COMPREHENSIVE ANNUAL FINANCIAL REPORT

Kentucky Retirement Systems
A component of the Commonwealth of Kentucky

Kentucky Employees Retirement System (KERS)
County Employees Retirement System (CERS)
State Police Retirement System (SPRS)

2017

For Fiscal Year Ending June 30, 2017

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Management's Responsibility for Financial Reporting

Management has prepared the combining financial statements of Kentucky Retirement Systems and is responsible for the integrity and fairness of the information presented.

December 7, 2017 Management has prepared the combining financial statements of Kentucky Retirement Systems and is responsible for the integrity and fairness of the information presented. Some amounts included in the combining financial statements may be based upon estimates and judgments. These estimates and judgments were made utilizing the best business practices available. The accounting policies followed in the preparation of these combining financial statements conform to U.S. Generally Accepted Accounting Principles. Financial information presented throughout the annual report is consistent with the combining financial statements.

Responsibility Ultimate responsibility for the combining financial statements and annual report rests with the Board of Trustees. The Executive Director and KRS staff assist the Board in its responsibilities.

Systems of internal control and supporting procedures are maintained to provide assurance that transactions are authorized, assets safeguarded, and proper records maintained. These controls include standards in hiring and training employees, the establishment of an organizational structure, and the communications of policies and guidelines throughout the organization. The cost of a control should not exceed the benefits to be derived; the objective is to provide reasonable, rather than absolute, assurance that the combining financial statements are free of any material misstatements. These internal controls are reviewed by internal audit programs. All internal audit reports are submitted to the Audit Committee and Board of Trustees.

Kentucky Retirement Systems' external auditors, Dean Dorton Allen Ford, PLLC, have conducted an independent audit of the combining financial statements in accordance with U.S. Generally Accepted Government Auditing Standards. This audit is described in their Independent Auditors' Report on pages 19 and 20 in the Financial Section. Management has provided the external auditors with full and unrestricted access to KRS' staff to discuss their audit and related findings as to the integrity of the plan's financial reporting and the adequacy of internal controls for the preparation of combining financial statements.

David L. Eager
Interim Executive Director

Karen D. Roggenkamp
Executive Director Office of Operations

Connie A. Davis, CIA, CGAP, CRMA
Director of Accounting

Letter to the
Board of Trustees & Membership

To the Trustees, Members of KRS, and Citizens of the Commonwealth:

On behalf of the Kentucky Retirement Systems (KRS), Board Chair, Board of Trustees, management and staff, it is my pleasure to present the Comprehensive Annual Financial Report (CAFR) for the fiscal year ended June 30, 2017. This report covers the ten (10) plans that form the Kentucky Retirement Systems (KRS). These plans include the Kentucky Employees Retirement System (KERS Hazardous and Non-Hazardous), the County Employees Retirement System (CERS Hazardous and Non-Hazardous), and the State Police Retirement System (SPRS) for both pensions and retiree healthcare. These ten plans include more than 372,000 members. These are your family members, co-workers, and neighbors. They include firefighters, police officers, bus drivers, janitorial staff at local schools, and many who work directly for Kentucky state government.

Responsibility for the accuracy of the data, as well as the completeness and fairness of the presentation, rests with the management of the Kentucky Retirement Systems. We present this information to assist the Board of Trustees, members of KERS, CERS and SPRS (collectively referred to as KRS), state executive and legislative branch officials, and the general public in understanding KRS' financial and actuarial status. This CAFR conforms to the principles of governmental accounting and reporting standards set forth by the Governmental Accounting Standards Board and the Government Finance Officers Association. KRS' financial transactions are reported on the accrual basis of accounting. Additionally, internal accounting controls provide reasonable assurance regarding the safekeeping of assets and fair presentation of the financial statements and supporting schedules. Please refer to Management's Discussion and Analysis in the Financial Section.

Fiscal 2017 was an eventful and improved year for KRS. We:

» Received PFM recommendations intended to improve the state's retirement systems

» Prepared for the proposed Special Session and pension reform legislation

» Changed our economic actuarial assumptions to be more realistic of the future outlook

» Benefited from improved funding

» Modified our investment policies, asset allocations and manager/consultant lineup, lowered our fees and improved our returns

» Worked with the Legislative and the Executive Branches to improve the effectiveness of General Assembly pension legislation

» Became more outwardly focused on all of our constituents (members, the media, etc.)

» Conducted a Request for Proposal (RFP) process for nearly every area of outsourced services

» Rebuilt our website

PFM Recommendations

The Governor retained consulting firm PFM to evaluate the State's retirement systems and make "best practice" recommendations regarding governance, investments, actuarial assumptions, funding methodology, and importantly our benefits. Their final report was presented to the Legislature on August 29, 2017. Links to all three PFM reports can be found on the KRS website.

Special Legislative Session and Pension Reform

The Governor has announced his intention to create pension reform legislation to deal with the State's "pension crisis". Further, he intends to call a Special Session of the General Assembly to act on that legislation. As of this writing the Special Session has yet to be called.

Actuarial Assumption Changes

At the Board's May and July, 2017 meetings, major changes to the economic actuarial assumptions (inflation, interest rate, and payroll growth) used to calculate the Systems' liabilities and contribution rates were approved. The Board believed the previous assumptions no longer represented a reasonable outlook, were too aggressive, and resulted in understating the existing liabilities and the contributions required to properly fund the Systems.

The assumptions were changed as follows:

	PENSION: KERS Non-Hazardous SPRS	PENSION: CERS Non-Hazardous KERS Hazardous CERS Hazardous All Insurance Funds
PREVIOUS		
Inflation	3.25%	3.25%
Interest Rate	6.75%	7.50%
Payroll Growth	4.00%	4.00%
NEW		
Inflation	2.30%	2.30%
Interest Rate	5.25%	6.25%
Payroll Growth	0.00%	2.00%

As a result, the Systems' estimated unfunded liabilities increased by approximately $5 Billion to $27 Billion, reflecting more accurately the true unfunded position. At the same time, the contribution rates will rise significantly in Fiscal Years 2019 and 2020. Funding from the State and CERS employers will rise in the area of 50% +/- over the next few years. More information regarding the actuarial assumption changes can be found on pages 58, 135, and 137-141. A summary of the Actuarial Unfunded Liabilities can be found on pages 146-149.

Improved Funding

Beginning with Senate Bill 2 (SB 2) in 2013 (effective in Fiscal Year 2015), the Legislature must now approve funding the KERS and SPRS plans at least at the full actuarially required contribution (ARC). For Fiscal Years 2016 and 2017 the Legislature approved an additional $186 million contribution over and above the ARC.

Investment Policy, Asset Allocation and Manager/Consultant Changes

In June, 2016, the five new members of the Investment Committee began a process that resulted in more conservative investment policies and asset allocations for each plan, better aligning each plan's assets to its liquidity needs and risk tolerance, and reducing the number of managers and fees, thereby saving millions of dollars.

Later, the 2017 version of the SB 2 expanded the Committee to nine members with six of them requiring investment experience. The bill also required a new procurement policy and expanded transparency requirements.

The combined KRS investment return for 2017 was 13.47% vs. minus .52% the prior year and 12.4% for the median public pension fund.

Detailed information regarding the KRS investments, the management of those investments, and our investment performance can be found on pages 95-116.

General Assembly

Several bills that passed during the 2017 General Assembly affected KRS. Most notably:

Senate Bill 2- This bill, known as the Pension Accountability and Transparency Bill, requires KRS to be fully transparent with regard to fees, relationships, investment contracts and all aspects of the System. It also requires KRS to comply with the State's Model Procurement Procedures, under Chapter 45A of State law.

Finally, the bill codified much of what was in the Governor's June, 2016 Executive Order regarding KRS Governance.

Senate Bill 104- This bill is often called the Spiking Bill because it limited the abusive practice of members "spiking" their final compensation in order to boost their monthly retirement payments.

House Bill 351- This bill established a new valuation method for employers who wish to leave KRS. In 2015, House Bill 62 (HB 62) established the process an employer

could follow to exit KRS and the valuation method to be used. KRS believed the valuation method in HB 62 would frequently undervalue the employer's liability and therefore let the employer leave without paying their fair share of the existing liability to KRS.

Outward Focus

One of KRS management's Six Mandates is to communicate effectively with all constituents. In Fiscal Year 2017, we began having regular contact with and conducting educational sessions for legislators, members of the administration, LRC staff, the media, employers, and retiree groups. Our objective is to help people better understand the nature of defined benefit plans and the particular issues for KRS.

We sent out a satisfaction survey to our 1,500 employers. Humana surveyed nearly 500 of our retirees regarding how well they are being served. Results from both surveys indicate high levels of overall satisfaction, while identifying those areas needing improvement.

RFP Process

Requests for Proposals (RFPs) were issued for nearly every major area for which we use outside service providers. Committees were formed to review each RFP and interview finalist candidates. Our objective was to improve the quality of services and reduce fees.

Five providers will continue to be retained, while we also added seven new firms and terminated five other firms.

KRS Website

Our website was significantly upgraded in July, 2017. Immediately, we got a significant boost in traffic. An effective website is critically important in order to be able to provide, in a very cost-effective way, the wide variety of information we need to make available. The website also allows members to use our Self Service function for their convenience and reduce the demand on our benefit staff's time.

Going Forward

For the first time in 15 years we can say things are improving in almost every aspect of KRS. Funding has improved dramatically. Our focus on investments has increased. Service to members has improved. We have expanded communications with the Executive and the Legislative Branches. Our Board is committed and has the expertise required to oversee this complex organization and its demands.

While our funded status problem is significant, fiscal year 2017 showed net improvements in many financial areas. We remain dedicated to manage our way through these challenges and return Kentucky Retirement Systems to a sound financial footing.

David L. Eager

Interim Executive Director

2018 BOARD MEETINGS SCHEDULE

Quarterly

February 15
May 17
September 13
November 8
December 6

Annual

April 19

*Dates subject to change. Please visit our website for updates. Meetings begin at 10 am Eastern; All other committee meetings begin at 9:00 am Eastern unless otherwise noted.

COMMITTEE MEETINGS SCHEDULE

AUDIT

February 1
May 3
August 23
November 1

INVESTMENT

February 6
May 1
August 28
November 7

RETIREE HEALTH PLAN

February 13
May 8
September 6
November 13

ADMINISTRATIVE & DISABILITY APPEALS

Check website for dates and times.

2017 Board of Trustees

as of December 1, 2017

Appointed Members:

John R. Farris, *Chair*
Governor Appointee
Term ends 6/17/19

W. Joe Brothers
Governor Appointee
Term ends 7/1/21

John E. Chilton
Governor Appointee
Term ends 6/17/18

William S. Cook
Governor Appointee
Term ends 6/17/19

Kelly Downard
Governor Appointee
Term ends 6/17/19

Thomas K. Elliott
Governor Appointee
Term ends 3/31/19
Non-voting

J.T. Fulkerson
Governor Appointee
Term ends 7/1/21

David M. Gallagher
Governor Appointee
Term ends 7/1/21

David L. Harris
Governor Appointee
Term ends 6/17/18

Matthew Monteiro
Governor Appointee
Term ends 6/17/19

Neil P. Ramsey
Governor Appointee
Term ends 6/17/18

Thomas B. Stephens
Personnel Secretary
Ex-Officio

Elected Members:

Vince Lang
Elected by KERS
Term ends 3/31/18

Keith Peercy
Elected by SPRS
Term ends 3/31/19

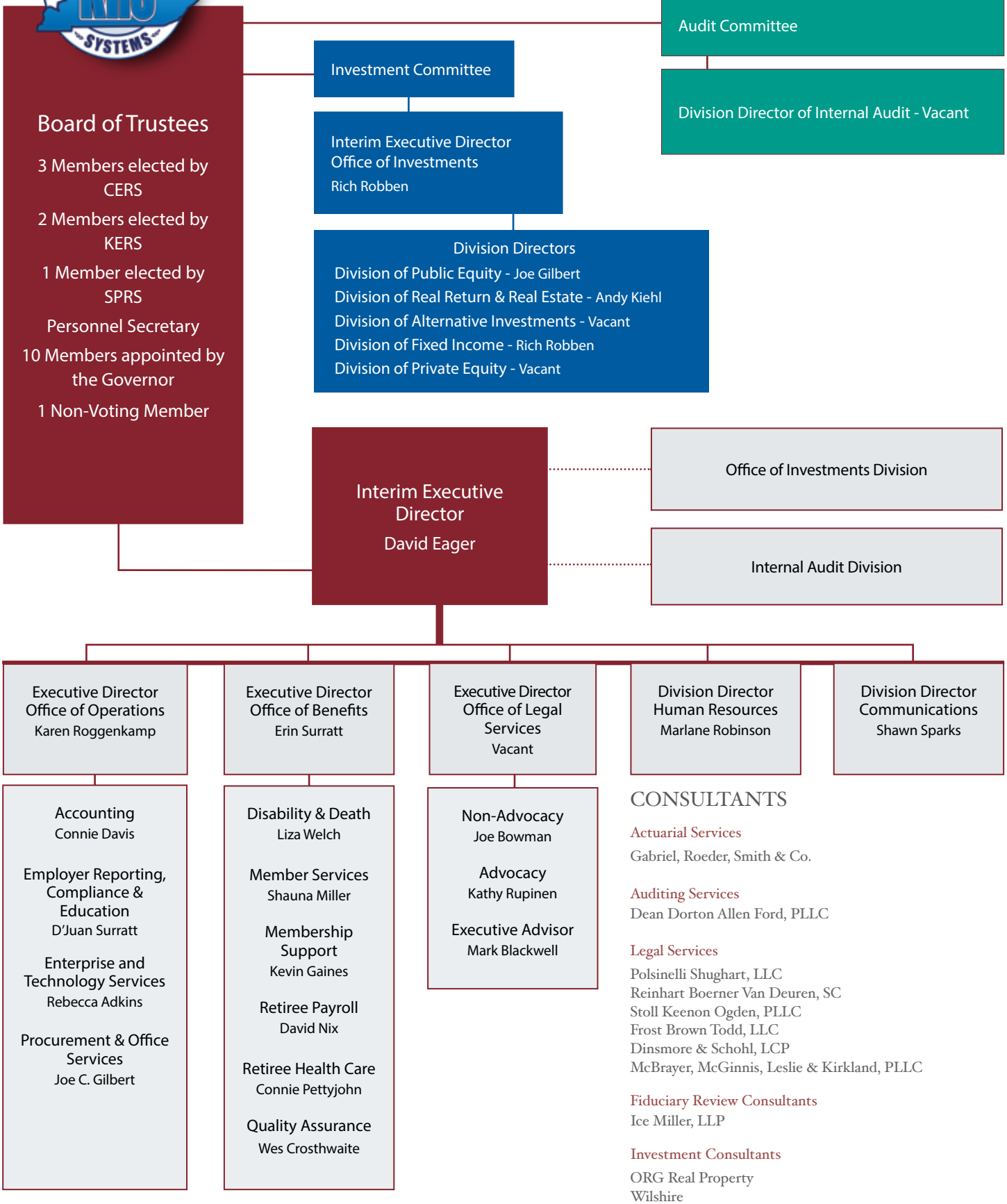
Betty Pendergrass
Elected by CERS
Term ends 3/31/21

Mary Helen Peter
Elected by KERS
Term ends 3/31/18

Jerry W. Powell
Elected by CERS
Term ends 3/31/21

David Rich
Elected by CERS
Term ends 3/31/21

Agency Structure *as of December 1,2017*



CONSULTANTS

Actuarial Services
Gabriel, Roeder, Smith & Co.

Auditing Services
Dean Dorton Allen Ford, PLLC

Legal Services
Polsinelli Shughart, LLC
Reinhart Boerner Van Deuren, SC
Stoll Keenon Ogden, PLLC
Frost Brown Todd, LLC
Dinsmore & Schohl, LCP
McBrayer, McGinnis, Leslie & Kirkland, PLLC

Fiduciary Review Consultants
Ice Miller, LLP

Investment Consultants
ORG Real Property
Wilshire

Master Custodian
Bank of New York, Mellon

Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Kentucky Retirement Systems

For its Comprehensive Annual Financial Report for the Fiscal Year Ended

June 30, 2016

Executive Director/CEO

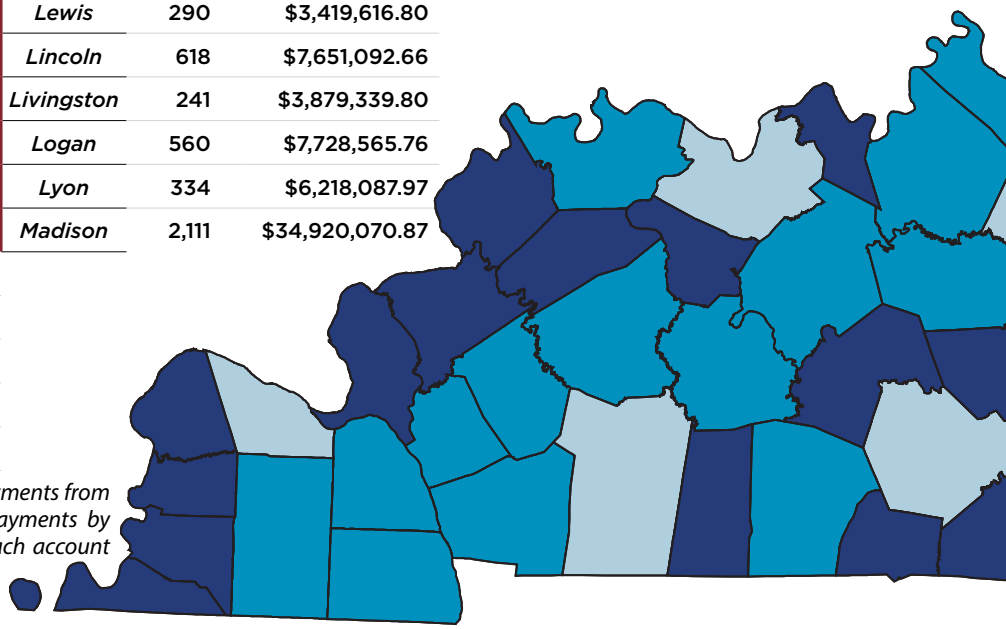
Certificate of Achievement

The Government Finance Officers Association (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Kentucky Retirement Systems for its Comprehensive Annual Financial Report (CAFR) for the fiscal year ended June 30, 2016. The Certificate of Achievement is a prestigious national award recognizing excellence in the preparation of state and local government financial reports and is valid for a period of one year. This was the 18th consecutive award earned by KRS. In order to be awarded a Certificate of Achievement, a government unit must publish an easily readable and efficiently organized document. The report must satisfy both generally accepted accounting principles and applicable legal requirements. We believe our 2017 CAFR will continue to meet the Certificate of Achievement Program's requirements, and we will be submitting it to the GFOA for their consideration.

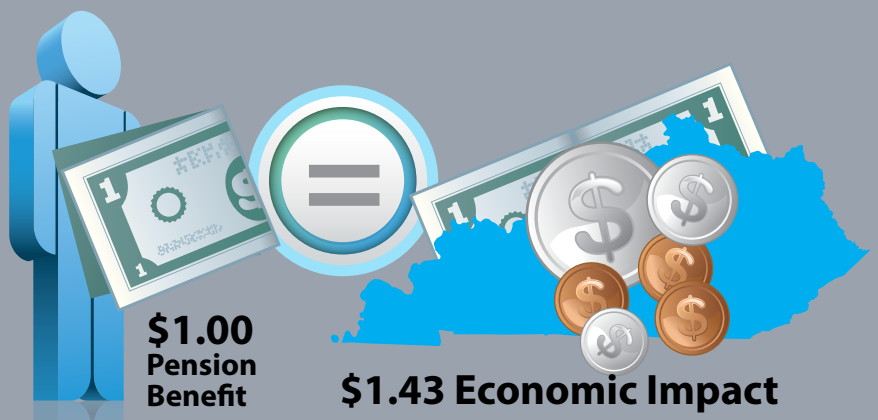
2017 Total Fiscal Year KRS Pension Benefits Paid by County

County	Payees	Total	County	Payees*	Total	County	Payees*	Total
Adair	440	$7,318,804.53	*Garrard*	411	$6,068,886.00	*Magoffin*	320	$4,452,060.36
Allen	370	$4,772,602.57	*Grant*	541	$9,930,433.93	*Marion*	511	$6,994,625.97
Anderson	1,273	$31,002,832.61	*Graves*	804	$12,181,400.35	*Marshall*	787	$11,446,220.33
Ballard	208	$3,007,006.89	*Grayson*	652	$9,794,275.99	*Martin*	252	$2,731,521.26
Barren	965	$15,068,110.27	*Green*	263	$3,694,662.74	*Mason*	376	$6,052,299.02
Bath	350	$5,181,757.88	*Greenup*	595	$7,883,006.04	*Mccracken*	1,453	$25,884,598.50
Bell	603	$9,392,742.64	*Hancock*	216	$2,702,617.06	*Mccreary*	377	$3,849,805.28
Boone	1,581	$31,227,964.76	*Hardin*	1,952	$32,157,981.88	*Mclean*	279	$3,951,747.52
Bourbon	506	$8,218,097.22	*Harlan*	586	$9,033,014.33	*Meade*	396	$5,554,848.75
Boyd	966	$15,680,983.88	*Harrison*	421	$6,249,249.52	*Menifee*	202	$2,763,961.49
Boyle	818	$14,140,919.91	*Hart*	288	$4,040,330.69	*Mercer*	716	$12,653,136.47
Bracken	199	$2,462,237.04	*Henderson*	979	$16,174,544.92	*Metcalfe*	296	$3,606,721.82
Breathitt	448	$6,821,135.09	*Henry*	860	$18,962,708.09	*Monroe*	229	$2,589,621.70
Breckinridge	402	$5,738,076.42	*Hickman*	91	$1,714,044.73	*Montgomery*	579	$8,930,379.27
Bullitt	1,351	$23,752,396.23	*Hopkins*	1,154	$17,325,607.50	*Morgan*	548	$9,177,746.02
Butler	299	$4,099,697.20	*Jackson*	308	$3,961,270.39	*Muhlenberg*	693	$8,389,213.27
Caldwell	488	$7,202,606.00	*Jefferson*	15,310	$325,794,270.78	*Nelson*	895	$15,080,949.16
Calloway	999	$13,925,387.13	*Jessamine*	924	$15,865,049.21	*Nicholas*	199	$2,578,888.86
Campbell	1,401	$25,795,030.61	*Johnson*	587	$9,103,210.69	*Ohio*	587	$6,277,088.00
Carlisle	117	$1,532,019.71	*Kenton*	2,084	$42,899,813.73	*Oldham*	1,204	$24,592,220.51
Carroll	299	$4,569,358.54	*Knott*	393	$6,004,471.17	*Owen*	503	$11,500,522.89
Carter	726	$9,368,724.44	*Knox*	558	$8,648,791.48	*Owsley*	198	$2,935,138.57
Casey	328	$4,251,222.57	*Larue*	317	$4,966,500.58	*Pendleton*	337	$5,350,325.97
Christian	1,457	$24,938,261.86	*Laurel*	1,139	$18,818,630.71	*Perry*	705	$10,096,361.90
Clark	747	$12,461,679.04	*Lawrence*	299	$3,740,499.85	*Pike*	1,130	$16,803,539.36
Clay	543	$7,533,406.25	*Lee*	220	$3,169,387.38	*Powell*	313	$4,110,623.80
Clinton	228	$2,904,964.35	*Leslie*	223	$3,263,560.12	*Pulaski*	2,052	$34,260,247.53
Crittenden	199	$2,621,265.40	*Letcher*	550	$7,278,511.04	*Robertson*	65	$1,043,951.85
Cumberland	172	$2,458,014.02	*Lewis*	290	$3,419,616.80			
Daviess	2,401	$41,681,263.36	*Lincoln*	618	$7,651,092.66			
Edmonson	206	$2,966,286.69	*Livingston*	241	$3,879,339.80			
Elliott	161	$2,210,912.83	*Logan*	560	$7,728,565.76			
Estill	354	$4,998,273.20	*Lyon*	334	$6,218,087.97			
Fayette	5,057	$109,435,668.53	*Madison*	2,111	$34,920,070.87			
Fleming	426	$7,185,152.62						
Floyd	818	$12,510,377.34						
Franklin	6,093	$189,377,621.13						
Fulton	158	$1,807,458.02						
Gallatin	111	$1,892,724.76						

NOTE: Beginning in 2016, members receiving payments from multiple accounts will be represented in the Payments by County table as one payee. In previous years each account was represented separately.



County	Payees*	Total
Rockcastle	361	$4,801,684.93
Rowan	822	$13,714,162.87
Russell	517	$7,482,896.71
Scott	1,124	$23,205,393.74
Shelby	1,505	$37,159,552.92
Simpson	261	$2,888,999.61
Spencer	447	$9,228,659.56
Taylor	564	$8,167,471.74
Todd	240	$3,284,896.98
Trigg	490	$7,725,121.52
Trimble	243	$3,706,544.27
Union	328	$3,673,938.20
Warren	2,556	$44,724,535.62
Washington	294	$4,704,961.93
Wayne	485	$6,886,928.79
Webster	322	$4,160,204.72
Whitley	950	$13,596,343.87
Wolfe	303	$4,925,727.13
Woodford	935	$23,094,625.88

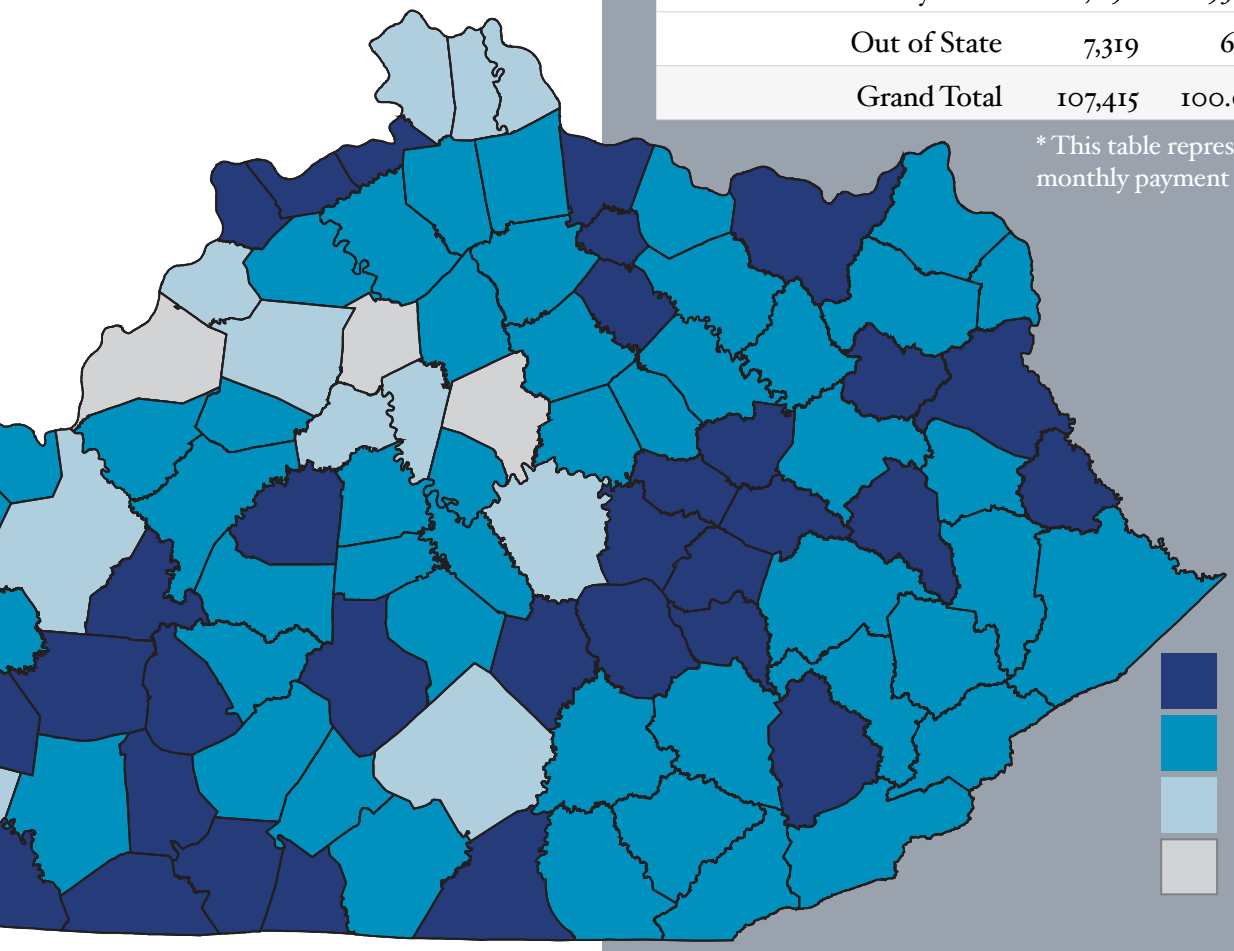


Pension Benefits paid to retirees and beneficiaries of Kentucky Retirement Systems have a wide ranging impact on the state's economic health. In fiscal year 2017, KRS paid over $1.9 billion to its recipients. The majority, 93.85%, of these recipients live in Kentucky. Not only do these dollars impact those receiving a benefit, but according to the National Institute of Retirement Security (NIRS), ***each $1.00 paid out in pension benefits supported $1.43 in total economic activity in Kentucky.*** Each county in the Commonwealth receives at least $1 million annually from KRS, providing a stabilizing element for all local economies.

