for the Retirement System to retain the perspective of a long term institutional investor. Significant exposure to risk assets over time is necessary in order for the System’s investment portfolio to achieve the 7.75 percent actuarial return assumption set by the Board of Trustees.

While the downside volatility experienced in the first quarter of calendar year 2020 was unprecedented, the upside volatility

**INVESTMENT STAFF**

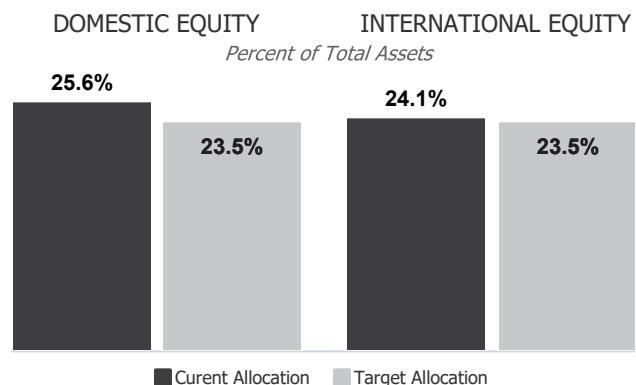
The System employs a staff of nine investment professionals to provide oversight and management of the assets and external investment managers. Under the oversight of the Chief Investment Officer (CIO), responsibility for the portfolio is assigned to the respective investment teams. The Deputy CIO for Public Markets has oversight responsibility for the publicly-traded asset classes, and oversees the System’s active international equity investment portfolios. An Investment Officer for Public Markets oversees the yield driven investment portfolios, and the passive domestic and international equity portfolios. An Assistant Investment Officer for Public Markets has oversight responsibility for the core fixed income, the TIPS/GILB portfolios in the real return asset class, and the cash equivalents portfolios. The Deputy CIO for Private Markets manages the System’s real estate and private equity investments, as well as the allocations to infrastructure and timber. The Chief Investment Officer and the four Investment Officers are supported by a team of four Investment Analysts who provide research support and assistance in managing the portfolios. Investment staff are focused on bringing a consistent, disciplined management process to all aspects of oversight of investment managers, compliance monitoring, and risk management.

**PUBLIC EQUITY INVESTMENTS**

Public equity investments represent the largest strategy allocation within the System’s portfolio. As of June 30, 2020, the market value of the System’s global equity portfolio was \$10.0 billion. The strategy is executed through external managers investing domestically and internationally. Active strategies are utilized for approximately 40.4 percent of the public equity portfolio, focusing entirely on international equities. The balance of the global equity portfolio is passively managed to replicate the return of broad market indices.

**PORTFOLIO STRUCTURE**

The following graphs describe the current and target allocations at June 30, 2020:



**DOMESTIC EQUITY**

Domestic equities represent 51.5 percent of the total public equity portfolio and 25.6 percent of total assets. Domestic equity investments are benchmarked against the Russell 3000 index. It is the System’s view that consistent outperformance over time through active management is extremely difficult when investing in U.S. equities. Therefore, 100 percent of the domestic equity portfolio is passively managed in an index strategy. This passive exposure is designed to replicate the return on the Russell 3000 index and is implemented through two investment managers.

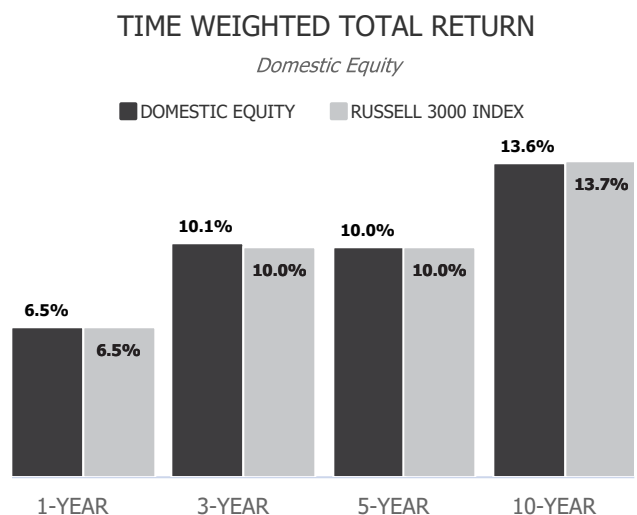
**INTERNATIONAL EQUITY**

International equities represent 48.5 percent of the total public equity portfolio and 24.1 percent of total assets. International equity investments are benchmarked against the MSCI All Country World – Ex U.S. Net Index. Equity investments in companies domiciled outside of the United States offer the potential to add value through prudent active management. Therefore, 90 percent of this portfolio is actively managed. The System has retained four active managers to invest across the non-U.S. developed markets and emerging markets. The balance of the international equity portfolio is invested to replicate the return on the MSCI All Country World – Ex U.S. Net Index.

**PERFORMANCE**

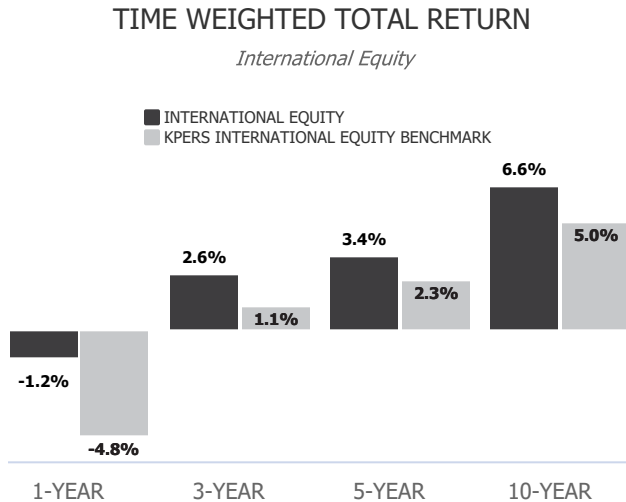
The return of the System’s domestic equity portfolio was in line with the portfolio’s benchmark during Fiscal Year 2020. The domestic equity portfolio produced a 6.5 percent total return during the fiscal year. Over longer periods, the return on the domestic equity portfolio was also in line with its benchmark, as expected, given its purely passive approach.

The following chart reports the performance of the domestic equity portfolio:



The return of the international equity portfolio was negative, though above the benchmark return, during Fiscal Year 2020. The international equity portfolio produced a total return of -1.2 percent for the fiscal year, relative to the -4.8 percent return for the benchmark. The international equity portfolio has produced strong relative returns over all time periods reported, as active management has added value relative to the benchmark.

The following chart reports the performance of the international equity portfolio:

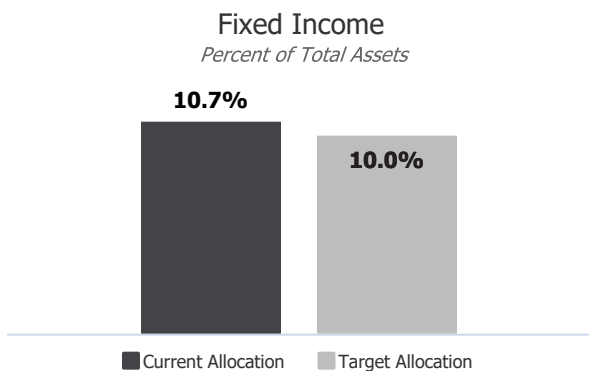


## FIXED INCOME INVESTMENTS

As of June 30, 2020, the Retirement System’s fixed income portfolio had a market value of \$2.2 billion, representing 10.7 percent of the total assets of the System. The portfolio is structured with external managers investing through an active core fixed income U.S. mandate. Two investment managers manage the strategy.

### PORTFOLIO STRUCTURE

The following graph describes the current and target allocations at June 30, 2020:



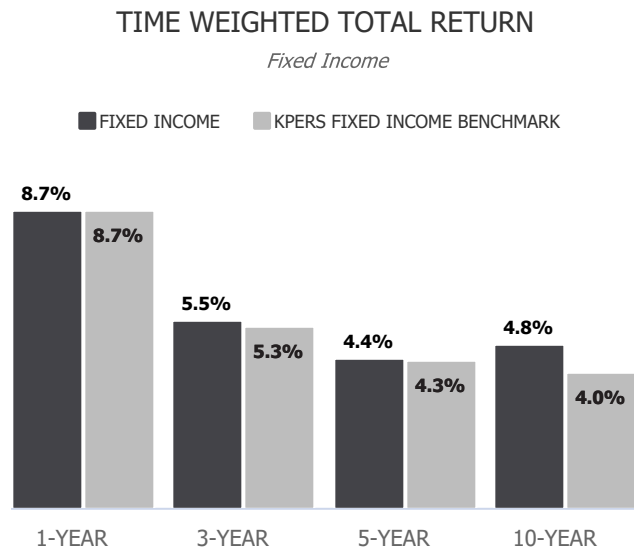
### CORE U.S. FIXED INCOME

The fixed income portfolio is invested in core U.S. strategies through two active investment managers. The portfolio’s objective is to provide diversification to other assets in the System’s portfolio and to preserve capital while providing current income. The core fixed income U.S. strategies are primarily invested in traditional investment grade securities. The fixed income portfolio utilizes the Barclays Capital U.S. Aggregate Index as the benchmark.

### PERFORMANCE

The core U.S. fixed income portfolio produced a total return of 8.7 percent during Fiscal Year 2020, matching the benchmark return of 8.7 percent. Over longer periods, the portfolio has provided positive absolute returns that have exceeded the benchmark return.

The following chart reports the performance of the fixed income portfolio:



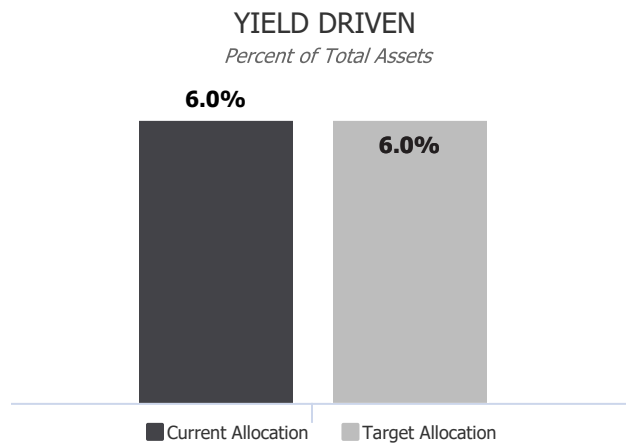
## YIELD DRIVEN INVESTMENTS

As of June 30, 2020, the System’s yield driven portfolio had a market value of \$1.2 billion representing 6.0 percent of total assets. The strategy is actively managed by two strategic fixed income managers and two REIT managers. The yield driven asset class is designed to produce current income and an element of diversification away from equity risk, while also maintaining some degree of correlation with equities.



**PORTFOLIO STRUCTURE**

The following graph describes the current and target allocations at June 30, 2020:



**STRATEGIC FIXED INCOME**

The strategic fixed income strategy represents approximately 60.9 percent of the total yield driven portfolio and 3.7 percent of total assets. The strategy is currently measured against the Barclays U.S. High Yield 2% Issuer Cap Index. The strategic fixed income portfolio maintains a minimum investment of 70 percent in high yield corporate debt securities. The System’s two strategic fixed income managers produced modest positive returns, outperforming the benchmark for Fiscal Year 2020.

**REAL ESTATE INVESTMENT TRUSTS (REITS)**

REITs represent 23.1 percent of the yield driven asset class and 1.4 percent of the System’s total assets. This strategy is benchmarked against the MSCI U.S. REIT Index. The publicly-traded real estate securities portfolio is implemented by managers that actively invest in domestic REITs, real estate operating companies (REOCs) and related investment vehicles. The domestic REIT strategy is actively managed by two investment managers. The REIT managers produced a negative total return while, in aggregate, outperforming the benchmark for Fiscal Year 2020.

**MASTER LIMITED PARTNERSHIPS (MLPS)**

MLPs represent 3.1 percent of the yield driven asset class and 0.2 percent of the System’s total assets. The strategy is benchmarked against the Alerian MLP Index. The System terminated its one MLP manager in Fiscal Year 2020 and has largely liquidated the portfolio as of fiscal year end.

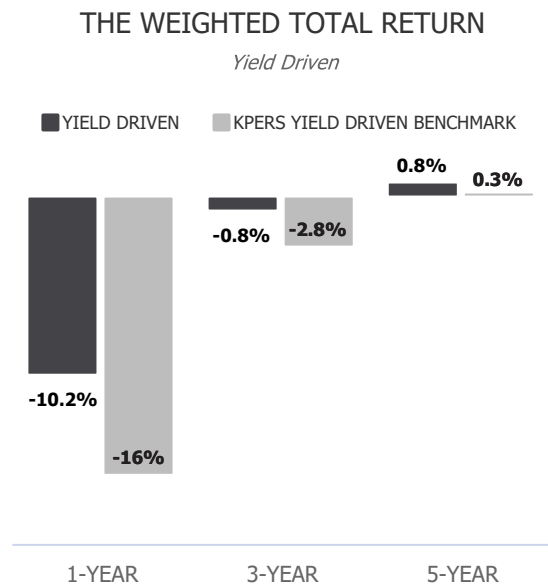
**BANK LOANS**

The bank loan allocation represents 12.8 percent of the yield driven asset class and 0.8 percent of the System’s total assets. The

strategy is benchmarked against the Credit Suisse Leveraged Loan Index. The System terminated its one bank loan manager in Fiscal Year 2020 and is in the process of liquidating this portfolio.

**PERFORMANCE**

The yield driven portfolio produced a total return of -10.2 percent in Fiscal Year 2020, outperforming the asset class benchmark return of -16.0 percent. Outperformance during Fiscal Year 2020 was due to the performance of the REIT and the strategic fixed income strategies, as well as, the impact the liquidation of the MLP portfolio had on relative return. The yield driven portfolio has outperformed the asset class benchmark, though at negative to modestly positive total returns.

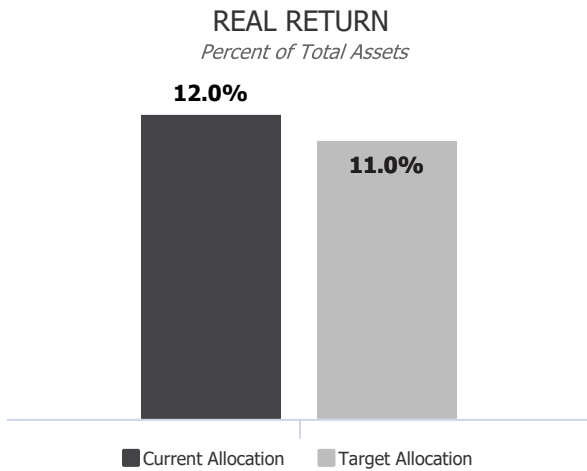


**REAL RETURN INVESTMENTS**

The real return portfolio is designed to provide the System with a hedge against future inflationary episodes. This strategy utilizes both public and private market investments. Public market exposure is global and achieved primarily through inflation linked fixed income securities issued by governments and their agencies in the U.S. as well as in developed countries around the world. Exposure in the private markets is currently achieved through investments in timber and infrastructure. The real return portfolio represents 12.0 percent of the System’s total assets, and had a market value of \$2.4 billion as of June 30, 2020.

**PORTFOLIO STRUCTURE**

The following graph describes the current and target allocations at June 30, 2020:



**U.S. TREASURY INFLATION LINKED BONDS (TIPS)**

The TIPS portfolio represents 41.1 percent of the real return portfolio and is benchmarked against the Barclays U.S. TIPS Index. This passively managed exposure is designed to replicate the return on domestic inflation linked bonds. It is the System’s view that the minimal excess return available through active management of TIPS is not sufficient to compensate for the incremental costs of active management fees. The TIPS portfolio performed in line with its benchmark during Fiscal Year 2020, as expected.

**GLOBAL INFLATION LINKED BONDS (GILBS)**

The GILB portfolio represents 35.6 percent of the real return portfolio and is benchmarked against the Barclays World ILB Index (USD Hedged). The GILB portfolio provides global diversification by broadening the opportunity set to capture unexpected inflation within investment grade sovereign bonds. This portfolio was transitioned from active management to passive management during Fiscal Year 2019. Since the transition, performance of the GILB portfolio has been in line with the benchmark, as expected.

**TIMBER**

Timber investments are a component of the System’s real return asset allocation due to their historically high correlation to inflation. The System is diversified within timber markets located in Idaho and throughout eight states in the southern U.S. Over time, timber investments are expected to provide the System with current cash yields and modest capital appreciation. For Fiscal Year 2020, the System’s timber investments produced a 1.5 percent total return, underperforming the strategy benchmark and the real return asset class benchmark. Underperformance can be attributed to softness in the housing market during the

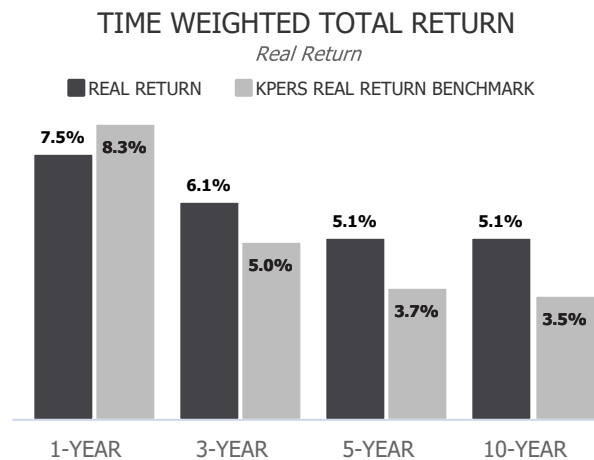
first half of the fiscal year, and to economic weakness created by the global coronavirus pandemic during the second half of the fiscal year.

**INFRASTRUCTURE**

The System’s three infrastructure managers have been successful in operating their infrastructure investments, despite some assets such as toll roads, airports and seaports being negatively impacted by the coronavirus pandemic. The System’s infrastructure portfolio is well-diversified, with investments in Australia, the United Kingdom, and throughout North and South America. It is invested across multiple sectors, including renewable power, toll roads, electric utilities, seaports and energy. The objectives of this portfolio are to produce moderate current income and capital appreciation, while preserving capital, providing diversification benefits, and providing an inflation hedge. The infrastructure portfolio produced a total return of 6.6 percent for the fiscal year, outperforming the strategy benchmark return of 6.2 percent.

**PERFORMANCE**

The System’s real return portfolio underperformed its asset class benchmark in Fiscal Year 2020, producing a 7.5 percent total return against a benchmark return of 8.3 percent. Infrastructure was the strongest performing investment strategy on a relative basis, while inflation linked bonds had the best absolute performance in the asset class. The real return portfolio has outperformed its benchmark over the three-, five-, and ten-year periods ending June 30, 2020.

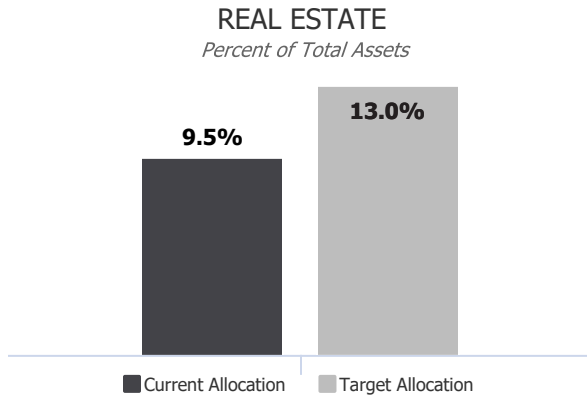


**REAL ESTATE INVESTMENTS**

As of June 30, 2020, the real estate portfolio had a market value of \$1.9 billion, representing 9.5 percent of the total fund. The real estate portfolio is primarily designed to provide diversification to the broader portfolio, while also providing a meaningful current income. Capital appreciation is a tertiary objective of current real estate investment activities.

**PORTFOLIO STRUCTURE**

The System’s real estate portfolio is classified into two categories: “core” and “noncore.” The “core” portion of the portfolio is targeted at a 75 percent allocation, while the “noncore” segment is targeted at a 25 percent allocation.



**CORE REAL ESTATE**

The largest segment of the real estate portfolio is “core” real estate. This portion of the portfolio is expected to produce steady current income in the form of investment yield while also providing portfolio diversification, and serving as an inflation hedge. The Retirement System’s core portfolio primarily consists of partial and full commitments to eight commingled funds.

The System continued to invest into pooled real estate investment funds during Fiscal Year 2020. This strategy is expected to result in improved liquidity, enhanced portfolio diversification, lower management fees and a reduction in the single event risk associated with owning individual real estate assets.

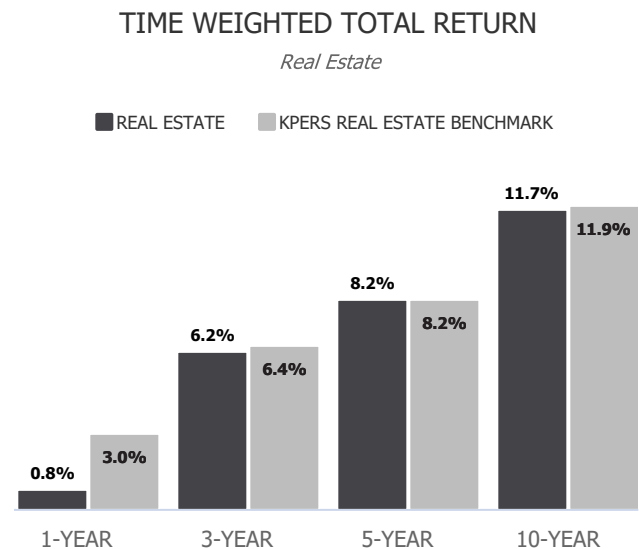
**NON-CORE REAL ESTATE**

The “non-core” segment consists of investments that generally involve some element of property lifecycle risk (such as positioning, leasing and development) while also utilizing greater leverage (debt) than core strategies. While providing elements of inflation protection and a diversification benefit to the broader portfolio, the System expects non-core real estate investments to produce meaningful capital appreciation and higher overall long-term returns than core investments. The non-core portfolio consists of investment funds employing a diversity of strategies and property types, both domestically and internationally.

**REAL ESTATE PERFORMANCE**

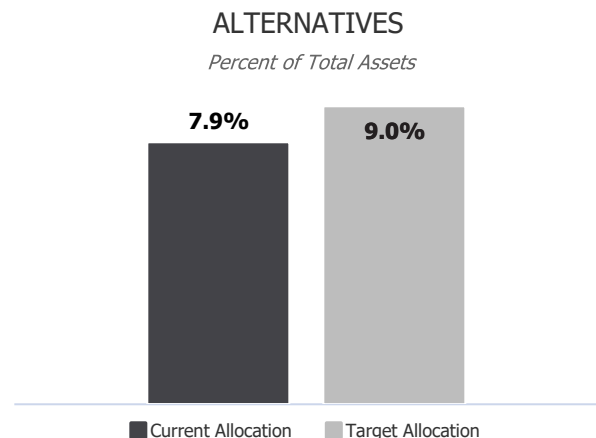
The System’s real estate portfolio underperformed its benchmark in Fiscal Year 2020. The core real estate portfolio produced a total return of 0.8 percent, underperforming the strategy benchmark by 1.4 percent, while the non-core real estate portfolio underperformed its benchmark by 4.5 percent, with a total

return of 0.7 percent. In total, the System’s real estate portfolio produced a total return of 0.8 percent, which underperformed the benchmark return by 2.2 percent. Overall, most of the System’s real estate fund investments are diversified and should continue to benefit from a continued migration out of retail properties and into higher performing sectors such as multifamily and industrial properties. Longer-term results from the real estate asset class have been more robust, with an 11.7 percent total return for the trailing ten-year period ending June 30, 2020.



**ALTERNATIVE INVESTMENTS**

At June 30, 2020, the System’s alternative investment portfolio had a fair market value of \$1.6 billion, representing 7.9 percent of the total portfolio. Since the inception of the alternative investment program in 1997 through June 30, 2020, the System has committed \$4.3 billion to 122 funds with 63 general partners.



**PORTFOLIO STRUCTURE**

The alternative investment portfolio consists primarily of interests in private partnerships that provide equity and debt to companies. The portfolio contains two primary sub-portfolios based on investment period. Each portfolio has its own set of directives, guidelines, external fund managers and consultants who provide advice on investment strategy and investment selection during its investment period. The largest portfolio is the Private Equity Program (PEP), representing 99.6 percent of the market value of the asset class. The PEP portfolio actively seeks new commitments to private equity funds in three styles: buyout, venture capital/growth equity and special situations. Since the inception of PEP in 2007, the System has committed \$3.3 billion to 68 funds with 28 general partners.

The second portfolio is the Alternative Investment Portfolio (AIP) and represents 0.4 percent of the market value of the asset class. From 1997 to 2001, AIP made commitments to 54 funds with 35 general partners across five styles: buyout, venture capital, mezzanine, distressed debt and natural resources. As this is a mature portfolio, the remaining funds in the AIP portfolio are currently pursuing exit strategies for their existing holdings.

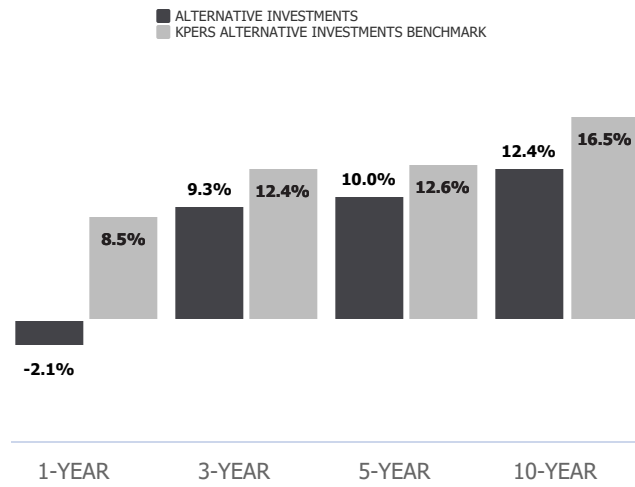
**ALTERNATIVE INVESTMENTS PERFORMANCE**

The System’s alternative investments portfolio underperformed its benchmark in Fiscal Year 2020, producing a rare negative 2.1 percent total return against a public benchmark return of 8.5 percent.

Private equity investments typically span ten years or longer. Therefore, the longer term returns from this asset class are more relevant in assessing its success in adding value to the overall portfolio. The System’s current long-term performance objective for alternative investments is to exceed the return of the Russell 3000 plus 2 percent. As the chart below shows, the alternative investments portfolio is underperforming this objective over the ten-year period, with a total return of 12.4 percent, due to in large part to the exceptionally strong performance from the publicly-traded domestic equity benchmark in recent years.

**TIME WEIGHTED TOTAL RETURN**

*Alternative Investments*



As required by K.S.A 74-4904, a schedule of alternative investments initiated on or after July 1, 1991, is listed on the following two pages.