Total Fiscal Year Retirement Payments

	Payees	%	Payments
Kentucky Total	100,096	93.85%	$1,837,547,565
Out of State	7,319	6.15%	$120,170,968
Grand Total	107,415	100.00%	$1,957,718,533

* This table represents all payees receiving a monthly payment during the fiscal year.



BENEFIT TIERS

KRS currently administers three different pension benefit tiers within our defined benefit plans. The Hybrid Cash Balance plan was established as a part of Senate Bill 2, which was enacted by the Kentucky General Assembly during the 2013 Regular Session.

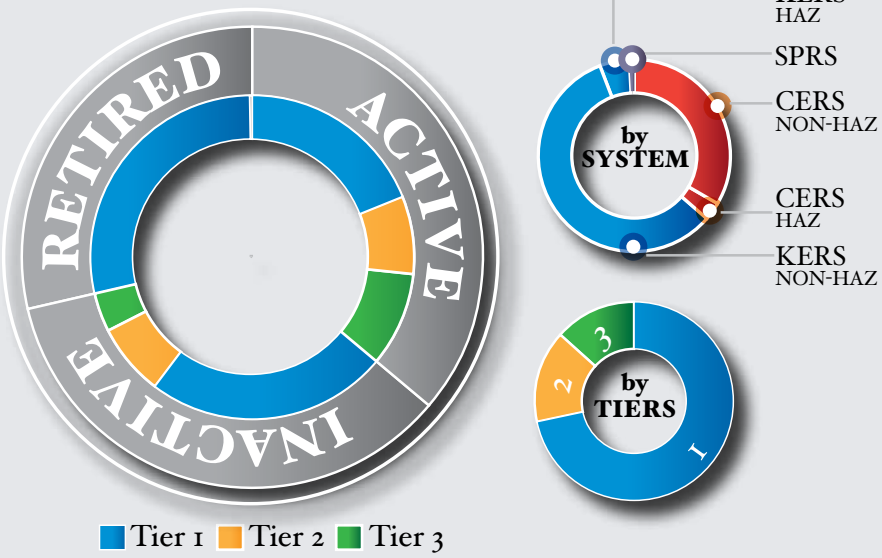
Members participating before September 1, 2008

Members participating on or after September 1, 2008 through December 31, 2013

Members participating on or after January 1, 2014

Total Systems

See comparative totals and more detailed information on in the Statistical Section beginning on page 166.



	ACTIVE	INACTIVE	RETIRED	TOTAL
Tier 1	70,542	90,058	106,058	266,658
Tier 2	28,997	27,072	176	56,245
Tier 3	35,879	13,741	0	49,620
TOTAL	**135,418**	**130,871**	**106,234**	**372,523**

Plan Net Position *($ In Thousands)*

Fund	2012	2013	2014	2015	2016	2017
Pension	$10,758,706	$11,153,182	$12,015,897	$11,646,481	$10,877,758	$11,921,906
Insurance	$3,089,313	$3,521,894	$4,154,401	$4,246,892	$4,231,311	$4,783,905
Total	**$13,848,019**	**$14,675,076**	**$16,170,298**	**$15,893,373**	**$15,109,069**	**$16,705,811**

KERS

133,635 MEMBERS

NON-HAZARDOUS

122,386 MEMBERS

ACTIVE MEMBERSHIP

Tier 1 **21,229** | Tier 2 **7,555** | Tier 3 **7,941**

AVERAGE AGE	AVERAGE ANNUAL SALARY
45.4	$41,133

RETIRED MEMBERSHIP

Tier 1 **40,762** | Tier 2 **51** | Tier 3 **0**

AVERAGE AGE	AVERAGE ANNUAL BENEFIT PAYMENT
68.8	$21,699

HAZARDOUS

11,247 MEMBERS

ACTIVE MEMBERSHIP

Tier 1 **1,730** | Tier 2 **946** | Tier 3 **1,385**

AVERAGE AGE	AVERAGE ANNUAL SALARY
40.3	$40,133

RETIRED MEMBERSHIP

Tier 1 **2,817** | Tier 2 **6** | Tier 3 **0**

AVERAGE AGE	AVERAGE ANNUAL BENEFIT PAYMENT
64.5	$15,306

CERS

236,308 MEMBERS

NON-HAZARDOUS

217,359 MEMBERS

ACTIVE MEMBERSHIP

Tier 1 **41,611** | Tier 2 **18,271** | Tier 3 **24,519**

AVERAGE AGE	AVERAGE ANNUAL SALARY
47.9	$29,835

RETIRED MEMBERSHIP

Tier 1 **53,907** | Tier 2 **111** | Tier 3 **0**

AVERAGE AGE	AVERAGE ANNUAL BENEFIT PAYMENT
70.2	$11,583

HAZARDOUS

18,949 MEMBERS

ACTIVE MEMBERSHIP

Tier 1 **5,394** | Tier 2 **2,018** | Tier 3 **1,909**

AVERAGE AGE	AVERAGE ANNUAL SALARY
39.2	$57,044

RETIRED MEMBERSHIP

Tier 1 **7,179** | Tier 2 **7** | Tier 3 **0**

AVERAGE AGE	AVERAGE ANNUAL BENEFIT PAYMENT
61.8	$27,326

SPRS

2,581 MEMBERS

HAZARDOUS

2,581 MEMBERS

ACTIVE MEMBERSHIP

Tier 1 **578** | Tier 2 **207** | Tier 3 **125**

AVERAGE AGE	AVERAGE ANNUAL SALARY
37.5	$53,819

RETIRED MEMBERSHIP

Tier 1 **1,392** | Tier 2 **1** | Tier 3 **0**

AVERAGE AGE	AVERAGE ANNUAL BENEFIT PAYMENT
62.7	$39,774

ACTIVE MEMBERS

135,418

INACTIVE MEMBERS

130,871

RETIRED MEMBERS

106,234

Kentucky Employees Retirement System (KERS)

was established July 1, 1956 by the state legislature.

KERS Non-Hazardous - Plan Net Position *($ In Thousands)*						
Fund	2012	2013	2014	2015	2016	2017
Pension	$2,977,069	$2,760,753	$2,578,291	$2,327,782	$1,980,292	$2,092,781
Insurance	$418,490	$496,040	$646,904	$665,639	$668,318	$781,406
Total	$3,395,559	$3,256,793	$3,225,195	$2,993,421	$2,648,610	$2,874,187

KERS Hazardous - Plan Net Position *($ In Thousands)*						
Fund	2012	2013	2014	2015	2016	2017
Pension	$476,589	$514,592	$561,484	$552,468	$527,880	$605,921
Insurance	$330,730	$372,883	$433,525	$439,113	$437,397	$484,442
Total	$807,319	$887,475	$995,009	$991,581	$965,277	$1,090,363

County Employees Retirement System (CERS)

was established July 1, 1958 by the state legislature.

CERS Non-Hazardous - Plan Net Position *($ In Thousands)*						
Fund	2012	2013	2014	2015	2016	2017
Pension	$5,381,602	$5,795,568	$6,528,146	$6,440,800	$6,141,396	$6,739,142
Insurance	$1,428,821	$1,618,960	$1,878,711	$1,920,946	$1,908,550	$2,160,553
Total	$6,810,423	$7,414,528	$8,406,857	$8,361,746	$8,049,946	$8,899,695

CERS Hazardous - Plan Net Position *($ In Thousands)*						
Fund	2012	2013	2014	2015	2016	2017
Pension	$1,672,970	$1,833,571	$2,087,002	$2,078,202	$2,010,177	$2,227,679
Insurance	$785,874	$891,320	$1,030,303	$1,056,480	$1,056,097	$1,179,313
Total	$2,458,844	$2,724,891	$3,117,305	$3,134,682	$3,066,274	$3,406,992

State Police Retirement System (SPRS)

was established July 1, 1958 by the state legislature.

SPRS - Plan Net Position *($ In Thousands)*						
Fund	2012	2013	2014	2015	2016	2017
Pension	$250,476	$248,698	$260,974	$247,229	$218,013	$256,383
Insurance	$125,398	$142,691	$164,958	$164,714	$160,949	$178,191
Total	$375,874	$391,389	$425,932	$411,943	$378,962	$434,574

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DEANDORTON
DEAN DORTON ALLEN FORD, PLLC

Report of
Independent Auditors

Board of Trustees
Kentucky Retirement Systems
Perimeter Park West
1260 Louisville Road
Frankfort, Kentucky 40601

Report on the Combining Financial Statements

We have audited the accompanying combining financial statements of the Pension Funds and Insurance Fund of the Kentucky Retirement Systems, a component unit of the Commonwealth of Kentucky, as of and for the fiscal year ending June 30, 2017, and the related notes to the combining financial statements, which collectively comprise the Kentucky Retirement Systems' basic combining financial statements as listed in the table of contents.

Management's Responsibility for the Combining Financial Statements

Management is responsible for the preparation and fair presentation of these combining 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 combining financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these combining 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 the 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 combining financial statements are free from material misstatement.

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

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

Opinion

In our opinion, the combining financial statements referred to above present fairly, in all material respects, the respective combining plan net position of the Pension Funds and Insurance Fund of the Kentucky Retirement Systems, a component unit of the Commonwealth of Kentucky, as of June 30, 2017, and the respective combining changes in plan net position for the fiscal year then ended, in accordance with accounting principles generally accepted in the United States of America.

Report on Summarized Comparative Information

We have previously audited the Kentucky Retirement Systems' 2016 combining financial statements of the Pension Funds and Insurance Fund, and we expressed an unmodified audit opinion on those audited combining financial statements in our report dated December 1, 2016. In our opinion, the summarized comparative information presented herein as of and for the fiscal year ended June 30, 2016, is consistent, in all material respects, with the audited combining financial statements from which it has been derived.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis (pages 21-28) and the Schedules of Changes in Employers' Total Pension Liability (TPL) (pages 66-70), Schedules of Employers' Net Pension Liability (pages 71-72), Schedules of Employers' Contributions, (pages 73-75), Schedule of Changes in Employers' Net OPEB Liability (page 78), Schedule of the Employers' Net OPEB Liability (page 79), Schedule of Employers' OPEB Contributions (pages 82-84), be presented to supplement the basic combining financial statements. Such information, although not a part of the basic combining financial statements, is required by the *Governmental Accounting Standards Board* who considers it to be an essential part of the financial reporting for placing the basic combining financial statements in an appropriate operational, economical, 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 combining financial statements, and other knowledge we obtained during our audit of the basic combining financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures did not provide us with sufficient evidence to express an opinion or provide any assurance.

Additional Supporting Schedules

Our audit was conducted for the purpose of forming an opinion on the combining financial statements that collectively comprise the Pension Funds and the Insurance Fund of the Kentucky Retirement Systems' basic combining financial statements. The additional supporting schedules (pages 86-87) are presented for purposes of additional analysis and are not a required part of the basic combining financial statements. The additional supporting schedules are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic combining financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic combining 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 combining financial statements or to the basic combining financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the additional supporting schedules are fairly stated, in all material respects, in relation to the basic combining financial statements as a whole.

The Introductory, Actuarial, Investment, and Statistical sections are presented for purposes of additional analysis and are not a required part of the combining financial statements. These sections have not been subjected to the auditing procedures applied in the audit of the combining financial statements, and accordingly, we do not express an opinion or provide any assurance on them.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated December 7, 2017 on our consideration of the Kentucky Retirement Systems' internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Kentucky Retirement Systems' 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 Kentucky Retirement Systems' internal control over financial reporting and compliance.

Dean Dorton Allen Ford, PLLC

December 7, 2017
Lexington, Kentucky

Management's DISCUSSION & ANALYSIS (Unaudited)

This discussion and analysis of Kentucky Retirement Systems' (KRS) financial performance provides an overview of the Pension and Insurance Funds financial activities for the fiscal year ending June 30, 2017. Please read it in conjunction with the combining financial statements, which begin on page 29.

Pension Funds

The following highlights are explained in more detail later in this report.

Total Pension Net Position was $10.9 billion at the beginning of the fiscal year and increased by 9.6% to $11.9 billion at June 30, 2017. The $1.0 billion increase is primarily attributable to positive investment income, higher contributions, and additional General Fund appropriations of $98.2 million.

CONTRIBUTIONS

» Total contributions reported for fiscal year 2017, were $1,674.0 million compared to $1,274.6 million in fiscal year 2016. This change was caused by employer contribution rate increases for all plans except for CERS Hazardous and KERS Hazardous plans; the General Fund appropriations of $98.2 million for KERS and SPRS plans; and, the Employer Cessation Contributions of $53.2 million for KERS Non-Hazardous plan. CERS Hazardous and KERS Hazardous plans contributions are lower due to the improved funding status.

» The member health insurance (401h) contributions totaled $17.0 million for the fiscal year ended June 30, 2017, compared to $14.7 million in the prior fiscal year. This increase was mainly due to new employees in Tier 3.

INVESTMENTS

» The investment portfolio for the Pension Plan reported a net return of 13.47% for fiscal year 2017, compared to the -0.52% return for fiscal year 2016. The investment portfolio experienced realized and unrealized gains across all of the portfolios.

» The net appreciation in the fair value of investments for fiscal 2017 was $1,164.1 million compared to net depreciation of $212.9 million for the prior fiscal year. This $1,377.0 million increase was due to favorable market conditions.

» Interest, dividend, and net securities lending income for fiscal 2017 was $336.6 million compared to $198.6 million in fiscal 2016. The primary driver of this increase was due to favorable market conditions resulting in increased income and dividends across all portfolios.

» Investment expenses totaled $85.5 million for fiscal 2017 compared to $61.7 million (reclassified) in the prior year. A prior year correction was made for June 30, 2016, which resulted in a reclassification between Management Fees and Net Appreciation in Fair Value of Investments. The correction did not impact the overall value of the assets or net position.

DEDUCTIONS

» Pension benefits paid to retirees and beneficiaries for fiscal year 2017 totaled $1,981.1 million compared to $1,903.6 million in fiscal year 2016 (4% increase). The increase was due to a 16% increase in the number of retirees to 118,922. Refund of contributions paid to former members upon termination of employment for fiscal year 2017 totaled $30.7 million compared to $31.0 million in fiscal year 2016, a 1% decrease, due to less members taking a refund when employment terminated.

» KRS' 2017 Pension administrative expense totaled $33.1 million compared to $32.3 million in the prior year. The increase was mainly due to the higher employer contribution made to KERS Non-Hazardous retirement plan for KRS staff.

ACTUARIAL

» The actuarial value of the total pension liability was determined as of June 30, 2017. The discount rate and assumed rate of return used to measure the total pension liability was 5.25% for the KERS Non-Hazardous and SPRS Pension plans. The rate of 6.25% was used for the KERS Hazardous and CERS Pension plans. The payroll growth assumptions for the KERS and SPRS Pension Plans were 0.00% and 2.00% for the CERS Pension Plan. The assumed inflation factor was 2.30% for all plans. The changes in economic assumptions increased the KRS unfunded liability by $5.0 billion.

Insurance Fund

The following highlights are explained in more detail later in this report.

The combined net position of the insurance fund administered by KRS increased by $552.6 million during fiscal 2017. Total combined net position for the fiscal year was $4,783.9 million. Total contributions and net investment income of $914.2 million offset deductions of $361.6 million which resulted in the net position increase.

CONTRIBUTIONS

» Employer contributions of $315.0 million were received in fiscal 2017 compared to $333.1 million in fiscal 2016. Total contributions declined 5.4% primarily due to lower contribution rates for the KERS Hazardous, the CERS Hazardous and the SPRS systems.

» The reimbursement of retired/re-employed health insurance for fiscal 2017 totaled $8.9 million compared to $9.2 million in the prior fiscal year. Employer contributions are required for all retirees returning to work, but employee contributions are waived.

INVESTMENTS

» Interest, dividend and net securities lending income for fiscal 2017 was $128.1 million compared to $78.2 million in fiscal 2016. The primary driver of this increase was due to favorable market conditions resulting in increased income and dividends across all portfolios.

» The investment portfolio reported a net return of 13.72% for the fiscal year, outperforming 2016 net of expense returns of -0.09%, and the 6.25% assumed rate of return for fiscal 2017 target.

» The net appreciation in the fair value of investments for fiscal 2017 was $480.3 million compared to net depreciation of $54.5 million for the prior fiscal year. This $534.8 million increase was due to favorable market conditions.

» Investment expenses totaled $34.2 million for fiscal 2017 compared to $28.8 million (reclassified) in the prior year. A prior year correction was made for June 30, 2016, which resulted in a reclassification between Management Fees and Net Appreciation in Fair Value of Investments. The correction did not impact the overall value of the assets or net position.

DEDUCTIONS

» The total of insurance premiums paid plus self-funded reimbursements was $359.4 million for fiscal 2017. Insurance premiums paid plus self-funded healthcare reimbursements for the prior fiscal year totaled $351.4 million. Premiums paid by the fund for hospital and medical insurance coverage (under age 65) totaled $353.6 million. Payments for the self-funded healthcare reimbursements (over age 65) totaled $5.8 million.

» KRS' 2017 insurance administrative expense increased slightly in 2017 ($2.2 million) compared to 2016 ($2.0 million).

ACTUARIAL

» The actuarial value of the total insurance liability was determined as of June 30, 2017. The discount rate and assumed investment rate of return used to measure the total insurance liability was 6.25% for all plans. Payroll Growth and Inflation for KERS Non-Hazardous, KERS Hazardous and SPRS was 0% and 2.30% respectively. Payroll Growth and Inflation for CERS Non-Hazardous and CERS Hazardous was 2.00% and 2.30% respectively. The changes in economic assumptions increased the unfunded insurance liability from $3.03 billion to $3.61 billion.

Using This Financial Report

Because of the long-term nature of a defined benefit pension plan and post-employment healthcare benefit plan, the combining financial statements alone cannot provide sufficient information to properly reflect the plans' ongoing plan perspective. This financial report consists of two combining financial statements and two required schedules of historical trend information. All plans within KRS are included in the aforementioned combining financial statements. The Combining Statement of Plan Net Position for the Pension Funds on page 29, and the Combining Statement of Plan Net Position for the Insurance Fund on page 31, provides a snapshot of the financial position of each of the three systems at June 30, 2017. The Combining Statement of Changes in Plan Net Position for the Pension Funds on page 30, and the Combining Statement of Changes in Plan Net Position for the Insurance Fund on page 32, summarizes the additions and deductions that occurred for each of the three systems during fiscal 2017.

The Economic Assumptions for the Pension and Insurance Plans as of June 30 on page 58, the Schedules of Changes in Employers' Net Pension Liability on page 66-70, the Schedules of the Employer Net Pension Liability on pages 71-72, the Schedule of Changes in Employers' Net OPEB Liability on page 78, the Schedule of the Employers' Net OPEB Liability on page 79, include current and historical trend information about the actuarially funded status of each plan from a long-term, ongoing plan perspective and the progress made in accumulating sufficient assets to pay benefits and insurance premiums when due. The Schedules of the Employers Contributions – Pensions on pages 73-75, and the Schedule of the Employers Contributions – OPEB pages 82-84 present current and historical trend information about the annual required contributions and the contributions made in relation to the requirement. These Schedules provide information that contributes to understanding the changes over time in the funded status of the plans.

Kentucky Retirement Systems Combined

KRS' combined net position increased $1,596.7 million, during the fiscal year ended June 30, 2017, compared to net position for the prior fiscal year. The increase in net position for the plan year ended June 30, 2017, is primarily attributable to an increase in net investment incomes, higher contributions; and, General Fund appropriations. The analysis focuses on net position (Table 1) and changes in net position (Table 3) of KRS' Pension and Insurance Funds.

FUND ACTIVITIES

Net position of the pension funds increased by $1,044.1 million ($11,921.9 million compared to $ 10,877.8 million). All of these assets are restricted in use to provide monthly retirement allowances to members who contributed to the pension funds as employees and their beneficiaries. Net position of the insurance fund increased by $552.6 million ($4,783.9 million compared to $4,231.3 million). All of these assets are restricted in use to provide hospital and medical insurance benefits to members of the pension funds who receive a monthly retirement allowance.

Financial data presented in this report is abbreviated "in thousands" or "in millions."

Table 1: Plan Net Position *($ In Thousands)*

	Pension Funds			Insurance Funds			Total		
	2017	2016	2015	2017	2016	2015	2017	2016	2015
Cash & Invest.	$12,168,664	$11,410,516	$12,217,470	$4,936,437	$4,401,155	$4,451,155	$17,105,101	$15,811,671	$16,668,625
Receivables	347,625	442,464	459,196	103,747	171,033	148,118	451,372	613,497	607,314
Equip/Int Assets, net of dep/amort.	6,311	8,232	9,924	-	-	-	6,311	8,232	9,924
Total Assets	12,522,600	11,861,212	12,686,590	5,040,184	4,572,188	4,599,273	17,562,784	16,433,400	17,285,863
Total Liabilities	(600,694)	(983,454)	(1,040,109)	(256,279)	(340,877)	(352,381)	(856,973)	(1,324,331)	(1,392,490)
Plan Net Position	$11,921,906	$10,877,758	$11,646,481	$4,783,905	$4,231,311	$4,246,892	$16,705,811	$15,109,069	$15,893,373

Pension Fund Activities

Member contributions increased by $26.8 million. This is primarily due to an increase in covered payroll in CERS Non-Hazardous and CERS Hazardous. Retirement contributions are calculated by applying a percentage factor to salary and are remitted by each employer on behalf of the member. Non-Hazardous members pay pension contributions of 5% of creditable compensation and Hazardous members contribute 8% of creditable compensation.

Employer contributions increased by $216.5 million as a result of the increase in the contribution rates for KERS Non-Hazardous, CERS Non-Hazardous, and SPRS.

Total pension fund deductions increased by $77.7 million. The 4% increase was primarily driven by CERS Non-Hazardous and CERS Hazardous retirement benefit payments.

Net investment income increased by $1,491.1 million. This is illustrated in Table 2. The pension funds experienced an increase in income primarily due to the increase in the fair value of investments.

Table 2. Investment Income (Loss) for Pension Funds *($ In Thousands)*

Investment Income (Loss) - Pension	2017	2016	2015
Increase (decrease) in fair value of investments	$603,703	$(270,041)	$(556,979)
Investment income net of investment expense	251,064	136,917	219,201
Gain on sale of investments	560,380	57,149	542,148
Net investment income (loss)	$1,415,147	$(75,975)	$204,370

Table 3: Changes in Plan Net Position *($ In Thousands)*

	Pension Funds			Insurance Fund			Total		
	2017	2016	2015	2017	2016	2015	2017	2016	2015
Additions:									
Member Cont.	$334,232	$307,422	$298,490	$-	$-	$-	$334,232	$307,422	$298,490
Employer Cont.	1,166,269	949,802	985,996	314,987	333,118	343,604	1,481,256	1,282,920	1,329,600
Heath Ins. Cont.	16,964	14,719	12,570	-	-	-	16,964	14,719	12,570
Pension Spiking Cont.	5,156	2,684	2,858	-	-	-	5,156	2,684	2,858
BoA Settlement	-	-	23,000	-	-	-	-	-	23,000
General Fund Appro.	98,193	-	-	-	-	-	98,193	-	-
Employer Cessation Cont.	53,215	-	-	15,567	-	-	68,782	-	-
Premiums Rec'd	-	-	-	548	721	879	548	721	879
Retired Remp Ins.	-	-	-	8,893	9,155	8,822	8,893	9,155	8,822
Medicare Subsidy	-	-	-	2	-	-	2	-	-
Invest. Inc. (Loss)	1,415,147	(75,975)	204,370	574,187	(5,154)	76,418	1,989,334	(81,129)	280,788
Total Additions	3,089,176	1,198,652	1,527,284	914,184	337,840	429,723	4,003,360	1,536,492	1,957,007
Deductions:									
Benefit payments	1,981,100	1,903,557	1,832,799	-	-	-	1,981,100	1,903,557	1,832,799
Refunds	30,696	30,985	32,881	-	-	-	30,696	30,985	32,881
Administrative Exp.	33,109	32,300	31,020	2,202	2,038	2,180	35,311	34,338	33,200
Healthcare Costs	-	-	-	359,388	351,383	335,053	359,388	351,383	335,053
Capital Projects Exp.	123	533	-	-	-	-	123	533	-
Total Deductions	2,045,028	1,967,375	1,896,700	361,590	353,421	337,233	2,406,618	2,320,796	2,233,933
Inc. (Decrease) in Plan Net Position	$1,044,148	$(768,723)	$(369,416)	$552,594	$(15,581)	$92,490	$1,596,742	$(784,304)	$(276,926)

Insurance Fund Activities

Employer contributions paid into the Insurance Fund decreased by $18.1 million over the prior fiscal year. This decrease is a result of the reduction in the employer contribution rate applied to CERS Non-Hazardous, Hazardous, and SPRS covered payrolls.

Net investment income increased $579.3 million. This increase in net investment income is due primarily to the increase in the fair value of investments. This is illustrated in Table 4 as follows:

Table 4. Investment Income (Loss) for Insurance Fund *($ In Thousands)*

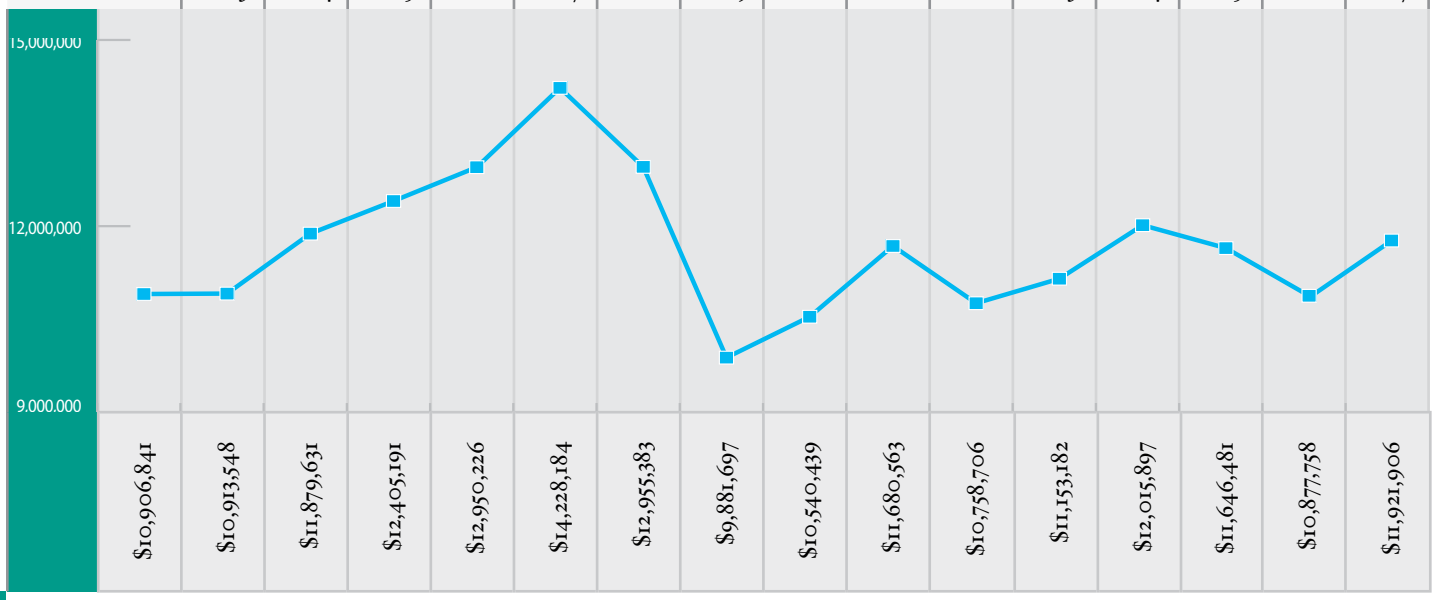
Investment Income (Loss) - Insurance	2017	2016	2015
Increase (decrease) in fair value of investments	$256,937	$(46,852)	$(126,416)
Investment income net of investment expense	93,902	49,380	72,528
Gain (loss) on sale of investments	223,348	(7,682)	130,306
Net investment income (loss)	$574,187	$(5,154)	$76,418

Historical **Trends**

Accounting standards require that the Combining Statement of Net Position state asset value at fair value and include only benefits and refunds due plan members and beneficiaries; accrued investment income (Loss); and, administrative expense, as of the reporting date. Information regarding the actuarial funding status of the Pension and Insurance Funds is provided in the schedules of Net Pension Liability on pages 71-72, and Net OPEB Liability on page 79. The asset value stated in the Schedules of Changes in Employers' Total Pension Liability on pages 66-70 and Net OPEB Liability on page 78 is the actuarial value of assets. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected market value of assets, based on the investment return assumption. The amount recognized each year is 20% of the difference between market value and expected market value. The actuarial accrued liability is calculated using the entry age normal cost funding method. This actuarial accrued liability is the measure of the cost of benefits that have been earned to date by KRS' members, but not yet paid. The difference in value between the actuarial accrued liability and the actuarial value of assets is defined as the unfunded actuarial accrued liability.

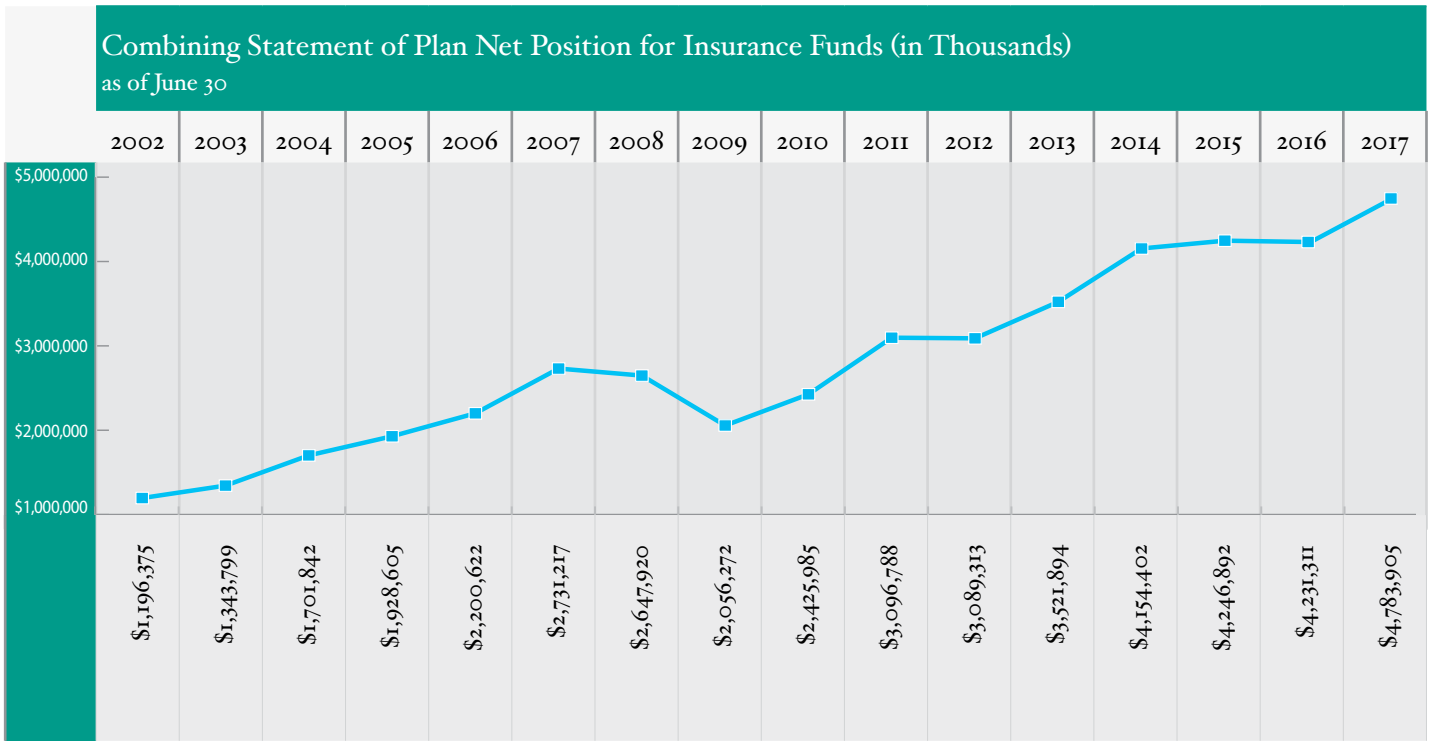
The unfunded actuarial accrued liability in the Pension Plans increased by $5,000.9 million for a total unfunded amount of $23,137.5 million as of June 30, 2017, compared to an unfunded amount of $18,136.6 million as of June 30, 2016. In recent years, funding levels for the Pension Funds have decreased significantly due to a number of factors including: the change in assumptions for the 2017 valuations, investment returns that were less than the actuarially assumed rates, lower payroll growth, and higher than anticipated retirement rates. In addition, KERS Non-Hazardous, KERS Hazardous, and SPRS were funded less than the actuarially determined rate until fiscal year 2015.

Combining Statement of Plan Net Position for Pension Funds *($ In Thousands)* as of June 30

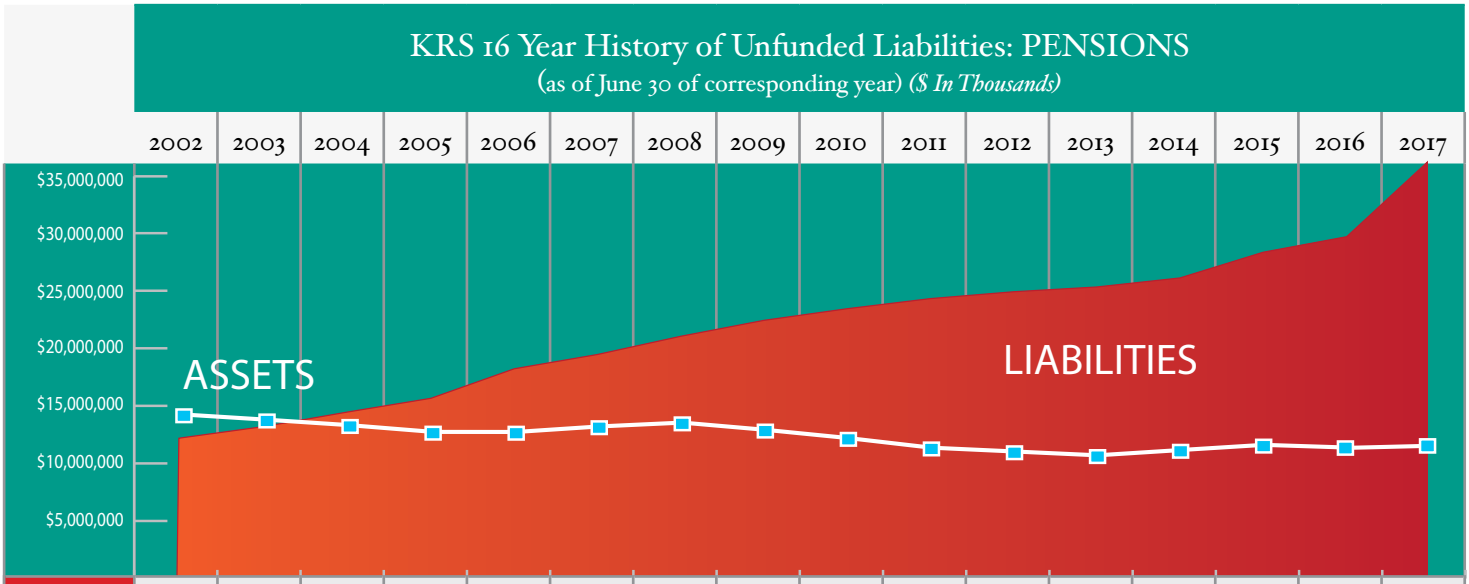


The Insurance Plan's unfunded actuarial accrued liability as of June 30, 2017, was $3,601.1 million compared to $3,033.8 million as of June 30, 2016. This is an increase in the unfunded actuarial accrued liability of $567.3 million (primarily due to 2017 economic valuation assumptions).

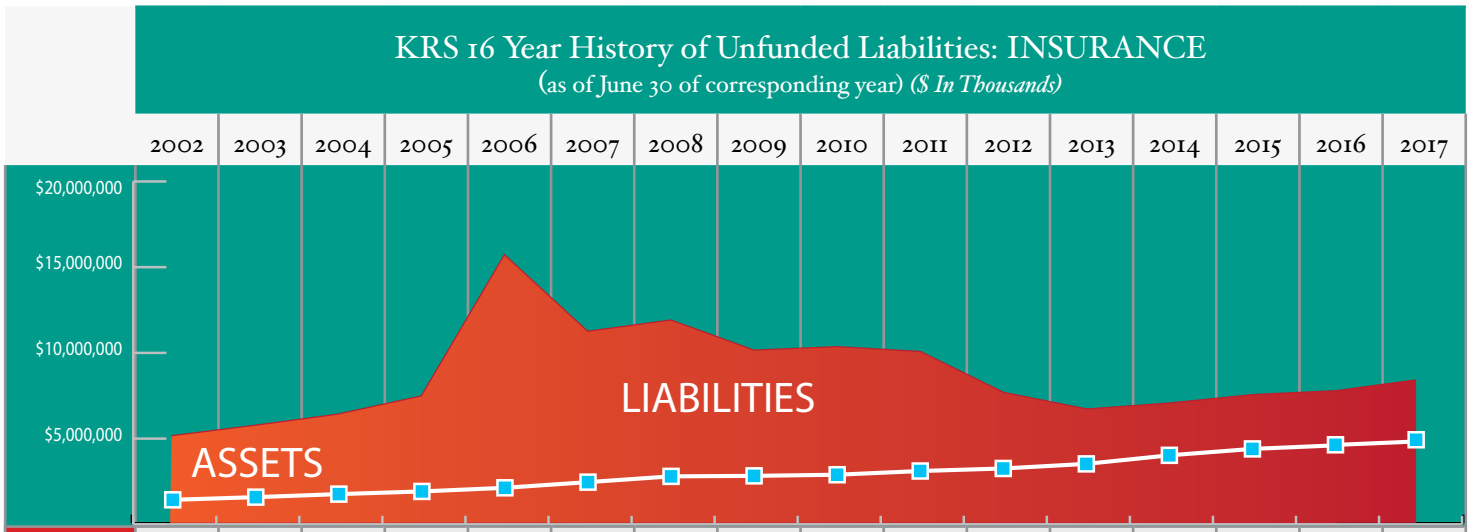
Annual required contributions of the employers as actuarially determined and actual contributions made by employers and other contributing entities in relation to the required contributions are provided in the Schedules of Employer Contributions - Pension on pages 73-75, and in the Schedules of Contributions - OPEB on pages 82-84. The difference in the annual required contributions and actual contributions made by employers and other contributing entities in the KERS and SPRS funds is attributable to the fact that the employer contribution rate set by the Kentucky General Assembly was less than the rate recommended by the KRS Actuary in prior years and adopted by the KRS Board of Trustees.



The following two charts show the unfunded liability trends for the Pension Funds and Insurance Fund:



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
LIABILITIES	$12,221,601	$13,209,450	$14,467,963	$15,657,437	$18,219,676	$19,461,069	$21,042,170	$22,426,648	$23,436,564	$24,314,941	$24,910,996	$25,325,245	$26,109,427	$28,342,896	$29,717,478	$35,132,762
ASSETS	$14,352,723	$13,903,893	$13,428,267	$12,849,048	$12,844,056	$13,319,990	$13,654,186	$13,029,359	$12,313,844	$11,482,472	$11,152,950	$10,822,366	$11,279,369	$11,727,697	$11,580,835	$11,995,296



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
LIABILITIES	$5,068,710	$5,673,504	$6,321,432	$7,373,617	$15,555,005	$11,119,397	$11,771,240	$10,026,423	$10,227,437	$9,947,252	$7,579,441	$6,617,825	$6,968,497	$7,455,291	$7,638,560	$8,523,161
ASSETS	$1,429,174	$1,585,343	$1,762,346	$1,918,345	$2,130,276	$2,461,137	$2,797,730	$2,827,096	$2,892,752	$3,109,510	$3,257,921	$3,525,698	$4,025,160	$4,399,471	$4,604,729	$4,922,021

Combining Statements of Net Position - PENSION FUNDS

As of June 30, 2017 with Comparative Totals as of June 30, 2016 ($ In Thousands)

ASSETS	KERS Non-Hazardous	KERS Hazardous	CERS Non-Hazardous	CERS Hazardous	SPRS	KRS Total 2017	KRS Total 2016
CASH AND SHORT-TERM INVESTMENTS							
Cash Deposits	$1,295	$202	$1,377	$398	$94	$3,366	$1,122
Short-Term Investments	114,474	24,158	241,690	94,636	11,973	486,931	306,244
Total Cash and Short-Term Investments	115,769	24,360	243,067	95,034	12,067	490,297	307,366
RECEIVABLES							
Accounts Receivable	72,979	7,290	45,293	11,530	13,039	150,131	126,336
Accounts Receivable - Investments	37,131	10,038	111,339	34,893	3,999	197,400	316,026
Accounts - Alternate Participation	-	-	-	94	-	94	102
Total Receivables	110,110	17,328	156,632	46,517	17,038	347,625	442,464
INVESTMENTS, AT FAIR VALUE							
Fixed Income	298,401	49,289	569,194	186,885	29,401	1,133,170	1,130,596
Public Equities	817,021	325,287	3,667,140	1,205,590	122,230	6,137,268	5,416,406
Private Equities	375,366	76,247	815,918	275,179	31,352	1,574,062	1,367,455
Derivatives	3,224	1,237	13,947	4,604	441	23,453	12,268
Absolute Return	163,325	44,427	529,213	167,588	17,204	921,757	1,104,196
Real Return	164,692	52,187	557,469	188,078	19,891	982,317	902,277
Real Estate	80,535	27,693	295,613	94,522	11,164	509,527	516,268
Total Investments, at Fair Value	1,902,564	576,367	6,448,494	2,122,446	231,683	11,281,554	10,449,466
Security Lending Collateral Invested	62,354	19,995	230,954	75,707	7,803	396,813	653,684
FIXED/INTANGIBLE ASSETS							
Fixed Assets	929	91	1,701	153	11	2,885	2,819
Intangible Assets	5,920	494	9,961	827	100	17,302	17,302
Accumulated Depreciation	(816)	(81)	(1,498)	(135)	(9)	(2,539)	(2,440)
Accumulated Amortization	(3,894)	(318)	(6,500)	(547)	(78)	(11,337)	(9,449)
Total Fixed Assets	2,139	186	3,664	298	24	6,311	8,232
Total Assets	2,192,936	638,236	7,082,811	2,340,002	268,615	12,522,600	11,861,212
LIABILITIES							
Accounts Payable	3,137	2,404	5,181	1,803	443	12,968	12,499
Investment Accounts Payable	34,664	9,916	107,534	34,813	3,986	190,913	317,271
Securities Lending Collateral	62,354	19,995	230,954	75,707	7,803	396,813	653,684
Total Liabilities	100,155	32,315	343,669	112,323	12,232	600,694	983,454
Total Plan Net Position	$2,092,781	$605,921	$6,739,142	$2,227,679	$256,383	$11,921,906	$10,877,758

See accompanying notes to the combining financial statements.
"The displayed market values include investable assets held by each System, and its associated contributions, payables, and equipment and intangible assets; unlike those found in the Investment Section (pages 116-119), which include only those investable assets held by each System."

Combining Statements of Changes In Plan Net Position - PENSION FUNDS

for the Fiscal Year ending June 30, 2017 with Comparative Totals for the fiscal year ending June 30, 2016 ($ In Thousands)

	KERS Non-Hazardous	KERS Hazardous	CERS Non-Hazardous	CERS Hazardous	SPRS	KRS Total 2017	KRS Total 2016
ADDITIONS							
Member Contributions	$100,544	$17,523	$150,714	$60,102	$5,349	$334,232	$307,422
Employer Contributions	644,803	37,630	331,493	114,315	38,028	1,166,269	949,802
General Fund Appropriations	58,193	15,000	-	-	25,000	98,193	-
Pension Spiking Contributions	909	344	2,061	1,632	210	5,156	2,684
Health Insurance Contributions (HB1)	5,156	811	9,158	1,708	131	16,964	14,719
Employer Cessation Contribution	53,215	-	-	-	-	53,215	-
Total Contributions	862,820	71,308	493,426	177,757	68,718	1,674,029	1,274,627
INVESTMENT INCOME							
From Investing Activities							
Net Appreciation (Depreciation) in FV	170,057	58,939	688,184	225,648	21,255	1,164,083	(212,892)
Interest/Dividends	66,216	16,221	184,728	60,211	7,223	334,599	194,788
Total Investing Activities Income (Loss)	236,273	75,160	872,912	285,859	28,478	1,498,682	(18,104)
Investment Expense	15,600	4,267	48,166	15,765	1,722	85,520	61,727
Net Income (Loss) from Investing Activities	220,673	70,893	824,746	270,094	26,756	1,413,162	(79,831)
From Securities Lending Activities							
Securities Lending Income	477	155	1,791	587	60	3,070	4,636
Securities Lending Expense							
Securities Lending Borrower Rebates	110	37	432	141	14	734	100
Securities Lending Agent Fees	55	18	204	67	7	351	680
Net Income from Securities Lending	312	100	1,155	379	39	1,985	3,856
Total Net Investment Income (Loss)	220,985	70,993	825,901	270,473	26,795	1,415,147	(75,975)
Total Additions	1,083,805	142,301	1,319,327	448,230	95,513	3,089,176	1,198,652
DEDUCTIONS							
Benefit Payments	948,489	61,231	687,460	226,985	56,935	1,981,100	1,903,557
Refunds	11,819	2,106	14,430	2,315	26	30,696	30,985
Administrative Expenses	10,974	919	19,614	1,421	181	33,109	32,300
Capital Project Expenses	34	4	77	7	1	123	533
Total Deductions	971,316	64,260	721,581	230,728	57,143	2,045,028	1,967,375
Net Increase (Decrease) in Plan Net Position	112,489	78,041	597,746	217,502	38,370	1,044,148	(768,723)
Total Plan Net Position - PENSION							
Beginning of Period	1,980,292	527,880	6,141,396	2,010,177	218,013	10,877,758	11,646,481
End of Period	$2,092,781	$605,921	$6,739,142	$2,227,679	$256,383	$11,921,906	$10,877,758

See accompanying notes to the combining financial statements.

Combining Statement of Plan Net Position - INSURANCE FUND

As of June 30, 2017 (with Comparative Totals as of June 30, 2016) ($ In Thousands)

	KERS	KERS	CERS	CERS	SPRS	KRS Total	KRS Total
ASSETS	Non-Hazardous	Hazardous	Non-Hazardous	Hazardous		2017	2016
CASH AND SHORT-TERM INVESTMENTS							
Cash Deposits	$82	$30	$58	$49	$24	$243	$152
Short-Term Investments	45,548	16,254	76,039	40,364	6,653	184,858	123,401
Total Cash and Short-Term Investments	45,630	16,284	76,097	40,413	6,677	185,101	123,553
RECEIVABLES							
Accounts Receivable	12,762	565	11,576	2,579	767	28,249	31,559
Accounts Receivable - Investments	12,099	7,780	34,092	18,693	2,834	75,498	139,474
Total Receivables	24,861	8,345	45,668	21,272	3,601	103,747	171,033
INVESTMENTS, AT FAIR VALUE							
Fixed Income	60,360	38,873	166,223	91,875	13,881	371,212	370,202
Public Equities	441,668	270,111	1,165,790	640,408	96,165	2,614,142	2,278,866
Private Equities	61,318	55,669	283,439	157,861	24,058	582,345	455,395
Derivatives	1,578	976	4,301	2,363	357	9,575	4,660
Absolute Return	61,933	40,824	172,897	97,353	15,346	388,353	413,904
Real Return	66,711	38,825	183,912	93,457	12,462	395,367	347,391
Real Estate	29,809	22,479	97,495	53,457	8,555	211,795	208,905
Total Investments, at Fair Value	723,377	467,757	2,074,057	1,136,774	170,824	4,572,789	4,079,323
Security Lending Collateral Invested	29,676	18,450	80,042	43,848	6,531	178,547	198,279
Total Assets	823,544	510,836	2,275,864	1,242,307	187,633	5,040,184	4,572,188
LIABILITIES							
Accounts Payable	241	22	624	114	12	1,013	354
Investment Accounts Payable	12,221	7,922	34,645	19,032	2,899	76,719	142,244
Securities Lending Collateral	29,676	18,450	80,042	43,848	6,531	178,547	198,279
Total Liabilities	42,138	26,394	115,311	62,994	9,442	256,279	340,877
Total Plan Net Position	$781,406	$484,442	$2,160,553	$1,179,313	$178,191	$4,783,905	$4,231,311

See accompanying notes to the combining financial statements.

Combining Statements of Changes in Plan Net Position - INSURANCE FUND

for the fiscal year ending June 30, 2017 (with Comparative Totals for the fiscal year ending June 30, 2016) ($ In Thousands)

	KERS	KERS	CERS	CERS	SPRS	KRS Total	KRS Total
ADDITIONS	Non-Hazardous	Hazardous	Non-Hazardous	Hazardous		2017	2016
Employer Contributions	$133,024	$4,688	$117,310	$50,743	$9,222	$314,987	$333,118
Medicare Drug Reimbursement	1	-	1	-	-	2	-
Insurance Premiums	248	(51)	707	(301)	(55)	548	721
Retired Reemployed Healthcare	3,765	932	3,402	794	-	8,893	9,155
Employer Cessation Contributions	15,567	-	-	-	-	15,567	-
Total Contributions	152,605	5,569	121,420	51,236	9,167	339,997	342,994
INVESTMENT INCOME							
From Investing Activities							
Net Appreciation (Depreciation) in FV	75,308	49,400	217,622	119,919	18,036	480,285	(54,534)
Interest/Dividends	19,709	13,113	57,871	31,817	4,869	127,379	76,939
Total Investing Activities Income	95,017	62,513	275,493	151,736	22,905	607,664	22,405
Investment Expense	4,227	3,402	16,245	8,992	1,362	34,228	28,817
Net Income (Loss) from Investing Activities	90,790	59,111	259,248	142,744	21,543	573,436	(6,412)
From Securities Lending Activities							
Securities Lending Income	178	111	480	263	39	1,071	1,556
Securities Lending Expense							
Security Lending Borrower Rebates	31	20	83	46	7	187	76
Security Lending Agent Fees	22	14	59	33	5	133	222
Net Income from Securities Lending	125	77	338	184	27	751	1,258
Total Net Investment Income (Loss)	90,915	59,188	259,586	142,928	21,570	574,187	(5,154)
Total Additions	243,520	64,757	381,006	194,164	30,737	914,184	337,840
DEDUCTIONS							
Healthcare Premiums Subsidies	127,648	17,562	124,573	70,407	13,405	353,595	344,946
Administrative Expense	861	105	789	381	66	2,202	2,038
Self Funded Healthcare Costs	1,920	45	3,635	160	24	5,784	6,420
Excise Tax Insurance	3	-	6	-	-	9	17
Total Deductions	130,432	17,712	129,003	70,948	13,495	361,590	353,421
Net Increase (Decrease) in Plan Net Position	113,088	47,045	252,003	123,216	17,242	552,594	(15,581)
Total Plan Net Position - Insurance							
Beginning of Period	668,318	437,397	1,908,550	1,056,097	160,949	4,231,311	4,246,892
End of Period	$781,406	$484,442	$2,160,553	$1,179,313	$178,191	$4,783,905	$4,231,311

See accompanying notes to the combining financial statements.

NOTE A. Summary of Significant Accounting Policies

This summary of significant accounting policies of KRS is presented to assist in understanding KRS' combining financial statements. The combining financial statements and notes are representations of KRS' management, which is responsible for their integrity and objectivity. These accounting policies conform to GAAP and have been consistently applied in the preparation of the combining financial statements.

Organization

Under the provisions of Kentucky Revised Statute Section 61.645, the Board of Trustees (the Board) of KRS administers the KERS, CERS, and SPRS, in accordance with the provisions of Kentucky Revised Statute Sections 16.555, 61.570, and 78.630. The assets of the systems are segregated by plan, where each system's assets are used only for the payment of benefits to the members of that plan, and a pro rata share of administrative costs.

Under the provisions of Kentucky Revised Statute Section 61.701, the KRS Board administers the Kentucky Retirement Systems Insurance Fund. The statutes provide for a single insurance fund to provide group hospital and medical benefits to retirees drawing a benefit from the three pension funds administered by KRS: (1) KERS; (2) CERS; and (3) SPRS. The assets of the Insurance Fund are also segregated by plan. The following notes apply to the various funds administered by KRS.

Basis of Accounting

KRS' combining financial statements are prepared using the accrual basis of accounting. Plan member contributions are recognized in the period in which contributions are due. Employer contributions to the plan are recognized when due and the employer has made a formal commitment to provide the contributions. Benefits and refunds are recognized when due and payable in accordance with terms of the plan. Premium payments are recognized when due and payable in accordance with terms of the plan. Administrative and investment expenses are recognized when incurred.

Method Used to Value Investments

Investments are reported at fair value. Fair value is the 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. Short-term investments are reported at cost, which approximates fair value. See Note D for further discussion of fair value measurements. Purchases and sales of securities are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Dividends are recorded on the dividend date. Gain (loss) on investments includes KRS' gains and losses on investments bought and sold as well held during the fiscal year.

A prior year correction was made for June 30, 2016, which resulted in a reclassification between Management Fees and Net Appreciation in Fair Value of Investments. The correction did not impact the overall value of the assets or the net decrease in plan net position.

Investment returns are recorded in all plans net of investment fees.

Estimates

The preparation of financial statements in accordance with GAAP requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

Equipment

Equipment is valued at historical cost and depreciation is computed utilizing the straight-line method over the estimated useful lives of the assets ranging from three to ten years. Improvements, which increase the useful life of the equipment, are capitalized. Maintenance and repairs are charged to expense as incurred. The capitalization threshold used in fiscal years 2017 and 2016 was $3,000 (see Note J for further information).

Intangible Assets

Intangible assets, currently computer software, are valued at historical cost and amortization is computed utilizing the straight-line method over the estimated useful lives of the assets which is 10 years. The capitalization threshold used in fiscal years 2017 and 2016 was $3,000 (see Note K for further information).

Contributions Receivable

Contributions receivable consists of amounts due from employers. The KRS management considers contributions receivable to be fully collectible; accordingly, no allowance for doubtful accounts is considered necessary. If amounts become uncollectible, they will be charged to operations when that determination is made. If amounts previously written off are collected, they will be credited to income when received.

Investment Income Receivable and Investment Accounts Payable

Due to the timing of receiving partnership financial information, the fair values of the investments in certain limited partnerships have been estimated using the net asset value of the ownership interest in partners' capital as of March 31 of each fiscal year. KRS management will monitor differences in the fair values of these investments between March 31 and June 30 of each fiscal year and will disclose any and all material differences.

The Investment Income Receivable and Investment Accounts Payable consist of all buys and sells of securities which have not closed, as well as all investment related accruals.

Payment of Benefits

Benefits are recorded when paid.

Expense Allocation

KRS administrative expenses are allocated in proportion to the number of total members participating in each plan and direct investment manager expenses are allocated in proportion to the percentage of investment assets held by each plan.

Component Unit

KRS is a component unit of the Commonwealth of Kentucky (the Commonwealth) for financial reporting purposes.

KERS was created by the Kentucky General Assembly pursuant to the provisions of Kentucky Revised Statute 61.515. CERS was created by the Kentucky General Assembly pursuant to the provisions of Kentucky Revised Statute 78.520. SPRS was created by the Kentucky General Assembly pursuant to the provisions of Kentucky Revised Statute 16.510. The Kentucky Retirement Systems Insurance Fund was created by the Kentucky General Assembly pursuant to the provisions of Kentucky Revised Statute 61.701. KRS' administrative budget is subject to approval by the Kentucky General Assembly. Employer contribution rates for KERS and SPRS are also subject to legislative approval. Employer contribution rates for CERS are determined by the Board of KRS without further legislative review. The methods used to determine the employer rates for KRS are specified in Kentucky Revised Statute 61.565. Employee contribution rates are set by statute and may be changed only by the Kentucky General Assembly.

Recent Accounting Pronouncements

In June 2015, the GASB issued Statement No. 75, Accounting and Financial Reporting for Post-employment Benefits Other Than Pensions. The objective of this Statement is to address accounting and financial reporting for Other Post-employment Benefits (OPEB) that are provided to the employees of state and local governmental employers. This Statement establishes standards for recognizing and measuring liabilities; deferred outflows of resources; deferred inflows of resources; and, expense/expenditures. For defined benefit OPEB, this Statement identifies the methods and assumptions that are required to be used to project benefit payments, discount projected benefit payments to their actuarial present value, and attribute that present value to periods of employee service. Note disclosure and required supplementary information requirements about defined benefit OPEB also are addressed. This Statement became effective for the fiscal year beginning July 1, 2017. KRS will provide the agencies their proportionate share in the OPEB unfunded liability, calculated by Gabriel, Roeder, Smith & Co. (GRS), to be used in their financial reports for fiscal year end June 30, 2018.

In June 2017, the GASB issued Statement No. 87, Leases. The objective of this Statement is to address government lessees recognition of lease liabilities, intangible assets, and report amortization expense for using the lease, interest expense on the lease liability, and note disclosures about the lease. Another objective of this Statement is to address government lessors recognition of a lease receivable, deferred inflow, and report lease revenue, interest income, and note disclosures about the lease. This Statement becomes effective for the fiscal year beginning July 1, 2020. KRS is evaluating the impact of this Statement to the financial report.

GASB Statement 84, Fiduciary Activities, establishes criteria for identifying fiduciary activities of all state and local governments and clarifies whether and how business type activities should report their fiduciary activities. This Statement becomes effective for the fiscal year beginning July 1, 2018. KRS is evaluating the impact of this Statement to the financial report.

GASB Statement 82, Pension Issues, was designed to improve consistency in the application of the pension standards by clarifying or amending related areas of existing guidance. Specifically, the practice issues raised by stakeholders during implementation related to GASB 67, 68, and 73. This Statement became effective for the fiscal year beginning July 1, 2017. KRS is evaluating the impact of this Statement to the financial report.