ALTERNATIVE INVESTMENTS INITIATED ON OR AFTER JULY 1, 1991 <sup>(1)</sup>*As of June 30, 2020*

Description	Cost	Market Value
Advanced Technology Ventures VI, L.P.	\$ 8,252,815	\$ -
Apax Europe IX, L.P.	62,272,181	83,627,055
Apollo Investment Fund VII, L.P.	6,407,772	2,031,200
Apollo Investment Fund VIII, L.P.	39,877,275	40,383,916
Apollo Investment Fund IX, L.P.	13,478,243	13,688,207
Ares Corporate Opportunities Fund III, L.P.	3,427,552	1,172,422
Ares Corporate Opportunities Fund IV, L.P.	13,821,933	15,594,707
Ares Corporate Opportunities Fund V, L.P.	55,148,673	57,931,144
Ares Special Situations Fund IV, L.P.	47,686,469	41,591,566
Audax Mezzanine Fund III, L.P.	4,390,574	3,224,490
Beacon Group Energy Fund II, L.P.	1,841,499	465,984
Capital Resource Partners IV, L.P.	4,520,636	27,006
CCMP Capital Investors III, L.P.	36,524,979	41,354,421
Centerbridge Capital Partners II, L.P.	16,065,005	4,699,994
Centerbridge Capital Partners III, L.P.	18,154,524	28,299,998
Clayton Dublier & Rice VI, L.P.	2,998,283	9,906
Crestview Partners III, L.P.	27,687,230	27,140,048
Cypress Merchant Banking II, L.P.	6,889,672	9,673
Encap Energy Capital VIII, L.P.	16,073,890	3,902,869
Encap Energy Capital IX, L.P.	31,495,304	10,917,028
Encap Energy Capital X, L.P.	39,433,360	31,591,957
First Reserve Fund XII, L.P.	17,633,531	2,720,730
FS Equity Partners VII, L.P.	40,278,308	45,518,153
FS Equity Partners VIII, L.P.	19,802,375	18,983,725
Green Equity Investors VII, L.P.	62,708,920	71,361,998
GSO Capital Solutions Fund, L.P.	6,654,891	420,975
GSO Capital Solutions Fund II, L.P.	14,404,543	4,650,651
GSO Capital Solutions Fund III, L.P.	15,343,664	10,215,397
Halpern Denny Fund III, L.P.	1	-
HD Access, Inc.	186,674	123,912
Hellman & Friedman VII, L.P.	3,287,546	16,988,759
Hellman & Friedman VIII, L.P.	38,598,847	42,609,692
Hellman & Friedman IX, L.P.	14,947,472	12,590,091
JMI Equity Fund VII, L.P.	5,348,734	11,036,268
Montagu IV, L.P.	3,185,964	2,909,374
Montagu V, L.P.	41,606,836	45,993,978
New Enterprise Associates 13, L.P.	5,187,196	5,844,523
New Enterprise Associates 16, L.P.	35,886,119	37,117,695
New Enterprise Associates 17, L.P.	9,500,000	9,136,093
New Mountain Partners V, L.P.	36,850,816	50,480,017

ALTERNATIVE INVESTMENTS INITIATED ON OR AFTER JULY 1, 1991 <sup>(1)</sup> (CONTINUED)

As of June 30, 2020

Description	Cost	Market Value
OCM Opportunities Fund VIIb, L.P.	-	55,519
OneLiberty Fund IV, L.P.	1,155,056	740,032
OneLiberty Ventures 2000, L.P.	11,708,757	2,653,427
Pine Brook Capital Partners, L.P.	7,735,518	845,508
Pine Brook Capital Partners II, L.P.	45,114,501	40,164,312
Platinum Equity Capital Partners III, L.P.	15,112,204	16,098,396
Platinum Equity Capital Partners IV, L.P.	55,784,438	50,979,278
Platinum Equity Capital Partners V, L.P.	5,682,517	4,591,190
Quad-C Partners IX, L.P.	21,991,063	23,898,678
Snow Phipps II, L.P.	12,616,430	13,358,567
Snow Phipps III, L.P.	24,933,925	32,122,550
TA XII, L.P.	50,635,880	76,560,792
TA XIII, L.P.	7,076,252	6,104,704
TowerBrook Investors III, L.P.	3,982,077	-
TowerBrook Investors IV, L.P.	17,564,935	26,985,958
TowerBrook Investors V, L.P.	6,016,771	5,249,145
TPG Growth II, L.P.	3,784,837	1,270,808
TPG Growth III, L.P.	34,634,569	38,758,438
TPG Growth IV, L.P.	27,634,071	26,612,163
TPG Partners VI, L.P.	9,045,940	4,663,390
TPG Partners VII, L.P.	56,542,822	69,236,912
TPG Partners VIII, L.P.	5,945,987	4,265,140
VantagePoint Venture Partners IV, L.P.	9,810,025	1,844,265
Vestar Capital Partners IV, L.P.	1,373,358	154,251
Vista Equity Partners Fund IV, L.P.	9,300,598	17,358,245
Vista Equity Partners Fund V, L.P.	49,057,783	74,275,544
Vista Equity Partners Fund VI, L.P.	70,568,122	89,899,059
Vista Equity Partners Fund VII L.P.	17,320,500	17,467,776
Warburg Pincus Equity Partners, L.P.	-	78,729
Warburg Pincus Global Growth, L.P.	15,763,356	15,881,692
Warburg Pincus Private Equity X, L.P.	6,098,421	9,408,265
Warburg Pincus Private Equity XI, L.P.	17,224,544	27,180,502
Warburg Pincus Private Equity XII, L.P.	53,671,723	70,135,363
Wellspring Capital Partners V, L.P.	8,654,334	9,974,094
Wellspring Capital Partners VI, L.P.	25,148,180	21,616,395
Windjammer Mezzanine & Equity Fund II, L.P.	-	24,575
	<u>\$ 1,536,549,800</u>	<u>\$ 1,596,879,284</u>

(1) Investment values quoted without spin-offs or distributions.

LIST OF LARGEST HOLDINGS <sup>(1)</sup>

As of June 30, 2020

EQUITIES				FIXED INCOME			
Shares	Security	Fair Value (\$)	Par Value	Security	Description	Fair Value (\$)	
1,264,794	Microsoft Corp	\$ 257,398,227	115,145,000	US Treasury N/B	0.125% 30 Apr 2022	\$ 115,055,187	
690,827	Apple Inc	252,013,690	83,262,000	US Treasury N/B	0.125% 31 May 2022	83,200,386	
71,528	Amazon.Com Inc	197,332,877	50,000,000	US Treasury N/B	2.375% 15 Apr 2021	50,863,500	
1,501,980	Tencent Holdings Ltd	96,625,000	50,000,000	US Treasury N/B	2.375% 15 Mar 2021	50,771,500	
405,490	Facebook Inc CL A	92,074,614	50,000,000	US Treasury N/B	2.000% 15 Jan 2021	50,488,500	
50,586	Alphabet Inc CL A	71,733,477	50,000,000	US Treasury N/B	1.875% 15 Dec 2020	50,386,500	
50,220	Alphabet Inc CL C	70,991,494	41,065,000	US Treasury N/B	2.125% 15 May 2022	42,561,819	
6,913,239	AIA Group Ltd	64,490,085	36,172,856	State Street TR	STIF Fund	36,172,856	
458,097	SAP SE	63,964,090	31,065,000	US Treasury N/B	2.000% 15 Feb 2050	35,576,570	
1,132,644	Rio Tinto Plc	63,663,056	22,335,000	US Treasury N/B	0.375% 30 Apr 2025	22,436,178	

(1) A complete listing of the System's holdings is available at the Retirement System office.

CHANGES IN FAIR VALUE OF INVESTMENTS <sup>(1)</sup>

(In Thousands)

For the Fiscal Year Ended June 30, 2020

	June 30, 2019 Fair Value	Purchases and Other Increases	Sales and Other Decreases	June 30, 2020 Fair Value	Asset Mix Fair Value
<b>Marketable Securities</b>					
Domestic Equities	\$ 6,129,376	\$ 1,330,407	\$ (1,558,697)	\$ 5,901,086	29.15%
International Equities	4,311,378	4,977,252	(4,943,251)	4,345,379	21.47
Total Fixed	5,468,782	7,143,911	(7,045,966)	5,566,727	27.50
Temporary <sup>(2)</sup> Investments	351,748	29,290,309	(29,298,950)	343,107	1.69
Total Marketable Securities	16,261,284	42,741,879	(42,846,864)	16,156,299	79.81
<b>Real Estate and Alternative Investments</b>					
Real Estate	2,396,467	280,289	(186,636)	2,490,120	12.30
Alternatives	1,600,568	325,135	(328,824)	1,596,879	7.89
Total Real Estate and Alternative Investments	3,997,035	605,424	(515,460)	4,086,999	20.19
<b>Total</b>	<b>\$ 20,258,319</b>	<b>\$ 43,347,303</b>	<b>\$ (43,362,324)</b>	<b>\$ 20,243,298</b>	<b>100.00%</b>

(1) Amounts include changes in unrealized appreciation and exclude interest and dividend accruals.

(2) Temporary Investments include currencies, short term pools, and securities maturing within one year of purchase.

## U.S. EQUITY COMMISSIONS

For the Fiscal Year Ended June 30, 2020

Broker Name	Comissions Paid		Shares	Comissions per Share	Percent of Total Comissions	
Liquidnet, Inc	\$	113,387	\$	6,099,680	0.02	13.5%
Raymond James & Associates		56,940		1,702,084	0.03	6.8
JP Morgan Securities, LLC		52,672		1,750,584	0.03	6.3
Jefferies & Co., Inc		47,548		3,832,675	0.01	5.7
Citigroup Global Markets, Inc		46,657		1,539,885	0.03	5.6
Barclays Capital		45,421		1,416,156	0.03	5.4
B. Riley & Co., LLC		45,273		2,260,764	0.02	5.4
Wells Fargo Securities, LLC		39,449		1,594,781	0.02	4.7
Bank of America Securities, Inc		39,317		3,028,986	0.01	4.7
Morgan Stanley Co., Inc		37,188		3,446,737	0.01	4.4
RBC Capital Markets, LLC		35,642		2,832,856	0.01	4.2
Stifel Nicolaus & Co., Inc		30,577		1,016,948	0.03	3.6
Cowen & Co., LLC		30,491		2,159,442	0.01	3.6
Piper Jaffray & Co.		29,861		2,957,708	0.01	3.6
Virtu Americas, LLC		25,475		3,114,355	0.01	3.0
Evercore ISI		20,954		731,379	0.03	2.5
MKM Partners, LLC		18,375		872,391	0.02	2.2
UBS Securities, LLC		16,966		1,237,125	0.01	2.0
BTIG, LLC		11,984		676,922	0.02	1.4
Instinet, LLC		11,905		1,005,420	0.01	1.4
Other		84,107		5,262,461	0.02	10.0
<b>Total Broker Comissions</b>	<b>\$</b>	<b>840,189</b>	<b>\$</b>	<b>48,539,339</b>		<b>100.0%</b>



ACTUARIAL  
SECTION



## ACTUARIAL CERTIFICATION LETTER



Cavanaugh Macdonald  
CONSULTING, LLC  
*The experience and dedication you deserve*

December 17, 2020

Board of Trustees  
Kansas Public Employees Retirement System  
611 S. Kansas Ave., Suite 100  
Topeka, KS 66603

Dear Members of the Board:

At your request, we have performed an actuarial valuation of the Kansas Public Employees Retirement System (KPERS) as of December 31, 2019 for the purpose of determining contribution rates for Fiscal Year 2023 for the State and Schools (July 1, 2022 to June 30, 2023) and Fiscal Year 2022 for Local employers (calendar year 2022). The major findings of the valuation are contained in the valuation report, which reflects the plan provisions in place on December 31, 2019 and any legislative changes from the 2020 Session. There was one change to the benefit provisions for the Kansas Police and Firemen's Retirement System. Previously the Deferred Retirement Option Program (DROP) was only available to Kansas Highway Patrol members, but as of July 1, 2019, members of the Kansas Bureau of Investigation may also participate in the DROP. This change did not have a material impact on the current valuation results.

The KPERS Board adopted a new set of actuarial assumptions at their January 17, 2020 meeting, based on the experience study prepared during 2019. While the Board adopted all recommended changes to the demographic assumptions, they did not adopt the recommended changes to the set of economic assumptions. Instead, they chose to continue using the set of economic assumptions in the December 31, 2018 valuation. In our professional opinion, the set of economic assumptions used in this valuation do not comply with Actuarial Standard of Practice Number 27.

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

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We certify that all costs, liabilities, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer our best estimate of anticipated experience affecting the System with the exception of the set of economic assumptions. Nevertheless, the emerging costs of the System will vary from those presented herein to the extent actual experience differs from that projected by the actuarial assumptions. The Board of Trustees has the final decision regarding the appropriateness of the assumptions and adopted the set of assumptions in Appendix C of our valuation report.

Future actuarial measurements may differ significantly from the current measurements presented in the December 31, 2019 valuation report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

Actuarial computations presented in this section are for purposes of determining the actuarial recommended and statutory funding amounts for the System and have been made on a basis consistent with our understanding of the System's funding requirements and goals. Determinations for purposes other than meeting these requirements may be significantly different from the results shown in the December 31, 2019 valuation report. Accordingly, additional determinations may be needed for other purposes.

Based upon the December 31, 2019 valuation results, annual projection forecasting and the presumption that future contributions will be made at the full actuarial contribution rate, it is our opinion that the current funding policy will systematically accumulate assets sufficient to fund all future benefits, if all of the current actuarial assumptions are met.

The actuary prepared the following supporting schedules for the Comprehensive Annual Financial Report:

***Actuarial Section***

Schedule of Funding Progress  
Summary of Change in Unfunded Actuarial Liability  
Summary of Changes in Actuarial Contribution Rate  
Summary of Historical Changes to Total System UAL  
Summary of Principal Results  
Summary of Actuarial Assumptions and Methods  
Summary of Membership Data

Actuarial computations, based on the actuarial valuation performed as of December 31, 2019, were also prepared as of June 30, 2020 for purposes of fulfilling financial accounting requirements for the System under Governmental Accounting Standard Number 67 (GASB 67). KPERS' State/School, Local and Kansas Police and Fire plans are cost-sharing multiple employer plans while the Judges plan is a single employer plan. The assumptions used in the funding valuation were also used for GASB 67 reporting, with the exception of the 7.50 percent discount rate used for GASB 67 calculations (7.75 percent is the assumed rate of return used in the funding valuation). In addition, the entry age normal actuarial cost method, which is required to be used under GASB 67, is also used in the funding valuation. The actuarial assumptions and methods meet the parameters set by Actuarial Standards of Practice (ASOPs), as 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). The Total Pension Liability was rolled forward from the valuation date of December 31, 2019 to June 30, 2020, based on standard actuarial formulae. Additional information related to GASB 67 can be found in the Financial Section.

Cavanaugh Macdonald Consulting, LLC provided the following supporting schedules:

***Financial Section***

Calculation of the Total Pension Liability and Net Pension Liability  
 Schedule of the Net Pension Liability  
 Sensitivity Analysis of the Net Pension Liability  
 Schedule of Changes in the Net Pension Liability

In addition, the Schedule of Employer Contributions which compares the actuarially determined employer contribution amounts and the actual contribution amounts is included in the Required Supplementary Information (RSI). Amounts in that schedule were provided by the System.

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

We certify that, to the best of our knowledge and belief, the December 31, 2019 actuarial valuation report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Sincerely,



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



Brent A. Banister, Ph.D., FSA, EA, FCA, MAAA  
 Chief Actuary

## SECTION I BOARD SUMMARY OVERVIEW

The Kansas Public Employees Retirement System is an umbrella organization which administers the following three statewide pension groups: the Kansas Public Employees Retirement System (KPERS), the Kansas Police and Firemen's Retirement System (KP&F) and the Kansas Retirement System for Judges (Judges). The results of the December 31, 2019 actuarial valuations for each of the groups is presented in the following pages.

The primary purposes of performing actuarial valuations are to:

- determine the employer contribution rates required to fund each group on an actuarial basis,
- determine the statutory employer contribution rates for each group,
- disclose asset and liability measures as of the valuation date,
- compare the actual experience since the last valuation date to that expected, and
- analyze and report on trends in contributions, assets, and liabilities over the past several years.

As a result of the triennial experience study prepared during 2019, there have been several changes to the actuarial assumptions since the prior valuation. The Board elected to adopt all of the recommended changes to the demographic assumptions, but did not adopt any of the recommended sets of economic assumptions. The changes to the demographic assumptions, effective with the December 31, 2019 valuation, are shown below:

### KPERS

- Retirement rates were adjusted to partially reflect observed experience.
- Termination rates were increased for most KPERS groups.
- Disability rates were reduced.
- Factors for the State group that are used to anticipate higher liabilities due to higher final average salary at retirement for pre-1993 hires were modified to better reflect actual experience.
- The administrative expense load for contribution rates was increased from 0.16 percent to 0.18 percent.

### KP&F

- Retirement rates were adjusted to partially reflect observed experience.
- Factors for the KP&F group that are used to anticipate higher liabilities due to higher final average salary at retirement for pre-1993 hires were modified to better reflect actual experience.
- The administrative expense load for contribution rates was increased from 0.16 percent to 0.18 percent

### Judges

- Retirement rates were adjusted to partially reflect observed experience.
- The administrative expense load for contribution rates was increased from 0.16 percent to 0.18 percent.

For more information on the changes to the actuarial assumptions, please see the complete 2019 Experience Study report, dated January 7, 2020. A summary of the cost impact of the assumption changes on the December 31, 2019 valuation results is shown in the following table. The change in the unfunded actuarial liability (UAL) was amortized over 25 years.

	Prior Assumptions	New Assumptions	Change
<b>State/School</b>			
Actuarial Liability (millions)	\$20,594	\$20,551	\$(43.0)
Actuarial Value of Assets	13,960	13,960	-
Unfunded Actuarial Liability (millions)	\$6,634	\$6,591	\$(43.0)
Normal Cost Rate	7.87%	7.82%	(0.05%)
UAL Amortization Rate	12.10%	12.02%	(0.08%)
Actuarial Contribution Rate	19.97%	19.84%	(0.13%)
<b>Local</b>			
Actuarial Liability (millions)	\$5,729	\$5,725	\$(4.0)
Actuarial Value of Assets	4,202	4,202	-
Unfunded Actuarial Liability (millions)	\$1,527	\$1,523	\$(4.0)
Normal Cost Rate	7.41%	7.34%	(0.07%)
UAL Amortization Rate	7.57%	7.55%	(0.02%)
Actuarial Contribution Rate	14.98%	14.89%	(0.09%)
<b>KP&amp;F</b>			
Actuarial Liability (millions)	\$3,575	\$3,571	\$(4.0)
Actuarial Value of Assets	2,628	2,628	-
Unfunded Actuarial Liability (millions)	\$947	\$943	\$(4.0)
Normal Cost Rate	14.87%	14.86%	(0.01%)
UAL Amortization Rate	15.23%	15.17%	(0.06%)
Actuarial Contribution Rate	30.10%	30.03%	(0.07%)
<b>Judges</b>			
Actuarial Liability (millions)	\$196.1	\$195.6	\$(0.5)
Actuarial Value of Assets	185.3	185.3	-
Unfunded Actuarial Liability (millions)	\$10.8	\$10.3	\$(0.5)
Normal Cost Rate	20.50%	20.25%	(0.25%)
UAL Amortization Rate	3.40%	3.15%	(0.25%)
Actuarial Contribution Rate	23.90%	23.40%	(0.50%)

As noted earlier, Cavanaugh Macdonald Consulting (CMC) recommended changes to the set of economic assumptions. Three alternate sets of economic assumptions were presented in the experience study report, but the KPERS Board elected to continue the use of the economic assumptions used in the December 31, 2018 valuation. Based on the data presented in the experience study report, it is our professional opinion that the set of economic assumptions used in this valuation do not comply with Actuarial Standard of Practice Number 27. The following table illustrates how the valuation results would differ had the set of economic assumptions labeled Alternate 1 in the experience study been used in the December 31, 2019 valuation. The key differences in the economic assumptions include an investment return assumption of 7.50 percent instead of 7.75 percent, a general wage inflation assumption of 3.25 percent instead of 3.50 percent and a payroll growth assumption of 2.75 percent instead of 3.00 percent.

	Unfunded Actuarial Liability	Funded Ratio	Actuarial Contribution Rate
State/School	\$6,988M	66.60%	20.81%
Local	\$1,627M	72.10%	15.62%
KPF	\$1,028M	71.90%	31.61%
Judges	\$14.1M	95.20%	25.26%

There was a small impact on the December 31, 2019 valuation results due to some minor changes to the census data file provided by KPERS for the valuation. One change was including the actual years of service for each benefit multiplier (1.75 percent for service earned prior to January 1, 2014 and 1.85 percent for service earned thereafter) for KPERS 1 members. In the past, only total years of service for each member were provided so those years had to be split into the years for the different benefit multipliers by Cavanaugh Macdonald assuming each member had been continuously employed since January 1, 2014. As a result of this data refinement, the actuarial liability for KPERS (State, School and Local) decreased by about \$67 million. In addition, data elements for KP&F members who are currently participating in the Deferred Retirement Option Program (DROP) were provided so their liability can be more accurately determined. There are relatively few KP&F members participating in DROP due to its limited availability, so the impact of this change was relatively small, increasing the actuarial liability for KP&F by \$6 million.

KPERS 3 (Cash Balance members) refers to non-corrections members who either began their participation or were rehired on or after January 1, 2015. About 40 percent of the active KPERS membership on the valuation date were KPERS 3 members. KPERS 3 members receive guaranteed interest credits of 4.0 percent on their account balances. There is also the possibility of additional interest credits that are dependent on KPERS' actual

investment returns. The additional interest credits, referred to as "dividends", are equal to 75 percent of the five-year average net compound rate of return, as determined by the Board, for the preceding calendar year and the prior four calendar years on the market value of assets that is above 6.0 percent. If applicable, the dividend is granted as soon as administratively feasible after March 31 and is credited on the account balance as of the previous December 31. The dividend for 2019 was dependent on the net rate of return on the market value of assets for calendar years 2015 through 2019. The average annualized net return for the five-year period, as calculated by KPERS, was 7.1 percent. Using the statutory formula, an additional interest credit (dividend) of 0.825 percent was granted by the Board for 2019. Dividend credits are included in the assumption used for the interest crediting rate so the 2019 dividend did not increase the unfunded actuarial liability.

The valuation results provide a "snapshot" view of the System's financial condition on December 31, 2019. The net change in the unfunded actuarial liability for the total System was a decrease of \$195 million due to multiple factors. The total UAL is composed of various pieces, or layers, of unfunded actuarial liability. However, the initial UAL base, referred to as the 2015 legacy UAL base, represents the majority of the current unfunded actuarial liability. The remaining amortization period for the 2015 legacy UAL base is 13 years as of the valuation date. As the remaining amortization period for that base shortens over time, the portion of the amortization payment that is applied to the principal of the outstanding balance, instead of interest, increases. As a result, the remaining balance of the 2015 legacy UAL base is expected to decline more rapidly over time and have a significantly positive impact on the System's total unfunded actuarial liability, if the full statutory contributions are made. The unfunded actuarial liability portion of the statutory contribution was a key factor in the decrease in the unfunded actuarial liability from the prior valuation. There also were additional contributions of \$51 million and \$115 million during calendar year 2019 that decreased the unfunded actuarial liability.

A detailed analysis of the components of the change in the unfunded actuarial liability from December 31, 2018, to December 31, 2019, can be found on page 75.

In KPERS, the State, School and Local employer contribution rates certified by the Board may not increase over the prior year by more than the statutory cap. The statutory cap has changed over time, but the current cap is 1.20 percent for Fiscal Year 2023 (the rate set based on the December 31, 2019 actuarial valuation). Also, while separate valuations are performed for the State and School groups, the statutory contribution rate for the two groups is determined using their combined valuation results. Due to the statutory cap, the employer contribution rate was below the actuarial contribution for many years. However, the statutory State/School employer contribution rate has been equal to the

actuarial required contribution rate starting with the December 31, 2017 valuation (Fiscal Year 2021 contribution rates). By statute, if the actuarial required contribution (ARC) for the State alone is less than the statutory contribution rate when the two groups are combined (as it is in this valuation), the excess of the statutory contribution rate over the actuarial required contribution rate for the State alone is allocated to the School to improve the funding of that group.

A summary of actuarial and statutory employer contribution rates for the Retirement System (excluding the statutory contribution for the Death and Disability Program) for this valuation and the prior valuation follows:

System	December 31, 2019 Valuation		
	Actuarial	Statutory	Difference
State <sup>(1)</sup>	10.08%	13.86%	(3.78%)
School <sup>(1)</sup>	14.83%	13.86%	0.97%
State/School <sup>(1)</sup>	13.86%	13.86%	0.00%
Local <sup>(1)</sup>	8.90%	8.90%	0.00%
Police & Fire - Uniform Rates <sup>(2)</sup>	22.99%	22.99%	0.00%
Judges	17.77%	17.77%	0.00%

System	December 31, 2018 Valuation		
	Actuarial	Statutory	Difference
State <sup>(1)</sup>	9.97%	14.09%	(4.12%)
School <sup>(1)</sup>	15.15%	14.09%	1.06%
State/School <sup>(1)</sup>	14.09%	14.09%	0.00%
Local <sup>(1)</sup>	8.87%	8.87%	0.00%
Police & Fire - Uniform Rates <sup>(2)</sup>	22.80%	22.80%	0.00%
Judges	18.40%	18.40%	0.00%

<sup>(1)</sup> By statute, rates are allowed to increase by a maximum of 1.2 percent, plus the cost of any benefit enhancements. The December 31, 2019 valuation sets the employer contribution rate for Fiscal Year 2023 for the State and School group and calendar year 2022 for the Local group. An additional contribution of 0.61 percent applies to the School group in Fiscal Year 2023 due to contribution reductions in Fiscal Year 2017 and Fiscal Year 2019 (see following table).

<sup>(2)</sup> For KP&F, the statutory contribution rate is equal to the "Uniform" rate. The rate shown is for both State and Local employers. The uniform rate does not include the payment required to amortize the unfunded past service liability determined separately for each employer.

Due to the statutory cap for the KPERS group, the statutory contribution rate for the State/School group was less than the actuarial required contribution rate (ARC) for more than twenty years. In the December 31, 2017 actuarial valuation (which set the Fiscal Year 2021 contribution rates), the State/School group

reached the ARC date (statutory contribution rate equal to the actuarial contribution rate) at a contribution rate of 14.23 percent. The two contribution rates have continued to be equal in the December 31, 2018 and December 31, 2019 valuations. This is an important milestone for the State/School group which will serve to reduce the unfunded actuarial liability and improve the funded ratio of the State/School group.