Note B. Plan Descriptions & Contribution Information

Membership in each retirement plan consists of the following as of June 30, 2017 and 2016.
Membership Information.*

KERS

	2017			2016		
Members	Non-Hazardous	Hazardous	Total	Non-Hazardous	Hazardous	Total
Retirees and Beneficiaries Receiving Benefits	40,813	2,823	43,636	40,099	2,739	42,838
Inactive Memberships	44,848	4,363	49,211	43,929	4,067	47,996
Active Plan Members	36,725	4,061	40,786	38,121	3,987	42,108
Total	122,386	11,247	133,633	122,149	10,793	132,942
Number of Participating Employers			354			358

CERS

	2017			2016		
Members	Non-Hazardous	Hazardous	Total	Non-Hazardous	Hazardous	Total
Retirees and Beneficiaries Receiving Benefits	54,018	7,186	61,204	51,673	6,834	58,507
Inactive Memberships	78,940	2,442	81,382	75,904	2,309	78,213
Active Plan Members	84,401	9,321	93,722	83,346	9,139	92,485
Total	217,359	18,949	236,308	210,923	18,282	229,205
Number of Participating Employers			1,138			1,140

SPRS

Members	2017	2016
Retirees and Beneficiaries Receiving Benefits	1,393	1,379
Inactive Memberships	278	262
Active Plan Members	910	924
Total	2,581	2,565
Number of Participating Employers	1	1

**Each person is only counted once in the Membership by System report. A member who has both a membership account and a retired account is included in retired count. Members who have multiple membership accounts are included under the system where they most recently contributed. Members who have more than one retirement account are included in the system with the greatest service credit. If the retired accounts have equal service credit, they are counted first in SPRS, CERS Hazardous, KERS Hazardous, CERS Non-Hazardous, then KERS Non-Hazardous.*

Hospital & Medical Contracts consisted of the following as of June 30, 2017

	Single	Couple/ Family	Parent	Medicare Without Prescription	Medicare With Prescription
KERS Non-Hazardous	8,627	663	411	1,229	20,215
KERS Hazardous	667	432	88	72	1,401
CERS Non-Hazardous	8,313	462	222	2,462	24,247
CERS Hazardous	1,645	2,387	395	125	3,205
SPRS	251	420	79	17	897
Totals	19,503	4,364	1,195	3,905	49,965

Hospital & Medical Contracts consisted of the following as of June 30, 2016

	Single	Couple/ Family	Parent	Medicare Without Prescription	Medicare With Prescription
KERS Non-Hazardous	8,876	656	441	1,286	19,447
KERS Hazardous	663	439	97	66	1,302
CERS Non-Hazardous	8,164	465	235	2,499	23,007
CERS Hazardous	1,595	2,321	378	114	2,969
SPRS	246	447	77	18	850
Totals	19,544	4,328	1,228	3,983	47,575

Medical Insurance coverage is provided based on the member's initial participation date and length of service. Members receive either a percentage or dollar amount for insurance coverage.

Pension Plan Descriptions

These systems provide for retirement, disability, and death benefits to system members. Retirement benefits may be extended to beneficiaries of members under certain circumstances.

Kentucky Employees Retirement System

This system consists of two plans - Non-Hazardous and Hazardous. Each plan is a cost-sharing, multiple-employer defined benefit pension plan that covers all regular full-time members employed in positions of any state department, board, or agency directed by Executive Order to participate in KERS. See Note M (6) for pension legislation allowing agencies to voluntarily apply to cease participation in the system.

County Employees Retirement System

This system consists of two plans - Non-Hazardous and Hazardous. Each plan is a cost-sharing, multiple-employer defined benefit pension plan that covers all regular full-time members employed in positions of each participating county, city, and school board, and any additional eligible local agencies electing to participate in CERS.

State Police Retirement System

This system is a single-employer defined benefit pension plan that covers all full-time state troopers employed in positions by the Kentucky State Police.

Cost of Living Adjustment (COLA)

Prior to July 1, 2009, COLAs were provided annually equal to the percentage increase in the annual average of the consumer price index for all urban consumers for the most recent calendar year, not to exceed 5% in any plan year. After July 1, 2009, the COLAs were limited to 1.50%. No COLA has been granted since July 1, 2011.

Contributions

The Commonwealth is required to contribute at an actuarially determined rate for KERS and SPRS pensions. Participating employers are required to contribute at an actuarially determined rate for CERS pensions. Per Kentucky Revised Statute Sections {KERS 61.565(3); CERS 78.545(33); SPRS 16.645(18)}, normal contribution and past service contribution rates shall be determined by the Board on the basis of an annual valuation last preceding July 1 of a new biennium. The Board may amend contribution rates as of the first day of July of the second year of a biennium, if it is determined on the basis of a subsequent actuarial valuation that amended contribution rates are necessary to satisfy requirements determined in accordance with actuarial bases adopted by the Board. However, formal commitment to provide the contributions by the employer is made through the biennial budget for KERS and SPRS.

For the fiscal year ended June 30, 2017, participating employers contributed a percentage of each employee's creditable compensation. The actuarially determined rates set by the Board for the fiscal year is a percentage of each employee's creditable compensation. Administrative costs of KRS are financed through employer contributions and investment earnings. See chart below for the 2017 and 2016 fiscal year employer contribution rates, including the actuarially recommended rates.

TIER 1:

Tier 1 plan members who began participating prior to September 1, 2008, are required to contribute 5% (Non-Hazardous) and 8% (Hazardous) of their annual creditable compensation. These members are classified in the Tier 1 structure of benefits. Interest is paid each June 30 on members' accounts at a rate of 2.5%. If a member terminates employment and applies to take a refund, the member is entitled to a full refund of contributions and interest.

TIER 2:

Tier 2 plan members, who began participating on, or after, September 1, 2008, and before January 1, 2014, are required to contribute 6% (Non-Hazardous) and 9% (Hazardous) of their annual creditable compensation, while 1% of these contributions are deposited to an account created for the payment of health insurance benefits under 26 USC Section 401(h) in the Pension Fund (see Kentucky Administrative Regulation 105 KAR 1:420E). These members are classified in the Tier 2 structure of benefits. Interest is paid each June 30 on members' accounts at a rate of 2.5%. If a member terminates employment and applies to take a refund, the member is entitled to a full refund of contributions and interest; however, the 1% contribution to the 401(h) account is non-refundable and is forfeited.

TIER 3:

Tier 3 plan members, who began participating on, or after, January 1, 2014, are required to contribute to the Cash Balance Plan. The Cash Balance Plan is known as a hybrid plan because it has characteristics of both a defined benefit plan and a defined contribution plan. Members in the plan contribute a set percentage of their salary each month to their own account. Members contribute 5% (Non-Hazardous) and 8% (Hazardous) of their annual creditable compensation, and an additional 1% to the health insurance fund (401(h) account) which is not credited to the member's account and is not refundable. The employer contribution rate is set annually by the Board based on an actuarial valuation. The employer contributes a set percentage of the member's salary. Each month, when employer contributions are received, an employer pay credit is deposited to the member's account. A member's account is credited with a 4% (Non-Hazardous) and 7.5% (Hazardous) employer pay credit. The employer pay credit represents a portion of the employer contribution.

Contribution Rate Breakdown by System as of June 30, 2017

	Pension				Insurance				Combined Total			
	Employer Contribution Rates		Actuarially Recommended Rates		Employer Contribution Rates		Actuarially Recommended Rates		Employer Contribution Rates		Actuarially Recommended Rates	
	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016
KERS Non-Hazardous	40.24%	30.84%	38.93%	30.84%	8.35%	7.93%	8.35%	7.93%	48.59%	38.77%	47.28%	38.77%
KERS Hazardous	21.08%	16.37%	21.08%	16.37%	2.74%	9.97%	2.74%	9.97%	23.82%	26.34%	23.82%	26.34%
CERS Non-Hazardous	13.95%	12.42%	13.95%	12.42%	4.73%	4.64%	4.93%	4.64%	18.68%	17.06%	18.88%	17.06%
CERS Hazardous	21.71%	20.26%	21.71%	20.26%	9.35%	12.69%	9.79%	12.69%	31.06%	32.95%	31.50%	32.95%
SPRS	70.34%	53.90%	66.47%	53.90%	18.87%	21.86%	18.87%	21.86%	89.21%	75.76%	85.34%	75.76%

Tier 3 Plan

Interest is paid into the Tier 3 member's account. The account currently earns 4% interest credit on the member's account balance as of June 30 of the previous year. The member's account may be credited with additional interest if the system's five-year Geometric Average Net Investment Return (GANIR) exceeded 4%. If the member was actively employed and participating in the fiscal year, and if the systems' GANIR for the previous five years exceeds 4%, then the member's account will be credited with 75% of the amount of the returns over 4% on the account balance as of June 30 of the previous year (Upside Sharing Interest). It is possible that one system in KRS may get an Upside Sharing Interest, while one may not.

Upside Sharing Interest

Upside Sharing Interest is credited to both the member contribution balance and Employer Pay Credit balance. Upside Sharing Interest is an additional interest credit. Member accounts automatically earn 4% interest annually. The GANIR is calculated on an individual system basis. It is possible that one system may get an Upside Sharing Interest, and another system would not.

The chart below shows the interest calculated on the members' balances as of June 30, 2016, and credited to each member account on June 30, 2017.

(A-B) = C x 75%= D then B+D = Interest *($ In Thousands)*

	A	B	C	D		
System	5 Year Geometric Average Return	Less Guarantee Rate of 4%	Upside Sharing Interest	Upside Sharing Interest X 75% = Upside Gain	Interest Rate Earned (4%+Upside)	Total Interest Credited to Member Accounts
KERS Non-Hazardous	7.41%	4.00%	3.41%	2.56%	6.56%	$1,366
KERS Hazardous	7.98%	4.00%	3.98%	2.99%	6.99%	$410
CERS Non-Hazardous	7.85%	4.00%	3.85%	2.89%	6.89%	$2,565
CERS Hazardous	8.07%	4.00%	4.07%	3.05%	7.05%	$616
SPRS	7.59%	4.00%	3.59%	2.69%	6.69%	$53

Insurance Plan Description

The Kentucky Retirement Systems' Insurance Fund (Insurance Fund) was established to provide hospital and medical insurance for eligible members receiving benefits from KERS, CERS, and SPRS. The eligible non-Medicare retirees are covered by the Department of Employee Insurance (DEI) plans. KRS submits the premium payments to DEI. The Board contracts with Humana to provide health care benefits to the eligible Medicare retirees through a Medicare Advantage Plan. The Insurance Fund pays a prescribed contribution for whole or partial payment of required premiums to purchase hospital and medical insurance. For the fiscal year ended June 30, 2017, insurance premiums withheld from benefit payments for members of the Systems were $20.3 million and $1.3 million for KERS Non-Hazardous and Hazardous, respectively; $22.9 million and $2.7 million for CERS Non-Hazardous and Hazardous, respectively; and, $290,387 for SPRS. For fiscal year 2016, insurance premiums withheld from benefit payments for members of the Systems were $20.6 million and $1.2 million for KERS Non-Hazardous and KERS Hazardous, respectively; $22.6 million and $2.2 million for CERS Non-Hazardous and CERS Hazardous, respectively, and $241,535 for SPRS. The Insurance Fund pays the same proportion of hospital and medical insurance premiums for the spouse and dependents of retired hazardous members killed in the line of duty.

As a result of House Bill 290 (2004 Kentucky General Assembly), medical insurance benefits are calculated differently for members who began participating on, or after, July 1, 2003. Once members reach a minimum vesting period of 10 years, non-hazardous employees whose participation began on, or after, July 1, 2003, earn $10 per month for insurance benefits at retirement for every year of earned service without regard to a maximum dollar amount. Hazardous employees whose participation began on, or after, July 1, 2003 earn $15 per month for insurance benefits at retirement for every year of earned service without regard to a maximum dollar amount. Upon death of a hazardous employee, the employee's spouse receives $10 per month for insurance benefits for each year of the deceased employee's earned hazardous service. This dollar amount is subject to adjustment annually, which is currently 1.5%, based upon Kentucky Revised Statutes. See chart for current values for Dollar Contribution. This benefit is not protected under the inviolable contract provisions of Kentucky Revised Statute 16.652, 61.692 and 78.852. The Kentucky General Assembly reserves the right to suspend or reduce this benefit if, in its judgment, the welfare of the Commonwealth so demands.

The amount of contribution paid by the Insurance Fund is based on years of service. For members participating prior to July 1, 2003, years of service and respective percentages of the maximum contribution are as follows:

The amount of contribution paid by the Insurance Fund is based on years of service. For members participating prior to July 1, 2003, years of service and respective percentages of the maximum contribution are as follows:

Portion Paid by Insurance Fund

Years of Service	Paid by Insurance Fund (%)
20+ years	100.00%
15-19 years	75.00%
10-14 years	50.00%
4-9 years	25.00%
Less than 4 years	0.00%

Dollar Contribution for Fiscal Year 2017

For Member participation date on or after July 1, 2003

System	*(in Whole Dollars)*
KERS Non-Hazardous	$13.18
KERS Hazardous	$19.77
CERS Non-Hazardous	$13.18
CERS Hazardous	$19.77
SPRS	$19.77

Note C. Cash, Short-Term Investments & Securities Lending Collateral

The provisions of GASB Statement No. 28, Accounting and Financial Reporting for Securities Lending Transactions, require that cash received as collateral on securities lending transactions, and investments made with that cash, be reported as assets on the financial statements. In accordance with GASB No. 28, KRS classifies certain other investments, not related to the securities lending program, as short-term. Cash and short-term investments consist of the following as of June 30, 2017.

Cash, Short-Term Investments, & Securities Lending Collateral		
KERS *($ In Thousands)*		
	2017	2016
Cash	$1,497	$451
Short-Term Investments	138,632	101,227
Securities Lending Collateral Invested	82,349	150,603
Total	$222,478	$252,281
CERS *($ In Thousands)*		
	2017	2016
Cash	$1,775	$622
Short-Term Investments	336,326	199,114
Securities Lending Collateral Invested	306,661	490,327
Total	$644,762	$690,063
SPRS *($ In Thousands)*		
	2017	2016
Cash	$94	$49
Short-Term Investments	11,973	5,903
Securities Lending Collateral Invested	7,803	12,754
Total	$19,870	$18,706
KRS - Insurance Fund *($ In Thousands)*		
	2017	2016
Cash	$243	$152
Short-Term Investments	184,858	123,401
Securities Lending Collateral Invested	178,547	198,279
Total	$363,648	$321,832

Note D. Investments

Kentucky Revised Statute 61.650 grants the responsibility for the investment of plan assets to the KRS Board. The Board has established an Investment Committee which is specifically charged with the oversight and investment of plan assets. The Investment Committee recognizes their duty to invest the funds in accordance with the "Prudent Person Rule" (set forth in Kentucky Revised Statute 61.650) and manage those funds consistent with the long-term nature of the systems. The Investment Committee has adopted a Statement of Investment Policy that contains guidelines and restrictions for deposits and investments. By statute, all investments are to be registered and held in the name of KRS. The Statement of Investment Policy contains the specific guidelines for the investment of Pension and Insurance assets. Additionally, the Investment Committee establishes specific investment guidelines that are summarized below and are included in the Investment Management Agreement for each investment management firm.

PRUDENT PERSON RULE - A legal maxim restricting the discretion in a client's account to investments that a prudent person seeking reasonable income and preservation of capital might buy for his or her own portfolio.

Equity Investments

Investments may be made in common stock; securities convertible into common stock; preferred stock of publicly traded companies on stock markets; asset class relevant Exchange Traded Funds (ETF); or any other type of security contained in a manager's benchmark. Each individual equity account has a comprehensive set of investment guidelines prepared, which contains a listing of permissible investments, portfolio restrictions and standards of performance.

Fixed Income Investments

The fixed income accounts may include, but are not limited to, the following fixed income securities: U.S. Government and Agency bonds; investment grade U.S. corporate credit; investment grade non-U.S. corporate credit; non-investment grade U.S. corporate credit including both bonds and bank loans; non-investment grade non-U.S. corporate credit including bonds and bank loans; municipal bonds; non-U.S. sovereign debt; mortgages, including residential mortgage backed securities; commercial mortgage backed securities and whole loans; asset-backed securities and emerging market debt (EMD), including both sovereign EMD and corporate EMD; and, asset class relevant ETF's.

Mortgages

Investments may be made in real estate mortgages on a direct basis or in the form of mortgage pool instruments.

Private Equity/Equity Real Estate/Real Return/Absolute Return Investments

Subject to the specific approval of the Investment Committee, investments may be made for the purpose of creating a diversified portfolio of alternative investments. The Board may invest in real estate or alternative investments including, but not limited to and without limitation: venture capital, private equity, real assets, and absolute return investments. The Investment Committee believes absolute returns have the potential to generate substantial income, but may have a higher degree of risk. It is important to note that the KERS (Non-Hazardous) and SPRS have not made any new investments in Private Equity since 2010 and 2016, respectively, due to the inability to invest in long-term investments as a result of cash flow constraints. During fiscal year 2017, the Board made the decision to begin reducing KRS' exposure to absolute returns and dissolve any fund of funds relationships.

Cash Equivalent Securities

The following short-term investment vehicles are considered acceptable: publicly traded investment grade corporate bonds; variable rate demand notes; government and agency bonds; mortgages; municipal bonds; Short Term Investment Funds (STIF); money market funds or instruments (including, but not limited to, certificates of deposit, bank notes, deposit notes, bankers' acceptances and commercial paper); and repurchase agreements relating to the above instruments. Instruments may be selected from among those having an investment grade rating at the time of purchase by at least one recognized bond rating service. In cases where the instrument has a split rating, the lower of the two ratings is used.

All instruments shall have a maturity at the time of purchase that does not exceed two years. Repurchase agreements shall be deemed to have a maturity equal to the period remaining until the date on which the repurchase of the underlying securities is scheduled to occur. Variable rate securities shall be deemed to have a maturity equal to the time left until the next interest rate reset occurs, but in no case will any security have a stated final maturity of more than three years.

KRS' fixed income managers, who utilize cash equivalent securities as an integral part of their investment strategy, are exempt from the permissible investments contained in the preceding paragraph. Permissible short-term investments for fixed income managers shall be included in the investment manager's investment guidelines.

Investment Expenses

In accordance with GASB Statement No. 67 and 74, Financial Reporting for Defined Pension Benefit Plans and Note Disclosures for Defined Contribution Plans, KRS has exercised professional judgment to report investment expenses. It is not cost-beneficial to separate certain investment expenses from either the related investment income or the general administrative expenses. In fiscal year 2015, KRS changed private equity investment fees from a net basis to a gross basis. KRS made this decision to enhance transparency reporting. Prior to 2015, the majority of KRS' private equity investment fees were netted against investment activity which is the standard used within the private equity sector. KRS' net investment income has always included these fees regardless of the reporting method used. During the 2017 Regular Session of the Kentucky General Assembly, the Legislators passed SB2 which requires the reporting of all investment fees and expenses. KRS staff continues to work with managers to enhance fees and expenses reporting.

Derivatives

Derivative instruments are financial contracts that have various effective dates and maturity dates and whose values depend on the values of one or more underlying assets, reference rates, or financial indices. Investments may be made in derivative securities, or strategies which make use of derivative instruments, only if such investments do not cause the portfolio to be in any way leveraged beyond a 100% invested position. Investments in derivative securities are subject to large or unanticipated changes in duration or cash flows, and can be interest only, principal only, inverse floater, or structured note securities. These are permitted only to the extent that they are authorized in a contract or an alternative investment offering memorandum or agreement.

Investments in securities such as collateralized mortgage obligations and planned amortization class issues are allowed if, in the judgment of the investment manager, they are not expected to be subject to large or unanticipated changes in duration or cash flows. Investment managers may make use of derivative securities for defensive or hedging purposes. Any derivative security shall be sufficiently liquid so that it can be expected to be sold at, or near, its most recently quoted market price.

It is the KRS policy that investment managers may invest in derivative securities, or strategies which make use of derivative investments, only if such investments do not cause the portfolio to be in any way leveraged beyond a 100% invested position. Examples of such derivatives include, but are not limited to, foreign currency forward contracts, collateralized mortgage obligations, treasury inflation protected securities, futures, options, and swaps.

For accounting and financial reporting purposes, all derivative instruments are considered investment derivative instruments. The derivatives have been segregated on the Combining Statement of Plan Net Position for both the Pension and Insurance Funds.

In accordance with GASB Statement No. 53, Accounting and Financial Reporting for Derivative Instruments, KRS provides additional disclosure regarding its derivatives. In the following graphic, derivative instruments A, C, D, and F represent those underlying investments that may decrease in fair value relative to the cash market. Similarly, derivative instruments B and E may expose KRS to interest rate risk in that changes in interest rates will adversely affect the fair values of KRS' financial instruments.

As of June 30, 2017, KRS had the following derivative instruments outstanding:

Derivative Instruments *($ In Thousands)*

Pension						
Item	Type	Objective	Term	Market Value[1]	Notional Value	Risk Exposure (%)
A	U.S. Equity Index Futures	Hedge against the drop in equity markets or to equalize cash	9/15/2017	$11,774,972	$11,253	0.10%
B	Fixed Income Securities	Hedge against sudden or dramatic shifts in interest rates	9/29/2017	$11,774,972	$97,983	0.83%
C	Forwards	Hedge against the volatility of an asset's price	9/20/2017	$11,774,972	$3,233	0.03%
Insurance						
Item	Type	Objective	Term	Market Value[1]	Notional Value	Risk Exposure (%)
D	U.S. Equity Index Futures	Hedge against the drop in equity markets or to equalize cash	9/15/2017	$4,756,432	$4,060	0.09%
E	Fixed Income Securities	Hedge against sudden or dramatic shifts in interest rates	9/29/2017	$4,756,432	$36,319	0.76%
F	Forwards	Hedge against the volatility of an asset's price	9/20/2017	$4,756,432	$1,446	0.03%

[1]*Market Value is total market value of all plans.*

RISKS

Custodial Credit Risk for Deposits

Custodial credit risk for deposits is the risk that may occur as a result of a financial institution's failure, whereby KRS' deposits may not be returned. All non-investment related bank balances are held by JP Morgan Chase and each individual account is insured by the Federal Deposit Insurance Corporation (FDIC). In 2010, Congress passed the Financial Crisis Bill and permanently increased the FDIC deposit insurance coverage to $250,000. These cash balances are invested daily by the local institution in overnight repurchase agreements which are required by Kentucky Administrative Regulations (200 KAR 14:081) to be collateralized at 102% of the principal amount.

As of June 30, 2017, and 2016, deposits for KRS Pension Funds were $4.7 million and $5.7 million, respectively. None of these balances were exposed to custodial credit risk as they were either insured or collateralized at required levels.

As of June 30, 2017, and 2016, deposits for KRS Insurance Fund were $251,825 and $162,409, respectively. None of these balances were exposed to custodial credit risk as they were either insured or collateralized at required levels.

Custodial Credit Risk for Investments

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty to a transaction, a government will not be able to recover the value of an investment or collateral securities that are in the possession of an outside party. As of June 30, 2017, and 2016, the currencies in the chart below were uninsured and unregistered, with securities held by the counterparty or by its trust department or agent but not in KRS' name. These funds are cash held by KRS' Global Managers and consist of various currencies.

Custodial Credit Risk *($ In Thousands)*			
		2017	2016
Pension Fund			
	Foreign Currency	$ 1,408,163	$1,568,880
Insurance Fund			
	Foreign Currency	$557,016	$646,194

Pension Fund Securities

As of June 30, 2017, and 2016, the KRS Pension portfolio had $539.2 million and $521.8 million respectively, in debt securities rated below BBB-. The government agencies in which KRS invested are Fannie Mae and the Federal Home Loan Bank, whose credit ratings are AA+.

Insurance Fund Securities

As of June 30, 2017, and 2016, the KRS Insurance portfolio had $165.9 million and $159.0 million respectively, in debt securities rated below BBB-. The government agencies in which KRS invested are Fannie Mae and the Federal Home Loan Bank, whose credit ratings are AA+.

Pension Funds Investment Summary

($ In Thousands)

Type	2017	2016
Fixed Income	$1,133,170	$1,130,595
Public Equities	6,137,268	5,416,406
Private Equities	1,574,062	1,367,456
Derivatives	23,453	12,268
Absolute Return	921,757	1,104,195
Real Return	982,317	902,277
Real Estate	509,527	516,268
Short-Term Investments	486,931	306,243
Accounts Receivable/ Payable	6,487	(1,245)
Total	$11,774,972	$10,754,462

Note: Differences due to rounding.

Insurance Fund Investment Summary

($ In Thousands)

Type	2017	2016
Fixed Income	$371,213	$370,202
Public Equities	2,614,142	2,278,866
Private Equities	582,345	455,395
Derivatives	9,574	4,659
Absolute Return	388,353	413,903
Real Return	395,368	347,391
Real Estate	211,795	208,905
Short-Term Investments	184,860	123,400
Accounts Receivable/ Payable	(1,220)	(2,770)
Total	$4,756,432	$4,199,951

Note: Differences due to rounding.

Credit Risk Debt Securities

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The debt security portfolios are managed by the Investment Division staff and by external investment management firms. All portfolio managers are required by the Statement of Investment Policy to maintain diversified portfolios. Each portfolio is also required to be in compliance with risk management guidelines that are assigned to them based upon the portfolio's specific mandate. In total, the Pension and Insurance Funds' debt securities portfolios are managed using the following guidelines adopted by the Board:

» Bonds, notes, or other obligations issued or guaranteed by the U.S. Government, its agencies or instrumentalities are permissible investments and may be held without restrictions.

» Fixed income investments will be similar in type to those securities found in the KRS fixed income benchmarks and the characteristics of the KRS fixed income portfolio will be similar to the KRS fixed income benchmarks.

» The duration of the total fixed income portfolio shall not deviate from the KRS Fixed Income by more than 25%.

» The duration of the TIPS portfolio shall not deviate from the KRS Fixed Income Index by more than 10%.

» The amount invested in the debt of a single corporation shall not exceed 5% of the total market value of KRS' assets.

» No public fixed income manager shall invest more than 5% of the market value of assets held in any single issue short-term instrument, with the exception of U.S. Government issued, guaranteed or agency obligations.

The table presents the KRS Pension Funds debt ratings as of June 30, 2017, and 2016:

Pension Funds Debt Securities

at Fair Value as of June 30 ($ In Thousands)

Rating	2017	2016
AAA	$88,072	$86,007
AA+	40,496	52,606
AA	6,378	11,483
AA-	13,342	21,615
A+	15,739	19,591
A	35,514	33,958
A-	27,005	25,109
BBB+	56,193	46,520
BBB	63,483	50,103
BBB-	73,754	60,336
BB+	73,429	64,644
BB	68,279	65,913
BB-	78,218	63,249
B+	75,043	73,861
B	70,787	54,210
B-	40,369	36,620
CCC+	14,997	19,077
CCC	13,999	4,594
CCC-	5,432	1,597
CC	9,009	2,109
D	18,596	5,404
NR	71,094	130,560
Total Credit Risk Debt Securities	$959,227	$929,168
Government Agencies	901	3,455
Government Mortgage-Backed Securities	82,149	84,498
Government Issued Commercial Mortgage Backed	19,808	7,693
Government Bonds	71,084	105,782
Total	$1,133,169	$1,130,596

Note: These ratings are based on Standard & Poor's (S&P) Global Ratings. Where S&P ratings are unavailable, equivalent Fitch and Moody's Ratings are used as proxies.

The table presents the KRS Insurance Fund debt ratings as of June 30, 2017, and 2016:

Insurance Fund Debt Securities

at Fair Value as of June 30 ($ In Thousands)

Rating	2017	2016
AAA	$26,700	$31,290
AA+	15,518	19,650
AA	2,275	4,081
AA-	4,337	7,649
A+	5,813	7,554
A	12,369	11,669
A-	9,554	8,752
BBB+	20,081	16,229
BBB	22,688	17,771
BBB-	26,914	18,635
BB+	22,620	19,899
BB	19,733	18,098
BB-	21,762	18,820
B+	20,999	20,603
B	19,232	17,158
B-	12,468	9,418
CCC+	3,545	5,525
CCC	3,394	1,199
CCC-	1,161	65
CC	2,282	749
D	4,479	2,034
NR	34,176	45,391
Total Credit Risk Debt Securities	$312,102	$302,239
Government Agencies	322	1,185
Government Mortgage-Backed Securities	27,723	28,514
Government Issued Commercial Mortgage Backed	6,978	2,462
Government Bonds	24,088	35,802
Total	$371,213	$370,202

Note: These ratings are based on Standard & Poor's (S&P) Global Ratings. Where S&P ratings are unavailable, equivalent Fitch and Moody's Ratings are used as proxies.

Concentration of Credit Risk Debt Securities

Concentration of credit risk is the risk of loss attributed to the magnitude of an entity's exposure in a single issuer. The total debt securities portfolio is managed using the following general guidelines adopted by the Board of KRS:

» Bonds, notes, or other obligations issued or guaranteed by the U.S. Government, its agencies, or instrumentalities are permissible investments and may be held without restrictions.

» Debt obligations of any single U.S. Corporation shall be limited to a maximum of 5% of the total portfolio at market value.

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. Duration measures the sensitivity of the market prices of fixed income securities to changes in the yield curve. Duration is measured using two methodologies: effective and modified duration. Effective duration uses the present value of cash flows, weighted for those cash flows as a percentage of the investment's full price and makes adjustments for any bond features that would retire the bonds prior to maturity. The modified duration, similar to effective duration, measures the sensitivity of the market prices to changes in the yield curve, but does not assume the securities will be called prior to maturity.

The KRS Pension Funds benchmarks its fixed income securities portfolio to a 50/50 blend of the Barclays U.S. Universal Index and the Barclays U.S. High Yield Index. As of June 30, 2017, and 2016, the modified duration of the KRS Pension Funds' fixed income benchmark was 4.71 and 5.75, respectively. At the same points in time, the modified duration of the KRS Pension Funds' fixed income securities portfolio was 5.06 and 5.61, respectively.

KRS Pension Funds Interest Rate Risk as of June 30, 2017, and 2016:

Pension Funds GASB 40 - Interest Rate Risk - *Modified Duration For the Fiscal Year Ended June 30, 2017 ($ In Thousands)*

TYPE	2017	Weighted Avg Modified Duration	2016	Weighted Avg Modified Duration
Asset Backed Securities	$74,249	5.97	$85,827	5.72
Financial Institutions	195,269	4.48	130,653	6.89
Collateralized Mortgage Obligations	14,937	2.93	18,041	3.58
Commercial Mortgage Backed Securities	90,171	2.97	64,195	3.07
Corporate Bonds - Industrial	434,421	5.54	434,384	5.92
Corporate Bonds - Utilities	31,381	5.99	32,234	6.94
Agencies	15,968	3.93	14,954	3.92
Government Bonds - Sovereign Debt	4,533	8.42	10,160	10.58
Mortgage Back Securities Passthrough - Not CMO's	82,975	5.05	86,491	3.25
Local Authorities - Municipal Bonds	22,644	3.11	49,942	6.45
Supranational - Multi-National Bonds	18,672	2.78	14,676	3.13
Treasuries	131,953	6.16	173,967	5.42
Other	15,996	3.59	15,071	8.86
Total	$1,133,169	5.06	$1,130,595	5.61

The KRS Insurance Fund benchmarks its fixed income securities portfolio to a 50/50 blend of the Barclays U.S. Universal Index and the Barclays U.S. High Yield Index. As of June 30, 2017, and 2016, the modified duration of the KRS Insurance Fund fixed income benchmark was 4.85 and 4.71, respectively. At the same points in time, the modified duration of the KRS Insurance Fund fixed income securities portfolio was 4.85 and 3.38, respectively.

KRS Insurance Fund Interest Rate Risk as of June 30, 2017, and 2016:

Insurance Fund: GASB 40 - Interest Rate Risk - Modified Duration For the Fiscal Year Ended June 30, 2017 *($ In Thousands)*

TYPE	2017	Weighted Avg Modified Duration	2016	Weighted Avg Modified Duration
Asset Backed Securities	$20,244	5.35	$28,849	5.02
Financial Institutions	73,800	4.18	47,826	7.38
Collateralized Mortgage Obligations	5,462	3.25	6,181	3.74
Commercial Mortgage Backed Securities	33,521	3.13	23,688	2.68
Corporate Bonds - Industrial	123,030	5.47	124,327	5.95
Corporate Bonds - Utilities	10,482	5.92	10,222	7.18
Agencies	6,025	3.80	4,992	4.16
Government Bonds - Sovereign Debt	1,738	8.19	3,893	10.42
Mortgage Back Securities Passthrough	27,568	5.09	29,229	3.17
Local Authorities - Municipal Bonds	8,750	3.06	19,212	6.18
Supranational - Multi-National Bonds	7,211	2.72	5,657	3.08
Treasuries	46,853	6.00	61,157	5.29
Other	6,529	3.38	4,970	5.89
Total	$371,213	4.85	$370,202	3.38

Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely affect the value of a non-U.S. dollar based investment or deposit within the KRS portfolio. KRS' currency risk exposure, or exchange rate risk, primarily resides with KRS' international equity holdings, but also affects other asset classes. KRS does not have a formal policy to limit foreign currency risk; however, some individual managers are given the latitude to hedge some currency exposures.

All foreign currency transactions are classified as Short-Term Investments.

All gains and losses associated with these transactions are recorded in the Net Appreciation (Depreciation) in the Fair Value of Investments on the combining financial statements.

Kentucky Revised Statute 61.650 grants the responsibility for the investment of plan assets to the board of KRS. The Board has established an investment committee which is specifically charged with the oversight and investment of plan assets.

The following table present KRS' exposure to foreign currency risk as of June 30, 2017, and 2016:

Pension Funds - GASB 40 - Foreign Currency Risk

For the Year Ended June 30, 2016-2017 ($ In Thousands)

	2017	2016
Australian Dollar	$38,506	$38,927
Brazilian Real	18,032	4,670
British Pound Sterling	270,742	278,268
Canadian Dollar	75,198	61,249
Chilean Peso	777	5,195
Columbian Peso	1,001	-
Czech Koruna	375	-
Danish Krone	36,732	33,033
Egyptian Pound	949	978
Euro	445,443	341,559
Hong Kong Dollar	61,886	60,937
Indian Rupee	17,037	6,604
Indonesian Rupiah	28,606	20,838
Israeli Shekel	16,932	7,194
Japanese Yen	228,164	202,208
Malaysian Ringgit	6,284	6,341
Mexican Peso	13,729	13,810
New Zealand Dollar	17,149	17,054
Norwegian Krone	21,189	21,709
Philippine Peso	6,488	9,706
Polish Zloty	1	1
Singapore Dollar	10,519	8,935
South African Rand	7,574	4,163
South Korean Won	34,465	34,652
Swedish Krona	26,267	28,442
Swiss Franc	55,668	48,607
Taiwan Dollar	27,215	12,983
Thai Bhat	9,779	8,391
Turkish Lira	10,719	9,982
Total Securities Subject to Foreign Currency Risk	1,487,424	1,408,163
U.S. Dollar	10,287,547	9,468,026
Total Investment Securities	$11,774,972	$10,754,462

Note: Differences due to rounding and exchange rates. 2016 totals have been updated to reflect accruals.

The following table present KRS' exposure to foreign currency risk as of June 30, 2017, and 2016:

GASB 40 - Foreign Currency Risk Insurance Fund

For the Year Ended June 30, 2016-2017 ($ In Thousands)

	2017	2016
Australian Dollar	$15,723	$14,357
Brazilian Real	7,660	1,740
British Pound Sterling	109,861	110,092
Canadian Dollar	30,632	25,187
Chilean Peso	312	2,513
Columbian Peso	378	-
Czech Koruna	153	-
Danish Krone	15,048	12,354
Egyptian Pound	329	339
Euro	186,582	138,441
Hong Kong Dollar	25,891	23,281
Indian Rupee	7,206	2,763
Indonesian Rupiah	11,865	8,253
Israeli Shekel	6,949	3,140
Japanese Yen	94,145	79,846
Malaysian Ringgit	2,238	2,250
Mexican Peso	5,157	5,472
New Zealand Dollar	6,546	6,288
Norwegian Krone	8,460	8,215
Philippine Peso	2,429	3,704
Singapore Dollar	4,985	4,225
South African Rand	3,590	2,065
South Korean Won	15,685	15,213
Swedish Krona	9,968	11,090
Swiss Franc	23,446	18,618
Taiwan Dollar	11,427	5,732
Thai Bhat	4,164	3,559
Turkish Lira	4,660	4,428
Total Securities Subject to Foreign Currency Risk	615,488	513,145
U.S. Dollar	4,140,943	3,686,806
Total Investment Securities	$4,756,432	$4,199,951

Note: Differences due to rounding and exchange rates. 2016 totals have been updated to reflect accruals.

GASB 72

In accordance with GASB Statement No. 72, Fair Value Measurement and Application, KRS provides this additional disclosure regarding the fair value of its Pension and Insurance investments. KRS categorizes its fair value measurements within the fair value hierarchy established by GAAP.

KRS defined the Fair Value Hierarchy and Levels as follows:

Level 1 –

Quoted prices (unadjusted) in an active market for identical assets or liabilities that KRS has the ability to access at the measurement date (e.g., prices derived from NYSE, NASDAQ, Chicago Board of Trade, and Pink Sheets).

Level 2 –

Inputs other than quoted market prices included in Level 1 that are directly or indirectly observable for the asset or liability (e.g., matrix pricing, market corroborated pricing, and inputs such as yield curves and indices).

Level 3 –

Unobservable inputs for the asset or liability used to measure fair value that rely on KRS' own assumptions about the market participant's assumptions that may be used in pricing the asset or liability (e.g., investment manager pricing for private placements, private equities, hedge funds, etc.).

Debt and equity securities classified in Level 1 of the fair value hierarchy are valued using quoted prices (unadjusted) in an active market for identical assets or liabilities that KRS has the ability to access at the measurement date. Debt securities classified in Level 2 of the fair value hierarchy are valued using a matrix pricing technique. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. Commercial and residential mortgage backed securities, private equity, and real estate classified in Level 3 are valued on KRS' own assumptions about the market participant's assumptions that may be used in pricing the asset or liability.

KRS had the following recurring Fair Value measurements as of June 30, 2017:

FY 2017 GASB 72 Pension Funds *($ In Thousands)*

Asset Type	Market value	Level		
		1	2	3
Alternative Investments	$529,066	$-	$-	$529,066
Cash & Cash Equivalents	303,488	6,229	180,519	116,740
Convertible Or Exchangeable Securities	28,347	19,442	8,905	-
Equity	6,300,098	4,536,206	-	1,763,892
Fixed Income Securities	1,353,140	255,668	967,737	129,735
Futures Contracts	56	56	-	-
Natural Resources	49,810	-	-	49,810
Other	339,129	339,129	-	-
Preferred Securities	82,060	24,071	57,989	-
Private Equity	2,085,499	-	-	2,085,499
Real Estate	509,528	-	-	509,528
Total	$11,580,221	$5,180,803	$1,215,150	$5,184,268

Note: The fair value hierarchies do not reflect cash and accruals thus totals differ from the Investment Summaries.

FY 2017 GASB 72 Insurance Fund *($ In Thousands)*

Asset Type	Market value	Level		
		1	2	3
Alternative Investments	$201,817	$-	$-	$201,817
Cash & Cash Equivalents	109,394	1,766	59,341	48,287
Convertible Or Exchangeable Securities	11,635	7,988	3,647	-
Equity	1,979,725	1,915,089	-	64,636
Fixed Income Securities	1,186,094	130,675	307,960	747,460
Futures Contracts	11	11	-	-
Natural Resources	37,796	-	-	37,796
Other	111,025	111,025	-	-
Preferred Securities	32,743	9,838	22,904	-
Private Equity	798,404	-	-	798,404
Real Estate	211,796	-	-	211,796
Total	$4,680,440	$2,176,392	$393,852	$2,110,196

Note: The fair value hierarchies do not reflect cash and accruals thus totals differ from the Investment Summaries.

Note E. Securities Lending Transactions

Kentucky Revised Statutes Sections 61.650 and 386.020(2) permit the Pension and Insurance Funds to lend their securities to broker-dealers and other entities. The borrowers of the securities agree to transfer to the Funds' custodial banks either cash collateral or other securities with an initial fair value of 102% or 105% of the value of the borrowed securities. The borrowers of the securities simultaneously agree to return the borrowed securities in exchange for the collateral at a later date. The types of securities lent include U.S. Treasuries, U.S. Agencies, U.S. Corporate Bonds, U.S. Equities, Global Fixed Income Securities, and Global Equities Securities.

The Statement of Investment Policy does not address any restrictions on the amount of loans that can be made. As of June 30, 2017, KRS had no credit risk exposure to borrowers because the collateral amounts received exceeded the amounts out on loan. The contracts with the custodial banks require them to indemnify KRS if the borrowers fail to return the securities and one or both of the custodial banks have failed to live up to their contractual responsibilities relating to the lending of securities.

All securities loans can be terminated on demand by either party to the transaction. Deutsche Bank invests cash collateral as permitted by state statute and Board policy. The agent of the Funds cannot pledge or sell collateral securities received unless the borrower defaults. KRS maintains a conservative approach to investing the cash collateral with BNY Mellon, emphasizing capital preservation, liquidity, and credit quality.

As of June 30, 2017, the cash collateral received for the securities on loan for the Pension and Insurance Funds was $396.8 million and $178.5 million, respectively compared to the Fair Value of the underlying securities of $387.2 million and $174.2 million, respectively.

Note F. Risk of Loss

KRS is exposed to various risks of loss related to torts; thefts of, damage to, and destruction of assets; errors and omissions; injuries to employees; and, natural disasters. Under the provisions of the Kentucky Revised Statutes, the Kentucky Claims Commission is vested with full power and authority to investigate, hear proof, and compensate persons for damages sustained to either person or property as a result of negligence of the agency or any of its employees. Awards are limited to $200,000 for a single claim and $350,000 in aggregate per occurrence. Awards and a pro rata share of the operating cost of the Kentucky Claims Commission are paid from the fund of the agency having a claim or claims before the Kentucky Claims Commission.

Claims against the KRS Board, or any of its staff as a result of an actual or alleged breach of fiduciary duty, are insured with two commercial insurance policies. Hallmark Specialty provides coverage of up to $2.5 million and ANV Global Services provides coverage up to $2.5 million for a total coverage of $5 million, with a self-insured retention of $250,000 for each claim. Defense costs incurred in defending such claims will be paid by the insurance company. However, the total defense cost and claims paid shall not exceed the total aggregate coverage of the policies. The aggregate limit for all loss is $5 million, and the HIPAA and PPACA fines and penalties sub-limit is $1.5 million.

Claims for job-related illnesses or injuries to employees are insured by the state's self-insured workers' compensation program. Payments approved by the program are not subject to maximum limitations. A claimant may receive reimbursement for all medical expenses related to the illness or injury and up to 66.67% of wages for temporary disability. Each agency pays premiums based on fund reserves and payroll. Settlements did not exceed insurance coverage in any of the past three fiscal years. Thus, no secondary insurance had to be utilized. There were no claims which were appealed to the Kentucky Workers' Compensation Board.

Note G. Contingencies

In the normal course of business, KRS is involved in litigation concerning the right of participants, or their beneficiaries, to receive benefits. KRS does not anticipate any material losses as a result of the contingent liabilities.

Note H. Defined Benefit Pension Plan

COVERED PAYROLL- The employee payroll that is subject to Pension Contributions Withholding.

All eligible employees of KRS participate in KERS (Non-Hazardous), a cost-sharing, multiple-employer defined pension plan that covers all regular full-time employees in non-hazardous positions of any Kentucky State Department, Board or Agency directed by EO to participate in the system. The plan provides for retirement, disability, and death benefits to plan members. Plan benefits are extended to beneficiaries of plan members under certain circumstances. Tier 1 Plan members contributed 5% of creditable compensation for the fiscal years ended June 30, 2017, 2016, and 2015. Tier 2 and Tier 3 Plan members contributed 6% of creditable compensation for the fiscal years ended June 30, 2017, 2016, and 2015.

The chart below includes the covered payroll and contribution amounts for KRS for the three periods ended June 30 included in this discussion.

Payroll and Contributions as of June 30 *($ In Thousands)*

	2017	2016	2015
Covered Payroll	$13,945	$14,579	$14,138
Required Employer Contributions	$6,776	$5,652	$5,481
Employer Percentage Contributed	100%	100%	100%

Note I. Income Tax Status

The Internal Revenue Service has ruled that KRS qualifies under Section 401(a) of the Internal Revenue Code and is, generally, not subject to tax. KRS is subject to income tax on any unrelated business income; however, KRS had no unrelated business income in fiscal years 2017 and 2016.

Note J. Equipment

Equipment Expenses as of June 30 *($ In Thousands)*		
	2017	2016
Equipment, cost	$2,885	$2,819
Less Accumulated Depreciation	(2,539)	(2,440)
Equipment, net	$346	$379

Depreciation expenses rose to $2,539 in fiscal year 2017, an increase $101 thousand over fiscal year 2016.

Note K. Intangible Assets

The provisions of GASB Statement No. 51, Accounting and Financial Reporting for Intangible Assets, requires that intangible assets be recognized in the Combining Statement of Plan Net Position only if they are considered identifiable. In accordance with GASB No. 51, KRS has capitalized software costs as indicated below for the Strategic Technology Advancements for the Retirement of Tomorrow (START) project.

INTANGIBLE ASSET- An asset that is not physical in nature. Corporate intellectual property, items such as patents, trademarks, copyrights, business methodologies, goodwill and brand recognition, are all common intangible assets in today's marketplace.

Software Expenses as of June 30 *($ In Thousands)*		
	2017	2016
Software, Cost	$17,302	$17,302
Less Accumulated Amortization	(11,337)	(9,449)
Intangible Assets, Net	$5,965	$7,853

Amortization expense rose to $11,337 in fiscal year 2017, an increase of $1.9 million over fiscal year 2016.

Note L. Actuarial Valuation

Working with actuary GRS, completed an actuarial valuation of the Pension and Insurance plans for the period ending June 30, 2017. The 2017 actuarial calculations by Plan included economic actuarial changes from the prior year assumptions, as approved by Board of Trustees in their July 12, 2017, meeting. The Board began with the most recent actuarial experience study for the period of July 1, 2008 through June 30, 2013. The Board contracted with Milliman to complete a review of Investment Return Assumptions and Funding Methodology. The Board also reviewed economic assumption recommendations from GRS, RVK (KRS general investment consultants), and other capital market industry leaders. The following two charts show the sensitivity to the economic assumptions for the Pension Funds and Insurance Fund.

Economic Assumptions - Pension as of June 30										
	KERS		KERS		CERS		CERS		SPRS	
	Non-Hazardous		Hazardous		Non-Hazardous		Hazardous			
	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016
Assumed Investment Return	5.25%	6.75%	6.25%	7.50%	6.25%	7.50%	6.25%	7.50%	5.25%	6.75%
Inflation Factor	2.30%	3.25%	2.30%	3.25%	2.30%	3.25%	2.30%	3.25%	2.30%	3.25%
Payroll Growth	0.00%	4.00%	0.00%	4.00%	2.00%	4.00%	2.00%	4.00%	0.00%	4.00%

Economic Assumptions - Insurance as of June 30										
	KERS		KERS		CERS		CERS		SPRS	
	Non-Hazardous		Hazardous		Non-Hazardous		Hazardous			
	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016
Assumed Investment Return	6.25%	7.50%	6.25%	7.50%	6.25%	7.50%	6.25%	7.50%	6.25%	7.50%
Inflation Factor	2.30%	3.25%	2.30%	3.25%	2.30%	3.25%	2.30%	3.25%	2.30%	3.25%
Payroll Growth	0.00%	4.00%	0.00%	4.00%	2.00%	4.00%	2.00%	4.00%	0.00%	4.00%

GASB 67

GRS completed reports by Plan in compliance with the GASB Statement No. 67 "Financial Reporting for Pension Plans." The total pension liability, net pension liability, and sensitivity information shown in these reports are based on an actuarial valuation date of June 30, 2016, using generally accepted actuarial principles. GRS did not conduct the June 30, 2016, actuarial valuation; however, GRS did replicate the prior actuary's (Cavanaugh Macdonald Consulting, LLC) results on the same assumption, methods, and data. The roll-forward is based on the results of this replication. The actuarial methods, assumptions, results, and sensitivity analysis are in the Required Supplementary Information, pages 64-87.

GASB 74

GRS completed reports by plan in compliance with the GASB Statement No. 74, "Financial Reporting for Postemployment Benefit Plans Other than Pension Plans" (OPEB) for the fiscal year ending June 30, 2017. The total OPEB liability, net OPEB liability, and sensitivity information shown in these reports were based on an actuarial valuation date of June 30, 2016. The total OPEB liability was rolled-forward from the valuation date to the plan's fiscal year ending June 30, 2017, using generally accepted actuarial principles. GRS did not conduct the June 30, 2016 actuarial valuation; however, GRS did replicate the prior actuary's (Cavanaugh Macdonald Consulting, LLC) valuation results on the same assumptions, methods, and data, as of that date. The roll- forward was based on the results of this replication. The actuarial methods, assumptions, results, and sensitivity analysis are in the Required Supplementary Information, pages 64-87.

Note M. Pension Legislation

During the 2017 Regular Session of the Kentucky General Assembly, the following six bills passed that have an impact on KRS:

1. Senate Bill 2 made several changes to the internal governance and operational structure of KRS. Two major changes placed KRS employees under Kentucky Revised Statutes 18A, the Personnel Cabinet, for hiring, firing, promotions, pay grades, status, and evaluations. The second major change placed KRS under the Model Procurement Code for all purchases, except Investment Contracts. The bill also included a section that confirmed much of the Governor's Executive Order from June 2016, including the composition of the Board of Trustees.

2. Senate Bill 3 required the retirement information for any member of the General Assembly, past or present, to be available to the public upon request. Unless a KRS member is a current or former member of the Kentucky General Assembly their retirement benefit information is still confidential.

3. Senate Bill 104 contained changes to how pension "spikes" are determined. A "pension spike" is when a person who is nearing retirement has their salary increase by more than 10% over the previous year's salary.

Senate Bill 104 also has language that would allow Tier 1 and 2 active members to "opt out," or withdraw, from one of those Tiers and join Tier 3, which is the hybrid cash balance plan. The opt-out provision would not take effect unless KRS receives a favorable Private Letter Ruling from the Internal Revenue Service (IRS). Until then, KRS is unable to process any member requests related to this provision.

4. Senate Bill 126 amends the definition of "final compensation" for Tier 2 participants (members who began participating in KRS between September 1, 2008, and January 1, 2014) to allow state and county employees to use partial fiscal years to reach a final compensation calculation that is at least 60 months for Non-Hazardous employees and at least 36 months for Hazardous employees.

5. House Bill 173, the KRS "housekeeping" bill, makes various changes to allow KRS statutes to conform to federal law requirements and generally help KRS become more operationally efficient. This is the first KRS housekeeping bill to pass the General Assembly since 2010.

6. House Bill 62/House Bill 351. During its 2015 regular session, the Kentucky General Assembly enacted House Bill 62, which created Kentucky Revised Statute 61.522. Kentucky Revised Statute 61.522 established a path for participating agencies to voluntarily cease their participation in KERS or CERS by paying their portion of the unfunded liability. Additionally, it authorizes KRS to involuntarily remove certain participating agencies from KERS or CERS. In December 2015 and again in June 2016, KRS published 105 KAR 1:145, an administrative regulation that defined the pension withdrawal process.

Pursuant to Kentucky Revised Statute 61.522 and 105 KAR 1:145, two employers that participate in KERS have sought to end their participation. As of June 30, 2017, the Kentucky Employers Mutual Insurance company (KEMI) and Commonwealth Credit Union (CCU) ceased participation in KRS. KEMI and CCU paid their actuarial determined proportionate share of KRS' actuarial unfunded liability. The total amount for both KEMI's and CCU's cessation has been reported in the combining financial statements.

State legislation passed during the 2015 Session created new statutes that allowed participating agencies to voluntarily cease participation in the Systems. In order to cease participation, one requirement is that the agency has to pay the full actuarial cost of their obligation to the KRS. Until the 2017 Session, agencies were allowed to pay in a lump sum, or through installments over a time period that could be as long as 20 years.

House Bill 351 removes the installment payment option and specifies the formula for determining the assumed rate of return shall be the lesser of the assumed rate of return in the KRS' most recent actuarial valuation or the yield on a thirty (30) year United States Treasury Bond as of the employer's effective cessation date, but shall in no case be lower than the assumed rate of return utilized in the KRS' most recent actuarial valuation minus three and one-half percent (3.5%). The new formula will help ensure that the full actuarial cost for an agency to leave KRS will be paid by that agency.

Note N. City Of Fort Wright

In June 2014, the City of Fort Wright, a participating employer in CERS, filed a lawsuit against KRS alleging that the Board invested CERS funds in investments that were prohibited by both statutory and common law. In addition, the City of Fort Wright alleged that the Board paid substantial asset management fees, which the suit alleges were improper. Although the exact nature and source of the relief sought is unclear, it appears that the City of Fort Wright is seeking a declaration of rights, an injunction barring the placement of CERS assets in certain types of investments, an accounting of CERS assets, restitution of management fees to CERS, and attorney fees. As noted above, the exact nature and scope of the relief sought in this suit is unclear; therefore, no provision has been made in the combining financial statements. In September 2016, the Kentucky Court of Appeals issued an Opinion regarding the appeal of the Trial Court's ruling upon dispositive motions. A Motion for Discretionary Review of the Court of Appeals ruling was filed at the Kentucky Supreme Court on October 21, 2016, which was denied. The case is now proceeding at the Franklin Circuit Court on the merits of the claim made. The City of Fort Wright filed a Renewed Motion for Declaratory Judgement on May 1, 2017. KRS will file its reply to this Renewed Motion upon the resolution of a pending discovery issue.

On September 2, 2015, a CERS member filed a complaint that is substantially similar in terms of allegation and ambiguous requests for relief to that of the City of Fort Wright. The exact nature and scope of the relief sought is unclear; therefore, no provision has been made in the combining financial statements. The member's complaint is currently being held in abeyance pending the outcome of the City of Fort Wright's appeal. No new action has been taken in this matter to date.

Note O. Reciprocity Agreement

KRS has a reciprocity agreement with Kentucky Teachers' Retirement System (KTRS) for the payment of insurance benefits for those members who have creditable service in both systems.

Note P. Reimbursement of Retired Re-employed Health Insurance

As a result of the passage of House Bill 1 on September 1, 2008, if a retiree is re-employed in a regular full time position and has chosen health insurance coverage through KRS, the employer is required to reimburse KRS for the health insurance premium paid on the retiree's behalf, not to exceed the cost of the single premium rate. For the fiscal years ended June 30, 2017, and 2016, the reimbursement totaled $17.0 million and $14.7 million, respectively.

Note Q. Related Party

Perimeter Park West, Inc. (PPW) is a legally separate, tax-exempt Kentucky corporation established in 1998 to own the land and buildings on which KRS is located. PPW leases the buildings to KRS (the lease is renewed periodically) and provides maintenance for the buildings and land. PPW is considered a related party to KRS and has its own separate financial audit. The following presents the amounts recorded between KRS and PPW for the fiscal year ended June 30, 2017:

($ In Thousands)	
Lease payments to PPW from KRS:	$710
Dividends to KRS from PPW:	-

Note R. Reduction of Receivable

Employers reported wages that were earned in June 2016 in July 2016 (fiscal year 2017) and the new Annual Required Contribution (ARC) rate was applied. The Commonwealth's approved budget guidelines paid contributions at the fiscal year 2016 ARC rate in effect when the wages were earned. It is unlikely that KRS will receive payments at the new ARC rate for that period; therefore, contribution receivables have been reduced as of June 30, 2017, as noted in the chart.

For fiscal year 2016, no reduction was necessary since the ARC remained the same as fiscal year 2015. For fiscal year 2017, the ARC had changed from fiscal year 2016, therefore a reduction was necessary.

Reduction Receivable *($ In Thousands)*	2017	2016
KERS Non-Hazardous	$4,645	-
SPRS	261	-
TOTAL	$4,906	-

Note S. Governance Reorganization

On June 17, 2016, Governor Matt Bevin issued Executive Order (EO) 2016-340 which abolished the Board of Trustees that had been established under Kentucky Revised Statute 61.645 and created a new Board of Directors. The EO also altered Kentucky Revised Statute 61.645 in the following ways:

» it added four additional board members;

» it gave the Governor the authority to appoint the Chair and Vice-Chair of the Board of Directors;

» it required that the Governor approve the Executive Director appointed by the Board of Directors; and,

» it transferred KRS employees from the personnel system established in Kentucky Revised Statute 61.645 and 105 KAR 1:370 to the Commonwealth's personnel system under Kentucky Revised Statute Chapter 18A.

The Governor cited his authority to reorganize executive branch agencies under Kentucky Revised Statute 12.028.

EO 2016-340 was largely unchanged by SB 2, but it notably reverted the Board of Directors back to a Board of Trustees. SB 2 made additional changes which include, but are not limited to, the following requirements:

» KRS must follow the Model Procurement Code for purchases and contracts;

» KRS has to disclose net investment fees, investment returns, and commissions on its website and upon an open records request;

» The Chair and Vice Chair of the Board are to be elected by the members of the Board of Trustees;

» Investment experience is a prerequisite for six members of the Board;

» The Kentucky Senate must confirm gubernatorial board appointees; and,

» Board, staff, and investment consultants should abide by the Chartered Financial Analyst code of conduct.

Board member information is provided in the introduction of this document.

It should be noted that two Board members and the Attorney General of the Commonwealth have challenged the Governor's authority to remove a Trustee prior to the end of that Trustee's term in office and his authority to suspend statutory provisions in order to reorganize KRS. (EOs 2016-211, 214, 273, and 340). There is no financial impact these issues may cause, therefore, no provision has been made in the combining financial statements as a result of the EO, SB 2, or the litigation.

Note T. PFM Study

In September 2016, the Commonwealth contracted with PFM, LLC, to perform a comprehensive Pension Performance and Best Practices Analysis of all the state's retirement systems, including KRS. Their report included their analysis of operations, investments, plan structure, etc. and was presented on August 29, 2017.