Legislation passed in the 2017 session provided for the payment of the delayed contributions for the School group from Fiscal Year 2017 and Fiscal Year 2019 in level annual installments of \$6.4 million and \$19.4 million over 20-year periods commencing in Fiscal Year 2018 and Fiscal Year 2020, respectively. These installment payments are determined as an additional contribution rate for the School group and are added to the regular statutory contribution rate determined for the State/School group. The additional contribution rate for the \$64 million delayed School contributions from Fiscal Year 2017 is 0.17 percent for Fiscal Year 2021, 0.16 percent for Fiscal Year 2022, and 0.15 percent for Fiscal Year 2023. The additional contribution rate for the scheduled \$194 million delayed School contributions from Fiscal Year 2019 is 0.51 percent for Fiscal Year 2021, 0.48 percent for Fiscal Year 2022 and 0.46 percent for Fiscal Year 2023. The total statutory contribution rates for the School group for Fiscal Year 2021 through Fiscal Year 2023 are shown in the following table:

System	Fiscal Year 2021	Fiscal Year 2022	Fiscal Year 2023
Regular Statutory State/School Contribution Rate	14.23%	14.09%	13.86%
Contribution for Fiscal Year 2017 Contribution Reduction	0.17%	0.16%	0.15%
Contribution for Fiscal Year 2019 Contribution Reduction	0.51%	0.48%	0.46%
Total School Contribution Rate	14.91%	14.73%	14.47%

The net rate of return on the market value of assets in 2019 was 17.1 percent, as reported by KPERS, which was significantly above the 2019 assumed return of 7.75 percent. However, due to the reflection of past investment experience through the asset smoothing method, the net rate of return on the actuarial value of assets for calendar year 2019 was 6.7 percent, less than the assumed return of 7.75 percent. The combined impact of recognizing the scheduled portion of deferred asset experience and the favorable investment experience during 2019 changed the net deferred asset loss of \$1.2 billion in the prior valuation to a net deferred asset gain of \$568 million in the current valuation. Based on the results of this valuation, the statutory contribution rates for the State, State/School and Local groups continue to be at the actuarial required contribution rate.

# EXPERIENCE - ALL SYSTEMS COMBINED

## December 31, 2018 – December 31, 2019

In many respects, an actuarial valuation can be thought of as an inventory process. The inventory is taken as of the actuarial valuation date, which for this valuation is December 31, 2019. On that date, the assets available for the payment of benefits are appraised. The assets are compared with the liabilities of the System, which are generally in excess of assets. The actuarial process leads to a method of determining the contributions needed by members and employers in the future to balance the System assets and liabilities.

Changes in both the System’s membership, assets and liabilities impacted the change in the actuarial contribution rates between the December 31, 2018 and December 31, 2019 actuarial valuations. On the following pages, each component is examined.

### MEMBERSHIP

The following table contains a summary of the changes in the active membership between the December 31, 2018 and December 31, 2019 actuarial valuations.

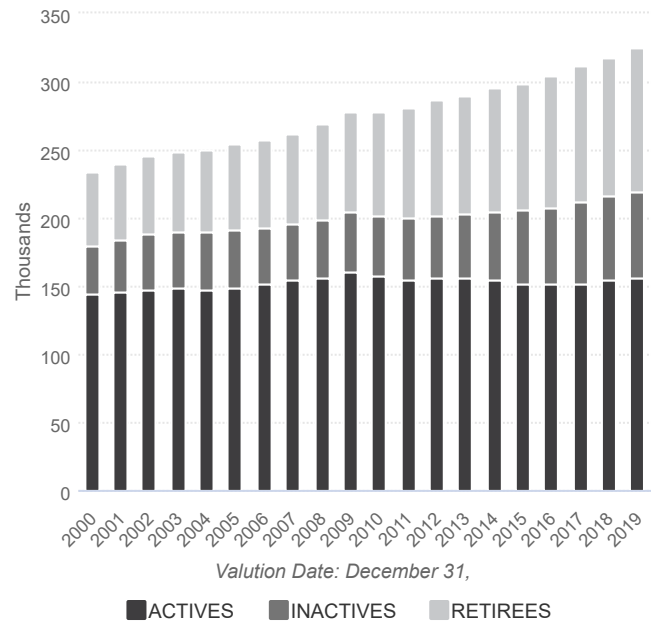
	State	School	Local
12/31/2018 (Starting count)	20,893	87,245	37,966
New actives	3,118	11,707	5,510
Non-vested Terminations	(936)	(4,215)	(2,182)
Elected Refund	(581)	(1,198)	(1,085)
Vested Terminations	(484)	(2,201)	(1,158)
Total Withdrawals	(2,001)	(7,614)	(4,425)
Deaths	(36)	(62)	(54)
Disabilities	(32)	(60)	(36)
Retirements	(714)	(2,207)	(1,009)
Other/Transfer	11	(56)	55
12/31/2019 (Ending count)	21,239	88,953	38,007

	KP&F	Judges	Total
12/31/2018 (Starting count)	7,695	256	154,055
New actives	768	27	21,130
Non-vested Terminations	(299)	-	(7,632)
Elected Refund	(107)	(2)	(2,973)
Vested Terminations	(43)	(4)	(3,890)
Total Withdrawals	(449)	(6)	(14,495)
Deaths	(7)	(1)	(160)
Disabilities	(18)	-	(146)
Retirements	(185)	(16)	(4,131)
Other/Transfer	(7)	(3)	-
12/31/2019 (Ending count)	7,797	257	156,253

As can be seen from the table, KPERS, in total, experienced a net increase in the number of active members with the largest increase occurring in the School group. However, active membership growth has been relatively stagnant overall for the past decade, with the active membership peaking in the December 31, 2009 valuation. While this pattern of low (or at times negative) employee growth has not been unusual in recent years in the public sector, the general decline in active membership has an adverse impact on the actuarial contribution rates. As a result of fewer active members, coupled with low salary increases, total active member payroll has not increased as expected so there has been fewer contribution dollars to fund the unfunded actuarial liability. In addition, the unfunded actuarial liability contribution rate increases because the dollar amount of the amortization payment is divided by a smaller amount of payroll.

The following graph shows the number of active and inactive vested members, as well as retirees, in the current and prior valuations. The number of active members is lower in this valuation than it was in 2009 while the number of retirees has grown over that period.

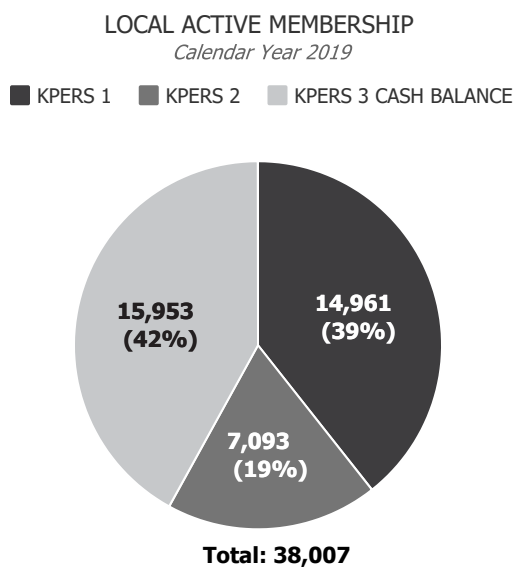
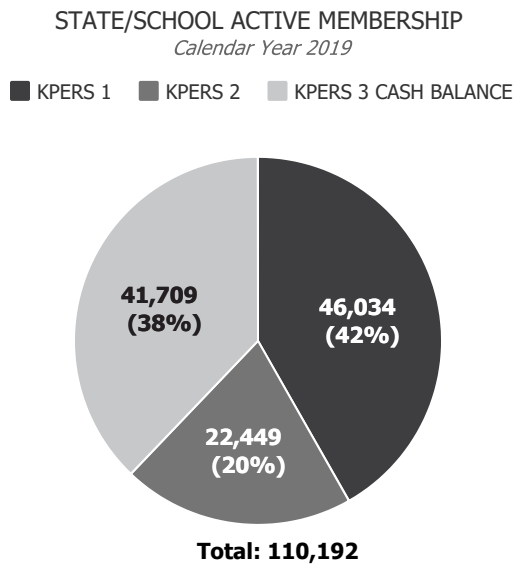
SYSTEM MEMBERSHIP



KPERS currently has three different benefit structures. The most recent tier, KPERS 3 (Cash Balance members), covers non-corrections members who either began their participation or were rehired on or after January 1, 2015. KPERS 2 includes members who either began their participation or were rehired on or after July 1, 2009, but before January 1, 2015. Of the 148,199 active KPERS members, 29,542 (about 20 percent) are KPERS 2 members and 57,662 (about 39 percent) are KPERS 3 members



as of the valuation date. The split of KPERS members in the State/School group and Local group by benefit tier is shown below:



Because KPERS 3 is a relatively new group, its members have relatively low liability, and so the valuation results are more significantly affected by KPERS 1 and KPERS 2 members. As time passes, the benefit structure of KPERS 3 will have an increasing impact on the overall valuation results. One aspect of this influence will be that since KPERS 3 has some risk sharing features built in to the interest crediting rate on account balances, total valuation results will eventually have less volatility.

**ASSETS**

As of December 31, 2019, the System had total funds of \$21.5 billion on a market value basis, excluding assets held for the

Group Insurance and Optional Life reserves. This was an increase of \$2.8 billion from the December 31, 2018 value of \$18.7 billion.

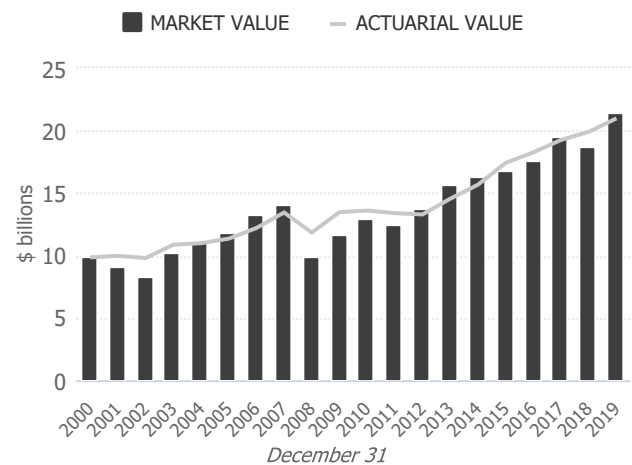
The market value of assets is not used directly in the calculation of contribution rates. An asset valuation method is used to smooth the effect of market fluctuations. The smoothing method calculates the difference between the actual return and the expected return (assumed net rate of return) on the market value of assets each year. The difference is recognized equally over a five-year period.

The components of the change in the total market value and actuarial value of assets for the Retirement System (in millions) are set forth in the following table.

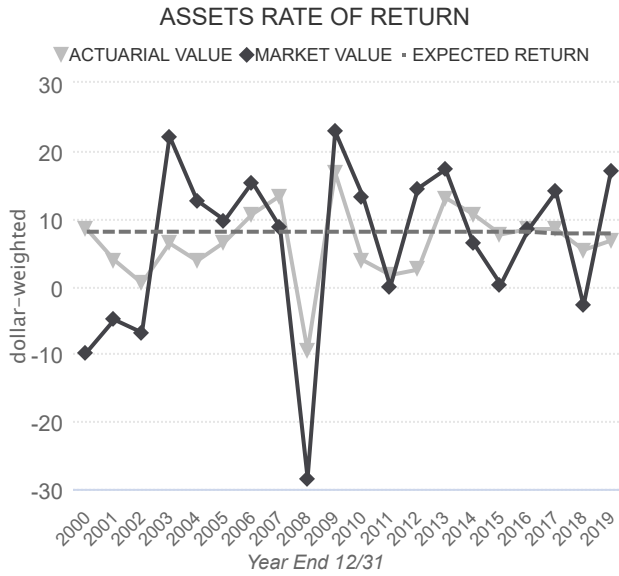
	Market Value \$ (millions)	Actuarial Value \$ (millions)
Assets, December 31, 2018	\$ 18,670	\$ 19,898
· Employer and Member Statutory Contributions	1,466	1,466
· Additional Contributions	166	166
· Benefit Payments	(1,877)	(1,877)
· Investment Income, Net of Expenses	3,118	1,323
Assets, December 31, 2019	\$ 21,543	\$ 20,976
Net Rate of Return	17.1%	6.7%

Due to the use of an asset smoothing method, there is a net deferred investment gain of \$0.6 billion that has not yet been recognized, i.e. the market value of assets is greater than the actuarial value. This deferred investment gain will be recognized in the actuarial value of assets over the next four years, but may be offset by actual investment experience if it is less favorable than assumed.

**TOTAL SYSTEM ASSETS**



The actuarial value of assets has been both above and below the market value during the period, which is to be expected when using an asset smoothing method.



The net rate of return on the actuarial (smoothed) value of assets has been less volatile than the market value return. The deferred investment loss in this valuation will be reflected in the actuarial value of assets in the next few years, absent favorable investment experience.

**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 asset values at the same date is referred to as the unfunded actuarial liability. The unfunded actuarial liability will be reduced if the employer contributions exceed the employer normal cost for the year, after allowing for interest on the previous balance of the unfunded actuarial liability. Benefit improvements, experience gains and losses, and changes in actuarial assumptions and methods will also impact the total actuarial liability and the unfunded portion thereof.

The unfunded actuarial liability by group is summarized below (in millions):

	State	School	Local
Actuarial Liability	\$ 4,604	\$15,901	\$ 5,705
Actuarial Value of Assets	3,642	10,318	4,202
Unfunded Actuarial Liability*	\$ 962	\$ 5,583	\$ 1,502
Funded Ratio	79.1%	64.9%	73.7%

	KP&F	Judges	Total*
Actuarial Liability	\$ 3,578	\$ 196	\$29,982
Actuarial Value of Assets	2,628	185	20,976
Unfunded Actuarial Liability*	\$ 949	\$ 10	\$ 9,007
Funded Ratio	73.5%	94.7%	70.0%

\* May not add due to rounding.

The unfunded actuarial liability is amortized using a “layered” approach. The legacy unfunded actuarial liability is the amount of unfunded actuarial liability in the December 31, 2015 valuation which was then projected to June 30, 2018 for State/School and Judges and December 31, 2017 for Local and KP&F to reflect the lag between the valuation date and the fiscal year to which the contribution rates set in the valuation apply. This initial or legacy unfunded actuarial liability amortization base continues to be amortized over the original amortization period, which was set at 40 years beginning July 1, 1993 (13 years remaining as of December 31, 2019). The change in the unfunded actuarial liability, resulting from the assumption changes reflected in the 2016 and 2019 valuations, was amortized over a closed 25-year period. Changes in the unfunded actuarial liability that result from actuarial experience each year (gains and losses) are amortized over a closed 20-year period that begins with the fiscal year in which the contribution rates will apply.

Prior to the December 31, 2017 valuation (which set the contribution rates for Fiscal Year 2021), the statutory contribution rate for the State/School group had been less than the actuarial contribution rate since the 1994 valuation which resulted in an annual increase in the unfunded actuarial liability for that group. Other factors influencing the unfunded actuarial liability from year to year include actual experience versus that expected, based on the actuarial assumptions (on both assets and liabilities), changes in actuarial assumptions, procedures, methods or census data, and changes in benefit provisions.

The actual experience measured in this valuation is that which occurred during the prior plan year (calendar year 2019). For State, School, Local and KP&F, the valuation results reflect a net liability loss for the year (which increases the unfunded actuarial liability), largely due to salary increases that were greater than expected. In contrast, there was a small net liability gain for Judges during 2019 due to higher than expected mortality. Combining these, the total net liability loss for the System was \$114 million, about 0.38 percent of the actuarial liability. In addition, the System experienced a return of 6.7 percent on the actuarial value of assets, which is lower than the assumed return of 7.75 percent, resulting in an experience loss of \$210 million. Therefore, the aggregate result of combined experience (asset and liability) in 2019 for all groups was an experience loss for the System of \$324 million.

Between December 31, 2018, and December 31, 2019, the change in the unfunded actuarial liability for the System, as a whole, was as follows (in millions):

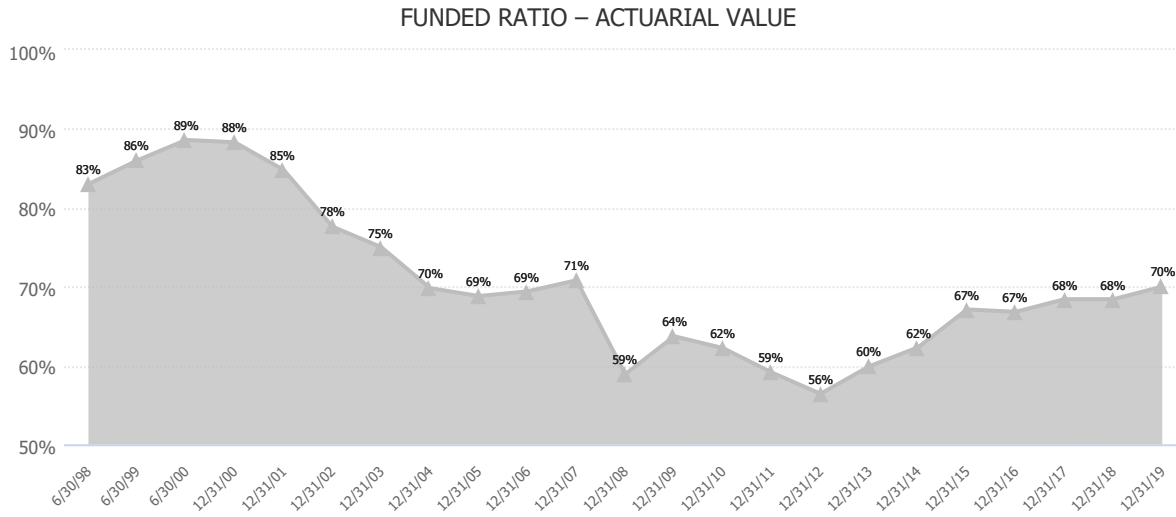
	\$ millions
Unfunded Actuarial Liability, December 31, 2018	\$9,202
· effect of contribution cap/time lag	18
· expected decrease due to amortization	(169)
· (gain)/loss from investment return on actuarial assets	210
· demographic experience <sup>(1)</sup>	114
· additional contributions	(175)
· all other experience	(82)
· assumption changes	(51)
· data refinements	(60)
<b>Unfunded Actuarial Liability, December 31, 2019 <sup>(2)</sup></b>	<b>\$9,007</b>

(1) Liability loss is about 0.38 percent of total actuarial liability.

(2) May not add due to rounding.

An evaluation of the unfunded actuarial liability on a pure dollar basis may not provide a complete analysis since only the difference between the assets and liabilities (which are both very large numbers) is reflected. Another way to evaluate the unfunded actuarial liability and the progress made in its funding is to track the funded status, the ratio of the actuarial value of assets to the actuarial liability. The funded ratio does not necessarily indicate whether or not additional funding is needed, nor does it indicate whether or not the plan could settle all liabilities with current assets. The funded status information for the total System is shown in the following table (in millions).

	12/31/13	12/31/14	12/31/15	12/31/16	12/31/17	12/31/18	12/31/19
Using Actuarial Value of Assets:							
Funded Ratio (AVA/AL)	60%	62%	67%	67%	68%	68%	70%
Unfunded Actuarial Liability (AL-AVA)	\$9,766	\$9,468	\$8,539	\$9,061	\$8,907	\$9,202	\$9,007
Using Market Value of Assets:							
Funded Ratio (MVA/AL)	65%	65%	65%	65%	70%	64%	72%
Unfunded Actuarial Liability (AL-MVA)	\$8,584	\$8,808	\$9,055	\$9,627	\$8,569	\$10,430	\$8,439



Changes in actuarial assumptions and methods, coupled with investment returns below the assumed rate and contributions below the actuarial rate significantly reduced the funded ratio over much of this period. The funded ratio is expected to increase steadily in the future assuming assumptions are met and scheduled contributions are made.

Given the current funded status of the System, the deferred investment experience, the amortization method and amortization periods, and the scheduled employer contribution rates, the dollar amount of the unfunded actuarial liability for the entire System is expected to decrease over the next few years as the unrecognized investment experience flows through the asset smoothing method. Over the longer term, the funded ratio is expected to improve, but will continue to be heavily dependent on the actual investment returns in the future.

### CONTRIBUTION RATES

The funding objective of the System is to establish contribution rates that over time will remain relatively level as a percentage of payroll, and to pay off the unfunded actuarial liability in a reasonable timeframe.

Generally, the actuarial contribution rates to the various Systems consist of:

- a “normal cost” for the portion of projected liabilities allocated by the actuarial cost method to service of members during the year following the valuation date and an expense load for administrative expenses for the year,
- an “unfunded actuarial liability contribution” for the excess of the portion of projected liabilities allocated to service to date over the actuarial value of assets.

There is also a statutory contribution rate that is used to finance the Death and Disability Program. Contributions for the Death and Disability Program are deposited in a separate trust fund from which benefits are paid. A separate actuarial analysis and report is prepared for the Death and Disability Program on June 30 of each year, so the death and disability contribution rate is not reflected in this information.

In KPERS, State, School and Local employers do not necessarily contribute the full actuarial contribution rate. Based on legislation passed in 1993, the employer contribution rates certified by the Board may not increase by more than the statutory cap. The statutory cap, which has been changed by the Legislature periodically, is 1.20 percent for all three groups. In 2015, SB 4 reset the previously certified employer contribution rate for the State/School group for the last half of Fiscal Year 2015 from 11.27 percent to 8.65 percent. In addition, 2015 SB 228 authorized the sale of \$1.0 billion in bonds to deposit in the trust fund, but also lowered the statutory rates for the State/School group from 12.37 percent to 10.91 percent for Fiscal Year 2016 and 13.57 percent to 10.81 percent for Fiscal Year 2017. The December 31, 2015 valuation set the statutory contribution rates for Fiscal Year 2019, based on the 1.20 percent statutory cap. Since the December 31, 2017 valuation, the statutory contribution rate for both State/School and Local have been equal to the actuarial required contribution rate.

The results of the December 31, 2019 valuation are used to set employer contribution rates for Fiscal Year 2023 for the State and School (July 1, 2022 to June 30, 2023) and Fiscal Year 2022 for Local employers (calendar year 2022). Given the lag between the valuation date used to set the employer contribution rates and the effective date of those contribution rates, i.e., a two year lag

for Local employers and a two and one-half year lag for the State/School and Judges groups, the unfunded actuarial liability is projected from the valuation date to the first day of the fiscal year in which the contribution rate will apply, based on the statutory contribution rates and expected payroll in the intervening years. The unfunded actuarial liability is amortized as a level-percentage of payroll for all groups except the Judges where a level-dollar payment is used. The payroll growth assumption is 3.0 percent, so the annual amortization payments will increase 3.0 percent each year. As a result, if total payroll grows 3.0 percent per year, as assumed, the amortization payment will remain level as a percentage of total current payroll. However, if actual payroll growth is less than 3.0 percent, then the unfunded actuarial liability contribution rate will increase.

A summary of the actuarial and statutory employer contribution rates for the System is shown below:

#### DECEMBER 31, 2019 VALUATION

System	Actuarial	Statutory	Difference
State <sup>(1)</sup>	10.08%	13.86%	(3.78%)
School <sup>(1)</sup>	14.83%	13.86%	0.97%
State/School <sup>(1)</sup>	13.86%	13.86%	0.00%
Local <sup>(1)</sup>	8.90%	8.90%	0.00%
Police & Fire - Uniform Rates <sup>(2)</sup>	22.99%	22.99%	0.00%
Judges	17.77%	17.77%	0.00%

*(1) By statute, rates are allowed to increase by a maximum of 1.2 percent, plus the cost of any benefit enhancements. The December 31, 2019 valuation sets the employer contribution rate for Fiscal Year 2023 for the State and School group and calendar year 2022 for the Local group. An additional contribution of 0.61 percent applies to the School group in Fiscal Year 2023 due to contribution reductions in Fiscal Year 2017 and Fiscal Year 2019.*

*(2) For KP&F, the statutory contribution rate is equal to the "Uniform" rate. The rate shown is for both State and Local employers. The uniform rate does not include the payment required to amortize the unfunded past service liability determined separately for each employer.*

Due to statutory caps, the full actuarial contribution rate is not necessarily contributed for all KPERS groups. The State and Local groups reached the actuarial required contribution (ARC) date (the year in which the statutory contribution rate is equal to or greater than the ARC rate) in the 2010 and 2012 valuations, respectively, and remain at the ARC rate in this valuation. However, due to the lag between the valuation date and the applicable fiscal year for the contribution rate, the State group did not actually contribute the full ARC until Fiscal Year 2014 and the Local group until CY 2015. Based on the current valuation, there is a difference (shortfall) between the actuarial and statutory contribution rates of 0.97 percent for the School group. However, the statutory contribution rate is set for the combined

State/School group. The ARC date occurred in Fiscal Year 2021 at a rate of 14.23 percent of pay, based on the December 31, 2017 valuation, and the statutory and actuarial required contribution rates have continued to be equal.

Separate employer contribution rates are calculated for two subgroups of the State: Correctional Employee Groups with a normal retirement age of 55 (C55) and a normal retirement age of 60 (C60). The contribution rates are to be calculated by increasing the state statutory contribution rate by the difference in the normal cost rate for the C55 and C60 groups over the normal cost rate for regular state members, but not to exceed the statutory cap on contribution increases. The higher contribution rates are intended to finance the earlier normal retirement age. However, 2015 SB 228 reset the statutory employer contribution rates for Fiscal Year 2016 and Fiscal Year 2017 for the Correctional Employee groups to be the same as the employer contribution rate for the State/School group (10.91 percent and 10.81 percent respectively), eliminating the intended rate differential. The resulting contribution rates for the Correctional Employee Groups for Fiscal Year 2023 are shown in the following table:

Corrections Group	Statutory Rate
Retirement Age 55:	14.14%
Retirement Age 60:	14.84%

The change in the employer actuarial contribution rate from December 31, 2018 to December 31, 2019 and the primary components thereof are shown in the table on page 87. The employer contribution rates increased from those in the December 31, 2018 valuation for State, Local and KP&F, primarily due to unfavorable investment and liability experience during 2019. For the School group (and by extension the State/School group), the decrease in the contribution rate was largely due to covered payroll that increased by 4.5 percent, which is higher than the assumed payroll growth rate of 3.0 percent. When the same contribution amount required to amortize the unfunded actuarial liability is spread over a larger payroll, the unfunded actuarial liability contribution rate is reduced. The Judges group had a liability gain as well as a significant decrease in the contribution rate due to the assumption changes, resulting in a lower contribution in the December 31, 2019 valuation compared to the December 31, 2018 valuation.

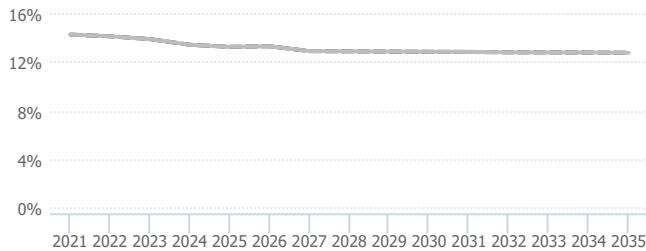
The following graphs show the preliminary projected employer contribution rates assuming all actuarial assumptions are met in the future, including a 7.75 percent net rate of return on the market value of assets in all years, and that the current statutory funding policy for the State/School group (including the amortization policy) continues and contributions are made as scheduled, including repayment of the reduced contributions for Fiscal Years 2017 and 2019. Note that we have not reflected any possible impact of the global pandemic upon either investment return or mortality experience because the significance of these impacts, if any, cannot be reasonably assessed at this time.

Note that although separate valuations are performed for the State and School groups, the statutory contribution rate for the two is determined using the combined valuation results for the two groups. Contributions which result from the excess of the statutory contribution rate over the actuarial required contribution rate for the State are allocated to the School to improve the funding of that group.

**PROJECTED EMPLOYER CONTRIBUTION RATES - STATE/SCHOOL**

*Fiscal Year End*

--- STATUTORY (STATE/SCHOOL)    — ACTUARIAL

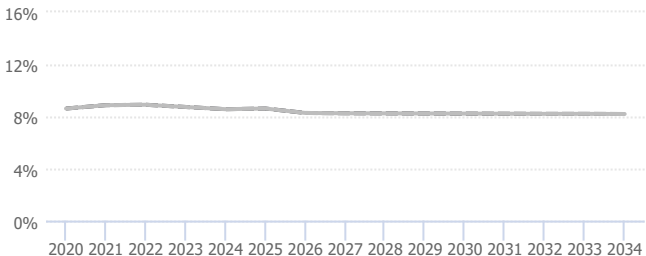


Based on the December 31, 2017 valuation results, the actuarial required contribution (ARC) date for the State/School group occurs in Fiscal Year 2021 at an ARC rate of 14.23 percent. Given the deferred investment experience, it decreases to around 13 percent and then holds steady at that level. During the entire projection period, the statutory rate is expected to be equal to the ARC rate. Actual experience in future years, particularly investment returns, will significantly impact future actuarial and statutory rates.

**PROJECTED EMPLOYER CONTRIBUTION RATES - LOCAL**

*Fiscal Year End*

--- STATUTORY    — ACTUARIAL

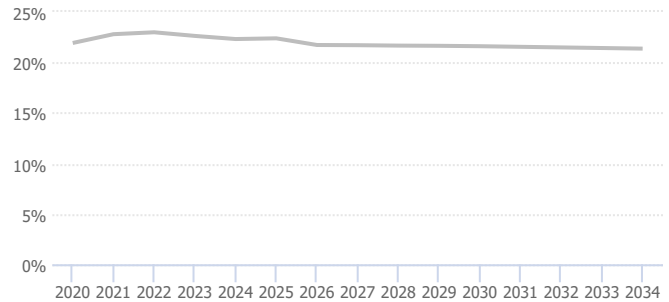


The Local group reached the ARC date in the 2012 valuation at an ARC rate of 9.48 percent, which has decreased and is now 8.90 percent in the 2019 valuation. The projected contribution rate is expected to remain steady around 9 percent as the deferred investment experience is recognized and then decrease slightly to around 8 percent over the long term. Actual experience in

future years, particularly investment returns, will significantly impact future actuarial and statutory rates.

**PROJECTED EMPLOYER CONTRIBUTION RATES - KP&F**

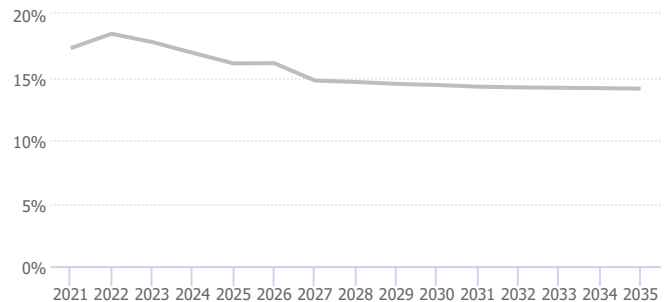
*Fiscal Year End*



The projected employer contribution rate for KP&F is expected to remain steady around 23 percent even as the deferred investment experience is recognized through the asset smoothing method. However, actual experience in future years, particularly investment returns, will significantly impact future contribution rates.

**PROJECTED EMPLOYER CONTRIBUTION RATES - JUDGES**

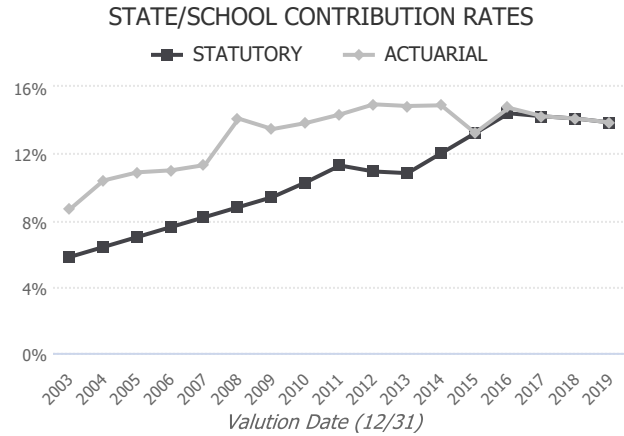
*Fiscal Year End*



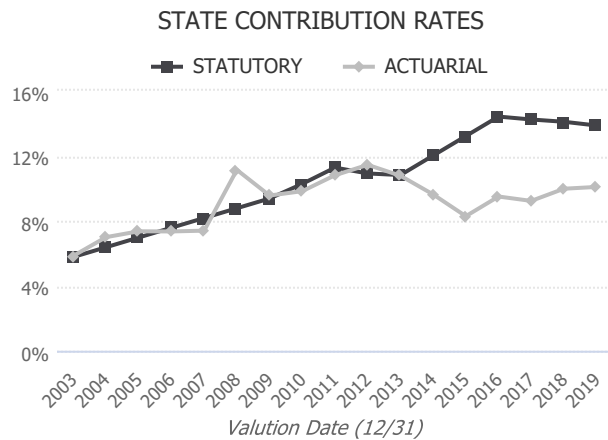
The projected employer contribution rate for Judges is expected to decrease as the deferred investment experience is recognized through the asset smoothing method and the system moves toward full funding. Actual experience in future years, particularly investment returns, will significantly impact future employer contribution rates.

Historical contribution rates for each group are shown on the following pages. Please note that prior to the December 31, 2003, valuation, one contribution rate was developed for the State and School together as one group. Legislation passed in 2004 split the actuarial valuations into two separate groups, although the statutory contribution rate has still been determined on a combined basis. By statute, any excess of the statutory contribution over the actuarial required contribution for the State is allocated to the School group.

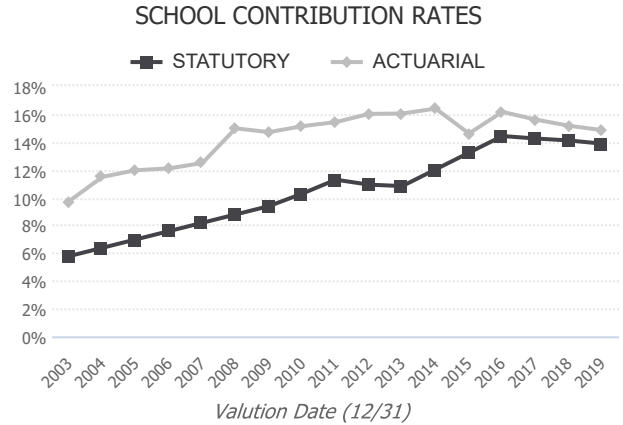
Significant changes in funding methods occurred in 2003, and the System received bond proceeds in 2004 and 2015. Actuarial assumptions were changed in the 2004, 2007, 2011, 2014, 2016 and 2019 valuations. These changes impact the comparability of contribution rates between various valuation dates.



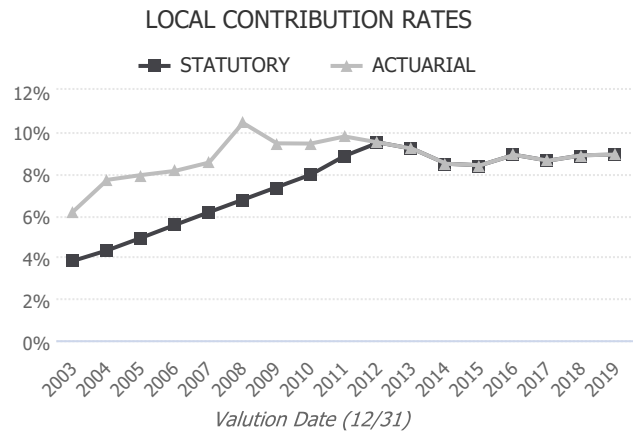
Numerous factors have contributed to the increase in the ARC rate for the State/School group over much of this period including investment experience, changes in actuarial assumptions, and contributions significantly below the actuarial rate. Due to additional contributions and higher payroll growth than expected during 2019, the ARC rate decreased to 13.86 percent.



The split of the State group into a separate group with the 2003 valuation, coupled with the bond issue, lowered the State ARC rate. The State reached the full ARC rate in the 2010 valuation and has remained at ARC except for the recertification of the statutory contribution rate for Fiscal Year 2017 from 12.37 percent to 10.91 percent. In this valuation, the State's ARC rate increased to 10.10 percent, due to unfavorable investment and liability experience in 2019.

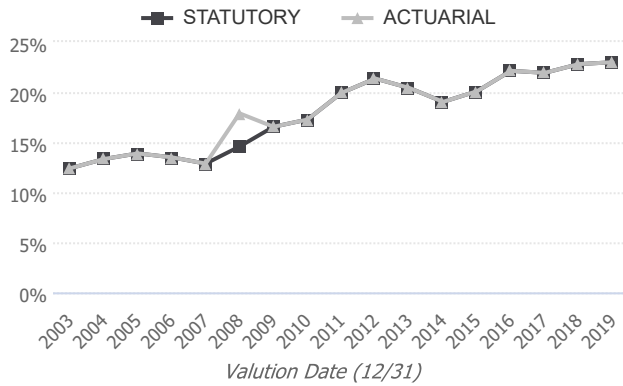


Due to investment experience, changes in actuarial assumptions, and the magnitude of the difference between the actuarial and statutory contribution rates, the ARC rate increased during the early part of this period. Increases to the statutory contribution rate and contribution sharing from the State group has helped to stabilize the ARC rate.



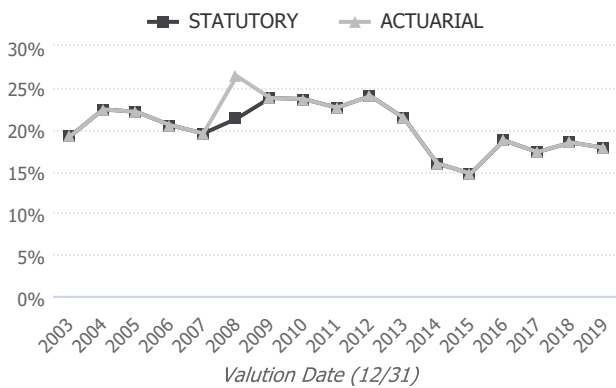
The Local contribution rate has also been impacted by changes in actuarial assumptions and methods as well as investment performance. With the significant changes in 2012 Sub House Bill 2333 and favorable investment returns, the statutory contribution rate was equal to the ARC rate in the 2012 valuation. In this valuation, the Local group's ARC rate increased slightly to 8.90 percent, due to unfavorable investment and liability experience during 2019.

**KP&F CONTRIBUTION RATES (LOCAL)**



Investment experience in 2008, 2011, and 2019 resulted in higher contribution rates in the latter part of the period. The assumption changes reflected in the 2016 valuation increased the contribution rate. Unfavorable investment experience on an actuarial basis during 2019 resulted in an increase in the ARC rate for the KP&F System.

**JUDGES CONTRIBUTION RATES**



Investment experience in 2008 and 2011 resulted in higher contribution rates in the middle of the period. The assumption changes reflected in the 2016 valuation increased the contribution rate, but assumption changes in the 2019 valuation decreased the contribution rate. Favorable demographic experience during 2019 contributed to a decrease in the ARC rate for the Judges System.

Over the last two decades, a comprehensive plan has been developed to address the long-term funding of KPERS and significant changes have occurred. HB 2014, which was passed by the 2003 Legislature, increased the statutory cap on the State/School employer contribution rate from 0.20 percent to 0.40 percent in Fiscal Year 2006, 0.50 percent in Fiscal Year 2007 and 0.60 percent in Fiscal Year 2008 and beyond. It also authorized the issuance of up to \$500 million in pension obligation bonds (POBs). The POBs were sold and proceeds of \$440.2 million were received on March 10, 2004. The debt service payments on the

bonds are paid by the State in addition to the regular KPERS employer contribution rate.

The 2004 Legislature passed SB 520, which continued to address issues related to the long term funding of the System. It gave the KPERS Board of Trustees the authority to establish the actuarial cost method and amortization method/period. With this authority, the Board changed both the actuarial cost method and the asset valuation method with the December 31, 2003 actuarial valuation. SB 520 also increased the statutory cap for Local employers from 0.15 percent to 0.40 percent in Fiscal Year 2006, 0.50 percent in Fiscal Year 2007 and 0.60 percent in Fiscal Year 2008 and beyond.

The 2007 Legislature passed SB 362 which created a new benefit structure for members first employed on or after July 1, 2009 (KPERS 2). The change was made partially due to long term funding considerations, but also in response to demographic changes in the membership.

The 2011 Legislature passed Senate Substitute for House Bill 2194 (Sub HB 2194). The intent of this law was to strengthen KPERS' long term funding and improve the sustainability of the system. The bill contained significant changes for both KPERS employers and current and future members. In addition, Sub HB 2194 established a 13 member KPERS Study Commission to study alternative plan designs during the last half of 2011 and make a recommendation for KPERS plan design that would provide for the long term sustainability of the System. The Commission report was due to the Legislature by January 6, 2012. Sub HB 2194 required that the report recommendations be voted on by the 2012 Legislature for the other provisions of Senate Substitute for HB 2194 to become effective. The 2012 Legislature did not move the Study Commission recommendation forward, but some of the other provisions were included in the bill that was ultimately passed in 2012, Senate Sub for House Bill 2333.

The 2012 Legislature passed Sub House Bill 2333, affecting new hires, current members and employers. The changes were made to improve KPERS' long term sustainability. The basic provisions of Sub House Bill 2333, as amended by House Bill 2213 in 2013, included:

- Increased the statutory cap on employer contribution rates to 0.9 percent in Fiscal Year 2014, 1.0 percent in Fiscal Year 2015, 1.1 percent in Fiscal Year 2016 and 1.2 percent in Fiscal Year 2017 and beyond.
- Contingent upon IRS approval, established an election by KPERS 1 members between different contribution rate and benefit levels. The legislation provided that, if the IRS rejected or did not take action to approve the election, KPERS 1 members would default to an increase in their employee contributions to 5 percent of compensation effective January 1, 2014, and



6 percent effective January 1, 2015, with an increase in the benefit multiplier to 1.85 percent beginning January 1, 2014, for future years of service only. Subsequently, the IRS issued a private letter ruling stating that the election granted to KPERS 1 members under 2012 HB 2333 was impermissible.

- For KPERS 2 members retiring after July 1, 2012, the cost of living adjustment (COLA) was eliminated, but members received a 1.85 percent multiplier for all years of service.
- Created a cash balance plan for new hires beginning January 1, 2015. A cash balance plan is a type of defined benefit plan that includes some elements of a defined contribution plan and shares risk between the employer and employee. Each member has a hypothetical account that is credited with employee contributions, employer pay credits and interest credits. At retirement, the account balance is annuitized to create a guaranteed monthly benefit payable for the member's lifetime. Up to 30 percent of the account value at retirement may be paid as a lump sum.
- Beginning in Fiscal Year 2014, Sub House Bill 2333 provided for the state to make additional contributions to help pay down KPERS' unfunded actuarial liability until the State/School group reaches a funded ratio of at least 80 percent. The revenue was to come from the Expanded Lottery Act Revenues Fund (ELARF). However, for Fiscal Year 2014 through 2017, the ELARF funds were appropriated as a partial funding source to meet the statutory contribution requirements for the School group rather than contributed in addition to the statutory contributions. Therefore, no additional funding of the unfunded actuarial liability has occurred. As a result, projections assume there will not be any additional payments to the unfunded actuarial liability from the ELARF funds.
- If the State of Kansas sells surplus real estate, 80 percent of the proceeds is to be used to pay down KPERS' unfunded actuarial liability until the System reaches an 80 percent funded ratio. However, 2016 SB 249 suspended this provision with respect to any sales of surplus real estate during Fiscal Year 2017.

The 2014 Legislature passed HB 2533 which made changes to the KPERS 3 benefit structure, generally decreasing the portion of the benefit that is guaranteed, thereby increasing the risk-sharing portion of the benefit. The changes in House Bill 2533 were designed to further improve KPERS long term funding and to better manage the investment risk.

The 2015 Legislature passed SB 4 which revised the State/School employer contribution rate from 11.27 percent to 8.65 percent for the last half of Fiscal Year 2015 to correspond with the Governor's allotment. In addition, 2015 SB 228 provided for bonds to be issued to improve the funded status of the State/School group and also reduced the previously certified employer

contribution rates for Fiscal Year 2016 and 2017. The following provisions were included in SB 228:

- Net proceeds of up to \$1.0 billion from bonds issued by the State of Kansas were to be deposited into the KPERS trust fund for the State/School group, subject to certain criteria. The bonds had to be issued at an interest rate no greater than 5.0 percent and approved by the State Finance Council (approval received July 2, 2015).
- Revised the previously certified State/School employer contribution rate from 12.37 percent to 10.91 percent for Fiscal Year 2016 and from 13.57 percent to 10.81 percent for Fiscal Year 2017. The statutory cap of 1.2 percent per year was still applied to employer contribution rates in Fiscal Year 2018 and beyond.

The 2015 Legislature also passed House Bill 2095 that contained changes to the working after retirement provisions and implemented a pilot program in KP&F for a Deferred Option Retirement Plan for the Kansas Highway Patrol. Neither of these provisions had a significant impact on the long term funding of the System.

The 2016 Legislature passed House Sub for SB 168 which revised the rules pertaining to working after retirement. The bill also made technical and clarifying amendments to statutes related to death and disability contributions, KPERS 3 members, and the Deferred Retirement Option Program (DROP) for certain members of KP&F. None of these provisions had an impact on the December 31, 2015 valuation results. The 2016 Legislature also passed House Sub for SB 161 which provided for the delay of up to \$100 million in State and School contributions for Fiscal Year 2016. House Sub for SB 249 provided that the delayed contributions would be repaid in full, with interest at 8 percent, by June 30, 2018. The Governor used this allotment authority to delay payments of \$97.4 million for the State/School group and KP&F State contributions during the final quarter of Fiscal Year 2016. However, S Sub for Sub HB 2052, passed in the 2017 session, provided that the repayment of these contributions would not be paid (subsequent legislation passed by the 2019 Legislature repaid these delayed contributions).

The 2017 Legislature passed several bills that impacted the provisions and funding of KPERS:

- Senate Substitute for Substitute HB 2052 (S Sub for Sub HB 2052) provided that a portion of the contributions for the School group for Fiscal Year 2017 would be delayed so the total State/School contribution was \$64.13 million less than the scheduled statutory contributions. The delayed employer contributions for Fiscal Year 2017 are repaid in level-dollar annual installments of \$6.4 million over twenty years beginning in Fiscal Year 2018. These payments are determined as a

contribution rate for School employers to be paid in addition to the statutory State/School contribution rate. Further, S Sub for Sub HB 2052 provided that the repayment of the contribution reduction from Fiscal Year 2016 with interest (\$115 million), scheduled in Fiscal Year 2018, would not be paid (subsequent legislation passed by the 2019 Legislature repaid these delayed contributions).

- Senate Substitute for HB 2002 contained KPERS funding provisions for Fiscal Year 2018 and Fiscal Year 2019, including the following:
  - **Fiscal Year 2018:** The contributions for the State/School group for Fiscal Year 2018 was made at the scheduled statutory rate of 12.01 percent. In addition, the first installment of \$6.4 million on the 20-year amortization of the delayed contributions for Fiscal Year 2017 was included.
  - **Fiscal Year 2019:** A portion of the employer contributions for School employers within the State/School group for Fiscal Year 2019 were delayed so the total employer contribution was \$420 million, including the second installment of \$6.4 million on the delayed contribution for Fiscal Year 2017. This resulted in an expected delay of \$194 million to be repaid by the School group, as a level dollar amount over 20 years beginning in Fiscal Year 2020.
  - **Fiscal Year 2020:** The current statutory cap of 1.2 percent per year applied in determining the statutory contribution rate for the State/School group for Fiscal Year 2020. The certified statutory rate from Fiscal Year 2019 of 13.21 percent, without inclusion of the \$6.4 million amortization of the delayed contributions in Fiscal Year 2017 and \$19.4 million amortization of the delayed contributions in Fiscal Year 2019, was increased by 1.2 percent, resulting in a statutory contribution rate for Fiscal Year 2020 of 14.41 percent. The current statutory cap of 1.2 percent per year applies for all subsequent years.
- SB 205 changed the duty-related death benefit for KP&F members to the greater of 50 percent of Final Average Salary and the member's accrued retirement benefit under the 100 percent joint and survivor option, payable to the member's spouse. Including any benefits that may be due to child beneficiaries, the total monthly benefits may not exceed 90 percent of the member's Final Average Salary. Prior to this bill, the duty-related death benefit for a KP&F member was 50 percent of Final Average Salary, and the maximum available to the family was 75 percent of the member's Final Average Salary.
- House Substitute for SB 21 included changes to the working after retirement rules for members who retire on or after January 1, 2018. The key provisions of the bill were to lengthen the waiting period for KPERS members to return to work from 60 days to 180 days for members who retire before attaining age

62, remove the earnings limitation for all retirees, and establish a single employer contribution schedule for all retirees.

The 2018 Legislature passed House Substitute for Senate Bill 109 that provided for the following additional funding to the KPERS School group:

- An additional payment of \$82 million in July 2018 (received by KPERS).
- A contingent additional payment of up to \$56 million to be paid in Fiscal Year 2018, if actual Fiscal Year 2018 receipts exceed the consensus revenue estimates (full amount received in June, 2018).
- A contingent additional payment of up to \$56 million to be paid in Fiscal Year 2019, if actual Fiscal Year 2019 receipts exceed the consensus revenue estimates (this payment was changed by the 2019 Legislature to a transfer of \$51 million in Fiscal Year 2020 which was received by KPERS on July 1, 2019).

The 2019 Legislature passed two pieces of legislation that impacted the contributions to KPERS. Senate Bill 9 provided for a transfer of \$115 million from the State General Fund to KPERS in March, 2019. This payment covered the \$97 million in missed KPERS School contributions for Fiscal Year 2016 plus interest. The additional contribution lowered the State/School actuarial contribution rate by 0.29 percent. The 2019 Legislature also passed House Substitute for Senate Bill 25. This legislation repealed the actions of the 2018 Legislature which provided for a contingent payment of up to \$56 million in Fiscal Year 2019, if actual Fiscal Year 2019 receipts exceeded the consensus revenue estimates. Instead, this legislation directly transferred \$51 million to the KPERS Trust Fund in Fiscal Year 2020 (received by KPERS on July 1, 2019). The net reduction of \$5 million did not have a significant impact on the valuation results.

The legacy unfunded actuarial liability is amortized over a closed period ending in 2033 (13 years remaining as of this valuation date). Increases in the unfunded actuarial liability resulting from the assumption changes adopted in the December 31, 2016 and December 31, 2019 valuations are amortized over a closed 25 year period, while other actuarial experience bases (gains/losses) are amortized over closed 20 year periods. While all of the groups (State/School, Local, KP&F, and Judges) are projected to reach a funded ratio of 100 percent, the actual funding progress will be heavily dependent on the actual investment experience of the System in future years, the continuation of the current statutory funding policy for the State/School group, and actual contributions at the statutory rate. Any material extension of the amortization periods will delay funding progress by reducing

contributions in the short term and increasing them over the long term.

## COMMENTS

Like most public retirement systems, KPERS uses an asset smoothing method to average investment experience above and below the assumed net rate of return (7.75 percent). Under the asset smoothing method, the difference between the dollar amount of the actual and assumed investment experience is recognized equally over a five-year period. While the return on the market value of assets for 2019 was 17.1 percent, only a portion of the favorable experience is recognized in the current valuation. Along with the scheduled recognition of the investment experience in the prior four years using the asset smoothing method, the return on the actuarial value of assets in 2019 was 6.7 percent. This generated an experience loss on assets because the actual return was lower than the assumed return of 7.75 percent. As of the valuation date, the market value of assets exceeds the actuarial value of assets by about 2.7 percent or \$0.6 billion. This deferred experience will flow through the asset smoothing method in the next four years and be recognized in the valuation process but may be offset if future investment experience is below the 7.75 percent assumed net rate of return. As the deferred investment experience is recognized, the funded ratio can be expected to increase and the actuarial contribution rate to decrease.

While the use of an asset smoothing method is a common procedure used by public retirement systems, it is important to identify the potential impact of the deferred (unrecognized) investment experience. This is particularly important when there are significant deferred investment losses, but it is also useful to consider the impact on the key actuarial measurements if the deferred investment gains are recognized. To illustrate the impact of the deferred investment experience, the key valuation results are shown in the following table for the State/School and KPF groups using both the actuarial value of assets and the pure market value. The impact would be similar for the other groups.

	State/School		KP&F	
	Actuarial	Market	Actuarial	Market
Actuarial Liability	\$20,505	\$20,505	\$3,578	\$3,578
Asset Value	13,960	14,334	2,628	2,697
Unfunded Actuarial Liability*	\$6,545	\$6,171	\$949	\$881
Funded Ratio	68%	70%	74%	75%
Contribution Rate:				
Normal Cost Rate	7.90%	7.90%	14.87%	14.87%
UAL Payment	11.96%	11.30%	15.27%	14.26%
Actuarial Contribution Rate	19.86%	19.20%	30.14%	29.13%
Employee Rate	6.00%	6.00%	7.15%	7.15%
Employer Rate	13.86%	13.20%	22.99%	21.98%

\* May not add due to rounding

Future investment experience will impact the extent to which the deferred investment experience (which is currently a net gain) will be recognized. The ultimate impact of the deferred experience on the employer contribution rate would be similar to the column shown above based on the market value of assets, if all actuarial assumptions are met including the 7.75 percent return in future years. Also, please refer to the graphs shown earlier in this section that show the projected contribution rates assuming a 7.75 percent net rate of return in all future years.

The triennial experience study was performed during 2019 and the Board adopted changes to the demographic assumptions at the January 17, 2020 meeting. Although Cavanaugh Macdonald Consulting recommended changes to the economic assumptions, the Board voted to retain the set of economic assumptions used in the December 31, 2018 valuation. Based on the analysis performed in the experience study, we do not believe the current set of economic assumptions complies with Actuarial Standard of Practice Number 27. We continue to observe low inflation and bond rates and expectations are for the situation to continue. This will tend to keep expected returns lower, at least in the short term. We suggest the Board consider lowering the investment return assumption.