Note U. Western Kentucky University

On November 17, 2016, Western Kentucky University (WKU) a participating employer, filed a petition for declaration of rights in the Franklin Circuit Court in Frankfort, KY. The petition involved a dispute as to whether WKU can terminate a group of its employees which participated in KERS and reutilize those same employees through a privatization process excusing WKU from its obligations to pay contributions to the KERS Fund. This matter is currently still in litigation. No substantive decisions have been issued on the merits of the case. The exact nature and scope of the relief sought is still unclear; therefore, no provision has been made in the combined financial statements.

Note V. Subsequent Events

Management has evaluated the period June 30, 2017, to December 7, 2017, (the date the combining financial statements were available to be issued) for items requiring recognition or disclosure in the combining financial statements.

REQUIRED
SUPPLEMENTARY INFORMATION
INCLUDING GASB 67 AND 74

Actuary Assumption Changes - Pension

Schedule of Changes in Employers' TPL
- KERS Non-Hazardous
- KERS Hazardous
- CERS Non-Hazardous
- CERS Hazardous
- SPRS

Schedule of Employer NPL
- KERS Non-Hazardous
- KERS Hazardous
- CERS Non-Hazardous
- CERS Hazardous
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Schedule of Employers' Contributions Pension
- KERS Non-Hazardous
- KERS Hazardous
- CERS Non-Hazardous
- CERS Hazardous
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Sensitivity to the NPL to Changes in the Discount Rate

Notes to Schedule of Employers' Contributions

Actuary Assumption Changes – Insurance

Schedule of Changes in Employers' Net OPEB Liability

Schedule of the Employers' Net OPEB Liability

Sensitivity of the Net OPEB Liability to Changes in the Discount Rate and Healthcare Trend Rate

Notes to Schedule of Employers' OPEB Contribution

Development of Single Discount Rate

Schedule of Employers' OPEB Contributions
- KERS Non-Hazardous
- KERS Hazardous
- CERS Non-Hazardous
- CERS Hazardous
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Money Weighted Rates of Return

Additional Supporting Schedules

- Schedule of Administrative Expenses
- Schedule of Direct Investment Expenses
- Schedule of Professional Consultant Fees

GASB 67 Reporting – Actuarial Information

This supplementary information is provided in connection with GASB Statement No. 67, "Financial Reporting for Pension Plans" for the fiscal year ending June 30, 2017, and is included for KERS, CERS, and SPRS pension plans, administered by KRS.

The liability calculations presented were performed for the purpose of satisfying the requirements of GASB No. 67 and are not applicable for other purposes, such as determining the plans' funding requirements. The plans' liability for other purposes may produce significantly different results.

The total pension liability, net pension liability, and sensitivity information shown in the supplementary schedules are based on an actuarial valuation date of June 30, 2016. The total pension liability was rolled-forward from the valuation date to the plan's fiscal year ending June 30, 2017, using generally accepted actuarial principles. GRS did not conduct the June 30, 2016, actuarial valuation; however, GRS did replicate the prior actuary's valuations results on the same assumption, methods, and data, as of that date. The roll-forward is based on the results of their replication. Information disclosed for years prior to June 30, 2017, was prepared by KRS's prior actuary, Cavanaugh Macdonald Consulting, LLC.

There was no legislation enacted during the 2017 legislative session that had a material change in benefit provisions for any of the plans. However, subsequent to the actuarial valuation date, but prior to the measurement date, the Board adopted updated actuarial assumptions which were used in performing the actuarial valuation as of June 30, 2017. Specifically, Total Pension Liability as of June 30, 2017, is determined using a 2.30% price inflation assumption for all the plans, and the assumed rate of return was 5.25% for the KERS Non-Hazardous system and SPRS. For the KERS Hazardous and CERS plans, a 6.25% assumed rate of return was used. This single discount rate was based on the expected rate of return on pension plan investments for each plan. Based on the stated assumptions and the projection of cash flows as of each fiscal year ending, the Pension Plans' fiduciary net position and future contributions were projected to be sufficient to finance all the future benefit payments of the current plan members. Therefore, the long-term expected rate of return on Pension Plan investments was applied to all periods of the projected benefit payments to determine the total pension liability for each system. The projection of cash flows used to determine the single discount rate assumes that the KERS, SPRS, and CERS employers contribute the actuarially determined contributions.

GASB No. 74

Financial Reporting for Post-employment Benefit Plans Other Than Pension Plans, is a new accounting standard for OPEB plans which is effective for plans with fiscal years ending after June 15, 2017. Based on guidance issued by GASB in connection with this new accounting standard, the 1% of member contributions for Tier 2 and Tier 3 members to a 401(h) subaccount is considered as an OPEB asset. As a result, the reported fiduciary net position as of June 30, 2017, is net of the 401(h) asset balance.

These tables are intended to show information for ten years; additional years' information will be displayed as it becomes available. Also, schedules provided by the Actuary were prepared for individual plan and have been rounded to the nearest thousand and percentages to two decimal points. This may result in small rounding variances between schedules.

Schedule of Changes in Employers' TPL - KERS Non-Hazardous				
($ In Thousands)				
	2017	2016	2015	2014
Service Cost	$143,858	$139,631	$143,847	$133,361
Interest	870,725	891,897	859,509	853,653
Benefit Changes	-	-	-	-
Difference between Expected and Actual Experience	(134,379)	-	30,958	-
Changes of Assumptions	2,145,530	923,999	694,592	-
Benefit Payments	(960,309)	(935,419)	(919,343)	(903,564)
Net Change in TPL	2,065,425	1,020,108	809,563	83,450
TPL – Beginning	13,379,781	12,359,673	11,550,110	11,466,660
TPL – Ending (a)	15,445,206	13,379,781	12,359,673	11,550,110
Plan Net Position				
Contributions – Employer	757,121	513,084	521,691	296,836
Contributions – Member	100,543	106,495	104,606	97,487
Net Investment Income (Loss)	220,985	(20,663)	44,570	337,923
Benefit Payments	(948,490)	(923,288)	(905,791)	(889,937)
Administrative Expense	(10,957)	(10,989)	(10,474)	(11,145)
Refunds of Contributions	(11,819)	(12,130)	(13,552)	(13,627)
Other	[1] (30,805)	-	8,442	-
Net Change in Plan Net Position	76,578	(347,491)	(250,508)	(182,463)
Plan Net Position – Beginning	[2] 1,980,292	2,327,783	2,578,291	2,760,754
Plan Net Position – Ending (b)	2,056,870	1,980,292	2,327,783	2,578,291
Net Pension Liability – Ending (a) – (b)	$13,388,336	$11,399,489	$10,031,890	$8,971,819
Plan Fiduciary Net Position as a Percentage	13.00%	15.00%	19.00%	22.00%
Covered Employee Payroll	[3] $1,602,396	$1,631,025	$1,544,234	$1,577,496
Net Pension Liability as a Percentage of Covered Employee Payroll	835.50%	698.90%	649.60%	568.70%

1. 401(h) plan asset balance (less 401(h) contribution during 2017) that is considered an OPEB asset under GASB 74 for FYE 2017.
2. Plan fiduciary net position at June 30, 2016 is equal to the amount in the prior year's financials and include 401(h) plan assets.
3. Based on derived compensation for fiscal year ending 2017 using the provided employer contribution information.

Schedule of Changes in Employers' TPL - KERS Hazardous

($ In Thousands)

	2017	2016	2015	2014
Total Pension Liability (TPL)				
Service Cost	$21,081	$20,751	$18,729	$16,880
Interest	66,589	64,851	61,005	59,594
Benefit Changes	-	-	-	-
Difference between Expected and Actual Experience	26,902	-	6,067	-
Changes of Assumptions	127,878	-	52,165	-
Benefit Payments	(63,338)	(61,518)	(59,383)	(57,151)
Net Change in TPL	179,112	24,084	78,583	19,323
TPL – Beginning	919,518	895,433	816,850	797,527
TPL – Ending (a)	1,098,630	919,517	895,433	816,850
Plan Net Position				
Contributions – Employer	52,974	23,759	28,536	11,670
Contributions - Member	17,524	15,739	13,207	12,546
Net Investment Income (Loss)	70,994	(1,653)	8,701	80,724
Benefit Payments	(61,231)	(59,306)	(56,773)	(54,320)
Administrative Expense	(919)	(916)	(844)	(897)
Refunds of Contributions	(2,106)	(2,211)	(2,610)	(2,830)
Other	[1] (3,586)	-	767	-
Net Change in Plan Net Position	73,650	(24,588)	(9,016)	46,893
Plan Net Position – Beginning	[2] 527,879	552,467	561,484	514,591
Plan Net Position – Ending (b)	601,529	527,879	552,468	561,484
Net Pension Liability – Ending (a) – (b)	$497,101	$391,638	$342,965	$255,366
Plan Fiduciary Net Position as a Percentage	55.00%	57.00%	62.00%	69.00%
Covered Employee Payroll	[3] $178,511	$158,828	$128,680	$129,076
Net Pension Liability as a Percentage of Covered Employee Payroll	279.50%	246.60%	266.50%	197.80%

1. 401(h) plan asset balance (less 401(h) contribution during 2017) that is considered an OPEB asset under GASB 74 for FYE 2017.
2. Plan fiduciary net position at June 30, 2016 is equal to the amount in the prior year's financials and include 401(h) plan assets.
3. Based on derived compensation for fiscal year ending 2017 using the provided employer contribution information.

Schedule of Changes in Employers' TPL - CERS Non-Hazardous

($ In Thousands)

	2017	2016	2015	2014
Service Cost	$193,082	$209,101	$207,400	$192,482
Interest	803,555	780,587	733,002	710,526
Benefit Changes	-	-	-	-
Difference between Expected and Actual Experience	(208,015)	-	49,966	-
Changes of Assumptions	1,388,800	-	606,293	-
Benefit Payments	(701,891)	(665,000)	(628,858)	(597,136)
Net Change in TPL	1,475,532	324,687	967,803	305,872
TPL – Beginning	11,065,013	10,740,325	9,772,522	9,466,650
TPL – Ending (a)	$12,540,544	$11,065,013	$10,740,325	$9,772,522
Plan Net Position				
Contributions – Employer	$333,554	$284,105	$298,565	$324,231
Contributions – Member	150,715	141,674	140,311	128,568
Net Investment Income (Loss)	825,900	(40,800)	110,568	895,530
Benefit Payments	(687,461)	(651,246)	(615,335)	(582,850)
Administrative Expense	(19,609)	(19,385)	(18,212)	(18,615)
Refunds of Contributions	(14,430)	(13,753)	(13,523)	(14,286)
Other	[1] (42,827)	-	10,280	-
Net Change in Plan Net Position	545,843	(299,405)	(87,346)	732,578
Plan Net Position - Beginning	[2] $6,141,394	6,440,800	6,528,146	5,795,568
Plan Net Position – Ending (b)	$6,687,237	$6,141,395	$6,440,800	$6,528,146
Net Pension Liability – Ending (a) – (b)	$5,853,307	$4,923,618	$4,299,525	$3,244,376
Plan Fiduciary Net Position as a Percentage	53%	56%	60%	67%
Covered Employee Payroll	[3] $2,376,290	$2,417,187	$2,296,716	$2,272,270
Net Pension Liability as a Percentage of Covered Employee Payroll	246.30%	203.70%	187.20%	142.80%

1. 401(h) plan asset balance (less 401(h) contribution during 2017) that is considered an OPEB asset under GASB 74 for FYE 2017.
2. Plan fiduciary net position at June 30, 2016 is equal to the amount in the prior year's financials and include 401(h) plan assets.
3. Based on derived compensation for fiscal year ending 2017 using the provided employer contribution information.

Schedule of Changes in Employers' TPL - CERS Hazardous

($ In Thousands)

	2017	2016	2015	2014
Service Cost	$58,343	$66,249	$71,934	$66,761
Interest	270,860	262,886	247,008	238,665
Benefit Changes	-	-	-	-
Difference between Expected and Actual Experience	92,588	-	41,935	-
Changes of Assumptions	536,667	-	166,849	-
Benefit Payments	(229,299)	(216,327)	(203,244)	(192,299)
Net Change in TPL	729,159	112,807	324,482	113,127
TPL – Beginning	3,726,115	3,613,308	3,288,825	3,175,699
TPL – Ending (a)	4,455,274	3,726,115	3,613,307	3,288,826
Plan Net Position				
Contributions – Employer	115,947	105,713	108,071	115,240
Contributions – Member	60,101	52,972	47,692	43,722
Net Investment Income (Loss)	270,473	(9,020)	37,104	288,490
Benefit Payments	(226,984)	(213,448)	(200,134)	(189,635)
Administrative Expense	(1,421)	(1,366)	(1,288)	(1,721)
Refunds of Contributions	(2,315)	(2,879)	(3,111)	(2,664)
Other	[1] (7,979)	-	2,865	-
Net Change in Plan Net Position	207,822	(68,028)	(8,801)	253,432
Plan Net Position – Beginning	[2] 2,010,174	2,078,202	2,087,002	1,833,570
Plan Net Position – Ending (b)	2,217,996	2,010,174	2,078,202	2,087,002
Net Pension Liability – Ending (a) – (b)	$2,237,278	$1,715,941	$1,535,106	$1,201,824
Plan Fiduciary Net Position as a Percentage	50%	54%	58%	64%
Covered Employee Payroll	[3] $526,559	$526,334	$483,641	$479,164
Net Pension Liability as a Percentage of Covered Employee Payroll	424.90%	326.00%	317.40%	250.80%

1. 401(h) plan asset balance (less 401(h) contribution during 2017) that is considered an OPEB asset under GASB 74 for FYE 2017.
2. Plan fiduciary net position at June 30, 2016 is equal to the amount in the prior year's financials and include 401(h) plan assets.
3. Based on derived compensation for fiscal year ending 2017 using the provided employer contribution information.

Schedule of Changes in Employer's TPL - SPRS

($ In Thousands)

	2017	2016	2015	2014
Service Cost	$8,297	$8,402	$7,695	$7,142
Interest	51,768	52,951	50,661	50,391
Benefit Changes	-	-	-	-
Difference between Expected and Actual Experience	8,143	-	9,331	-
Changes of Assumptions	136,602	56,191	40,201	-
Benefit Payments	(56,960)	(56,279)	(54,850)	(53,239)
Net Change in TPL	147,850	61,265	53,038	4,294
TPL - Beginning	795,421	734,156	681,118	676,824
TPL – Ending (a)	943,271	795,421	734,156	681,118
Plan Net Position				
Contributions – Employer	63,239	25,822	31,990	20,279
Contributions - Member	5,348	5,263	5,244	5,075
Net Investment Income (Loss)	26,795	(3,843)	3,426	40,374
Benefit Payments	(56,934)	(56,268)	(54,765)	(53,026)
Administrative Expense	(181)	(178)	(201)	(215)
Refunds of Contributions	(26)	(11)	(85)	(213)
Other	[1] (517)	-	645	-
Net Change in Plan Net Position	37,724	(29,215)	(13,746)	12,274
Plan Net Position - Beginning	[2] 218,012	247,227	260,974	248,700
Plan Net Position – Ending (b)	255,736	218,012	247,228	260,974
Net Pension Liability – Ending (a) – (b)	$687,535	$577,409	$486,928	$420,144
Plan Fiduciary Net Position as a Percentage	27%	27%	34%	38%
Covered Employee Payroll	[3] $54,065	$46,685	$45,765	$44,616
Net Pension Liability as a Percentage of Covered Employee Payroll	1271.70%	1236.80%	1064.00%	941.70%

1. 401(h) plan asset balance (less 401(h) contribution during 2017) that is considered an OPEB asset under GASB 74 for FYE 2017.
2. Plan fiduciary net position at June 30, 2016 is equal to the amount in the prior year's financials and include 401(h) plan assets.
3. Based on derived compensation for fiscal year ending 2017 using the provided employer contribution information.

Schedule of Employer NPL - KERS Non-Hazardous

($ In Thousands)

	2017	2016	2015	2014
Total Pension Liability (TPL)	$15,445,206	$13,379,782	$12,359,673	$11,550,110
Plan Net Position	2,056,870	1,980,292	2,327,782	2,578,291
Net Pension Liability	$13,388,337	$11,399,490	$10,031,891	8,971,819
Ratio of Plan Net Position to TPL	13.30%	14.80%	18.83%	22.30%
Covered Employee Payroll[1]	$1,602,396	$1,631,025	$1,544,234	1,577,496
Net Pension Liability as a Percentage of Covered Employee Payroll	835.50%	698.92%	649.64%	568.70%

Schedule of Employer NPL - KERS Hazardous

($ In Thousands)

	2017	2016	2015	2014
Total Pension Liability (TPL)	$1,098,630	$919,518	$895,433	$816,850
Plan Net Position	601,529	527,880	552,468	561,484
Net Pension Liability	$497,101	$391,638	$342,965	255,366
Ratio of Plan Net Position to TPL	54.80%	57.41%	61.70%	68.70%
Covered Employee Payroll[1]	$178,511	$158,828	$128,680	129,076
Net Pension Liability as a Percentage of Covered Employee Payroll	278.50%	246.58%	266.53%	197.80%

Schedule of Employer NPL - CERS Non-Hazardous

($ In Thousands)

	2017	2016	2015	2014
Total Pension Liability (TPL)	$12,540,545	$11,065,011	$10,740,325	$9,772,523
Plan Net Position	6,687,237	6,141,396	6,440,800	6,528,146
Net Pension Liability	$5,853,307	$4,923,615	$4,299,525	3,244,376
Ratio of Plan Net Position to TPL	53.30%	55.50%	59.97%	66.80%
Covered Employee Payroll[1]	$2,376,290	$2,417,187	$2,297,716	$2,272,270
Net Pension Liability as a Percentage of Covered Employee Payroll	246.30%	203.69%	187.20%	142.80%

Schedule of Employer NPL - CERS Hazardous

($ In Thousands)

	2017	2016	2015	2014
Total Pension Liability (TPL)	$4,455,275	$3,726,116	$3,613,308	$3,288,826
Plan Net Position	2,217,996	2,010,177	2,078,202	2,087,002
Net Pension Liability	$2,237,279	$1,715,939	$1,535,106	$1,201,823
Ratio of Plan Net Position to TPL	49.80%	53.95%	57.52%	63.50%
Covered Employee Payroll[1]	$526,559	$526,334	$483,641	$479,164
Net Pension Liability as a Percentage of Covered Employee Payroll	424.90%	326.02%	317.41%	250.80%

Schedule of Employer NPL - SPRS

($ In Thousands)

	2017	2016	2015	2014
Total Pension Liability (TPL)	$943,271	$795,421	$734,156	$681,118
Plan Net Position	255,736	218,012	247,228	260,974
Net Pension Liability	$687,535	$577,409	$486,928	$420,144
Ratio of Plan Net Position to TPL	27.10%	27.41%	33.70%	38.30%
Covered Employee Payroll[1]	$54,065	$46,685	$45,765	$44,616
Net Pension Liability as a Percentage of Covered Employee Payroll	1,236.80%	1,236.82%	1,064.00%	941.70%

1 Based on derived compensation for fiscal year ending 2017 using the provided employer contribution information.

Schedule of Employers' Contributions Pension - KERS Non-Hazardous

($ In Thousands)

Fiscal Year Ending	Actuarially Determined Contribution(1)	Total Employer Contribution	Contribution Deficiency (Excess)	Covered Employee Payroll (2)	Actual Contributions as a Percentage of Covered Payroll
2017	$623,813	$757,121	$(133,308)	$1,602,396	47.25%
2016	512,670	513,084	(414)	1,631,025	31.46%
2015	520,948	521,691	(743)	1,544,234	33.78%
2014	520,765	296,836	223,929	1,577,496	18.82%
2013	485,396	280,874	204,522	1,644,409	17.08%
2012	441,094	214,786	226,308	1,644,897	13.06%
2011	381,915	193,754	188,161	1,731,633	11.19%
2010	348,495	144,051	204,444	1,815,146	7.94%
2009	294,495	112,383	182,112	1,754,413	6.41%
2008	$264,743	$104,655	$160,088	$1,837,873	5.69%

Notes: 1. Actuarially determined contribution rate for fiscal year ending 2017 is based on the contribution rate calculated with the June 30, 2015, actuarial valuation. 2. Based on derived compensation for fiscal year ending 2017 using the provided employer contribution information.

Schedule of Employers' Contributions Pension - KERS Hazardous

($ In Thousands)

Fiscal Year Ending	Actuarially Determined Contribution(1)	Total Employer Contribution	Contribution Deficiency (Excess)	Covered Employee Payroll (2)	Actual Contributions as a Percentage of Covered Payroll
2017	$37,630	$52,974	$(15,344)	$178,511	29.68%
2016	23,690	23,759	(69)	158,828	14.96%
2015	28,374	28,536	(162)	128,680	22.18%
2014	13,570	11,670	1,900	129,076	9.04%
2013	21,502	27,334	(5,832)	131,015	20.86%
2012	20,265	20,809	(544)	131,977	15.77%
2011	20,605	19,141	1,464	133,054	14.39%
2010	17,815	17,658	157	143,558	12.30%
2009	15,708	15,843	(135)	146,044	10.85%
2008	$14,147	$15,257	$(1,110)	$148,710	10.26%

Notes: 1. Actuarially determined contribution rate for fiscal year ending 2017 is based on the contribution rate calculated with the June 30, 2015, actuarial valuation. 2. Based on derived compensation for fiscal year ending 2017 using the provided employer contribution information.

Schedule of Employers' Contributions Pension - CERS Non-Hazardous

($ In Thousands)

Fiscal Year Ending	Actuarially Determined Contribution(1)	Total Employer Contribution	Contribution Deficiency (Excess)	Covered Employee Payroll (2)	Actual Contributions as a Percentage of Covered Payroll
2017	$331,492	$333,554	$(2,062)	$2,376,290	14.04%
2016	282,767	284,106	(1,339)	2,417,187	11.75%
2015	297,715	298,566	(851)	2,296,716	13.00%
2014	324,231	324,231	-	2,272,270	14.27%
2013	294,914	294,914	-	2,236,277	13.19%
2012	261,764	275,736	(13,972)	2,236,546	12.33%
2011	218,985	248,519	(29,534)	2,276,596	10.92%
2010	186,724	207,076	(20,352)	2,236,855	9.26%
2009	161,097	179,285	(18,188)	2,183,612	8.21%
2008	$138,311	$150,925	$(12,614)	$2,166,613	6.97%

Notes: 1. Actuarially determined contribution rate for fiscal year ending 2017 is based on the contribution rate calculated with the June 30, 2015, actuarial valuation. 2. Based on derived compensation for fiscal year ending 2017 using the provided employer contribution information.

Schedule of Employers' Contributions Pension - CERS Hazardous

($ In Thousands)

Fiscal Year Ending	Actuarially Determined Contribution(1)	Total Employer Contribution	Contribution Deficiency (Excess)	Covered Employee Payroll (2)	Actual Contributions as a Percentage of Covered Payroll
2017	$114,316	$115,947	$(1,631)	$526,559	22.02%
2016	104,952	105,713	(761)	526,334	20.08%
2015	107,514	108,071	(557)	483,641	22.35%
2014	115,240	115,240	-	479,164	24.05%
2013	120,140	120,140	-	461,673	26.02%
2012	83,589	89,329	(5,740)	464,229	19.24%
2011	78,796	85,078	(6,282)	466,964	18.22%
2010	76,391	82,887	(6,496)	466,549	17.77%
2009	69,056	78,152	(9,096)	469,315	16.65%
2008	$64,082	$72,155	$(8,073)	$474,241	15.21%

Notes: 1. Actuarially determined contribution rate for fiscal year ending 2017 is based on the contribution rate calculated with the June 30, 2015, actuarial valuation. 2. Based on derived compensation for fiscal year ending 2017 using the provided employer contribution information.

Schedule of Employer's Contributions Pension - SPRS

($ In Thousands)

Fiscal Year Ending	Actuarially Determined Contribution(1)	Total Employer Contribution	Contribution Deficiency (Excess)	Covered Employee Payroll (2)	Actual Contributions as a Percentage of Covered Payroll
2017	$35,937	$63,240	$(27,303)	$54,065	116.97%
2016	25,723	25,822	(99)	46,685	55.31%
2015	31,444	31,990	(546)	45,765	69.90%
2014	25,808	20,279	5,529	44,616	45.45%
2013	23,117	18,501	4,616	45,256	40.88%
2012	20,498	15,362	5,136	48,373	31.76%
2011	18,463	12,657	5,806	48,693	25.99%
2010	18,765	9,489	9,276	51,507	18.42%
2009	15,952	8,186	7,766	51,660	15.85%
2008	$13,823	$7,443	$6,380	$53,269	13.97%

Notes: 1. Actuarially determined contribution rate for fiscal year ending 2017 is based on the contribution rate calculated with the June 30, 2015, actuarial valuation. 2. Based on derived compensation for fiscal year ending 2017 using the provided employer contribution information.

Sensitivity to the NPL to Changes in the Discount Rate

($ In Thousands)

	KERS Non-Hazardous	KERS Hazardous	CERS Non-Hazardous	CERS Hazardous	SPRS
1% Decrease	$15,286,445	$632,314	$7,382,286	$2,812,972	$806,575
Current Discount Rate	$13,388,337	$497,101	$5,853,307	$2,237,279	$687,535
1% Increase	$11,810,153	$384,902	$4,574,329	$1,761,839	$589,650

The actuarially determined contribution rates effective for fiscal year ending 2017 that are documented in the schedule on the previous pages are calculated as of June 30, 2015. Based on the June 30, 2015 actuarial valuation report (produced by the prior actuary), the actuarial methods and assumptions used to calculate these contribution rates are below:

Notes to Schedule of Employers' Contributions

	KERS	KERS	CERS	CERS	SPRS
Item	Non-Hazardous	Hazardous	Non-Hazardous	Hazardous	
Actuarial Cost Method:	Entry Age Normal	Entry Age Normal	Entry Age Normal	Entry Age Normal	Entry Age Normal
Asset Valuation Method:	20% of the difference between the market value of assets and the expected actuarial value of assets is recognized	20% of the difference between the market value of assets and the expected actuarial value of assets is recognized	20% of the difference between the market value of assets and the expected actuarial value of assets is recognized	20% of the difference between the market value of assets and the expected actuarial value of assets is recognized	20% of the difference between the market value of assets and the expected actuarial value of assets is recognized
Amortization Method:	Level Percent of Pay	Level Percent of Pay	Level Percent of Pay	Level Percent of Pay	Level Percent of Pay
Amortization Period:	28 years, closed	28 years, closed	28 years, closed	28 years, closed	28 years, closed
Investment Return:	7.50%	7.50%	7.50%	7.50%	7.50%
Inflation:	3.25%	3.25%	3.25%	3.25%	3.25%
Salary Increase:	4.00%, average	4.00%, average	4.00%, average	4.00%, average	4.00%, average
Mortality:	RP-2000 Combined Mortality Table, projected to 2013 with Scale BB (set back 1 year for females)	RP-2000 Combined Mortality Table, projected to 2013 with Scale BB (set back 1 year for females)	RP-2000 Combined Mortality Table, projected to 2013 with Scale BB (set back 1 year for females)	RP-2000 Combined Mortality Table, projected to 2013 with Scale BB (set back 1 year for females)	RP-2000 Combined Mortality Table, projected to 2013 with Scale BB (set back 1 year for females)

GASB 74 Reporting – Actuarial Information

The supplementary reports contain information for the KERS, CERS, and SPRS plans in connection with the GASB Statement No. 74, Financial Reporting for Post-employment Benefit Plans Other than Pension Plans (OPEB) for the fiscal year ending June 30, 2017.

The liability calculations presented were performed for the purpose of satisfying the requirements of GASB No. 74 and are not applicable for other purposes, such as determining the plans' funding requirements. The plans' liability for other purposes may produce significantly different results.

The total OPEB liability, net OPEB liability, and sensitivity information shown in the supplemental information are based on an actuarial valuation date of June 30, 2016. The total OPEB liability was rolled-forward from the valuation date to the plan's fiscal year ending June 30, 2017, using generally accepted actuarial principles. GRS did not conduct the June 30, 2016, actuarial valuation; however, GRS did replicate the prior actuary's (Cavanaugh Macdonald Consulting, LLC) valuation results on the same assumptions, methods, and data, as of that date. The roll-forward is based on the results of our replication.

There was no legislation enacted during the 2017 legislative session that had a material change in benefit provisions for any of the systems. However, subsequent to the actuarial valuation date, but prior to the measurement date, the Board adopted updated actuarial assumptions which will be used in performing the actuarial valuations as of June 30, 2017. Specifically, the total OPEB liability as of June 30, 2017, was determined using a 2.30% price inflation assumption and an assumed rate of return of 6.25%.

The fully-insured premiums KRS pays for the KERS, CERS, and SPRS Health Insurance Plans are blended rates based on the combined experience of active and retired members. Because the average cost of providing health care benefits to retirees under age 65 is higher than the average cost of providing health care benefits to active employees, there is an implicit employer subsidy for the non-Medicare eligible retirees. GASB 74 requires that the liability associated with this implicit subsidy be included in the calculation of the total OPEB liability.