## SUMMARY OF CHANGE IN UNFUNDED ACTUARIAL LIABILITY BY SYSTEM

December 31, 2019 Valuation (\$ Millions)

	State	School	State/ School	Local	KP&F	Judges	Total
<b>UAL in 12/31/2018 Valuation Report</b>	\$ 934.7	\$ 5,821.7	\$ 6,756.3	\$ 1,501.6	\$ 933.2	\$ 10.7	\$ 9,201.8
· Effect of Contribution Cap/Time Lag	11.6	2.3	13.9	(0.4)	3.6	0.5	17.6
· Expected Decrease Due to UAL Amortization	(11.2)	(100.3)	(111.5)	(42.0)	(15.8)	(0.1)	(169.4)
· Actual vs. Expected Experience							
Investment Return	40.6	100.3	140.9	37.4	29.6	2.4	210.2
Demographic Experience	31.9	45.1	77.0	36.0	3.1	(1.9)	114.1
All Other Experience	(23.5)	(44.7)	(68.2)	(6.4)	(6.4)	(0.8)	(81.7)
· Additional Contributions	-	(174.6)	(174.6)	-	-	-	(174.6)
· Change in Actuarial Assumptions/Methods	(1.5)	(40.7)	(42.3)	(3.9)	(4.4)	(0.5)	(51.0)
· Data Refinements	(20.2)	(26.4)	(46.6)	(20.2)	6.5	-	(60.3)
<b>UAL in 12/31/2019 Valuation Report</b>	\$ 962.3	\$ 5,582.7	\$ 6,545.1	\$ 1,502.1	\$ 949.4	\$ 10.3	\$ 9,006.8

Note: Numbers may not add due to rounding.

## SUMMARY OF CHANGES IN EMPLOYER ACTUARIAL CONTRIBUTION RATE BY SYSTEM

As Of December 31, 2019

Percentage of Payroll	State	School	State/ School	Local	KP&F <sup>(1)</sup>	Judges
<b>Actuarial Contribution Rate in 12/31/2018 Valuation</b>	9.97%	15.15%	14.09%	8.87%	22.80%	18.40%
<b>Change Due to Amortization of UAL</b>						
· Effect of Contribution Cap/Time Lag	0.08	-	0.02	-	0.05	0.15
· UAL Amortization	-	-	-	-	-	(0.11)
· Investment Experience	0.29	0.18	0.21	0.14	0.38	0.74
· Liability Experience	0.23	0.08	0.11	0.14	0.04	(0.58)
· All Other Experience	(0.21)	(0.19)	(0.21)	(0.08)	(0.16)	(0.36)
· Additional Contributions in Fiscal Year 2019	-	-	-	-	-	-
· Payroll Growth	(0.11)	(0.19)	(0.17)	-	(0.17)	-
· Change in Assumptions/Methods	(0.02)	(0.09)	(0.08)	(0.02)	(0.06)	(0.25)
· Data Refinements	(0.15)	(0.04)	(0.06)	(0.08)	0.10	-
<b>Change in Employer Normal Cost Rate</b>						
· Data Refinements	0.13	0.07	0.08	0.09	0.01	-
· Change in Assumptions/Methods	(0.06)	(0.05)	(0.05)	(0.07)	(0.01)	(0.25)
· All Other Experience	(0.07)	(0.09)	(0.08)	(0.09)	0.01	0.03
<b>Actuarial Contribution Rate in 12/31/2019 Valuation</b>	10.08%	14.83%	13.86%	8.90%	22.99%	17.77%

(1) Contribution rate for Local employers only.

Note: Numbers may not add due to rounding.

## SUMMARY OF HISTORICAL CHANGES IN TOTAL SYSTEM UAL

As of December 31, 2019 Valuation

% (millions)	As Reported on Valuation Date							
	6/30/94	6/30/95	6/30/96	6/30/97	6/30/98	6/30/99	6/30/00	12/31/00
Actual Experience vs. Assumed								
· Investment	\$ (102)	\$ (143)	\$ (280)	\$ (323)	\$ (413)	\$ (369)	\$ (441)	\$ (23)
· Other	320	72	136	157	104	46	99	84
Assumption Changes	-	(96)	-	-	350	-	-	(206)
Changes in Data/Procedures	244	-	-	-	-	21	71	145 **
Change in Cost Method	-	-	-	-	-	-	-	-
Effect of Contribution Cap/Lag	*	95	70	63	54	78	66	60
Amortization Method	*	47	38	35	32	30	22	12
Change in Benefit Provisions	75	-	-	-	88	-	19	-
Change in Actuarial Firm/Software	-	-	-	-	-	-	-	-
Bond Issue	-	-	-	-	-	-	-	-
Non-Collectible Pension Contributions	-	-	-	-	-	-	-	-
Additional Contributions	-	-	-	-	-	-	-	-
Total	\$ 537	\$ (25)	\$ (36)	\$ (68)	\$ 215	\$ (194)	\$ (164)	\$ 72

% (millions)	12/31/01	12/31/02	12/31/03	12/31/04	12/31/05	12/31/06	12/31/07	12/31/08
Actual Experience vs. Assumed								
· Investment	\$ 350	\$ 644	\$ 140	\$ 456	\$ 167	\$ (293)	\$ (626)	\$ 2,332
· Other	(9)	68	(32)	16	(84)	140	99	78
Assumption Changes	-	-	-	437	(5)	-	384	-
Changes in Data/Procedures	5	177 **	(286)***	-	-	-	-	-
Change in Cost Method	-	-	1,147	-	-	-	-	-
Effect of Contribution Cap/Lag	115	143	178	179	247	258	251	246
Amortization Method	14	21	47	68	84	83	78	71
Change in Benefit Provisions	-	37	3	1	-	24	2	-
Change in Actuarial Firm/Software	-	-	-	-	-	-	-	-
Bond Issue	-	(41)	(440)	-	-	-	-	-
Non-Collectible Pension Contributions	-	-	-	-	-	-	-	-
Additional Contributions	-	-	-	-	-	-	-	-
Total	\$ 475	\$ 1,049	\$ 757	\$ 1,157	\$ 409	\$ 212	\$ 188	\$ 2,727

Unfunded actuarial liability 6/30/93: \$968 million

Unfunded actuarial liability 12/31/19: \$9,007 million

\* Not calculated for this year.

\*\*Reflects the impact of re-establishing the KP&amp;F Supplemental Actuarial Liability at December 31, 2002. The additional unfunded actuarial liability as of December 31, 2000, for the State/School and Local groups not recognized in the prior valuation due to the phase-in of the change in actuarial procedures is included.

\*\*\*Change in asset valuation method.

## SUMMARY OF HISTORICAL CHANGES IN TOTAL SYSTEM UAL

As of December 31, 2019 Valuation (continued)

\$(millions)	As Reported on Valuation Date							
	12/31/09	12/31/10	12/31/11	12/31/12	12/31/13	12/31/14	12/31/15	12/31/16
Actual Experience vs. Assumed								
· Investment	\$ (1,011)	\$ 560	\$ 852	\$ 732	\$ (653)	\$ (368)	\$ 52	\$ (59)
· Other	(70)	(334)	(190)	(78)	(125)	(78)	(130)	(144)
Assumption Changes	-	-	(64)	-	-	(50)	-	593
Changes in Data/Procedures	-	-	-	-	-	-	-	-
Change in Cost Method	-	-	-	-	-	-	-	-
Effect of Contribution Cap/Lag	383	320	289	303	246	178	160	70
Amortization Method	96	68	62	49	46	18	(11)	(38)
Change in Benefit Provisions	-	-	15	19	-	1	-	1
Change in Actuarial Firm/Software	-	(27)	-	-	-	-	-	-
Bond Issue	-	-	-	-	-	-	(1,000)	-
Non-Collectible Pension Contributions	-	-	-	-	-	-	-	99
Additional Contributions	-	-	-	-	-	-	-	-
Total	\$ (602)	\$ 587	\$ 964	\$ 1,025	\$ (486)	\$ (298)	\$ (929)	\$ 522

\$(millions)	12/31/17	12/31/18	12/31/19	Total
Actual Experience vs. Assumed				
· Investment	\$ (117)	\$ 476	\$ 210	\$ 1,750
· Other	(50)	69	32	196
Assumption Changes	-	-	(51)	1,292
Changes in Data/Procedures	-	-	(60)	317
Change in Cost Method	-	-	-	1,147
Effect of Contribution Cap/Lag	149	64	18	4,283
Amortization Method	(136)	(171)	(169)	496
Change in Benefit Provisions	-	-	-	285
Change in Actuarial Firm/Software	-	-	-	(27)
Bond Issue	-	-	-	(1,481)
Non-Collectible Pension Contributions	-	-	-	99
Additional Contributions	-	(143)	(175)	(318)
Total	\$ (154)	\$ 295	\$ (195)	\$ 8,039

Unfunded actuarial liability 6/30/93: \$968 million

Unfunded actuarial liability 12/31/19: \$9,007 million

\* Not calculated for this year.

\*\*Reflects the impact of re-establishing the KP&amp;F Supplemental Actuarial Liability at December 31, 2002. The additional unfunded actuarial liability as of December 31, 2000, for the State/School and Local groups not recognized in the prior valuation due to the phase-in of the change in actuarial procedures is included.

\*\*\*Change in asset valuation method.

## SUMMARY OF PRINCIPAL RESULTS – KPERS (STATE)

	12/31/2019	12/31/2018	
	Valuation	Valuation	% Change
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	21,239	20,893	1.7%
Retired Members and Beneficiaries	20,844	20,522	1.6%
Inactive Members	9,573	9,346	2.4%
Total Members	<u>51,656</u>	<u>50,761</u>	1.8%
Projected Annual Salaries of Active Members	\$ 995,918,683	\$ 954,158,850	4.4%
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 307,303,369	\$ 297,580,405	3.3%
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 4,603,839,926	\$ 4,527,410,069	1.7%
b. Assets for Valuation Purposes	\$ 3,641,509,766	\$ 3,592,747,329	1.4%
c. Unfunded Actuarial Liability (a) - (b)	\$ 962,330,160	\$ 934,662,740	3.0%
d. Funded Ratio (b) / (a)	79.1%	79.4%	(0.4%)
e. Market Value of Assets	\$ 3,743,398,257	\$ 3,371,313,965	11.0%
f. Funded Ratio on Market Value (e) / (a)	81.3%	74.5%	9.1%
<b>3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL</b>			
Normal Cost			
Total	7.59%	7.59%	
Member	<u>6.00</u>	<u>6.00</u>	
Employer	1.59	1.59	
Amortization of Unfunded Actuarial Liability	<u>8.49</u>	<u>8.38</u>	
Actuarial Contribution Rate	10.08	9.97	
Statutory Employer Contribution Rate*	<u>13.86%</u>	<u>14.09%</u>	

\*The rate in this valuation may not exceed last year's rate by more than the statutory rate increase limit of 1.20 percent for Fiscal Year 2017 and later. This rate excludes the contribution rate for the Death and Disability Program. Any excess of the statutory over actuarial contribution rates applied to actual State payroll is deposited to the School assets.



## SUMMARY OF PRINCIPAL RESULTS – KPERS (SCHOOL)

	12/31/2019	12/31/2018	
	Valuation	Valuation	% Change
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	88,953	87,245	2.0%
Retired Members and Beneficiaries	56,616	55,027	2.9%
Inactive Members	32,413	31,409	3.2%
Total Members	<u>177,982</u>	<u>173,681</u>	2.5%
Projected Annual Salaries of Active Members	\$ 3,910,350,769	\$ 3,740,759,271	4.5%
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 899,162,177	\$ 861,574,541	4.4%
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 15,900,876,965	\$ 15,431,399,978	3.0%
b. Assets for Valuation Purposes	\$ 10,318,132,870	\$ 9,609,729,576	7.4%
c. Unfunded Actuarial Liability (a) - (b)	\$ 5,582,744,095	\$ 5,821,670,402	(4.1%)
d. Funded Ratio (b) / (a)	64.9%	62.3%	4.2%
e. Market Value of Assets	\$ 10,590,524,379	\$ 9,015,296,513	17.5%
f. Funded Ratio on Market Value (e) / (a)	66.6%	58.4%	14.0%
<b>3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL</b>			
Normal Cost			
Total	7.98%	8.05%	
Member	<u>6.00</u>	<u>6.00</u>	
Employer	1.98	2.05	
Amortization of Unfunded Actuarial Liability	<u>12.85</u>	<u>13.10</u>	
Actuarial Contribution Rate	14.83	15.15	
Statutory Employer Contribution Rate*	<u>14.09%</u>	<u>14.09%</u>	

\*The rate in this valuation may not exceed last year's rate by more than the statutory rate increase limit of 1.20 percent for Fiscal Year 2017 and later. This rate excludes the contribution rate for the Death and Disability Program. An additional contribution rate of 0.68 percent applies for Fiscal Year 2021, 0.64 percent for Fiscal Year 2022 and 0.61 percent for Fiscal Year 2023.

## SUMMARY OF PRINCIPAL RESULTS – KPERS (STATE/SCHOOL)

	12/31/2019 Valuation	12/31/2018 Valuation	% Change
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	110,192	108,138	1.9%
Retired Members and Beneficiaries	77,460	75,549	2.5%
Inactive Members	41,986	40,755	3.0%
Total Members	<u>229,638</u>	<u>224,442</u>	2.3%
Projected Annual Salaries of Active Members	\$ 4,906,269,452	\$ 4,694,918,121	4.5%
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 1,206,465,546	\$ 1,159,154,946	4.1%
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 20,504,716,891	\$ 19,958,810,047	2.7%
b. Assets for Valuation Purposes	\$ 13,959,642,636	\$ 13,202,476,905	5.7%
c. Unfunded Actuarial Liability (a) - (b)	\$ 6,545,074,255	\$ 6,756,333,142	(3.1%)
d. Funded Ratio (b) / (a)	68.1%	66.1%	2.9%
e. Market Value of Assets	\$ 14,333,922,636	\$ 12,386,610,478	15.7%
f. Funded Ratio on Market Value (e) / (a)	69.9%	62.1%	12.6%
<b>3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL</b>			
Normal Cost			
Total	7.90%	7.95%	
Member	<u>6.00</u>	<u>6.00</u>	
Employer	1.90	1.95	
Amortization of Unfunded Actuarial Liability	<u>11.96</u>	<u>12.14</u>	
Actuarial Contribution Rate	13.86	14.09	
Statutory Employer Contribution Rate*	<u>13.86%</u>	<u>14.09%</u>	

\*The rate in this valuation may not exceed last year's rate by more than the statutory rate increase limit of 1.20 percent for Fiscal Year 2017 and later. This rate excludes the contribution rate for the Death and Disability Program. For the School group only, an additional contribution rate of 0.68 percent applies for Fiscal Year 2021, 0.64 percent for Fiscal Year 2022 and 0.61 percent for Fiscal Year 2023.

## SUMMARY OF PRINCIPAL RESULTS – KPERS (LOCAL)

	12/31/2019	12/31/2018	
	Valuation	Valuation	% Change
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	38,007	37,966	0.1%
Retired Members and Beneficiaries	22,099	21,303	3.7%
Inactive Members	19,410	19,024	2.0%
Total Members	<u>79,516</u>	<u>78,293</u>	1.6%
Projected Annual Salaries of Active Members	\$ 1,846,129,228	\$ 1,792,796,339	3.0%
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 286,232,067	\$ 266,840,648	7.3%
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 5,704,514,304	\$ 5,492,551,998	3.9%
b. Assets for Valuation Purposes	\$ 4,202,428,554	\$ 3,990,999,061	5.3%
c. Unfunded Actuarial Liability (a) - (b)	\$ 1,502,085,750	\$ 1,501,552,937	0.0%
d. Funded Ratio (b) / (a)	73.7%	72.7%	1.4%
e. Market Value of Assets	\$ 4,323,027,610	\$ 3,752,043,860	15.2%
f. Funded Ratio on Market Value (e) / (a)	75.8%	68.3%	11.0%
<b>3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL</b>			
Normal Cost			
Total	7.43%	7.50%	
Member	6.00	6.00	
Employer	<u>1.43</u>	<u>1.50</u>	
Amortization of Unfunded Actuarial Liability	<u>7.47</u>	<u>7.37</u>	
Actuarial Contribution Rate	8.90	8.87	
Statutory Employer Contribution Rate*	<u>8.90%</u>	<u>8.87%</u>	

\*The Statutory Employer Contribution Rate in this valuation may not exceed last year's rate by more than the statutory rate increase limit of 1.20 percent for Fiscal Year 2017 and later. This rate excludes the contribution rate for the Death and Disability Program.

## SUMMARY OF PRINCIPAL RESULTS – KPERS (TOTAL KPERS)

	12/31/2019 Valuation	12/31/2018 Valuation	% Change
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	148,199	146,104	1.4%
Retired Members and Beneficiaries	99,559	96,852	2.8%
Inactive Members	61,396	59,779	2.7%
Total Members	<u>309,154</u>	<u>302,735</u>	2.1%
Projected Annual Salaries of Active Members	\$ 6,752,398,680	\$ 6,487,714,460	4.1%
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 1,492,697,613	\$ 1,425,995,594	4.7%
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 26,209,231,195	\$ 25,451,362,045	3.0%
b. Assets for Valuation Purposes	\$ 18,162,071,190	\$ 17,193,475,966	5.6%
c. Unfunded Actuarial Liability (a) - (b)	\$ 8,047,160,005	\$ 8,257,886,079	(2.6%)
d. Funded Ratio (b) / (a)	69.3%	67.6%	2.6%
e. Market Value of Assets	\$ 18,656,950,246	\$ 16,138,654,338	15.6%
f. Funded Ratio on Market Value (e) / (a)	71.2%	63.4%	12.3%

## SUMMARY OF PRINCIPAL RESULTS – KANSAS POLICE AND FIREMEN'S RETIREMENT SYSTEM

	12/31/2019	12/31/2018	
	Valuation	Valuation	% Change
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	7,797	7,695	1.3%
Retired Members and Beneficiaries	5,763	5,595	3.0%
Inactive Members	1,852	1,711	8.2%
Total Members	<u>15,412</u>	<u>15,001</u>	2.7%
Projected Annual Salaries of Active Members	\$ 554,539,001	\$ 532,371,865	4.2%
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 201,954,477	\$ 191,441,617	5.5%
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 3,577,512,085	\$ 3,456,777,628	3.5%
b. Assets for Valuation Purposes	\$ 2,628,140,348	\$ 2,523,573,517	4.1%
c. Unfunded Actuarial Liability (a) - (b)	\$ 949,371,737	\$ 933,204,111	1.7%
d. Funded Ratio (b) / (a)	73.5%	73.0%	0.7%
e. Market Value of Assets	\$ 2,696,650,789	\$ 2,361,673,707	14.2%
f. Funded Ratio on Market Value (e) / (a)	75.4%	68.3%	10.4%
<b>3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL</b>			
Normal Cost			
Total	14.87%	14.86%	
Member	<u>7.15</u>	<u>7.15</u>	
Employer	<u>7.72</u>	<u>7.71</u>	
Amortization of Unfunded Actuarial and Supplemental Liability	<u>15.27</u>	<u>15.09</u>	
Actuarial Contribution Rate (Local Employers)	22.99	22.80	
Statutory Employer Contribution Rate*	<u>22.99%</u>	<u>22.80%</u>	

\*The Statutory Employer Contribution Rate is equal to the Actuarial Rate. This is referred to as the "Uniform" rate, and varies for State and Local employers. The total contribution is equal to the appropriate uniform rate plus the payment required to amortize any unfunded past service liability, determined separately for each employer.

## SUMMARY OF PRINCIPAL RESULTS – KANSAS RETIREMENT SYSTEM FOR JUDGES

	12/31/2019	12/31/2018	
	Valuation	Valuation	% Change
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	257	256	0.4%
Retired Members and Beneficiaries	298	286	4.2%
Inactive Members	9	5	80.0%
Total Members	<u>564</u>	<u>547</u>	3.1%
Projected Annual Salaries of Active Members	\$ 29,066,581	\$ 28,535,137	1.9%
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 12,807,544	\$ 12,216,738	4.8%
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 195,593,331	\$ 191,996,752	1.9%
b. Assets for Valuation Purposes	\$ 185,323,804	\$ 181,280,044	2.2%
c. Unfunded Actuarial Liability (a) - (b)	\$ 10,269,527	\$ 10,716,708	(4.2%)
d. Funded Ratio (b) / (a)	94.7%	94.4%	0.3%
e. Market Value of Assets	\$ 189,825,166	\$ 169,210,144	12.2%
f. Funded Ratio on Market Value (e) / (a)	97.1%	88.1%	10.2%
<b>3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL</b>			
Normal Cost			
Total	20.25%	20.48%	
Member	5.63	5.65	
Employer	<u>14.62</u>	<u>14.83</u>	
Amortization of Unfunded Actuarial and Supplemental Liability	<u>3.15</u>	<u>3.57</u>	
Actuarial Contribution Rate	17.77	18.40	
Statutory Employer Contribution Rate*	<u>17.77%</u>	<u>18.40%</u>	

\*Statutory Employer Contribution Rate is equal to the Actuarial Rate. This rate excludes the contribution for the Death and Disability Program.

## SUMMARY OF PRINCIPAL RESULTS – ALL SYSTEMS COMBINED

	12/31/2019	12/31/2018	
	Valuation	Valuation	% Change
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	156,253	154,055	1.4%
Retired Members and Beneficiaries	105,620	102,733	2.8%
Inactive Members	63,257	61,495	2.9%
Total Members	<u>325,130</u>	<u>318,283</u>	2.2%
Projected Annual Salaries of Active Members	\$ 7,336,004,262	\$ 7,048,621,462	4.1%
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 1,707,459,634	\$ 1,629,653,949	4.8%
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 29,982,336,611	\$ 29,100,136,425	3.0%
b. Assets for Valuation Purposes	\$ 20,975,535,342	\$ 19,898,329,527	5.4%
c. Unfunded Actuarial Liability (a) - (b)	\$ 9,006,801,269	\$ 9,201,806,898	(2.1%)
d. Funded Ratio (b) / (a)	70.0%	68.4%	2.3%
e. Market Value of Assets	\$ 21,543,426,201	\$ 18,669,538,189	15.4%
f. Funded Ratio on Market Value (e) / (a)	71.9%	64.2%	12.0%

## SUMMARY OF PLAN PROVISIONS

### PLAN MEMBERSHIP

The Kansas Public Employees Retirement System (the Retirement System or the System), is an umbrella organization administering three statewide retirement systems: the Kansas Public Employees Retirement System (KPERS), the Kansas Police and Firemen's Retirement System (KP&F), and the Kansas Retirement System for Judges. All three systems are defined benefit, contributory plans that cover nearly all public employees in Kansas. The Kansas Retirement System for Judges is a single employer plan, while the other two are cost-sharing, multiple employer plans. Participation by the State of Kansas is mandatory, whereas participation by local political subdivisions is optional, but irrevocable once elected. Benefit payments are also provided for a certain group of legislative employees.

## KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM

### SUMMARY OF PLAN PROVISIONS

KPERS 1 refers to members before July 1, 2009. KPERS 2 refers to members who either began their participation or rehired on or after July 1, 2009, but before January 1, 2015. KPERS 3 refers to non-corrections members who either began their participation or rehired on or after January 1, 2015. Corrections members do not participate in KPERS 3.

This valuation reflects the benefit structure in place as of December 31, 2019.

### EMPLOYEE MEMBERSHIP

Membership is mandatory for all employees in covered positions, except elected officials. A covered position for non-school employees is one that is covered by Social Security, is not seasonal or temporary, and requires at least 1,000 hours of work per year. School employees who work at least 630 hours per year or 3.5 hours per day for at least 180 days are eligible for membership. Effective July 1, 2009, all employees become KPERS members on their date of employment. Prior to July 1, 2009, only School employees were covered immediately, but there was a one-year service requirement for the State and Local groups. Members who retire under the provisions of the Retirement System may not become contributing members again.

### NORMAL RETIREMENT

**Eligibility – KPERS 1:** (a) Age 65, or (b) age 62 with ten years of credited service or (c) any age when combined age and years of credited service equal 85 "points". Age is determined by the member's last birthday and is not rounded up.

**KPERS 2 & 3:** (a) Age 65 with 5 years of credited service or (b) age 60 with 30 years of credited service.

**Benefit – KPERS 1 & 2:** Benefits are based on the member's years of credited service, final average salary (FAS), and a statutory multiplier. For those who were hired prior to July 1, 1993, final average salary equals the greater of either: a four-year final average salary, including add-ons, such as sick and annual leave; or a three-year final average salary, excluding add-ons, such as sick and annual leave. For those who are hired on or after July 1, 1993 and before July 1, 2009, final average salary equals the average of the three highest years of salary, excluding add-ons, such as sick and annual leave. Effective July 1, 2009, (KPERS 2), final average salary equals the average of the five highest years of salary, excluding additional compensation.

**KPERS 3:** KPERS 3 members participate in a cash balance plan with benefits based on the Annuity Savings Account balance, the Retirement Annuity Account balance, and an annuity factor. The member's annuity factor at retirement is based on the member's age and benefit payment form. The current annuity factors were adopted by the Board upon recommendation of the actuary. They are expected to be updated periodically. The interest rate used to calculate the current annuity factors is 5.75 percent (7.75 percent assumed investment return, minus 2.00 percent), and the mortality table used is a set of blended mortality rates from the current post-retirement mortality assumptions for KPERS members. The blended mortality rates are projected to 2030 using improvement scale MP-2016. The weighting used to blend the mortality rates is shown in the following table:

	Members	Beneficiaries
State – Males	17.5%	42.5%
State – Females	42.5%	17.5%
School – Males	7.5%	8.5%
School – Females	8.5%	7.5%
Local – Males	12.5%	11.5%
Local – Females	11.5%	12.5%

A member's Annuity Savings Account balance is the sum of mandatory member contributions plus the interest credits and dividends on those contributions. A member's Retirement Annuity Account is the sum of all employer retirement credits to the account plus the interest credits and dividends on those credits.



Mandatory member contributions are 6 percent of compensation. The employer retirement credits schedule follows:

Years of Service	Retirement Credit Rate
Less than 5	3%
5 – 11	4%
12 – 23	5%
24 or more	6%

Interest credits are 4 percent per annum, paid quarterly. The interest credits are based on the account balances as of the last day of the preceding quarter. There is also a possibility of additional interest credits, depending on KPERS' investment return. These additional interest credits are called "dividends" and are equal to 75 percent of the five-year average net compound rate of return, as determined by the Board, for the preceding calendar year and the previous four calendar years on the market value of assets that is above 6.0 percent. A schedule of historical dividend rates is contained in the following table:

Year	Applicable		
	Rate of Return	Compound Average	Dividend
2015	0.2%	0.2%	0.000%
2016	8.5%	4.3%	0.000%
2017	14.0%	7.4%	1.100%
2018	(2.9%)	4.7%	0.000%
2019	17.1%	7.1%	0.825%

**Prior Service Credit** – Prior service credit is 0.75 percent or 1.00 percent of final average salary per year [School employees receive 0.75 percent of final average salary for each year of prior service that is not credited under the former Kansas School Retirement System (KSRS)].

**PARTICIPATING SERVICE CREDIT**

**KPERS 1:** Participating service credit is 1.75 percent of final average salary for years of service prior to January 1, 2014. Participating service credit is 1.85 percent of final average salary for years of service after December 31, 2013.

**KPERS 2:** For those retiring on or after January 1, 2012, participating service credit is 1.85 percent for all years of service.

**KPERS 3:** Not applicable for the Cash Balance Plan.

**EARLY RETIREMENT**

**Eligibility** – Eligibility is age 55 and 10 years of credited service.

**Benefit – KPERS 1:** The normal retirement benefit is reduced 0.2 percent per month for each month between the ages of 60 and 62, and 0.6 percent for each month between the ages of 55 and 60.

**KPERS 2:** The normal retirement benefit is reduced actuarially for early commencement. The reduction factor is 35.0 percent at age 60 and 57.5 percent at age 55. If the member has 30 years of credited service, the early retirement reduction is less (50 percent of regular reduction).

**KPERS 3:** The early retirement benefit is determined in the same manner as a normal retirement benefit, but is based on the account balances and annuity factor at the member's retirement age.

**VESTING REQUIREMENTS**

**Eligibility** – Effective July 1, 2009, a member must have five years of credited service (ten years prior to July 1, 2009). Should the vested member terminate employment, the member must leave accumulated contributions on deposit with the Retirement System to be eligible for future benefits. If a vested member terminates employment and withdraws accumulated contributions, the member forfeits all rights and privileges under the Retirement System.

**Benefit – KPERS 1 & 2:** Retirement benefits are payable when the vested member reaches normal retirement age, or reduced benefits are payable when the vested member reaches a specified early retirement age.

**KPERS 3:** Retirement benefits are payable when the vested member meets the retirement eligibility requirements and is based on the member's account balances at retirement. The member's vested account will be granted interest credits and dividends during the deferral period between termination of employment and retirement.

**OTHER BENEFITS**

**Withdrawal Benefit** – Members who terminate employment may withdraw contributions with interest after the last day on the employer's payroll. Withdrawing member contributions forfeits all membership rights and benefits, which a member may have accrued prior to withdrawing their contributions from the Retirement System. Inactive, non-vested members who return to covered employment within five years after terminating employment, will not have lost any membership rights or privileges if they haven't withdrawn contributions. The Retirement Act provides for withdrawal of contributions 31 days after employment terminates, but it does not allow members to borrow from contributions.

**Disability Benefit – KPERS 1 & 2:** Members receiving disability benefits under the KPERS Death and Disability Benefits Program continue to receive service credit under KPERS. If a disabled member retires after receiving disability benefits for at least five years immediately preceding retirement, the member's final average salary is adjusted by the actuarial salary increase assumption rates in existence during the member's period of disability prior to July 1, 1993, 5 percent per year to July 1998 and the change in CPI-U less 1 percent, not to exceed 4 percent after July 1998.

**KPERS 3:** For any KPERS 3 member who becomes disabled, such member's Annuity Savings Account and Retirement Annuity Account will be credited with employee contributions, employer retirement credits, interest credits and dividends for the entire period of disability, but no later than the member's normal retirement age. The salary upon which credits are based shall be the employee's salary at the time of disability. After five years of disability, the underlying salary shall be increased by the lesser of (a) the percentage increase in CPI-U, minus 1 percent, and (b) 4 percent per annum.

**Death Benefits – Pre-retirement death (non-service connected).**

**KPERS 1 & 2:** The member's accumulated contributions plus interest are paid in a lump sum to the designated beneficiary. In lieu of receiving the member's accumulated contributions, the surviving spouse of a member who is eligible to retire at death may elect to receive benefits under any survivor option. The spouse must be the member's sole designated beneficiary to exercise this option. If the member had at least 10 years of credited service, but had not reached retirement age, the spouse may elect to leave the member's contributions on deposit with the System and receive a monthly benefit to begin on the date the member would have been eligible to retire.

**KPERS 3:** If a vested member dies before attaining normal retirement age, the member's surviving spouse shall receive an annuity on the date the member would have attained normal retirement age had such member not died. The benefit is based upon the member's Annuity Savings Account and Retirement Annuity Account, and is payable as a single life annuity with 10-year certain.

**Service-Connected Accidental Death –** The member's accumulated contributions plus interest, plus lump sum amount of \$50,000, plus annual benefit based on 50 percent of final average salary; reduced by Workers' Compensation benefits and subject to a minimum benefit of \$100 a month; are payable to a spouse, minor children or dependent parents, for life, or until the youngest child reaches age 18 (or up to age 23 if they are full-time students), in this order of preference. The monthly accidental death benefit is in lieu of any joint/survivor benefit for which the surviving spouse would have been eligible. For

KPERS 3 members, final average salary equals the average of the three final years of salary.

**Post-Retirement Death –** A lump sum amount of \$4,000 is payable to the member's beneficiary. If the member has selected a retirement option, benefits are paid to the joint annuitant or the designated beneficiary. Under joint and survivor retirement options, if the joint annuitant predeceases the retired member, the reduced option benefit is increased to the amount the retired member would have received if no retirement option had been elected. Benefits payable to a joint annuitant cease at the joint annuitant's death. If a member does not select an option, the designated beneficiary receives the excess, if any, of the member's accumulated contributions plus interest over total benefits paid to date of death.

### MEMBER CONTRIBUTIONS

**KPERS 1:** Prior to January 1, 2014, member contributions were 4 percent of compensation for KPERS 1. 2012 HB 2333 established an election by KPERS 1 members, contingent upon IRS approval, between different contribution rate and benefit levels. The legislation provided that, if the IRS rejected or did not take action to approve the election, KPERS 1 members would default to an increase in their employee contributions to 5 percent of compensation effective January 1, 2014, and 6 percent effective January 1, 2015, with an increase in the benefit multiplier to 1.85 percent beginning January 1, 2014, for future years of service only. Subsequently, the IRS issued a private letter ruling stating that the election granted to KPERS 1 members under 2012 HB 2333 was impermissible.

**KPERS 2:** The member contribution rate for KPERS 2 is 6 percent of compensation.

**KPERS 3:** The member contribution rate for KPERS 3 is 6 percent of compensation.

### INTEREST ON MEMBER CONTRIBUTIONS

**KPERS 1:** Interest is credited to members' contribution accounts on June 30 each year, based on the account balance as of the preceding December 31. Those who became members prior to July 1, 1993, have interest credited to their accounts at the rate of 7.75 percent per year. Those who become members on and after July 1, 1993, have interest credited to their accounts at the rate of 4 percent per year.

**KPERS 2:** Interest is credited to members' contribution accounts on June 30 each year, based on the account balance as of the preceding December 31, at the rate of 4 percent per year.

**KPERS 3:** Interest credited varies by years of service. Please refer to the KPERS 3 Benefit section under Normal Retirement in these Plan Provisions.

### EMPLOYER CONTRIBUTIONS

Rates are certified by the Board of Trustees, based on the results of annual actuarial valuations and statutory provisions.

### BOARD OF REGENTS PLAN MEMBERS (TIAA AND EQUIVALENTS)

Board of Regents plan members (TIAA and equivalents) do not make contributions to KPERS. They receive prior service benefits for service before 1962; the benefit is 1 percent of final average salary for each year of credited prior service. Service after 1961 is counted for purposes of determining eligibility for vesting.

### CORRECTIONAL MEMBERS

Correctional employees, as certified to the Board of Trustees by the Secretary of Corrections, are defined in K.S.A. 74-4914a: (a) correctional officers, (b) certain directors and deputy directors of correctional institutions, (c) correctional power plant operators, (d) correctional industries employees, (e) correctional food service employees and (f) correctional maintenance employees.

**KPERS 1:** For groups (a) and (b) with at least 3 consecutive years of credited service in such positions immediately preceding retirement, normal retirement age is 55 or Rule of 85; and early retirement requirements are age 50 with 10 years of credited service. For groups (c), (d), (e) and (f) with at least 3 consecutive years of service in such positions immediately preceding retirement, normal retirement age is 60 or Rule of 85, and early retirement requirements are 55 with 10 years of credited service.

**KPERS 2:** For groups (a) and (b) with at least 3 consecutive years of credited service in such positions immediately preceding retirement, normal retirement age is 55 with 10 years of credited service, and early retirement requirements are age 50 with 10 years of credited service. For groups (c), (d), (e) and (f) with at least 3 consecutive years of service in such positions immediately preceding retirement, normal retirement age is 60 with 10 years of credited service, and early retirement requirements are 55 with 10 years of credited service.

### COST-OF-LIVING ADJUSTMENTS (COLAS)

**KPERS 2:** Members Who Retired Prior to July 1, 2012: 2 percent cost-of-living adjustment (COLA) each year beginning at age 65 or the second July 1 after the retirement date, whichever is later. Other KPERS 2 members will not receive a COLA.

**KPERS 3:** Upon retirement, the benefit option selected by the member may include a self-funded cost of living adjustment feature, in which the account value is converted to a benefit amount that increases by a fixed percentage over time.

## KANSAS POLICE & FIREMEN'S RETIREMENT SYSTEM

### NORMAL RETIREMENT

**Tier I** – age 55 and 20 years of service or 32 years of service (regardless of age).

**Tier II** – age 50 and 25 years of service, or age 55 and 20 years of service or age 60 and 15 years of service.

**Benefits** – Benefits are based on the member's final average salary. For those who were hired prior to July 1, 1993, final average salary equals the average of the highest three of the last five years of credited participating service, including add-ons, such as sick and annual leave. For those who are hired on or after July 1, 1993, final average salary equals the average of the highest three of the last five years of participating service, excluding add-ons, such as sick and annual leave. Benefits are based on a member's years of credited service and a multiplier of 2.5 percent of final average salary for each year of credited service, to a maximum of 90 percent of final average salary (first effective July 1, 2013).

**Local Plan** – For members covered by local plan provisions on the employer's entry date, normal retirement is at age 50 with 22 years of credited service.

### EARLY RETIREMENT

**Eligibility** – Members must be at least age 50 and have 20 years of credited service.

**Benefit** – Normal retirement benefits are reduced 0.4 percent per month under age 55.

### VESTING REQUIREMENTS

**Eligibility – Tier I:** The member must have 20 years of credited service; if terminating employment, the member must leave contributions on deposit with the Retirement System to be eligible for future benefits. Unreduced benefits are payable at age 55 or reduced benefits are payable as early as age 50.

**Eligibility – Tier II:** The member must have 15 years of credited service to be considered vested. If terminating employment, the member must leave contributions on deposit with the Retirement System to be eligible for future benefits. A vested member may draw unreduced benefits as early as age 50 with 25 years of credited service, age 55 with 20 years of credited service or age 60 with 15 years of credited service. A reduced benefit is available at age 50 with 20 years of credited service.

## OTHER BENEFITS

**Withdrawal Benefits** – Members who terminate employment before retirement may withdraw contributions with interest after the last day on the employer's payroll. Withdrawal of contributions forfeits all membership rights and benefits, which a member may have accrued prior to withdrawing accumulated contributions from the Retirement System. Inactive, nonvested members, who return to covered employment within five years after terminating employment, will not have lost any membership rights or privileges if they haven't withdrawn contributions.

## DISABILITY BENEFITS

**Tier I: Service-connected disability** – There are no age or service requirements to be eligible for this benefit. There is an annual benefit of 50 percent of final average salary, plus 10 percent of final average salary for each dependent child under age 18 (or up to age 23 for full-time students), to a maximum of 75 percent of final average salary. If dependent child benefits aren't payable, the benefit is 50 percent of final average salary or 2.5 percent for each year of credited service up to a maximum of 90 percent of final average salary. Upon the death of a member after two years from the proximate cause of death which is the original service-connected disability, the same benefits are payable. Upon the death of a member after two years from a cause different than the disability for which the member is receiving service-connected disability benefits, the surviving spouse receives a lump sum payment of 50 percent of final average salary. Additionally, a pension benefit of one-half the member's benefit is payable to either the spouse or to the dependent children.

**Tier I: Non-Service-connected disability** – An annual benefit of 2.5 percent times years of credited service times final average salary with a minimum of 25 percent of final average salary and a maximum of 90 percent of final average salary.

**Tier II:** There is no distinction between service-connected and non-service-connected disability benefits. The annual benefit is 50 percent of final average salary. Service Credit is granted during the period of disability. Disability benefits convert to age and service retirement at the earliest date the member is eligible for full retirement benefits. If the member is disabled for at least five years immediately preceding retirement, the member's final average salary is adjusted during the period of disability.

## DEATH BENEFITS (TIER I AND TIER II)

**Active Member Service Connected Death** – There is no age or service requirement. An annual benefit equal to the greater of the accrued retirement benefit under the 100 percent joint and survivor option and 50 percent of final average salary is payable to the spouse, plus 10 percent of final average salary for each dependent child under age 18 (or up to age 23 for full-time students), to a maximum of 90 percent of final average salary Active Member.

**Active Member Non-Service Connected Death** – A lump sum of 100 percent of final average salary and a pension of 2.5 percent of final average salary per year of credited service (to a maximum of 50 percent) is payable to the spouse. If there is no spouse, the monthly benefit is paid to the dependent children (age 18, or 23 if a full time student). If there is no surviving spouse or eligible children, the beneficiary will receive a lump sum payment of 100 percent of the member's current annual pay, inclusive of the member's accumulated contributions.

**Inactive Member Death** – If an inactive member is eligible for retirement when death occurs, and the inactive member's spouse is the sole beneficiary, the spouse may elect to receive benefits as a joint annuitant under any option in lieu of a refund of the member's accumulated contributions.

**Post-Retirement Death** – There is a lump sum amount of \$4,000 payable, less any death benefit payable under local plan provisions. If the member has selected a retirement option, benefits are paid to the joint annuitant or the designated beneficiary. Under joint and survivor options, if the joint annuitant predeceases the retired member, the benefit is increased to the amount the retired member would have received if no option had been selected. Benefits payable to the joint annuitant cease when the joint annuitant dies. If no option is selected, the designated beneficiary receives the excess, if any, of the member's accumulated contributions over total benefits paid to the date of death. The surviving spouse of a transfer member (who was covered by local plan on the employer's entry date, who dies after retirement, and who has not elected a retirement benefit option) receives a lump sum payment of 50 percent of final average salary. Additionally, a pension benefit of three-fourths of the member's benefit is payable either to the spouse or dependent children.

## CLASSIFICATIONS

**Tier I** – Members have Tier I coverage if they were employed prior to July 1, 1989, and they did not elect coverage under Tier II.

**Tier II** – Members have Tier II coverage if they were employed July 1, 1989, or later. This also includes members employed before July 1, 1989, who elected Tier II coverage.

Some KP&F members are considered either Tier I or Tier II Transfer or Brazelton members.

**Transfer Member** – A member who is a former member of a local plan who elected to participate in KP&F. Former Kansas Highway Patrol and former Kansas Bureau of Investigation members are included in this group.

**Brazelton Member** – A member who participated in a class action lawsuit, whose contribution is lower, and whose benefits are offset by Social Security.

## MEMBER CONTRIBUTIONS

Member contributions are 7.15 percent of compensation, effective July 1, 2013.

Brazelton members contribute 0.008 percent with a Social Security offset. Benefits payable to these members are reduced by one-half of original Social Security benefits accruing from employment with the participating employer.

## EMPLOYER CONTRIBUTIONS

Individual rates are certified by the Board of Trustees for each participating employer based on the results of annual actuarial valuations.

## DEFERRED RETIREMENT OPTION PROGRAM (DROP)

Upon attaining normal retirement age, members of the Kansas Highway Patrol (KHP) and Kansas Bureau of Investigation (KBI) have the option of participating in the DROP plan for a minimum of three years and no more than five years. This is a one-time, irrevocable election. After electing to participate, a member's monthly retirement benefit is deposited into the member's DROP account for the duration of the DROP period. The DROP account accrues interest on an annual basis, equaling either 0.0 percent or 3.0 percent. Employer and employee contributions continue to be made to the System, but the member does not earn any additional service credit after the effective date of the DROP election. At the end of the DROP period, a member is entitled to a distribution from the DROP account.

# KANSAS JUDGES RETIREMENT SYSTEM

## NORMAL RETIREMENT

**Eligibility** – (a) Age 65, or (b) age 62 with ten years of credited service or (c) any age when combined age and years of credited service equals 85 "points". Age is determined by the member's last birthday and is not rounded up.

**Benefit** – The benefit is based on the member's final average salary, which is the average of the three highest years of service under any retirement system administered by KPERs. The basic formula for those who were members prior to July 1, 1987, is 5 percent of final average salary for each year of service up to ten years, plus 3.5 percent for each year of service greater than ten, to a maximum of 70 percent of final average salary. For those who became members on or after July 1, 1987, the formula is 3.5 percent for each year, to a maximum benefit of 70 percent of final average salary.

## EARLY RETIREMENT

**Eligibility** – A member must be age 55 and have ten years of credited service to take early retirement.

**Benefit** – The retirement benefit is reduced 0.2 percent per month for each month between the ages of 60 and 62, and 0.6 percent per month for each month between the ages of 55 and 60.

## VESTING REQUIREMENTS

**Eligibility** – There is no minimum service requirement; however, after terminating employment, the member must leave contributions on deposit with the Retirement System in order to be eligible for future benefits. Eligible judges who have service credited under KPERs have vested benefits under both KPERs and the Retirement System for Judges when the combined total credited service equals ten years.

**Benefit** – Normal benefit accrued at termination is payable at age 62 or in reduced amount at age 55, provided the member has 10 years of credited service. Otherwise, benefits are not payable until age 65.

## OTHER BENEFITS

**Disability Benefits** – These benefits are payable if a member is defined as totally and permanently disabled as certified by the Supreme Court. The disability benefit, payable until age 65, is 3.5 percent of final average salary for each year of service (minimum of 50 percent and maximum of 70 percent of final average salary). Benefits are recalculated when the member reaches retirement age based on participating service credit for the period of disability. If a judge is disabled for at least five years immediately preceding retirement, the judge's final average salary is adjusted.

**Withdrawal Benefit** – Members who terminate employment may withdraw contributions with interest, but they will forfeit any right to a future benefit if they do.

**Pre-Retirement Death** – A refund of the member's accumulated contributions is payable. In lieu of receiving the member's accumulated contributions, the surviving spouse of a member who is eligible to retire at death may elect to receive benefits under any survivor benefit option. If the member had at least ten years of credited service, but hadn't reached retirement age at the time of death, the spouse may elect a monthly benefit to begin on the date the member first would have been eligible to retire as long as the member's contributions aren't withdrawn.

**Post-Retirement Death** – A lump sum death benefit of \$4,000 is payable to the member's beneficiary. If the member had selected an option with survivor benefits, those benefits are paid to the joint annuitant or to the member's designated beneficiary. Under retirement options with survivor benefits, if the joint

annuitant predeceases the retired member, the retirement benefit is increased to the amount the retired member would have received if no survivor benefits had been elected. Benefits payable to a joint annuitant cease when the joint annuitant dies. If no option was chosen by the retired member, the member's designated beneficiary receives the excess, if any, of the member's accumulated contributions over the total benefits paid to the date of the retired member's death.

**MEMBER CONTRIBUTIONS**

Judges contributions are 6 percent of compensation. Upon reaching the maximum retirement benefit level of 70 percent of final average salary, the contribution rate is reduced to 2 percent.

**EMPLOYER CONTRIBUTIONS**

Rates are certified by the Board of Trustees, based on the results of annual actuarial valuations.

# ASSUMPTIONS AND METHODS – KPERS

Rate of Investment Return	7.75 percent
Price Inflation	2.75 percent
Payroll Growth	3.00 percent
KPERS 3 Interest Crediting Rate, Including Dividends	6.25 percent per annum
Administrative Expenses	0.18 percent of covered payroll
Rates of Mortality	The RP-2014 Healthy Annuitant table was first adjusted by an age setback or set forward.
Post-retirement	Rates were further adjusted to fit actual experience. Rates are projected into the future using Scale MP-2016.

Starting Table

School Males:	RP-2014 M White Collar Healthy	+0
School Females:	RP-2014 F White Collar Healthy	+0
State Males:	RP-2014 M Healthy	+2
State Females:	RP-2014 F Healthy	+1
Local Males:	RP-2014 M Healthy	+2
Local Females:	RP-2014 F Healthy	+1

Sample Rates (2014)

Age	School		State		Local	
	Male	Female	Male	Female	Male	Female
50	0.310%	0.172%	0.462%	0.332%	0.532%	0.276%
55	0.438%	0.225%	0.635%	0.397%	0.732%	0.367%
60	0.585%	0.323%	0.868%	0.582%	1.001%	0.536%
65	0.849%	0.544%	1.267%	0.909%	1.461%	0.838%
70	1.389%	0.876%	1.974%	1.460%	2.276%	1.346%
75	2.383%	1.459%	3.208%	2.381%	3.699%	2.196%
80	4.520%	3.192%	5.255%	4.249%	6.163%	3.939%
85	8.618%	6.444%	9.025%	7.662%	10.674%	7.119%
90	15.900%	11.824%	15.570%	13.531%	18.416%	12.573%
95	26.671%	20.501%	23.721%	22.137%	28.057%	20.570%
100	39.563%	31.961%	32.978%	32.888%	39.006%	30.559%

Pre-retirement

School Males:	80% of RP-2014 M White Collar	+0
School Females:	80% of RP-2014 F White Collar	+0
State Males:	90% of RP-2014 M Total Dataset	+2
State Females:	90% of RP-2014 F Total Dataset	+1
Local Males:	90% of RP-2014 M Total Dataset	+2
Local Females:	90% of RP-2014 F Total Dataset	+1

Disabled Life Mortality RP-2014 Disabled Life Table with same age adjustments as used for pre-retirement mortality tables.

Rates of Salary Increase

Years of Service	Rate of Increase*		
	School	State	Local
1	11.50%	10.00%	10.00%
5	6.05%	5.10%	5.70%
10	4.60%	4.40%	4.70%
15	4.10%	3.90%	4.30%
20	3.60%	3.60%	4.10%
25	3.50%	3.50%	3.60%
30	3.50%	3.50%	3.50%

\*Includes general wage increase assumption of 3.50 percent (composed of 2.75 percent inflation and 0.75 percent productivity)

Load for Pre-1993 Hires

State: 2.5 percent  
 School: 0.5 percent  
 Local: 2.0 percent  
 KPF: 7.5 percent  
 C55/C60: 2.5 percent

Rates of Termination

Duration	School		State		Local	
	Male	Female	Male	Female	Male	Female
0	20.75%	23.00%	21.00%	21.50%	23.00%	25.00%
1	17.25%	18.00%	18.00%	19.00%	19.00%	22.00%
2	13.75%	14.50%	15.25%	16.50%	16.50%	19.00%
3	10.75%	11.25%	13.50%	14.00%	13.50%	15.75%
4	8.75%	9.75%	12.00%	12.00%	11.75%	13.50%
5	7.50%	8.25%	10.75%	10.00%	10.00%	12.10%
6	6.75%	7.25%	9.50%	9.00%	9.00%	10.25%
7	6.00%	6.50%	8.50%	8.25%	8.00%	9.30%
8	5.25%	5.50%	7.50%	7.50%	7.00%	8.50%
9	5.00%	5.00%	6.50%	7.00%	6.30%	7.50%
10	4.60%	4.50%	5.50%	6.50%	5.60%	6.70%
11	4.30%	4.00%	5.00%	6.00%	5.20%	6.25%
12	4.00%	3.50%	4.50%	5.50%	4.90%	5.75%
13	3.75%	3.25%	4.25%	5.00%	4.60%	5.25%
14	3.50%	3.00%	4.00%	4.60%	4.00%	4.75%
15	3.25%	2.75%	3.80%	4.20%	3.80%	4.50%
16	3.00%	2.50%	3.60%	3.90%	3.60%	4.25%
17	2.75%	2.25%	3.40%	3.70%	3.40%	4.00%
18	2.50%	2.00%	3.20%	3.20%	3.20%	3.80%
19	2.25%	1.90%	3.00%	3.00%	3.00%	3.60%
20	2.00%	1.80%	2.80%	2.80%	2.80%	3.40%
21	1.75%	1.70%	2.60%	2.60%	2.60%	3.20%
22	1.50%	1.60%	2.40%	2.40%	2.40%	3.00%
23	1.25%	1.50%	2.20%	2.20%	2.20%	2.70%
24	1.00%	1.40%	2.00%	2.00%	2.00%	2.40%
25	1.00%	1.30%	1.80%	1.80%	1.80%	2.00%
26	1.00%	1.20%	1.60%	1.60%	1.60%	1.75%
27	1.00%	1.10%	1.40%	1.40%	1.40%	1.50%
28	1.00%	1.00%	1.20%	1.20%	1.20%	1.25%
29	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
30	1.00%	1.00%	0.80%	0.80%	0.80%	0.80%
30+	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%



Retirement Rates

School Members:

Age	Early Retirement			Normal Retirement			Rule of 85 (Tier 1 Only)	
	Tier 1	Tier 2	Tier 3	Tier 1	Tier 2	Tier 3	1st Year With 85 Points	After 1st Year With 85 Points
53	-	-	-	-	-	-	20.0%	-
54	-	-	-	-	-	-	20.0%	15.0%
55	3.0%	3.0%	3.0%	-	-	-	20.0%	15.0%
56	3.0%	3.0%	3.0%	-	-	-	22.0%	15.0%
57	3.0%	3.0%	3.0%	-	-	-	24.0%	15.0%
58	3.0%	3.0%	3.0%	-	-	-	26.0%	15.0%
59	5.0%	5.0%	5.0%	-	-	-	28.0%	20.0%
60	10.0%	10.0%	5.0%	-	35.0%	20.0%	35.0%	22.0%
61	15.0%	15.0%	5.0%	-	22.0%	15.0%	25.0%	22.0%
62	-	25.0%	5.0%	25.0%	25.0%	15.0%	-	25.0%
63	-	22.0%	5.0%	22.0%	22.0%	15.0%	-	22.0%
64	-	22.0%	5.0%	22.0%	22.0%	15.0%	-	22.0%
65	-	-	-	35.0%	35.0%	30.0%	-	35.0%
66	-	-	-	35.0%	35.0%	30.0%	-	35.0%
67-74	-	-	-	30.0%	30.0%	35.0%	-	30.0%
75	-	-	-	100.0%	100.0%	100.0%	-	100.0%

State Members:

Age	Early Retirement			Normal Retirement			Rule of 85 (Tier 1 Only)	
	Tier 1	Tier 2	Tier 3	Tier 1	Tier 2	Tier 3	1st Year With 85 Points	After 1st Year With 85 Points
53	-	-	-	-	-	-	18.0%	-
54	-	-	-	-	-	-	18.0%	10.0%
55	4.0%	4.0%	3.0%	-	-	-	18.0%	10.0%
56	4.0%	4.0%	3.0%	-	-	-	18.0%	10.0%
57	4.0%	4.0%	3.0%	-	-	-	18.0%	10.0%
58	5.0%	5.0%	3.0%	-	-	-	18.0%	10.0%
59	5.0%	5.0%	5.0%	-	-	-	18.0%	10.0%
60	5.0%	5.0%	5.0%	-	18.0%	15.0%	18.0%	10.0%
61	10.0%	10.0%	5.0%	-	18.0%	10.0%	18.0%	15.0%
62	-	15.0%	5.0%	18.0%	18.0%	10.0%	-	18.0%
63	-	15.0%	5.0%	18.0%	18.0%	10.0%	-	18.0%
64	-	15.0%	5.0%	18.0%	18.0%	10.0%	-	18.0%
65	-	-	-	30.0%	30.0%	25.0%	-	30.0%
66	-	-	-	30.0%	30.0%	25.0%	-	30.0%
67-72	-	-	-	27.0%	27.0%	25.0%	-	27.0%
73	-	-	-	20.0%	20.0%	25.0%	-	20.0%
74	-	-	-	20.0%	20.0%	25.0%	-	20.0%
75	-	-	-	100.0%	100.0%	100.0%	-	100.0%

## Local Members:

Age	Early Retirement			Normal Retirement			Rule of 85 (Tier 1 Only)	
	Tier 1	Tier 2	Tier 3	Tier 1	Tier 2	Tier 3	1st Year With 85 Points	After 1st Year With 85 Points
53	-	-	-	-	-	-	15.0%	-
54	-	-	-	-	-	-	15.0%	8.0%
55	3.0%	3.0%	3.0%	-	-	-	15.0%	8.0%
56	3.0%	3.0%	3.0%	-	-	-	15.0%	8.0%
57	3.0%	3.0%	3.0%	-	-	-	15.0%	8.0%
58	3.0%	3.0%	3.0%	-	-	-	15.0%	10.0%
59	6.0%	6.0%	5.0%	-	-	-	15.0%	10.0%
60	6.0%	6.0%	5.0%	-	15.0%	15.0%	15.0%	10.0%
61	10.0%	10.0%	5.0%	-	20.0%	10.0%	25.0%	20.0%
62	-	20.0%	5.0%	20.0%	20.0%	10.0%	-	20.0%
63	-	20.0%	5.0%	20.0%	20.0%	10.0%	-	20.0%
64	-	20.0%	5.0%	20.0%	20.0%	10.0%	-	20.0%
65	-	-	-	30.0%	30.0%	25.0%	-	30.0%
66	-	-	-	30.0%	30.0%	25.0%	-	30.0%
67-70	-	-	-	30.0%	30.0%	30.0%	-	30.0%
71-74	-	-	-	22.0%	22.0%	30.0%	-	22.0%
75	-	-	-	100.0%	100.0%	100.0%	-	100.0%

Inactive vested members: Earliest unreduced retirement age.