The discount rates used to measure the total OPEB liability as of June 30, 2017, are represented on page 81. For both Hazardous and Non-Hazardous groups, the single discount rate is based on the expected rate of return on OPEB plan investments of 6.25% and a municipal bond rate of 3.56%, as reported in Fidelity Index's "20-Year Municipal GO AA Index" as of June 30, 2017. Future contributions are projected in accordance with the Board's current funding policy, which includes the requirement that each participating employer in the system contribute the actuarially determined contribution rate, which is determined using a closed funding period (26 years as of June 30, 2017) and the actuarial assumptions and methods adopted by the Board. Current assets, future contributions, and investment earnings are projected to be sufficient to pay the projected benefit payments from the retirement system. However, the cost associated with the implicit employer subsidy is not currently being included in the calculation of the system's actuarial determined contributions, and it is GRS' understanding that any cost associated with the implicit subsidy will not be paid out of the system's trust. Therefore, the municipal bond rate was applied to future expected benefit payments associated with the implicit subsidy.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and, changes in plan provisions or applicable law.

Based on guidance issued by GASB in connection with this new accounting standard, the 1% of member contributions for Tier 2 and Tier 3 members to a 401(h) subaccount is considered as an OPEB asset. As a result, the reported fiduciary net position as of June 30, 2016, and as of June 30, 2017, includes these 401(h) assets. Additionally, these member contributions and associated investment income are included in the reconciliation of the fiduciary net position.

Schedules provided by the Actuary were prepared by individual plan and have been rounded to the nearest thousand and percentages are two decimal points. This may result in small rounding variances between schedules.

Schedule of Changes in Employers' Net OPEB Liability

($ In Thousands)

	KERS Non-Hazardous	KERS Hazardous	CERS Non-Hazardous	CERS Hazardous	SPRS
Total OPEB Liability					
Service Cost	$46,992	$8,002	$85,468	$20,493	$4,147
Interest	192,911	27,591	240,854	113,166	17,993
Benefit Changes	-	-	-	-	-
Difference between Expected and Actual Experience	(3,921)	(1,029)	(6,641)	(2,471)	(572)
Changes of Assumptions	414,835	89,401	520,286	391,061	57,312
Benefit Payments[1]	(139,601)	(16,618)	(140,121)	(63,656)	(12,123)
Net Change in Total OPEB Liability	511,216	107,347	699,846	458,593	66,757
Total OPEB Liability - Beginning	$2,842,116	$387,522	$3,523,031	$1,557,079	$246,477
Total OPEB Liability - Ending (a)	$3,353,332	$494,869	$4,222,877	$2,015,672	$313,234
Plan Fiduciary Net Position					
Contributions – Employer[2]	162,636	4,579	133,326	44,325	7,862
Contributions – Member	5,156	811	9,158	1,708	131
Benefit Payments[1]	(139,601)	(16,618)	(140,120)	(63,656)	(12,123)
OPEB Plan Net Investment Income	94,239	59,614	264,782	143,892	21,627
OPEB Plan Administrative Expense	(861)	(105)	(789)	(381)	(66)
Net Change in Plan Fiduciary Net Position	121,569	48,281	266,356	125,888	17,431
Plan Fiduciary Net Position – Beginning	695,801	440,557	1,946,179	1,063,113	161,407
Plan Fiduciary Net Position – Ending (b)	817,370	488,838	2,212,535	1,189,001	178,838
Net OPEB Liability – Ending (a) – (b)	$2,535,962	$6,031	$2,010,342	$826,671	$134,396
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	24.40%	98.80%	52.40%	59.00%	57.10%
Covered Employee Payroll[3]	$1,593,097	$171,087	$2,480,130	$542,710	$48,873
Net OPEB Liability as a Percentage of Covered Employee Payroll	159.20%	3.50%	81.10%	152.30%	275.00%

1. Includes expected benefits due to the implicit subsidy for members under age 65. Benefit payments are offset by insurance premiums received from retirees and by Medicare Drug Reimbursements. 2. Includes expected benefits due to the implicit subsidy for members under age 65. 3. Based on derived compensation for fiscal year ending 2017 using the provided employer insurance contribution information.

Schedule of the Employers' Net OPEB Liability

As of June 30, 2017 ($ In Thousands)

	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability/ (Asset)	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	Covered Employee Payroll	Net OPEB Liability as a Percentage of Covered Employee Payroll
KERS Non-Hazardous	$3,353,332	$817,370	$2,535,962	24.40%	$1,593,097	159.20%
KERS Hazardous	494,869	488,838	6,031	98.80%	171,087	3.50%
CERS Non-Hazardous	4,222,878	2,212,536	2,010,342	52.40%	2,480,130	81.10%
CERS Hazardous	2,015,673	1,889,001	826,672	59.00%	542,710	152.30%
SPRS	$313,234	$178,838	$134,396	57.10%	$48,873	275.00%

Sensitivity of the Net OPEB Liability to Changes in the Discount Rate and Healthcare Trend Rate

($ In Thousands)

	KERS Non-Hazardous	KERS Hazardous	CERS Non-Hazardous	CERS Hazardous	SPRS
Sensitivity of the Net OPEB Liability to Changes it the Discount Rate					
1% Decrease	$2,964,846	$73,452	$2,558,049	$1,107,853	$176,059
Current Discount Rate	2,535,962	6,031	2,010,342	826,672	134,396
1% Increase	2,179,533	(49,209)	1,554,564	596,619	100,088
Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rate					
1% Decrease	2,154,747	(49,729)	1,542,036	585,188	96,881
Current Healthcare Cost Trend Rate	2,535,962	6,031	2,010,342	826,672	134,396
1% Increase	$3,014,646	$75,248	$2,619,113	$1,125,544	$180,781

The actuarially determined contribution rates effective for fiscal year ending 2017, that are documented in the schedule on the previous pages are calculated as of June 30, 2015. Based on the June 30, 2015, actuarial valuation report (produced by the prior actuary), the actuarial methods and assumptions used to calculate these contribution rates are below:

Notes to Schedule of Employers' OPEB Contribution

	KERS	KERS	CERS	CERS	SPRS
Item	Non-Hazardous	Hazardous	Non-Hazardous	Hazardous	
Actuarial Cost Method:	Entry Age Normal	Entry Age Normal	Entry Age Normal	Entry Age Normal	Entry Age Normal
Asset Valuation Method:	20 % of the difference between the market value of assets and the expected actuarial value of assets is recognized	20 % of the difference between the market value of assets and the expected actuarial value of assets is recognized	20 % of the difference between the market value of assets and the expected actuarial value of assets is recognized	20 % of the difference between the market value of assets and the expected actuarial value of assets is recognized	20 % of the difference between the market value of assets and the expected actuarial value of assets is recognized
Amortization Method:	Level Percent of Pay	Level Percent of Pay	Level Percent of Pay	Level Percent of Pay	Level Percent of Pay
Amortization Period:	28 Years, Closed	28 Years, Closed	28 Years, Closed	28 Years, Closed	28 Years, Closed
Payroll Growth Rate:	4.00%	4.00%	4.00%	4.00%	4.00%
Investment Return:	7.50%	7.50%	7.50%	7.50%	7.50%
Inflation:	3.25%	3.25%	3.25%	3.25%	3.25%
Salary Increase:	4.00%, average	4.00%, average	4.00%, average	4.00%, average	4.00%, average
Mortality:	RP-2000 Combined Mortality Table, projected to 2013 with Scale BB (set back 1 year for females)	RP-2000 Combined Mortality Table, projected to 2013 with Scale BB (set back 1 year for females)	RP-2000 Combined Mortality Table, projected to 2013 with Scale BB (set back 1 year for females)	RP-2000 Combined Mortality Table, projected to 2013 with Scale BB (set back 1 year for females)	RP-2000 Combined Mortality Table, projected to 2013 with Scale BB (set back 1 year for females)
Healthcare Trend Rates:					
Pre-65	Initial trend starting at 7.50% and gradually decreasing to an ultimate trend rate of 5.00% over a period of 5 years.	Initial trend starting at 7.50% and gradually decreasing to an ultimate trend rate of 5.00% over a period of 5 years.	Initial trend starting at 7.50% and gradually decreasing to an ultimate trend rate of 5.00% over a period of 5 years.	Initial trend starting at 7.50% and gradually decreasing to an ultimate trend rate of 5.00% over a period of 5 years.	Initial trend starting at 7.50% and gradually decreasing to an ultimate trend rate of 5.00% over a period of 5 years.
Post-65	Initial trend starting at 5.50% and gradually decreasing to an ultimate trend rate of 5.00% over a period of 2 years.	Initial trend starting at 5.50% and gradually decreasing to an ultimate trend rate of 5.00% over a period of 2 years.	Initial trend starting at 5.50% and gradually decreasing to an ultimate trend rate of 5.00% over a period of 2 years.	Initial trend starting at 5.50% and gradually decreasing to an ultimate trend rate of 5.00% over a period of 2 years.	Initial trend starting at 5.50% and gradually decreasing to an ultimate trend rate of 5.00% over a period of 2 years.

Development of Single Discount Rate

	KERS Non-Hazardous	KERS Hazardous	CERS Non-Hazardous	CERS Hazardous	SPRS
As of June 30, 2017					
Single Discount Rate	5.83%	5.87%	5.84%	5.96%	6.01%
Long-Term Expected Rate of Return	6.25%	6.25%	6.25%	6.25%	6.25%
Long-Term Municipal Bond Rate (1)	3.56%	3.56%	3.56%	3.56%	3.56%
As of June 30, 2016					
Single Discount Rate	6.90%	7.20%	6.89%	7.37%	7.42%
Long-Term Expected Rate of Return	7.50%	7.50%	7.50%	7.50%	7.50%
Long-Term Municipal Bond Rate (1)	2.92%	2.92%	2.92%	2.92%	2.92%

Notes: 1 Fixed -income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in Fidelity Index's "20 - Year Municipal GO AA Index" as of June 30, 2017 (or as of June 30, 2016).

Schedule of Employers' OPEB Contributions - KERS Non-Hazardous *($ In Thousands)*

	1	2	3	4	
Fiscal Year Ending June 30	Actuarially Determined Contribution	Total Employer Contribution	Contribution Deficiency (Excess)	Covered Employee Payroll	Actual Contributions as a Percentage of Covered Payroll
2017	$133,024	$152,356	$(19,332)	$1,593,097	9.56%
2016	121,899	135,816	(13,917)	1,529,249	8.88%
2015	130,455	135,940	(5,485)	1,544,234	8.80%
2014	208,881	166,610	42,271	1,577,496	10.56%
2013	286,143	165,331	120,812	1,644,409	10.05%
2012	297,904	156,057	141,847	1,644,897	9.49%
2011	294,898	129,336	165,562	1,731,633	7.47%
2010	376,556	102,528	274,028	1,815,146	5.65%
2009	362,707	82,711	279,996	1,754,413	4.71%
2008	$558,746	$63,378	$495,368	$1,837,873	3.45%

Notes: 1. Data for years prior to 2017 are based on contribution data provided in the 2016 CAFR, based on calculations provided by the prior actuary. 2. Actuarially determined contribution for fiscal year ending 2017 is based on the contribution rate calculated with the June 30, 2015, actuarial valuation. 3. Employer contributions do not include the expected implicit subsidy. 4. Based on derived compensation for fiscal year ending 2017 using the provided employer insurance contribution information.

Schedule of Employers' OPEB Contributions - KERS Hazardous *($ In Thousands)*

	1	2	3	4	
Fiscal Year Ending June 30	Actuarially Determined Contribution	Total Employer Contribution	Contribution Deficiency (Excess)	Covered Employee Payroll	Actual Contributions as a Percentage of Covered Payroll
2017	$4,688	$5,620	$(932)	$171,087	3.28%
2016	9,186	16,766	(7,580)	147,563	11.36%
2015	13,152	14,882	(1,730)	128,680	11.57%
2014	15,627	23,874	(8,247)	129,076	18.50%
2013	26,253	25,682	571	132,015	19.45%
2012	28,326	24,538	3,788	131,977	18.59%
2011	29,585	19,953	9,632	133,054	15.00%
2010	35,045	22,241	12,804	143,558	15.49%
2009	34,670	20,993	13,677	146,044	14.37%
2008	$51,215	$22,071	$29,144	$148,710	14.84%

Notes: 1. Data for years prior to 2017 are based on contribution data provided in the 2016 CAFR, based on calculations provided by the prior actuary. 2. Actuarially determined contribution for fiscal year ending 2017 is based on the contribution rate calculated with the June 30, 2015, actuarial valuation. 3. Employer contributions do not include the expected implicit subsidy. 4. Based on derived compensation for fiscal year ending 2017 using the provided employer insurance contribution information.

Schedule of Employers' OPEB Contributions - CERS Non-Hazardous *($ In Thousands)*

	1	2	3	4	
Fiscal Year Ending June 30	Actuarially Determined Contribution	Total Employer Contribution	Contribution Deficiency (Excess)	Covered Employee Payroll	Actual Contributions as a Percentage of Covered Payroll
2017	$122,270	$120,712	$1,558	$2,480,130	4.87%
2016	110,987	111,836	(849)	2,352,762	4.75%
2015	119,511	119,444	67	2,296,716	5.20%
2014	130,652	123,278	7,374	2,272,270	5.43%
2013	195,561	159,993	35,568	2,236,277	7.15%
2012	214,421	171,925	42,496	2,236,546	7.69%
2011	213,429	186,886	26,543	2,276,596	8.21%
2010	266,331	175,764	90,567	2,236,855	7.86%
2009	264,734	131,476	133,258	2,183,612	6.02%
2008	$406,542	$202,113	$204,429	$2,166,613	9.33%

Notes: 1. Data for years prior to 2017 are based on contribution data provided in the 2016 CAFR, based on calculations provided by the prior actuary. 2. Actuarially determined contribution for fiscal year ending 2017 is based on the contribution rate calculated with the June 30, 2015, actuarial valuation. 3. Employer contributions do not include the expected implicit subsidy. 4. Based on derived compensation for fiscal year ending 2017 using the provided employer insurance contribution information.

Schedule of Employers' OPEB Contributions - CERS Hazardous *($ In Thousands)*

	1	2	3	4	
Fiscal Year Ending June 30	Actuarially Determined Contribution	Total Employer Contribution	Contribution Deficiency (Excess)	Covered Employee Payroll	Actual Contributions as a Percentage of Covered Payroll
2017	$53,131	$51,537	$1,594	$542,710	9.50%
2016	64,253	67,619	(3,366)	492,851	13.72%
2015	69,103	71,778	(2,675)	483,641	14.84%
2014	74,360	74,792	(432)	479,164	15.61%
2013	102,011	85,319	16,692	461,673	18.48%
2012	110,763	92,564	18,199	464,229	19.94%
2011	109,227	98,592	10,635	466,964	21.11%
2010	129,227	84,536	44,691	466,549	18.12%
2009	126,757	71,413	55,344	469,315	15.22%
2008	$168,724	$90,533	$78,191	$474,241	19.09%

Notes: 1. Data for years prior to 2017 are based on contribution data provided in the 2016 CAFR, based on calculations provided by the prior actuary. 2. Actuarially determined contribution for fiscal year ending 2017 is based on the contribution rate calculated with the June 30, 2015, actuarial valuation. 3. Employer contributions do not include the expected implicit subsidy. 4. Based on derived compensation for fiscal year ending 2017 using the provided employer insurance contribution information.

Schedule of Employer's OPEB Contributions - SPRS *($ In Thousands)*

	1	2	3	4	
Fiscal Year Ending June 30	Actuarially Determined Contribution	Total Employer Contribution	Contribution Deficiency (Excess)	Covered Employee Payroll	Actual Contributions as a Percentage of Covered Payroll
2017	$9,222	$9,222	$-	$48,873	18.87%
2016	8,553	10,237	(1,684)	45,551	22.47%
2015	9,890	10,382	(492)	45,765	22.69%
2014	20,879	14,493	6,386	44,616	32.48%
2013	27,234	16,829	10,405	45,256	37.19%
2012	28,247	11,960	16,287	48,373	24.72%
2011	25,773	11,051	14,722	48,693	22.70%
2010	30,302	8,643	21,659	51,507	16.78%
2009	29,325	7,643	21,682	51,660	14.79%
2008	$43,470	$7,513	$35,957	$53,269	14.10%

Notes: 1. Data for years prior to 2017 are based on contribution data provided in the 2016 CAFR, based on calculations provided by the prior actuary. 2. Actuarially determined contribution for fiscal year ending 2017 is based on the contribution rate calculated with the June 30, 2015, actuarial valuation. 3. Employer contributions do not include the expected implicit subsidy. 4. Based on derived compensation for fiscal year ending 2017 using the provided employer insurance contribution information.

Money-Weighted Rates of Return

In accordance with GASB Statement No. 67, Financial Reporting for Pension Plans, and GASB Statement No. 74, *Financial Reporting for Post Employment Benefit Plans Other than Pension Plan*, KRS provides this additional disclosure regarding its money-weighted rate of return for the Pension Funds. The money-weighted rate of return is a method of calculating period-by-period returns on pension plan investments that adjusts for the changing amounts actually invested. For purposes of this Statement, money weighted-rate of return is calculated as the internal rate of return on Pension Plan investments, net of Pension Plan investment expense, adjusted for the changing amounts actually invested.

See below for the money-weighted rates of return as of June 30, 2017, 2016, 2015, and 2014, as calculated by the custodial bank, BNY-Mellon:

Money - Weighted Rates of Return					
	KERS	KERS	CERS	CERS	SPRS
	Non-Hazardous	Hazardous	Non-Hazardous	Hazardous	
Pension Funds					
2017	12.08%	13.45%	13.80%	13.72%	12.50%
2016	-0.97%	-0.33%	-0.62%	-0.46%	-1.76%
2015	1.89%	1.69%	1.65%	1.88%	1.71%
2014	15.50%	15.65%	15.56%	15.50%	15.66%
Insurance Fund					
2017	13.77%	13.75%	13.67%	13.69%	13.69%

The money-weighted rates of return increased due to favorable conditions in the capital markets. This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

Additional Reporting Schedules

Schedule of Administrative Expenses For the Fiscal Years Ended June 30 *($ In Thousands)*

	2017	2016
Personnel		
Salaries and Per Diem	$13,999	$14,685
Pension, Insurance Related Benefits	10,014	8,947
Unemployment Compensation	-	13
Tuition Assistance	18	27
Total Personnel	24,031	23,672
Contractual		
Actuarial Services	334	450
Audit Services	152	99
Healthcare	10	15
Legal Counsel	571	415
Medical Review Services	420	339
Miscellaneous	57	112
Total Contractual	1,544	1,430
Communication		
Printing	206	172
Telephone	191	201
Postage	471	276
Travel	61	113
Total Communication	929	762
Internal Audit		
Travel/Conferences	1	4
Dues/Subscriptions	1	1
Miscellaneous	2	1
Total Internal Audit	4	6
Investments-Pension Fund		
Travel/Conferences	34	29
Dues/Subscriptions	12	6
Contractual	-	189
Miscellaneous	1	5
Tuition	2	6
Legal	380	153
Total Investments	429	388
Rentals		
Office Space	743	731
Equipment	85	69
Total Rentals	828	800
Information Technology		
Software	320	456
Hardware	878	1,006
Services	1,594	1,237
Total Information Technology	2,792	2,699
Miscellaneous		
Utilities	211	217
Supplies	119	75
Insurance	235	255
Dues & Subscriptions	46	38
Maintenance	4	4
Other	17	17
Total Miscellaneous	632	606
Depreciation/Amortization	1,920	1,937
Total Pension Fund Administrative Expense	33,109	32,300
Healthcare Fees	2,202	2,038
Total Insurance Fund Administrative Expense	2,202	2,038
Total Administrative Expenses	$35,311	$34,338

Schedule of Direct Investment Expenses For the Fiscal Years Ended June 30

($ In Thousands)

	2017	2016
PENSION FUNDS		
Security Lending Fees		
Borrower (Income) Rebates	$734	$100
Lending Agent Fees	351	680
Total Security Lending	$1,085	$780
Contractual Services		
Investment Management	53,780	51,711
Private Equity Performance Fees	29,651	7,930
Security Custody	1,084	945
Investment Consultant	1,005	1,141
Total Contractual Services	$85,520	$61,727
INSURANCE FUND		
Security Lending Fees		
Borrower (Income) Rebates	187	76
Lending Agent Fees	133	222
Total Security Lending	$320	$298
Contractual Services		
Investment Management	23,094	19,508
Private Equity Performance Fees	10,007	8,281
Security Custody	718	600
Investment Consultant	409	428
Total Contractual Services	$34,228	$28,817
Total Investment Expenses	$121,153	$91,622

Schedule of Professional Consultant Fees For the Fiscal Years Ended June 30

($ In Thousands)

	2017	2016
Actuarial Services	$344	$450
Medical Review Services	420	339
Audit Services	152	99
Legal Counsel	951	568
Healthcare	10	15
Miscellaneous	57	112
Total	$1,934	$1,583

REPORT ON INTERNAL CONTROL

over financial reporting and on compliance and other matters based on an audit of financial statements performed in accordance with

GOVERNMENT AUDITING STANDARDS

REPORT OF INDEPENDENT AUDITORS

Board of Trustees
Kentucky Retirement Systems
Frankfort, Kentucky

We have audited, 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, the combining financial statements of the Pension Funds and Insurance Fund of Kentucky Retirement Systems (KRS) as of and for the fiscal year ended June 30, 2017, and the related notes to the combining financial statements, which collectively comprise KRS' basic combining financial statements, and have issued our report thereon dated December 7, 2017.

Internal Control Over Financial Reporting

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

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

Our consideration of internal control over financial reporting was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over financial reporting that might be material weaknesses or significant deficiencies and therefore, material weaknesses or

significant deficiencies may exist that were not identified. Given these limitations, during our audit we did not identify any deficiencies in internal control over financial reporting that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified. We did identify a deficiency in internal control, described in the accompanying schedule of finding and response that we consider to be a significant deficiency as item 2017-001.

Compliance and Other Matters

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

We noted certain matters that we have reported to management of KRS in a separate letter dated December 7, 2017.

KRS' Response to Finding

KRS' response to the finding identified in our audit is described in the accompanying schedule of finding and response. KRS' response was not subjected to the auditing procedures applied in the audit of the combining financial statements and, accordingly, we express no opinion on it.

Purpose of this Report

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

Dean Dorton Allen Ford, PLLC

December 7, 2017
Lexington, Kentucky

SCHEDULE OF FINDING AND RESPONSE

FOR THE FISCAL YEAR ENDED JUNE 30, 2017

2017-01: Member and Employer Contribution Accruals

Criteria or specific requirement

The calculation of member and employer contributions to be accrued as of June 30, 2017 should reflect the actual contributions received related to the current fiscal year, but received subsequent to the end of the fiscal year.

Condition, Context and Cause

During our audit, we noted that the accrual calculation performed at year end for member and employer contributions was calculated using an estimate based upon the contributions received in the last month of the fiscal year. Due to staffing turnover during the year, some employees have transitioned to new positions, and this resulted in an estimate for the accrual being used instead of using actual information from the month subsequent to the fiscal year end. The primary cause of the understatement of the accrual was due to several employer contribution corrections related prior months being processed in June 2017, thus reducing the employer contributions in June 2017, causing the estimate to be understated.

Effect

Since the employer contributions in June 2017 were reduced by the corrections related to prior months, it resulted in an understatement of contributions receivable and contributions by approximately $17.1 million and $4.9 million for Pension Funds and Insurance Fund, respectively.

Recommendation

We recommend that management prepare written instructions to be included as part of the KRS's accounting policies and procedures manual and implement additional training for staff regarding the calculation and review of accruals and closing processes, to ensure that estimates made at the fiscal year end are consistent with actual amounts in the subsequent period. In addition, we recommend that management more closely monitor accrual accounts throughout the financial reporting process.

Management Response and Corrective Action Plan

Management consulted with their actuarial firm regarding the under accrual and concluded the understatement noted above was not material to the combining financial statements, as it resulted in the net position for the Pension Funds to be understated by 1.64% and total assets to be understated by 0.14%. The impact on the Insurance Fund was an understatement of 0.88% for the net position and 0.10% for total assets. Accounting management has updated their procedures to review employer contribution history and more accurately validate the final year-end accrual.

INVESTMENT

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Market Environment

Fiscal year 2017 was a good year for investors. Developed economies worldwide enjoyed a slow, but steady, rise in Gross Domestic Product (GDP) and investors saw positive returns from holding risk assets. In a reversal of recent trends, international stock indices outperformed the U.S., as the MSCI EAFE and MSCI Emerging Markets Index (in U.S. dollar terms) returned 20.3% and 23.7%, respectively, versus 18.5% for the Russell 3000 Index. The out-performance by international markets may continue in FY 2018 as central banks outside of the U.S. have maintained their accommodative stance even as the U.S. Federal Reserve has begun the process of removing policy stimulus.

The U.S. economy contributed to favorable markets as economic growth remained slow but steady. According to the Bureau of Labor Statistics, the unemployment rate in the U.S. dropped to 4.4% in June. Despite tight labor markets, U.S. inflation remained tame and headline inflation measured 1.6% year-over-year by June 30, 2017, up from 1.0% in the previous year. Feeling confident that the U.S. economy was on sound footing, the Federal Reserve raised short-term interest rates three times over the fiscal year and announced its intention to roll back nearly 10 years of economic stimulus by ending their policy of reinvesting both principal and interest payments generated by maturities from their balance sheet.

In Europe, Mario Draghi, President of the European Central Bank (ECB), cited a long list of positive data points that drove the economy. These included strong euro-zone business surveys, unemployment rates at a seven year low, and inflation measures that were consistent with the ECB's 2% target. Though monetary policy remained unchanged, President Draghi acknowledged the ECB would not likely authorize new supplements to the Quantitative Easing (QE) program. In Asia, the Bank of Japan held a similar monetary policy, but did not provide an indication of a tightening on the horizon as the country's core Consumer Price Index (CPI) was barely positive at +0.1%.

Global markets remained resilient in the face of increasing geopolitical risks, but interest rates moved higher as developed economies experienced slight increases to growth. In the U.S., the Federal Funds rate ended the period at a range of 1.00% to 1.25%, while the yield on the U.S. 10-year Treasury rose .86% to 2.3% by June 30, 2017. In Germany, the yield on the 10-year bonds turned positive and ended at .45% in June, 2017. Interest rate volatility is expected to remain high across the globe during the coming fiscal year as markets look to see how high the U.S. Federal Reserve will be able to raise short-term rates. Markets will also attempt to gauge if other central banks may follow the Reserve's actions and begin to remove accommodative policy measures.

Investment Committee Initiatives

New Members

In June, 2016, Governor Matt Bevin, by way of Executive Order (EO), restructured the KRS Board of Trustees to be a Board of Directors and added four new members. These new Board Members were appointed by the Governor based on their investment experience.

Monthly Meetings

In order to accomplish several major initiatives, the Investment Committee decided to meet on a monthly basis for a period of time. The more frequent meetings allowed committee members to have a greater degree of interaction with staff and to be more involved in the projects detailed below.

Review of Absolute Return Portfolio

The Committee began a review of the managers, fund strategies, allocations, fees, and overall purpose of KRS' absolute return investments. The goal of the review was to ensure that each investment was expected to provide the desired returns in a cost-appropriate manner. Any investment that no longer provided a diversified return profile or that was not expected to produce enough return relative to the fees being charged was targeted for liquidation. The review resulted in substantial reductions in allocations to hedge fund managers in KRS' portfolio. Further, the investment team was able to renegotiate investment contracts with many of the remaining funds in the portfolio.

Asset Allocation

In January, the Investment Committee Chair appointed a special subcommittee to review the asset allocation for each individual system to determine the appropriate level of risk based on liquidity and cash flow need. The subcommittee worked for six months in conjunction with the Systems' consultants and actuaries and, in July, 2017, the Board approved new asset allocations for each system. This new asset allocation, at its highest level, allocates 45.0% of system assets to equity risk, 30.0% to credit risk, and 25.0% to diversifying strategies (real return, real estate, private equity, and absolute return). These new allocations should reduce the public equity exposure in each system by roughly 16.0% in favor of fixed income. The Investment Committee has asked staff to implement this new asset allocation over the course of the next fiscal year by reducing public equity exposure by approximately 4.0% per quarter and reinvesting those dollars in fixed income assets. Within these asset allocation guidelines, both the KERS Non-Hazardous and the SPRS portfolios will have less risk and greater liquidity due to their severe underfunding and extreme cash flow needs.

Assumed Rates of Return

The Investment Committee also made recommendations to the Board to lower the assumed rates of return for each of the systems. The committee reviewed capital market assumptions from eight leading investment and/or consulting firms, e.g., JP Morgan, PIMCO, RVK, Goldman Sachs, and Blackrock. The assumptions from these firms were compared to each system's asset allocation where the resulting portfolio returns were averaged to produce an estimated return for each system. As a result of this work, the Committee recommended lowering the assumed rate

of return from 6.75% to 5.25% for the KERS Non-Hazardous and SPRS pension plans to more realistically reflect those systems' need to reduce volatility and increase the liquidity of the investments. For all other plans the committee recommended a reduction from 7.5% to 6.25%. These recommendations were approved by the Board in July, 2017.

Review of Investment Consultants

In May, 2017, the Investment Committee asked staff to issue a Request for Proposal (RFP) for new investment consulting services. The Investment Committee felt that KRS might be able to increase service levels and reduce consulting fees by switching to a single consultant to work across all asset classes except real estate. An RFP was issued in June, 2017, and eight of the largest investment consulting firms in the U.S. responded. The responses were scored by an internal review committee and four finalists were selected for in-person interviews with the selection committee. The committee recommended that Wilshire Associates be hired as the new investment consultant for all asset classes except for real estate; the committee continued to retain the incumbent real estate manager, ORG Portfolio Management, for this asset class. This recommendation was approved by the Investment Committee in August, 2017.