Correctional employees with an age 55 normal retirement date:

Age	Rate
55-59	10%
60	15%
61-63	20%
64	35%
65	100%

Correctional employees with an age 60 normal retirement date -

Age	Rate
60	20%
61	20%
62	35%
63	20%
64	20%
65	45%
66	45%
67	45%
68	100%

TIAA employees: Age 66.

Rates of Disability	Age	School	State	Local
	25	0.017%	0.015%	0.015%
	30	0.019%	0.043%	0.033%
	35	0.023%	0.067%	0.049%
	40	0.039%	0.130%	0.072%
	45	0.075%	0.195%	0.126%
	50	0.123%	0.260%	0.182%
	55	0.166%	0.325%	0.217%
	60	0.238%	0.358%	0.266%

Indexation of Final Average Salary for Disabled Members 1.75 percent per year

Probability of Vested Members Leaving Contributions With System

KPERS 1:	Age	School	State	Local
	25	80%	65%	60%
	30	80%	65%	70%
	35	80%	65%	70%
	40	80%	65%	70%
	45	82%	75%	70%
	50	87%	85%	74%
	55	100%	100%	100%

KPERS 2: Members are assumed to elect to take a refund if it is more valuable than the deferred annuity. The comparison is based on 7.75 percent interest and a 50 percent Male/50 percent Female blend of the RP-2014 Mortality Table, projected to 2045 (static).

KPERS 3: 100 percent of vested members are assumed to leave their contributions with the System.

**Marriage Assumption** 70 percent of all members are assumed married with male spouse assumed to be three years older than the female.

**Partial Lump Sum Option (PLSO)** 40 percent of KPERS 1 and KPERS 2 members are assumed to take a PLSO equal to 30 percent of the value of their benefit upon retirement. 100 percent of KPERS 3 members are assumed to take a PLSO equal to 30 percent of the value of their benefit upon retirement.

**PLSO Factors** Interest Rate: 7.75 percent  
Mortality: SOA 1983 Group Annuity Mortality Table, blended 50 percent male and 50 percent female.

## ASSUMPTIONS AND METHODS – KP&F

Rate of Investment Return	7.75 percent
Price Inflation	2.75 percent
Payroll Growth	3.00 percent
Administrative Expenses	0.18 percent of covered payroll
Rates of Mortality	Mortality rates are projected into the future using Scale MP-2016
Post-retirement	RP-2014 Total Dataset Table, set forward one year
Pre-retirement	90 percent of the RP-2014 Total Dataset Table, set forward one year*

\*70 percent of preretirement deaths assumed to be service related.

Disabled Life Mortality	RP-2014 Disabled Life Table, set forward one year
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Rates of Salary Increase	Years of Service	Rate of Increase*
	1	12.0%
	5	6.5%
	10	4.4%
	15	3.8%
	20	3.5%
	25	3.5%

\*Includes general wage increase assumption of 3.50 percent (composed of 2.75 percent inflation and 0.75 percent productivity)

Rates of Termination	Years of Service	Rate
	1	11.0%
	5	6.0%
	10	2.8%
	15	1.8%
	20	1.1%
	25	0.0%

### Retirement Rates

Tier 1:	Early Retirement		Normal Retirement	
	Age	Rate	Age	Rate
	50	5%	55	35%
	51	7%	56	30%
	52	7%	57	30%
	53	15%	58	35%
	54	30%	59	30%
			60	30%
			61	35%
			62	100%

Tier 2:

Early Retirement		Normal Retirement	
Age	Rate	Age	Rate
50	10%	50	30%
51	10%	51	25%
52	10%	52	25%
53	10%	53	25%
54	20%	54	25%
		55	25%
		56	25%
		57	25%
		58	20%
		59	30%
		60	25%
		61	25%
		62	30%
		63	30%
		64	30%
		65	100%

Inactive Vested  
Rates of Disability

Earliest unreduced retirement age.

Age	Rate*
22	0.04%
27	0.07%
32	0.15%
37	0.35%
42	0.56%
47	0.76%
52	0.96%
57	1.00%

*\*90 percent assumed to be service-connected under KP&F Tier 1.*

Marriage Assumption

80 percent of all members are assumed married with male spouse assumed to be three years older than female. When an active member dies, they have no child beneficiaries.

DROP Election

75 percent of Kansas Highway Patrol and Kansas Bureau of Investigation members are assumed to enter DROP for the maximum DROP period.

It is assumed that no members enter DROP with less than 25 years of service.

Interest Credited on DROP  
Accounts

3 percent, compounded annually.

## ASSUMPTIONS AND METHODS – JUDGES

Rate of Investment Return	7.75 percent
Price Inflation	2.75 percent
Administrative Expenses	0.18 percent of covered payroll
Rates of Mortality	Mortality rates are projected into the future using Scale MP-2016.
Post-retirement	RP-2014 Total Dataset Table, set back two years
Pre-retirement	80 percent of RP-2014 Total Dataset Table, set back two years
Rates of Salary Increase	4.00 percent
Rates of Termination	None assumed
Disabled Life Mortality	RP-2014 Disabled Retiree Table, set back two years
Rates of Disability	None assumed

Retirement Rates	<b>Age</b>	<b>Rate</b>
	62	15%
	63-64	10%
	65-66	33%
	67-69	15%
	70+	100%

Marriage Assumption	70 percent of all members are assumed married with male spouse assumed to be three years older than female.
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## TECHNICAL VALUATION PROCEDURES

### DATA PROCEDURES

**In-pay members:** If a birth date is not available, the member is assumed to have retired at 62. If a retirement date is also not available, the member is assumed to be 75.

If a beneficiary birth date is needed but not supplied, males are assumed to be three years older than females.

**Not in-pay members:** If a birth date is not available, it is assigned according to the following schedule:

System	Active member age at hire	Inactive member age at valuation
KPERS	34.7	50
KPF	27.5	49
Judges	43.4	54

If gender is not provided, it is assigned randomly with a 40 percent probability of being male and 60 percent probability of being female.

If salary information is not available for an active record, it is assigned according to the following schedule:

System	Salary
KPERS	\$ 24,700
KPF	\$ 36,100
Judges	\$ 79,100

Salaries for first year members are annualized.

### OTHER VALUATION PROCEDURES

No actuarial accrued liability in excess of the unclaimed member contribution balance is held for nonvested, inactive members. A reserve is also held for accounts that have been forfeited but could be reclaimed in the future.

Benefits above the projected IRC Section 415 limit for active participants are assumed to be immaterial for the valuation. The compensation limitation under IRC Section 401(a) (17) is considered in this valuation. On a projected basis, the impact of this limitation is insignificant.

Salary increases are assumed to apply to annual amounts.

Decrements are assumed to occur mid-year, except that immediate retirement is assumed for those who are at or above the age at which retirement rates are 100 percent. Standard adjustments are made for multiple decrements. Withdrawal does not operate once early or unreduced retirement eligibility is met.

KPERS 3 employees who transfer employment to a non-KPERS covered position are treated as actives who are not accruing benefits.

## ACTUARIAL METHODS

### 1. Funding Method

Under the entry age normal cost method, the actuarial present value of each member's projected benefits is allocated on a level basis over the member's compensation between the entry age of the member and the assumed exit ages. The portion of the actuarial present value allocated to the valuation year is called the normal cost. The actuarial present value of benefits allocated to prior years of service is called the actuarial liability. The unfunded actuarial liability represents the difference between the actuarial liability and the actuarial value of assets as of the valuation date. The unfunded actuarial liability is calculated each year and reflects experience gains/losses.

There is currently a lag between the valuation date in which the employer contribution rates are determined and the effective date of those contribution rates, i.e., a two year lag for Local employers and a two and one-half year lag for the State/School group. The unfunded actuarial liability (UAL) is projected from the valuation date to the first day of the fiscal year in which the contribution rate will apply based on the scheduled statutory contribution rates and expected payroll in the intervening years.

For valuations beginning with December 31, 2016 and following, the unfunded actuarial liability is amortized using a "layered" approach. The unfunded actuarial liability in the December 31, 2015 valuation, which was projected to June 30, 2018 for the State/School and Judges groups and to December 31, 2017 for the Local and KP&F groups, serves as the initial or "legacy" amortization base and continues to be amortized over the original period, set at 40 years beginning July 1, 1993 (13 years in the December 31, 2019 valuation). The change in the unfunded actuarial liability, resulting from the assumption changes reflected in the 2016 and 2019 valuations, was amortized over a closed 25-year period. Changes in the unfunded actuarial liability that result from actuarial experience each year (gains and losses) are amortized over a closed 20-year period that begins with the fiscal year in which the contribution rates will apply.

The UAL is amortized as a level percentage of payroll for all groups except Judges, who use a level dollar payment.

The payroll growth assumption is 3 percent so the annual amortization payments will increase 3 percent each year. As a result, if total payroll grows 3 percent per year, as assumed, the amortization payment will remain level as a percentage of total current payroll.

### 2. Asset Valuation Method

For actuarial purposes, assets are valued using an asset smoothing method. The difference between the actual return and the expected return (based on the actuarial assumed net rate of return) on the market value of assets is calculated each year and recognized equally over a five-year period.

## SCHEDULE OF FUNDING PROGRESS

*Last Ten Years as of December 31 (In Thousands)*

Actuarial Valuation Date	Actuarial Value of Assets(a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a)/c)
12/31/10	\$ 13,589,658	\$ 21,853,783	\$ 8,264,125	62%	\$ 6,494,048	127%
12/31/11	13,379,020	22,607,170	9,228,150	59	6,401,462	144
12/31/12	13,278,490	23,531,423	10,252,933	56	6,498,962	158
12/31/13	14,562,765	24,328,670	9,765,905	60	6,509,809	150
12/31/14	15,662,010	25,130,467	9,468,457	62	6,560,105	144
12/31/15	17,408,577	25,947,781	8,539,204	67	6,603,613	129
12/31/16	18,256,373	27,317,754	9,061,381	67	6,650,451	136
12/31/17	19,246,613	28,153,827	8,907,214	68	6,744,301	132
12/31/18	19,898,330	29,100,136	9,201,806	68	7,048,621	131
12/31/19	20,975,535	29,982,337	9,006,802	70	7,336,004	123

## SHORT TERM SOLVENCY TEST

*Last Ten Years as of December 31*

Valuation Date	Member Contributions (A)	Retirants and Beneficiaries (B)	Active Member		Actuarial Value of Assets	Portions of Accrued Liabilities Covered by Assets		
			Employer Financed Portion (C)			(A)	(B)	(C)
12/31/10	\$ 5,017,361,438	\$ 9,090,575,924	\$ 7,745,845,940	\$ 13,589,658,118	100%	96%	-%	
12/31/11	5,334,463,714	9,923,555,011	7,349,151,307	13,379,020,161	100	81	-	
12/31/12	5,448,296,911	10,585,891,383	7,497,235,156	13,278,490,294	100	74	-	
12/31/13	5,636,937,795	11,298,180,557	7,393,551,786	14,562,764,625	100	79	-	
12/31/14	5,791,313,287	12,361,327,805	6,977,825,595	15,662,009,783	100	80	-	
12/31/15	5,942,762,790	13,095,276,871	6,909,740,897	17,408,577,508	100	88	-	
12/31/16	6,008,633,568	14,095,278,126	7,213,842,679	18,256,373,273	100	87	-	
12/31/17	6,008,405,879	14,751,711,502	7,393,709,608	19,246,613,272	100	90	-	
12/31/18	6,132,527,315	15,401,874,720	7,565,734,390	19,898,329,527	100	89	-	
12/31/19	6,298,997,993	15,982,142,480	7,701,196,138	20,975,535,342	100	92	-	



SCHEDULE OF ACTIVE MEMBER VALUATION DATA<sup>(1)</sup>*Last Ten Years as of December 31*

Valuation Date	Number of Active Members	Percentage Change in Membership	Number of Participating Employers	Percentage Increase in Number of Participating Employers	Total Annual Payroll (in millions)	Average Payroll	Percentage Increase in Average Payroll
12/31/10	157,919	(1.80%)	1,511	0.80%	\$ 6,494	\$ 41,123	3.20%
12/31/11	155,054	(1.90)	1,504	(0.50)	6,401	41,285	0.40
12/31/12	156,053	0.60	1,506	0.10	6,499	41,646	0.90
12/31/13	155,446	(0.40)	1,508	0.10	6,510	41,878	0.60
12/31/14	154,203	(0.80)	1,518	0.70	6,560	42,542	1.60
12/31/15	152,175	(1.30)	1,517	(0.10)	6,603	43,395	2.00
12/31/16	152,119	(0.04)	1,515	(0.10)	6,650	43,719	0.80
12/31/17	151,687	(0.30)	1,523	0.50	6,744	44,462	1.70
12/31/18	154,055	1.60	1,526	0.20	7,048	45,754	2.90
12/31/19	156,253	1.43	1,534	0.52	7,336	46,950	2.61

*(1) Data provided to actuary reflects active membership information as of January 1.*

## MEMBERSHIP PROFILE

*Last Ten Years as of December 31*

Valuation Date	Active	Inactive	Retirees & Beneficiaries	Total Membership
12/31/10	157,919	44,231	76,744	278,894
12/31/11	155,054	45,678	81,025	281,757
12/31/12	156,053	45,969	84,318	286,340
12/31/13	155,446	47,484	87,670	290,600
12/31/14	154,203	50,255	90,907	295,365
12/31/15	152,175	53,159	94,333	299,667
12/31/16	152,119	55,755	97,547	305,421
12/31/17	151,687	59,966	100,575	312,228
12/31/18	154,055	61,495	103,216	318,766
12/31/19	156,253	63,257	106,058	325,568

## RETIRANTS, BENEFICIARIES - CHANGES IN ROLLS – ALL SYSTEMS

*Last Ten Fiscal Years*

Year	Number at Beginning of Year	Additions		Deletions		Number at End of Year	Percentage Change in Number of Retirants	Percentage Change in Additions Allowances	Average Annual Allowance	Year-End Annual Allowances
		Number Added	Annual Allowances	Number Removed	Annual Allowances					
6/30/11	74,867	6,245	\$ 99,091,348	2,698	\$ 23,230,288	78,414	4.70%	11.70%	\$ 14,630	\$ 1,147,209,272
6/30/12	78,414	6,941	112,628,928	2,644	23,775,195	82,711	5.50	13.70	14,962	1,237,559,898
6/30/13	82,711	6,071	97,203,958	2,707	24,577,721	86,075	4.10	-15.90	14,975	1,288,986,517
6/30/14	86,075	6,022	99,401,460	2,793	26,057,706	89,304	3.80	2.50	15,298	1,366,173,782
6/30/15	89,304	6,419	108,490,198	2,981	29,617,203	92,742	3.80	9.10	15,634	1,449,898,078
6/30/16	92,742	6,494	110,741,918	3,055	30,319,950	96,150	3.70	2.10	16,104	1,548,362,854
6/30/17	96,150	6,252	108,364,288	3,203	32,500,089	99,199	3.20	3.70	16,179	1,604,984,334
6/30/18	99,199	6,164	108,928,173	4,788	36,466,045	100,575	1.42	3.20	16,700	1,679,587,567
6/30/19	100,575	6,180	112,564,089	3,371	37,385,700	103,384	2.82	1.42	16,904	1,747,623,791
6/30/20	103,384	5,946	113,015,303	3,241	39,376,802	106,058	2.59	2.79	17,242	1,828,655,721

## SUMMARY OF MEMBERSHIP DATA

Retiree and Beneficiary Member Valuation Data <sup>(1)</sup>	12/31/19	12/31/18
<b>KPERS</b>		
Number	99,559	96,852
Average Benefit	\$ 14,993	\$ 14,723
Average Age	72.79	72.60
<b>Police &amp; Fire</b>		
Number	5,763	5,595
Average Benefit	\$ 35,043	\$ 34,217
Average Age	66.10	65.92
<b>Judges</b>		
Number	298	286
Average Benefit	\$ 42,978	\$ 42,716
Average Age	75.36	75.37
<b>System Total</b>		
Number	105,620	102,733
Average Benefit	\$ 16,166	\$ 15,863
Average Age	72.43	72.24
<b>Active Member Valuation Data <sup>(1)</sup></b>		
<b>KPERS</b>		
Number	148,199	146,104
Average Current Age	45.03	45.14
Average Service	10.83	10.96
Average Pay	\$ 45,563	\$ 44,404
<b>Police &amp; Fire</b>		
Number	7,797	7,695
Tier I	41	73
Tier II	7,731	7,622
DROP	25	-
Average Current Age	38.8	38.82
Average Service	10.92	10.99
Average Pay	\$ 71,122	\$ 69,184
<b>Judges</b>		
Number	257	256
Average Current Age	58.09	58.48
Average Service	11.11	11.74
Average Pay	\$ 113,100	\$ 111,465
<b>System Total</b>		
Number	156,253	154,055
Average Current Age	44.74	44.85
Average Service	10.84	10.96
Average Pay	\$ 46,950	\$ 45,754

(1) Data provided to actuary reflects membership information as of January 1.

## SCHEDULE OF EMPLOYER CONTRIBUTION RATES

*Last Ten Fiscal Years (1)*

KPERS State/School			KPERS Local		
Fiscal Year	Actuarial Rate	Actual Rate	Fiscal Year	Actuarial Rate	Actual Rate
2011	11.30%	8.17%	2011	10.42%	6.74%
2012	14.09	8.77	2012	9.44	7.34
2013	13.46	9.37	2013	9.43	7.94
2014	13.83	10.27	2014	9.77	8.84
2015 <sup>(2)</sup>	14.34	11.27/8.65	2015	9.48	9.48
2016	14.95	10.91	2016	9.18	9.18
2017	14.85	10.81	2017	8.46	8.46
2018	14.89	12.01	2018	8.39	8.39
2019	13.23	13.21	2019	8.89	8.89
2020	14.74	14.41	2020	8.61	8.61

KP&F Uniform Rate			Judges		
Fiscal Year	Actuarial Rate	Actual Rate	Fiscal Year	Actuarial Rate	Actual Rate
2011	17.88%	14.57%	2011	19.49%	19.49%
2012	16.54	16.54	2012	21.28	21.28
2013	17.26	17.26	2013	23.75	23.75
2014	19.92	19.92	2014	23.62	23.62
2015	21.36	21.36	2015	22.59	22.59
2016	20.42	20.42	2016	23.98	23.98
2017	19.03	19.03	2017	21.36	21.36
2018	20.09	20.09	2018	15.89	15.89
2019	22.13	22.13	2019	14.68	14.68
2020	21.93	21.93	2020	18.65	18.65

(1) Rates shown for KPERS State/School, and Judges represent the rates for the fiscal years ending June 30. KPERS Local and KP&F rates are reported for the calendar years. Rates have been restated to exclude Group Life and Disability insurance premiums.

(2) Due to budget constraints, the Governor used the allotment procedure and reduced the State/School KPERS employer combined contribution rate to 8.65% for the second half of the 2015 fiscal year.

STATISTICAL  
SECTION



## STATISTICAL HIGHLIGHTS OF THE SYSTEM'S FINANCIAL TRENDS

The Statistical Section presents several schedules that provide financial trend analysis of the Retirement System's overall financial health and additional analytical information on employers' membership data and retirement benefits. The schedules beginning on this page through page 120 provide revenues, expenses and funding status information for the past ten years for the pension plan. On page 121, a schedule shows the total benefits and type of refunds that were paid.

On pages 122 through 125, various schedules are presented to depict the level of monthly benefits by number of retirees, retirement type and options and years of service. Starting on page 126, information is provided showing the top ten participating employers determined by number of covered active employees. The source of the information in these schedules is derived from the comprehensive annual financial reports, unless otherwise indicated.

### REVENUES BY SOURCE

*Last Ten Fiscal Years*

Fiscal Year	Contributions		Miscellaneous	Net Investment Income	Total
	Member	Employer			
2011	\$ 287,600,902	\$ 525,726,734	\$ 190,770	\$ 2,499,472,278	\$ 3,312,990,684
2012	291,894,311	568,015,364	129,622	89,045,782	949,085,079
2013	300,471,480	617,925,370	537,741	1,747,230,627	2,666,165,218
2014	332,163,439	701,818,160	241,743	2,553,842,632	3,588,065,974
2015	382,057,886	690,564,482	1,076,946	561,194,353	1,634,893,667
2016 <sup>(1)</sup>	404,856,265	1,739,183,965	2,906,188	49,169,897	2,196,116,315
2017	414,537,657	761,610,061	1,071,115	2,060,925,477	3,238,144,310
2018	420,284,941	887,734,800	5,733,655	1,516,929,281	2,830,682,677
2019	437,352,839	1,138,895,032	5,488,299	1,216,685,443	2,798,421,613
2020	451,568,458	1,059,543,667	20,699,113	347,463,816	1,879,275,054

(1) The State of Kansas issued \$1 billion in pension obligation bonds, Series 2015H, in August 2015.

## BENEFITS BY TYPE

Last Ten Fiscal Years

Fiscal Year	Monthly Retirement Benefits	Retirement Dividend	Death Benefits	Refund of Contributions Separations	Refund of Contributions Deaths
2011	\$ 1,143,594,256	\$ 3,615,016	\$ 9,614,688	\$ 43,579,892	\$ 5,984,123
2012	1,234,350,781	3,209,118	9,414,234	49,665,542	6,231,284
2013	1,286,133,859	2,852,658	9,458,321	48,265,870	5,633,961
2014	1,363,636,798	2,536,984	9,702,485	49,947,483	7,023,286
2015	1,447,659,817	2,238,261	10,019,588	57,187,901	7,274,097
2016	1,546,424,413	1,938,441	10,545,850	62,141,534	5,981,201
2017	1,603,302,992	1,681,412	11,210,914	63,915,235	6,565,825
2018	1,678,136,889	1,450,678	11,299,715	58,339,135	6,627,827
2019	1,746,382,699	1,241,092	11,357,122	68,199,860	6,116,462
2020	1,827,588,769	1,066,952	11,263,225	58,076,648	8,851,960

## EXPENSES BY TYPE

Last Ten Fiscal Years

Fiscal Year	Benefits	Refund of Contributions			Administration	Uncollectable Pension Contributions <sup>(1)</sup>	Total
		Separations	Death	Administration			
2011	\$ 1,156,823,960	\$ 43,579,892	\$ 5,984,123	\$ 9,261,260	\$ -	\$ 1,215,649,235	
2012	1,246,974,132	49,665,542	6,231,284	9,620,933	-	1,312,491,891	
2013	1,298,444,838	48,265,870	5,633,961	10,426,813	-	1,362,771,482	
2014	1,375,876,267	49,947,483	7,023,286	9,703,808	-	1,442,550,844	
2015	1,459,917,666	57,187,901	7,274,097	10,789,271	-	1,535,168,935	
2016	1,558,908,704	62,141,534	5,981,201	12,171,633	-	1,639,203,072	
2017	1,616,195,248	63,915,235	6,565,825	11,116,172	98,943,780	1,796,736,260	
2018	1,690,887,282	58,339,135	6,627,827	12,459,619	-	1,768,313,863	
2019	1,758,980,913	68,199,860	6,116,462	13,279,726	-	1,846,576,961	
2020	1,839,918,946	58,076,648	8,851,960	13,607,382	-	1,920,454,936	

(1) In the 2017 Legislative session, Sub for HB 2052 eliminated the repayment of delayed Fiscal Year 2016 contributions. The receivable was written off in Fiscal Year 2017. In the 2019 Legislative session, legislation was passed to pay the Fiscal Year 2016 contributions with interest, \$115 million was received.

CHANGES IN NET POSITION  
Last Ten Fiscal Years

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
<b>Additions</b>										
Contributions										
Member Contributions	\$ 451,568,458	\$ 437,352,839	\$ 420,284,941	\$ 414,537,657	\$ 404,856,265	\$ 382,057,886	\$ 332,163,439	\$ 300,501,667	\$ 291,901,525	\$ 287,600,902
Employer Contributions	1,059,543,667	1,138,895,032	887,734,800	761,610,061	1,739,183,965	690,564,482	701,818,160	617,925,370	568,015,364	525,726,734
<b>Total Contributions</b>	<b>1,511,112,125</b>	<b>1,576,247,871</b>	<b>1,308,019,741</b>	<b>1,176,147,718</b>	<b>2,144,040,230</b>	<b>1,072,622,368</b>	<b>1,033,981,599</b>	<b>918,427,037</b>	<b>859,916,889</b>	<b>813,327,636</b>
Investments										
Net Appreciation (Depreciation)										
in Fair Value of Investments	(9,577,522)	798,206,290	1,145,750,895	1,708,585,923	(267,355,951)	263,094,676	2,267,287,461	1,490,141,704	(132,729,256)	2,211,302,374
Interest	152,608,428	162,200,077	143,874,114	125,024,597	137,732,569	132,688,575	104,382,643	100,530,311	103,584,321	158,120,734
Dividends	206,409,770	240,616,896	219,737,719	196,065,374	160,160,990	140,607,740	165,226,153	153,201,135	110,902,858	123,098,602
Real Estate Income,										
Net of Operating Expenses	93,651,199	106,326,053	94,853,455	91,728,610	79,977,708	75,353,304	62,989,928	39,973,754	44,259,544	48,997,734
Other Investment Income	17,622,755	16,525,693	14,706,420	13,394,069	9,562,040	10,573,421	-	-	436,311	388,174
	460,714,630	1,323,875,009	1,618,922,603	2,134,798,573	120,077,356	622,317,716	2,599,886,185	1,783,846,904	126,453,778	2,541,907,618
Less Investment Expense	(113,250,814)	(107,189,566)	(101,993,321)	(73,873,096)	(70,907,459)	(65,240,875)	(51,653,134)	(42,584,786)	(42,225,663)	(47,586,288)
<b>Net Investment Income</b>	<b>347,463,816</b>	<b>1,216,685,443</b>	<b>1,516,929,282</b>	<b>2,060,925,477</b>	<b>49,169,897</b>	<b>557,076,841</b>	<b>2,548,233,051</b>	<b>1,741,262,118</b>	<b>84,228,115</b>	<b>2,494,321,330</b>
From Securities Lending Activities										
Securities Lending Income	-	-	-	-	-	3,932,462	5,255,071	4,827,054	4,353,102	5,431,118
Securities Lending Expenses										
Borrower Rebates	-	-	-	-	-	648,826	1,501,910	2,450,894	1,769,773	739,912
Management Fees	-	-	-	-	-	(463,776)	(1,147,400)	(1,309,439)	(1,305,208)	(1,020,082)
<b>Total Securities Lending Activities Expense</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>185,050</b>	<b>354,510</b>	<b>1,141,455</b>	<b>464,565</b>	<b>(280,170)</b>
<b>Net Income from Security Lending Activities</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4,117,512</b>	<b>5,609,581</b>	<b>5,968,509</b>	<b>4,817,667</b>	<b>5,150,948</b>
<b>Total Net Investment Income</b>	<b>347,463,816</b>	<b>1,216,685,443</b>	<b>1,516,929,282</b>	<b>2,060,925,477</b>	<b>49,169,897</b>	<b>561,194,353</b>	<b>2,553,842,632</b>	<b>1,747,230,627</b>	<b>89,045,782</b>	<b>2,499,472,278</b>
<b>Other Miscellaneous Income</b>	<b>20,699,113</b>	<b>5,488,299</b>	<b>5,733,655</b>	<b>1,071,115</b>	<b>2,904,581</b>	<b>1,076,391</b>	<b>241,438</b>	<b>533,842</b>	<b>127,412</b>	<b>170,862</b>
<b>Total Additions</b>	<b>1,879,275,054</b>	<b>2,798,421,613</b>	<b>2,830,682,678</b>	<b>3,238,144,310</b>	<b>2,196,114,708</b>	<b>1,634,893,112</b>	<b>3,588,065,668</b>	<b>2,666,191,506</b>	<b>949,090,083</b>	<b>3,312,970,776</b>
Deductions										
Monthly Retirement Benefits	(1,828,655,721)	(1,747,623,791)	(1,679,587,567)	(1,604,984,334)	(1,548,362,854)	(1,449,898,078)	(1,366,173,782)	(1,288,986,517)	(1,237,559,898)	(1,147,209,272)
Refunds of Contributions	(66,928,608)	(74,316,322)	(64,966,962)	(70,481,060)	(68,122,735)	(64,461,998)	(56,970,769)	(53,899,831)	(55,896,826)	(49,564,015)
Death Benefits	(11,263,225)	(11,357,122)	(11,299,715)	(11,210,914)	(10,545,850)	(10,019,588)	(9,702,485)	(9,458,321)	(9,414,234)	(9,614,688)
Administrative Expenses	(13,607,382)	(13,279,726)	(12,459,620)	(11,116,172)	(12,171,633)	(10,789,271)	(9,634,863)	(10,426,813)	(9,620,933)	(9,261,260)
Uncollectable Pension										
Contributions	-	-	-	(98,943,780)	-	-	-	-	-	-
<b>Total Deductions to Plan Net Position</b>	<b>(1,920,454,936)</b>	<b>(1,846,576,961)</b>	<b>(1,768,313,864)</b>	<b>(1,796,736,260)</b>	<b>(1,639,203,072)</b>	<b>(1,535,168,935)</b>	<b>(1,442,481,899)</b>	<b>(1,362,771,482)</b>	<b>(1,312,491,891)</b>	<b>(1,215,649,235)</b>
<b>Change in Net Position</b>	<b>\$ (41,179,882)</b>	<b>\$ 951,844,652</b>	<b>\$ 1,062,368,814</b>	<b>\$ 1,441,408,050</b>	<b>\$ 556,911,636</b>	<b>\$ 99,724,177</b>	<b>\$ 2,145,583,769</b>	<b>\$ 1,303,420,023</b>	<b>\$ (363,401,808)</b>	<b>\$ 2,097,321,542</b>



## BENEFIT AND REFUND DEDUCTIONS FROM NET POSITION BY TYPE

*Last Ten Fiscal Years*

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
<b>Type of Benefit</b>										
Age and Service Benefits:										
Retirees	\$ 1,743,975,045	\$ 1,667,501,420	\$ 1,602,718,657	\$ 1,531,384,982	\$ 1,478,101,413	\$ 1,383,140,272	\$ 1,302,838,465	\$ 1,228,537,001	\$ 1,180,214,270	\$ 1,092,518,456
Survivors	83,613,724	80,122,371	76,868,910	73,599,352	70,261,441	66,757,806	63,335,317	60,449,516	57,345,628	54,690,816
Death in Service Benefits	11,263,225	11,357,122	11,299,715	11,210,914	10,545,850	10,019,588	9,702,485	9,458,321	9,414,234	9,614,688
<b>Total Benefits</b>	<b>\$ 1,838,851,994</b>	<b>\$ 1,758,980,913</b>	<b>\$ 1,690,887,282</b>	<b>\$ 1,616,195,248</b>	<b>\$ 1,558,908,704</b>	<b>\$ 1,459,917,666</b>	<b>\$ 1,375,876,267</b>	<b>\$ 1,298,444,838</b>	<b>\$ 1,246,974,132</b>	<b>\$ 1,156,823,960</b>
<b>Type of Refund</b>										
Death	\$ 8,851,960	\$ 6,116,462	\$ 6,627,827	\$ 6,643,401	\$ 5,981,201	\$ 7,274,097	\$ 7,023,286	\$ 5,633,961	\$ 6,231,284	\$ 5,984,123
Separation	58,076,648	68,199,860	58,339,135	63,837,659	62,141,534	57,187,901	49,947,483	48,265,870	49,665,542	43,579,892
<b>Total Refunds</b>	<b>\$ 66,928,608</b>	<b>\$ 74,316,322</b>	<b>\$ 64,966,962</b>	<b>\$ 70,481,060</b>	<b>\$ 68,122,735</b>	<b>\$ 64,461,998</b>	<b>\$ 56,970,769</b>	<b>\$ 53,899,831</b>	<b>\$ 55,896,826</b>	<b>\$ 49,564,015</b>

## HIGHLIGHT OF OPERATIONS

*Last Ten Fiscal Years*

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
<b>Membership Composition</b>										
Number of Retirants	97,570	94,869	92,101	89,284	87,103	83,911	80,900	77,727	74,665	70,349
Number of Survivors <sup>(1)</sup>	8,050	7,864	7,706	7,490	7,230	6,996	6,770	6,591	6,360	6,149
New Retirants During the Fiscal Year	5,584	5,548	5,534	4,277	6,494	6,419	6,022	6,071	6,941	6,245
Active and Inactive Members <sup>(2)</sup>	219,510	215,550	211,653	207,874	205,334	204,458	202,930	202,022	200,732	202,150
Participating Employers	1,534	1,526	1,523	1,515	1,517	1,518	1,508	1,506	1,504	1,511
<b>Financial Results (in millions)</b>										
Member Contributions	\$ 452	\$ 437	\$ 420	\$ 415	\$ 405	\$ 382	\$ 332	\$ 301	\$ 292	\$ 289
Employer Contributions <sup>(3)</sup>	1,060	1,139	888	762	1,781	691	702	617	568	575
Retirement/Death Benefits	1,840	1,759	1,691	1,616	1,559	1,460	1,376	1,298	1,247	1,157
Investment Income	347	1,217	1,517	2,061	49	561	2,554	1,747	89	2,499
<b>Employer Contribution Rate</b>										
KPERS--State/School	14.41%	13.21%	12.01%	10.81%	10.91%	11.27%/ 8.65%	10.27%	9.37%	8.77%	8.17%
KPERS--Local <sup>(4)</sup>	8.61	8.89	8.39	8.46	9.18	9.48	8.84	7.94	7.34	6.74
KP&F (Uniform Participating) <sup>(4)</sup>	21.93	22.13	20.09	19.03	20.42	21.36	19.92	17.26	16.54	14.57
Judges	18.65	14.68	15.89	21.36	23.98	22.59	23.62	23.75	21.28	19.49
<b>Unfunded Actuarial Liability (in millions)</b>										
KPERS--State/School	\$ 6,545	\$ 6,756	\$ 6,581	\$ 6,690	\$ 6,276	\$ 7,244	\$ 7,351	\$ 7,658	\$ 6,920	\$ 6,244
KPERS--Local	1,502	1,502	1,458	1,515	1,486	1,488	1,590	1,699	1,542	1,395
KP&F	949	933	860	846	772	726	803	866	739	598
Judges	10	11	8	11	6	11	21	29	27	27
<b>Funding Ratios <sup>(5)</sup></b>										
KPERS--State/School	68.10%	66.10%	66.00%	64.50%	65.20%	58.80%	57.00%	53.90%	56.80%	59.90%
KPERS--Local	73.70	72.70	72.50	70.30	69.10	67.40	63.70	59.50	61.20	63.20
KP&F	73.50	73.00	74.10	73.40	74.00	74.10	70.30	66.50	69.80	74.20
Judges	94.70	94.40	95.90	93.90	96.40	93.50	86.90	81.40	82.50	82.50

(1) This is the number of joint annuants as of December 31st, per the System's records.

(2) Membership information taken from System's actuarial valuation.

(3) The State of Kansas issued pension obligation bonds, Series 2015H, in August 2015.

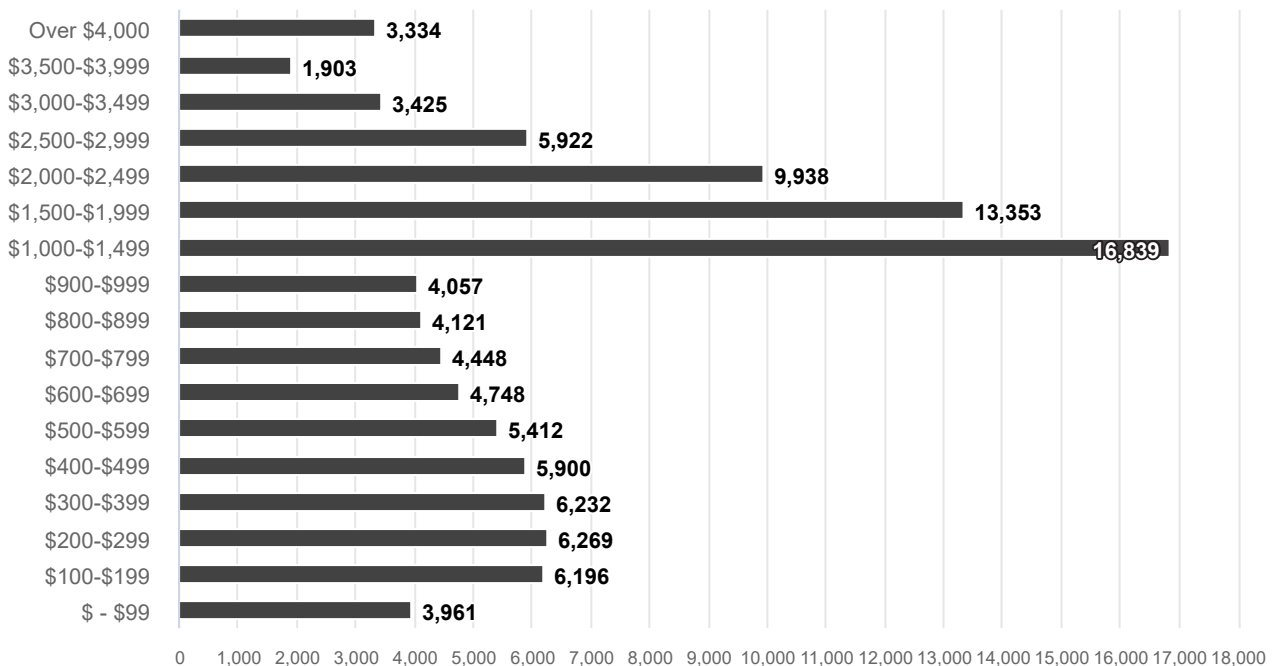
(4) KPERS Local and KP&F contribution rates are reported on a calendar year basis.

(5) The funding percentage indicates the actuarial soundness of the System. Generally, the greater the percentage, the stronger the System.

NUMBER OF RETIRED MEMBERS AND SURVIVORS BY TYPE OF BENEFIT  
as of December 31, 2019

Monthly Benefit	Number of Retirees	Normal Retirement	Early Retirement	Service-Connected Death or Disability	Nonservice-Connected Death or Disability
\$ - 99	3,961	3,554	403	1	3
\$100-199	6,196	4,360	1,813	14	9
\$200-299	6,269	4,076	2,175	11	7
\$300-399	6,232	3,972	2,228	18	14
\$400-499	5,900	3,922	1,935	28	15
\$500-599	5,412	3,657	1,714	29	12
\$600-699	4,748	3,322	1,387	23	16
\$700-799	4,448	3,219	1,196	24	9
\$800-899	4,121	3,066	1,001	44	10
\$900-999	4,057	3,154	853	31	19
\$1,000-1,499	16,839	14,350	2,267	161	61
\$1,500-1,999	13,353	12,500	664	111	78
\$2,000-2,499	9,938	9,643	219	41	35
\$2,500-2,999	5,922	5,788	84	22	28
\$3,000-3,499	3,425	3,350	48	18	9
\$3,500-3,999	1,903	1,855	27	15	6
\$4,000 or More	3,334	3,272	49	10	3
<b>Totals</b>	<b>106,058</b>	<b>87,060</b>	<b>18,063</b>	<b>601</b>	<b>334</b>

NUMBER OF RETIRED MEMBERS AND SURVIVORS BY MONTHLY BENEFIT AMOUNT  
As of December 31, 2019



## NUMBER OF RETIRED MEMBERS AND SURVIVORS BY TYPE OF PAYMENT OPTION

*as of December 31, 2019*

Monthly Benefit	Maximum No Survivor	Joint 1/2 to Survivor	Joint Same to Survivor	Life Certain w/10 Yrs	Joint 3/4 to Survivor	Widowed Children Survivor	Life Certain w /5 Yrs	Life Certain w /15 Yrs	Lump Sum Acc Contr
\$ - 99	2,972	267	478	66	40	3	30	105	-
\$100-199	4,359	567	870	101	124	21	37	116	1
\$200-299	4,295	633	967	88	133	11	37	105	-
\$300-399	4,274	657	891	75	169	30	26	110	-
\$400-499	3,999	694	847	90	143	34	25	68	-
\$500-599	3,645	659	766	51	171	27	28	65	-
\$600-699	3,129	593	709	57	158	30	14	58	-
\$700-799	2,927	583	630	47	165	26	20	50	-
\$800-899	2,641	621	574	41	167	33	14	30	-
\$900-999	2,557	645	566	41	173	31	15	29	-
\$1,000-1,499	10,416	2,685	2,345	168	879	179	51	116	-
\$1,500-1,999	8,415	2,232	1,601	88	763	158	33	63	-
\$2,000-2,499	6,466	1,724	1,007	61	563	71	19	27	-
\$2,500-2,999	3,875	1,048	565	38	330	39	15	12	-
\$3,000-3,499	2,233	588	339	15	221	13	5	11	-
\$3,500-3,999	1,192	334	209	9	136	17	2	4	-
\$4,000 or More	1,775	798	447	14	292	1	2	5	-
<b>Totals</b>	<b>69,170</b>	<b>15,328</b>	<b>13,811</b>	<b>1,050</b>	<b>4,627</b>	<b>724</b>	<b>373</b>	<b>974</b>	<b>1</b>

## AVERAGE BENEFIT BY YEARS OF SERVICE - FIVE YEAR SUMMARY

Service Credit		New Retirees by Calendar Year				
		2015	2016	2017	2018	2019
Less Than 5	Retired Members	211	270	365	408	521
	Average FAS*	\$ 32,163.67	\$ 30,267.75	\$ 33,846.93	\$ 34,306.65	\$ 34,717.32
	Average Benefit	\$ 226.67	\$ 223.01	\$ 283.62	\$ 322.15	\$ 382.91
	Average Years	3.46	3.33	2.85	2.70	2.61
5-9.99	Retired Members	698	731	828	822	849
	Average FAS*	\$ 33,764.28	\$ 35,021.46	\$ 37,992.46	\$ 37,193.02	\$ 38,845.72
	Average Benefit	\$ 372.98	\$ 428.48	\$ 497.32	\$ 507.31	\$ 571.28
	Average Years	7.77	7.63	7.29	7.33	7.38
10-14.99	Retired Members	941	943	832	847	947
	Average FAS*	\$ 36,877.93	\$ 37,846.67	\$ 39,212.18	\$ 41,189.43	\$ 42,358.16
	Average Benefit	\$ 629.08	\$ 634.00	\$ 761.52	\$ 820.14	\$ 907.08
	Average Years	12.37	12.30	12.43	12.41	12.44
15-19.99	Retired Members	899	803	882	926	923
	Average FAS*	\$ 41,886.24	\$ 42,730.81	\$ 46,143.88	\$ 46,008.60	\$ 48,170.28
	Average Benefit	\$ 949.16	\$ 1,052.23	\$ 1,228.16	\$ 1,244.67	\$ 1,381.52
	Average Years	17.33	17.34	17.38	17.34	17.37
20-24.99	Retired Members	1,015	1,023	1,084	1,049	1,026
	Average FAS*	\$ 49,276.16	\$ 49,807.58	\$ 53,412.30	\$ 54,313.03	\$ 57,724.11
	Average Benefit	\$ 1,504.25	\$ 1,607.37	\$ 1,856.53	\$ 1,939.82	\$ 2,141.85
	Average Years	22.40	22.42	22.45	22.46	22.41
25-29.99	Retired Members	1,048	1,014	928	905	808
	Average FAS*	\$ 57,442.35	\$ 59,197.60	\$ 61,798.08	\$ 62,292.51	\$ 66,556.55
	Average Benefit	\$ 2,199.23	\$ 2,369.66	\$ 2,546.49	\$ 2,642.76	\$ 2,941.62
	Average Years	27.44	27.40	27.18	27.10	27.04
30-34.99	Retired Members	750	601	411	387	347
	Average FAS*	\$ 62,314.41	\$ 62,791.89	\$ 64,043.08	\$ 63,627.78	\$ 65,555.78
	Average Benefit	\$ 2,698.51	\$ 2,848.18	\$ 3,021.72	\$ 3,059.22	\$ 3,204.28
	Average Years	32.12	32.12	32.18	32.21	32.32
35-39.99	Retired Members	313	260	167	166	142
	Average FAS*	\$ 64,900.76	\$ 62,497.86	\$ 64,763.50	\$ 65,925.81	\$ 64,734.42
	Average Benefit	\$ 3,080.16	\$ 3,030.92	\$ 3,253.21	\$ 3,333.23	\$ 3,425.34
	Average Years	36.94	36.88	36.91	36.82	36.81
40-44.99	Retired Members	89	59	40	31	19
	Average FAS*	\$ 63,507.91	\$ 60,403.31	\$ 68,167.31	\$ 65,221.88	\$ 57,189.40
	Average Benefit	\$ 3,326.81	\$ 3,224.57	\$ 3,810.83	\$ 3,513.57	\$ 3,602.29
	Average Years	41.65	41.59	41.41	41.02	41.62
45-49.99	Retired Members	12	8	7	6	2
	Average FAS*	\$ 64,115.21	\$ 62,219.46	\$ 71,886.65	\$ 70,200.30	\$ 79,448.46
	Average Benefit	\$ 3,643.02	\$ 3,666.62	\$ 4,424.05	\$ 4,111.87	\$ 4,608.91
	Average Years	46.13	46.69	46.46	46.54	46.50
50 and Over	Retired Members	4	-	3	1	-
	Average FAS*	\$ 66,836.27	\$ -	\$ 50,134.77	\$ 61,330.24	\$ -
	Average Benefit	\$ 4,228.92	\$ -	\$ 3,517.13	\$ 5,182.41	\$ -
	Average Years	52.56	-	54.00	55.00	-
Total Number	Retired Members	5,980	5,712	5,547	5,548	5,584
	Average FAS*	\$ 47,937.36	\$ 47,759.75	\$ 49,197.83	\$ 49,293.86	\$ 50,471.05
	Average Benefit	\$ 1,493.26	\$ 1,502.21	\$ 1,548.03	\$ 1,567.82	\$ 1,624.10
	Average Years	20.90	20.04	18.72	18.38	17.48

\*Average "Final Average Salary"

Source: Data provided by KPERS Information Technology and Benefits and Member Services divisions.

## PRINCIPAL PARTICIPATING EMPLOYERS

*Last Ten Calendar Years*

Participating Government	2019			2018		
	Covered Employees	Rank	% of Total System	Covered Employees	Rank	% of Total System
State of Kansas	23,237	1	14.87 %	22,872	1	14.70 %
USD 259 Wichita	7,386	2	4.73	7,051	2	4.53
USD 233 Olathe	4,802	3	3.07	4,611	3	2.96
USD 500 Kansas City	3,668	4	2.35	3,678	4	2.36
USD 512 Shawnee Mission	3,471	5	2.22	3,424	5	2.20
USD 229 Blue Valley	3,355	6	2.15	3,295	6	2.12
Johnson County	2,626	7	1.68	3,202	7	2.06
Sedgwick County	2,347	8	1.50	2,521	8	1.62
USD 501 Topeka Public Schools	2,069	9	1.32	2,403	9	1.54
Unified Government of Wyandotte Co	1,758	10	1.13	2,009	10	1.29
All Other <sup>(1)</sup>	101,534		64.98	98,989		64.60
<b>Total (1,534 employers)</b>	<b>156,253</b>		<b>100.00 %</b>	<b>154,055</b>		<b>100.00 %</b>

Participating Government	2017			2016		
	Covered Employees	Rank	% of Total System	Covered Employees	Rank	% of Total System
State of Kansas	23,215	1	15.19 %	23,577	1	15.50 %
USD 259 Wichita	6,903	2	4.52	6,820	2	4.48
USD 233 Olathe	4,441	3	2.91	4,233	3	2.78
USD 500 Kansas City	3,558	4	2.33	3,488	4	2.29
USD 512 Shawnee Mission	3,385	5	2.22	3,315	5	2.18
USD 229 Blue Valley	3,200	6	2.09	3,118	6	2.05
Johnson County	3,162	7	2.07	3,065	7	2.01
Sedgwick County	2,514	8	1.65	2,488	8	1.64
USD 501 Topeka Public Schools	2,373	9	1.55	2,374	9	1.56
Unified Government of Wyandotte Co	2,048	10	1.34	2,029	10	1.33
All Other	96,888		64.14	97,612		64.17
<b>Total</b>	<b>151,687</b>		<b>100.00 %</b>	<b>152,119</b>		<b>100.00 %</b>

(1) In 2019, "All Other" consisted of:

Type	Number	Covered Employees
School Districts	279	49,926
Cities and Counties	578	29,622
Post Secondary Education <sup>(2)</sup>	42	11,715
Other	625	10,272
	<b>1,524</b>	<b>101,535</b>

(2) Not Including State Board of Regents institutions

Source: Data provided by KPERS Information Technology and Benefit and Member Services divisions.

## PRINCIPAL PARTICIPATING EMPLOYERS

*Last Ten Calendar Years*

Participating Government	2015			2014		
	Covered Employees	Rank	% of Total System	Covered Employees	Rank	% of Total System
State of Kansas	23,748	1	15.49 %	24,389	1	15.82 %
USD 259 Wichita	6,926	2	4.52	6,921	2	4.49
USD 233 Olathe	4,225	3	2.76	4,310	3	2.80
USD 500 Kansas City	3,493	4	2.28	3,544	4	2.30
USD 512 Shawnee Mission	3,337	5	2.18	3,428	5	2.22
USD 229 Blue Valley	3,100	6	2.02	3,106	6	2.01
Johnson County	3,067	7	2.00	3,052	7	1.98
Sedgwick County	2,490	8	1.62	2,536	8	1.64
USD 501 Topeka Public Schools	2,351	9	1.53	2,408	9	1.56
Unified Government of Wyandotte Co	1,757	10	1.15	1,784	10	1.16
All Other	98,843		64.46	98,725		64.02
<b>Total</b>	<b>153,337</b>		<b>100.00 %</b>	<b>154,203</b>		<b>100.00 %</b>

Participating Government	2013			2012		
	Covered Employees	Rank	% of Total System	Covered Employees	Rank	% of Total System
State of Kansas	24,631	1	15.78 %	25,293	1	16.21 %
USD 259 Wichita	6,861	2	4.40	6,709	2	4.30
USD 233 Olathe	4,293	3	2.75	4,274	3	2.74
USD 500 Kansas City	3,392	5	2.17	3,287	5	2.11
USD 512 Shawnee Mission	3,621	4	2.32	3,678	4	2.36
USD 229 Blue Valley	3,130	6	2.01	3,088	6	1.98
Johnson County	3,099	7	1.99	3,065	7	1.96
Sedgwick County	2,535	8	1.62	2,549	8	1.63
USD 501 Topeka Public Schools	2,387	9	1.53	2,339	9	1.50
Unified Government of Wyandotte Co	1,733	10	1.11	1,697	10	1.09
All Other	100,375		64.32	100,074		64.13
<b>Total</b>	<b>155,446</b>		<b>100.00 %</b>	<b>156,053</b>		<b>100.00 %</b>

## PRINCIPAL PARTICIPATING EMPLOYERS

*Last Ten Calendar Years*

Participating Government	2011			2010		
	Covered Employees	Rank	% of Total System	Covered Employees	Rank	% of Total System
State of Kansas	25,382	1	16.37 %	27,066	1	17.05 %
USD 259 Wichita	6,542	2	4.22	6,749	2	4.25
USD 233 Olathe	4,185	3	2.70	4,082	3	2.57
USD 500 Kansas City	3,191	5	2.06	3,165	5	1.99
USD 512 Shawnee Mission	3,705	4	2.39	3,837	4	2.42
USD 229 Blue Valley	3,098	6	2.00	2,633	7	1.66
Johnson County	3,014	7	1.94	2,977	6	1.88
Sedgwick County	2,336	8	1.51	2,341	8	1.48
USD 501 Topeka Public Schools	2,605	9	1.68	2,256	9	1.42
Unified Government of Wyandotte Co	1,627	10	1.05	1,595	10	1.01
All Other	99,369		64.09	102,004		64.27
<b>Total</b>	<b>155,054</b>		<b>100.00 %</b>	<b>158,705</b>		<b>100.00 %</b>





2020 COMPREHENSIVE  
ANNUAL  
FINANCIAL  
REPORT

Kansas Public Employees Retirement System  
A component unit of the State of Kansas  
Fiscal Year Ended June 30, 2020

Prepared by KPERS staff  
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