Other Accomplishments

In March, 2017, the Kentucky Legislature passed a new set of pension system transparency requirements, collectively known as Senate Bill 2 (SB 2). This new legislation required:

- Posting all investment contracts to the KRS website;
- Investment managers working for the systems to adhere to the CFA Asset Manager Code of Conduct and the CFA Standards of Professional Conduct;
- All KRS Trustees to adhere to the CFA Code of Conduct for Pension Scheme Governing Bodies; and,
- KRS to develop a procurement policy for all investment services and to have that policy approved by the Finance and Administration Cabinet as being representative of industry best practice.

Staff from both the Investments and Legal departments have worked diligently to implement these new requirements. A new Procurement Policy was developed with the Finance and Administration Cabinet and approved by the Board in September, 2017. The Investment staff has begun to contact each of our managers to inform them of the new requirements and to request minimally redacted copies of investment management contracts. The KRS Communications staff created a section on our website to host these contracts and we continue to collect and post these as they become available.

INVESTMENT SUMMARY

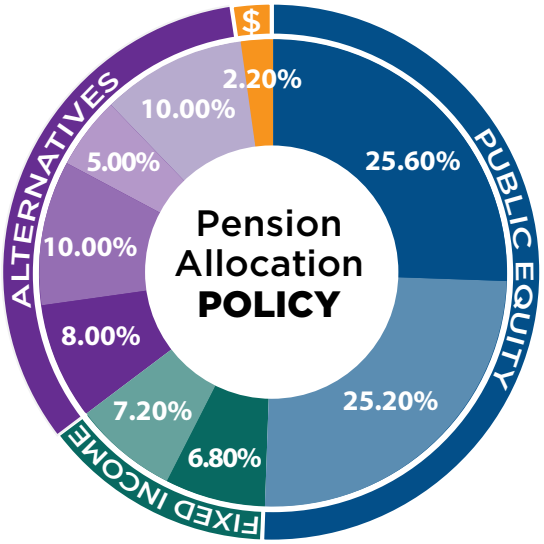
The KRS Board is charged with the responsibility of investing the Systems' assets to provide benefits to the members of the Systems. To achieve this goal, the Board follows an investment policy that thoughtfully grows our asset base while at the same time protects against undue risks and losses in all investment areas. The Board recognizes its fiduciary duty not only to invest the funds in compliance with the Prudent Person Rule, but to also manage the funds while recognizing the long-term nature of the Systems' investments. In order to carry out their fiduciary duties, the Board has created clearly defined investment policies, objectives, and strategies for both the Pension and Insurance portfolios.

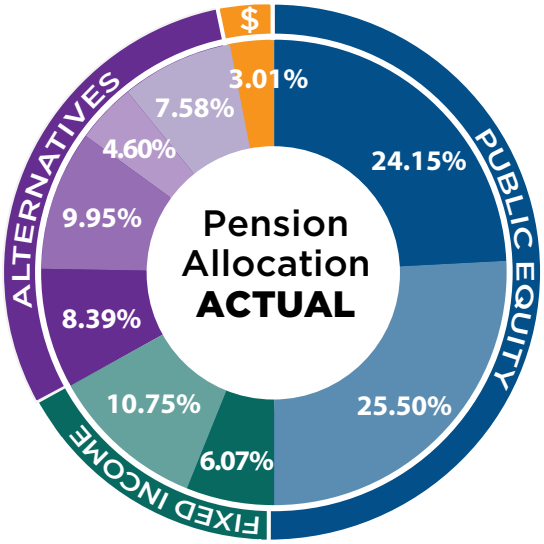
Investment Policy

As of June 30, 2017, the KRS Pension Fund's allocation aimed for the following percentages: 25.6% of the assets in U.S. equities; 25.2% in broad market international equities; 6.8% in global fixed income; 7.2% in credit fixed income; 10.0% in private equity; 8.0% in real return; 10.0% in absolute return; 5.0% in real estate; and, 2.2% in cash or short-term securities. As of June 30, 2017, the KRS Insurance Fund's allocation policy set investment goals of: 26.5% of the assets in U.S. equities; 26.5% in broad market international equities; 6.0% in global fixed income; 6.0% in credit fixed income; 10.0% in private equity; 8.0% in real return; 10.0% in absolute return; 5.0% in real estate; and, 2.0% in cash or short-term securities.

PENSION: Asset Allocation Board Policy vs. Actual as of June 30, 2017

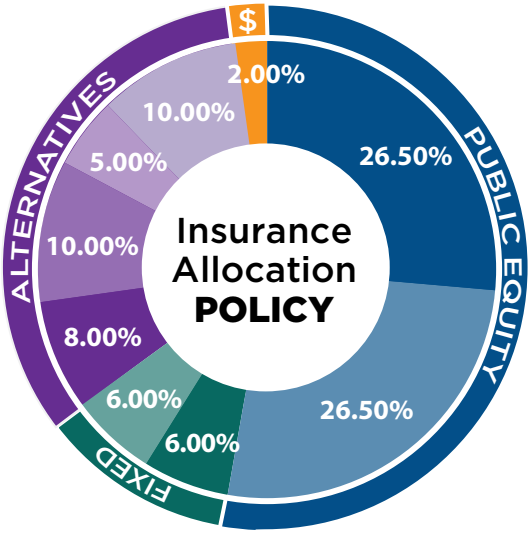
Asset	U.S. Equity	International Equity	Global Fixed	Credit Fixed	Real Return	Private Equity	Real Estate	Absolute Return	Cash
Policy's Pension Asset Allocation	25.60%	25.20%	6.80%	7.20%	8.00%	10.00%	5.00%	10.00%	2.20%
Actual Pension Asset Allocation	24.15%	25.50%	6.07%	10.75%	8.39%	9.95%	4.60%	7.58%	3.01%

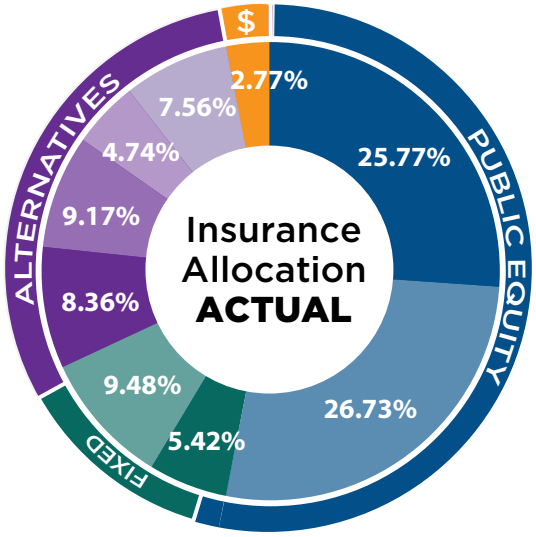




INSURANCE: Asset Allocation Board Policy vs. Actual as of June 30, 2017

Asset	U.S. Equity	International Equity	Global Fixed	Credit Fixed	Real Return	Private Equity	Real Estate	Absolute Return	Cash
Policy's Insurance Asset Allocation	26.50%	26.50%	6.00%	6.00%	8.00%	10.00%	5.00%	10.00%	2.00%
Actual Insurance Asset Allocation	25.77%	26.73%	5.42%	9.48%	8.36%	9.17%	4.74%	7.56%	2.77%





Investment Strategies

Diversification

KRS portfolios are diversified on several levels, primarily through the use of the aforementioned multiple asset classes. Asset allocations are revisited on a periodic basis and represent an efficient allocation to maximize returns and minimize risks. The individual asset classes are diversified through the use of multiple portfolios that are managed by both the Investment Division Staff and external investment advisors. Finally, portfolios within each of the asset classes are diversified through both investment styles and the selection of individual securities. Each portfolio advisor is afforded discretion to diversify its portfolio(s) within the parameters established by the KRS Board.

Rebalancing

Proper implementation of the investment policy requires that a periodic adjustment, or rebalancing, of assets be made to ensure conformance with KRS' Statement of Investment Policy target levels. Such rebalancing is necessary to reflect sizable cash flows and performance imbalances among asset classes and investment advisors. KRS' rebalancing policies call for an immediate rebalancing to within its allocation ranges if an asset class exceeds or falls outside its allowable range as defined in the Investment Policy Statement. As the previous charts depict, the Pension and Insurance portfolios were operating within the ranges established by the Investment Policies.

Investment Policies
Visit https://kyret.ky.gov/investments to read our Statement of Investment policy. Other policies include Brokerage, Securities Trading, Placement Agents, Proxy Voting and more.

Investments Performance Review Procedures

At least once each quarter, the Investment Committee, on behalf of the KRS Board, reviews the performance of the portfolio to determine compliance with the Statement of Investment Policy. The Investment Committee also reviews a report created and presented by the KRS Compliance Officer who is part of the independent Internal Audit Department. The Compliance Officer performs tests daily, monthly, and quarterly to assure compliance with the restrictions imposed by the Investment Policy.

Investment Consulting

The Board employs industry leading external consultants to assist in determining and reviewing the asset allocation guidelines. Consultants also provide performance reports for both the internally managed and externally managed assets. A letter from each consulting firm utilized follows this section and each provides a discussion of current allocations, performance, and significant changes during the fiscal year.

Investment Objectives

The investment objectives of the portfolios are to produce results that exceed the stated goals over both short-term and long-term periods.

• **Shorter-Term** (5 years and less): The returns of the particular asset classes of the managed funds of the Systems, measured on an annual basis, should exceed the returns achieved by a policy benchmark portfolio composed of comparable unmanaged market indices.

• **Medium-Term** (5 to 30 years): The returns of the particular asset classes of the managed funds of the Systems, measured on a rolling year basis, should exceed the returns achieved by a policy benchmark portfolio composed of comparable unmanaged market indices and perform above the median of an appropriate peer universe, if there is one.

• **Longer-Term:** The total assets of the Systems should achieve a return of 5.25% for KERS Non-Hazardous and SPRS pensions and 6.25% for all other pension and insurance plans. This is measured over 30 to 40 years which exceeds the actuarially required rate of return while also exceeding the return achieved by its total fund benchmark.

In keeping with the KRS Board's fiduciary responsibility, where all else is equal, the Board encourages the investment of the Systems' assets in securities of corporations that provide a positive contribution to the economy of the Commonwealth of Kentucky.

Investing in Kentucky
In keeping with the KRS Board's fiduciary responsibility, where all else equal, the Board encourages the investment of the Systems' assets in securities of corporations that provide a positive contribution to the economy of the Commonwealth of Kentucky.

Investment Results

Note: Returns reported by KRS are "net." For the purposes of this report, total fund return information is net of fees and expenses, with audited data beginning in July 2011. At the manager or individual account level, returns are net of fees beginning with July 2011 and gross of fees for prior historical data.

For the purposes of this report, total fund return information is net of investment manager fees with audited data beginning in July 2011. At the manager or individual account level, returns are net of fees beginning with July 2011 and gross of fees for prior historical data.

Fiscal Year 2017 Results

For the fiscal year ending on June 30, 2017, the KRS Pension Funds earned a net return of 13.47%, outpacing its benchmark return of 13.28%. The KRS Insurance Fund return for that period earned a net return of 13.72% compared to the 13.55% for the benchmark.

Net Returns By System - Pension Funds *(%) (Net of Fees) As of June 30, 2017*

Plan	Market Value (MV)	% of Total MV	1 Year		3 Years		5 Years		5 Year	10 Years		Inception	
	($ In Thousands)		KRS	Index	KRS	Index	KRS	Index	GANIR	KRS	Index	KRS	Index
KERS Non-Hazardous	$2,016,475	17.14	12.09	11.92	4.46	4.81	7.84	8.04	2.56	4.75	5.17	9.12	9.26
KERS Hazardous	600,384	5.10	13.44	13.58	4.86	4.81	8.12	8.11	2.99	4.81	5.20	9.14	9.27
CERS Non-Hazardous	6,688,758	56.85	13.81	13.64	4.89	4.80	8.12	8.11	2.89	4.88	5.20	9.16	9.27
CERS Hazardous	2,216,700	18.84	13.73	13.61	4.93	4.80	8.14	8.10	3.05	4.89	5.20	9.17	9.27
SPRS	243,605	2.07	12.50	12.61	4.12	4.61	7.67	7.97	2.69	4.66	5.14	9.09	9.25
Total	$11,765,922	100.00	13.47	13.28	4.81	5.13	8.08	8.22	--	4.86	5.26	9.16	9.29

Note: GANIR = (5 Year Return - 4.0%) x .75 and is calculated net of fees and expenses. See the Financial Section for more information. Applies to Tier 3 only.

Net Returns By System - Insurance Fund *(%) (Net of Fees) As of June 30, 2017*

Plan	Market Value (MV)	% of Total MV	1 Year		3 Years		5 Years		10 Years		Inception	
	($ In Thousands)		KRS	Index	KRS	Index	KRS	Index	KRS	Index	KRS	Index
KERS Non-Hazardous	$768,806	16.16	13.78	13.89	4.72	4.97	7.65	8.17	3.65	4.22	7.37	7.77
KERS Hazardous	483,868	10.17	13.76	13.73	4.93	5.02	7.93	8.21	3.79	4.24	7.42	7.77
CERS Non-Hazardous	2,149,544	45.19	13.67	13.62	5.03	5.06	7.97	8.23	3.81	4.25	7.42	7.78
CERS Hazardous	1,176,799	24.74	13.70	13.61	5.08	5.06	8.00	8.24	3.82	4.25	7.43	7.78
SPRS	177,414	3.73	13.70	13.61	5.03	5.08	7.98	8.25	3.81	4.26	7.42	7.78
Total	$4,756,432	100.00	13.72	13.55	4.99	5.45	7.92	8.40	3.78	4.33	7.42	7.80

BENCHMARKS

The Kentucky Retirement Systems Pension and Insurance Funds' benchmarks are weighted averages that are composites of the various asset class indices that exist within each of KRS' investment portfolios. The Total Fund benchmarks are shown below:

Asset Class Benchmarks
As of June 30, 2017

Index	Pension Fund	Insurance Fund
Russell 3000	25.60%	26.50%
MSCI ACWI Ex-US IMI	25.20%	26.50%
Barclays Universal Index	6.80%	6.00%
Barclays U.S. High Yield	7.20%	6.00%
NCREIF ODCE	5.00%	5.00%
HFRI Diversified FOF	10.00%	10.00%
Custom-Allocation Specific	8.00%	8.00%
Actual Performance	10.00%	10.00%
Russell 3000 Quarter Lagged + 300 bps		
Cit Grp 3-mos Treasury Bill	2.20%	2.00%

Note: KRS uses the Modified Dietz Method as its basis for calculations, which is used to determine the performance of an investment portfolio based on a time-weighted cash flow.

These benchmarks are intended to be objective, measurable, investable/replicable, and representative of the investment mandates. The benchmarks are developed from publicly available information, and accepted by the investment advisor and KRS as the neutral position consistent with the investment mandate and status. KRS' Investment Staff and Consultants recommend the indices and benchmarks, which are reviewed and approved by the Investment Committee and ratified by the KRS Board. It is anticipated that as KRS continues to diversify through other markets and asset classes, both the Pension and Insurance Fund Total benchmarks will evolve to reflect these exposures.

Long-Term Results

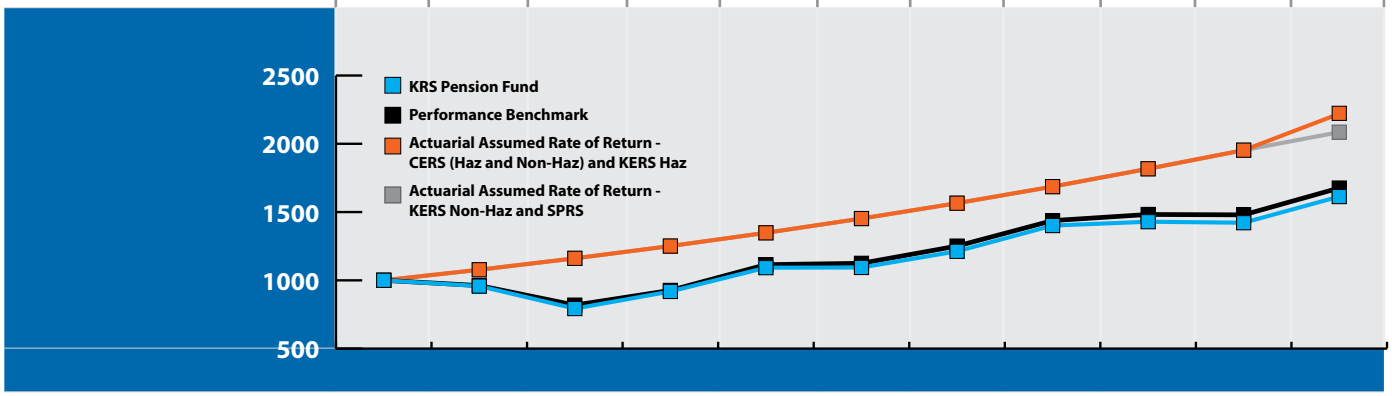
The schedule below details annual returns since June 30, 2017, where returns range from a minimum of -17.21% in 2009 to a maximum of 18.96% in 2011. For year ending June 30, 2017, the KRS total Pension Fund portfolio earned the then current annualized net returns.

As previously noted, beginning with the 2017 valuation, the Board lowered the actuarial required rate of return for KERS and SPRS to 6.75% while the rate of return for CERS Non-Hazardous, CERS Hazardous, and KERS Hazardous remained at 7.50%. The growth of a dollar chart below displays the differences between $1,000 invested in 2007 at an assumed rate of return of 6.75% for KRS and SPRS and 7.50% for CERS Non-Hazardous, CERS Hazardous, and KERS Hazardous, where an investment of $1,000 would have earned $2,085 for KERS Non-Hazardous and SPRS and $2,100 for CERS Non-Hazardous, CERS Hazardous, and KERS Hazardous. Further, the chart indicates that the total Pension Fund would have earned $1,613 per $1,000, while the benchmark would have earned $1,676 per $1,000.

Pension Fund Growth of $1,000

As of June 30, 2017

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total Fund Return	15.27%	-4.21%	-17.21%	15.81%	18.96%	0.14%	10.82%	15.55%	2.01%	-0.52%	13.47%
Performance Benchmark	14.90%	-3.83%	-14.88%	13.16%	20.34%	0.90%	11.21%	14.91%	3.13%	-0.19%	13.28%
Actuarial Assumed ROR CERS, CERS-H, and KERS-H	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.50%	7.50%
Actuarial Assumed ROR KERS and SPRS	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.50%	6.75%
KRS Pension Fund	$1,000	$958	$793	$918	$1,093	$1,094	$1,212	$1,401	$1,429	$1,422	$1,613
Performance Benchmark	1,000	962	819	926	1,115	1,125	1,251	1,437	1,482	1,480	1,676
Actuarial Assumed ROR CERS, CERS-H, and KERS-H	1,000	1,078	1,161	1,251	1,348	1,452	1,565	1,686	1,817	1,953	2,100
Actuarial Assumed ROR KERS and SPRS	$1,000	$1,078	$1,161	$1,251	$1,348	$1,452	$1,565	$1,686	$1,817	$1,953	$2,085

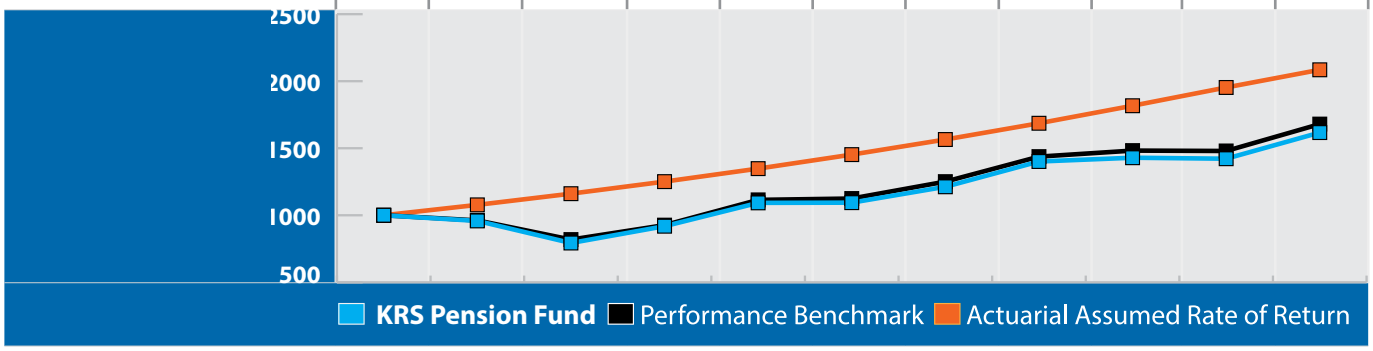


The chart below shows annual returns for the Insurance Fund since June 30, 2007, where returns range from a minimum of -23.18% in 2009 to a maximum of 23.47% in 2011. As of June 30, 2017, the Insurance Fund portfolios earned an annualized total net return of 13.72% versus the benchmark annualized return of 13.55%. The chart below indicates that the performance of $1,000 invested in the Insurance portfolios would grow to $1,452, the policy benchmark to $1,537, and the actuarial assumption to $2,100 over the 11 year period.

Insurance Fund Growth of $1,000

As of June 30, 2017

PORTFOLIO	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total Fund Return	19.32%	-7.85%	-23.18%	15.46%	23.47%	-1.71%	10.11%	14.89%	1.86%	-0.09%	13.72%
Performance Benchmark	19.12%	-7.98%	-23.15%	13.07%	26.93%	0.58%	11.05%	15.03%	3.79%	0.03%	13.55%
Actuarial Assumed ROR	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.50%	7.50%
KRS Insurance Fund	$1,000	$922	$708	$817	$1,009	$992	$1,092	$1,255	$1,278	$1,277	$1,452
Performance Benchmark	1,000	920	707	800	1,015	1,021	1,134	1,304	1,353	1,354	1,537
Actuarial Assumed ROR	$1,000	$1,078	$1,161	$1,251	$1,348	$1,452	$1,565	$1,686	$1,817	$1,953	$2,100



U.S. Equity

For the fiscal year ending June 30, 2017, the KRS Pension Funds' U.S. equity portfolio posted a return of 17.99%, versus the benchmark return of 18.51%. The KRS Insurance U.S. equity portfolio posted a return of 18.09%, compared to the benchmark return of 18.51%.

Since inception, performance remains sound; the Pension's equity portfolio has generated an annualized return of 11.27% throughout its duration, while the benchmark posted an annualized annual return of 11.29%. The Insurance Fund has returned 9.56% since inception, while the benchmark returned 9.41%.

Return on U.S. Equity

As of June 30, 2017

Portfolio	Inception Date	Fiscal Year	3-Year	5-Year	10-Year	Inception
Pension Funds	Apr-84	17.99%	8.27%	13.99%	7.01%	11.27%
↘ Performance Benchmark[1]		18.51%	9.10%	14.59%	7.29%	11.29%
Insurance Fund	Jul-92	18.09%	8.69%	14.15%	6.93%	9.56%
↘ Performance Benchmark[1]		18.51%	9.10%	14.59%	7.22%	9.41%
Market Indices						
S&P 500 (Large Cap)		17.90%	9.61%	14.65%	7.41%	
Russell Midcap		16.48%	7.69%	14.72%	7.67%	
Russell 2000 (Small Cap)		24.60%	7.36%	13.70%	6.92%	
Russell 3000 (Total Equity)		18.51%	9.10%	14.59%	7.26%	

[1] Pension and Insurance benchmark is the Russell 3000 effective July 1, 2013.

Top 10 U.S. Equity Holdings Pension Fund *($ In Thousands) As of June 30, 2017*

Company	Shares	Fair Value
APPLE INC	393,382	$56,655
MICROSOFT CORP	588,211	40,545
AMAZON.COM INC	31,015	30,023
BERKSHIRE HATHAWAY INC	175,516	29,727
FACEBOOK INC	184,673	27,882
EXXON MOBIL CORP	293,214	23,671
JOHNSON & JOHNSON	175,334	23,195
JPMORGAN CHASE & CO	243,055	22,215
ALPHABET INC-CL C	24,265	22,050
ALPHABET INC-CL A	23,176	21,546
Total		$297,510

Top 10 U.S. Equity Holdings Insurance Fund *($ In Thousands) As of June 30, 2017*

Company	Shares	Fair Value
APPLE INC	166,988	$24,050
MICROSOFT CORP	249,807	17,219
BERKSHIRE HATHAWAY INC	75,619	12,808
AMAZON.COM INC	13,155	12,734
FACEBOOK INC	78,311	11,823
EXXON MOBIL CORP	125,264	10,113
JOHNSON & JOHNSON	74,924	9,912
JPMORGAN CHASE & CO	103,937	9,500
ALPHABET INC-CL C	10,269	9,331
WELLS FARGO & CO	166,516	9,227
Total		$126,716

A complete list of holdings is located at https://kyret.ky.gov/Investments/Investments-Library/Pages/Investments-Holdings.aspx

International Equity

For the fiscal year ending June 30, 2017, the KRS Pension Funds' international equity portfolio returned 20.23%, compared to its benchmark of 20.97%. The KRS Insurance international equity portfolio returned 20.40% versus its benchmark of 20.97% during the same twelve month period.

International equity investors have experienced a volatile period of returns over the past several years as a result of geopolitical issues, commodity price swings, and currency valuation moves. Even so, over the past five years both funds have outperformed their respective benchmarks. The KRS Pension and Insurance Funds posted annualized returns for the period of 8.30% and 8.15% respectively, compared to the benchmark's return of 7.72%. The Systems began their international equity program in 2000. Since inception, the Pension international equity portfolio has underperformed the benchmark, while the Insurance international equity portfolio has outperformed the benchmark.

Return on International Equity

As of June 30, 2017

Portfolio	Inception Date	Fiscal Year	3-Year	5-Year	10-Year	Inception
Pension Funds	Jul-00	20.23%	1.85%	8.30%	1.65%	2.83%
↘ Performance Benchmark[1]		20.97%	1.29%	7.72%	1.38%	3.29%
Insurance Fund	Apr-00	20.40%	1.77%	8.15%	1.64%	2.84%
↘ Performance Benchmark[1]		20.97%	1.29%	7.72%	1.04%	2.40%
Market Indices						
MSCI ACWI Ex US GD		20.97%	0.80%	7.22%	1.16%	

[1]Pension and Insurance benchmark is the MSCI ACWI ex-US effective July 1, 2011.

Top 10 International Equity Holdings Pension Fund *($ In Thousands) As of June 30, 2017*

Company	Shares	Fair Value
ROCHE HOLDING AG	88,320	$22,522
LONDON STOCK EXCHANGE GROUP	421,849	19,979
DAIWA HOUSE INDUSTRY CO LTD	498,500	17,028
KBC GROUP NV	214,230	16,227
WORLDPAY GROUP PLC	3,861,886	15,792
PRUDENTIAL PLC	678,339	15,517
CSL LTD	144,960	15,348
TOTAL SA	301,479	14,884
HDFC BANK LTD	169,780	14,766
TENCENT HOLDINGS LTD	412,800	14,764
Total		$166,824

Top 10 International Equity Holdings Insurance Fund *($ In Thousands) As of June 30, 2017*

Company	Shares	Fair Value
ROCHE HOLDING AG	38,510	$9,820
LONDON STOCK EXCHANGE GROUP	168,603	7,985
KBC GROUP NV	88,790	6,725
TOTAL SA	135,884	6,708
CSL LTD	60,540	6,410
HDFC BANK LTD	72,780	6,330
WORLDPAY GROUP PLC	1,536,247	6,282
DAIWA HOUSE INDUSTRY CO LTD	183,200	6,258
TENCENT HOLDINGS LTD	173,800	6,216
DSV A/S	99,900	6,130
Total		$68,864

A complete list of holdings is located at https://kyret.ky.gov/Investments/Investments-Library/Pages/Investments-Holdings.aspx

Fixed Income

For the fiscal year ending June 30, 2017, the KRS Pension Funds' fixed income portfolio returned 6.54% versus to the benchmark return of 6.66%. As the accompanying table indicates, both of the broad market indices, the Barclays Aggregate Index and the Barclays Universal Index, posted returns of -0.31% and 0.91% respectively for the twelve month period ending June 30, 2017, while the Barclays High Yield Index provided returns of 12.70%. The KRS Insurance fixed income portfolio posted a 5.90% rate of return, which underperformed the index by 0.76%.

Over the five year period, the Pension Funds outperformed the benchmark while the Insurance Fund lagged behind benchmark of 4.21%. Over the ten year period, the Pension and Insurance Funds have trailed the benchmark by 0.04% and 0.07%, respectfully.

Return on Fixed Income
As of June 30, 2017

Portfolio	Inception Date	Fiscal Year	3-Year	5-Year	10-Year	Inception
Pension Funds	Apr-84	6.54%	4.23%	4.47%	5.57%	7.69%
↘ Performance Benchmark[1]		6.66%	5.24%	4.21%	5.61%	7.51%
Insurance Fund	Jul-92	5.90%	3.69%	4.00%	5.78%	6.53%
↘ Performance Benchmark[1]		6.66%	5.24%	4.21%	5.85%	6.51%
Market Indices						
BC Aggregate		-0.31%	2.48%	2.21%		
BC Corporate High Yield		12.70%	4.48%	6.89%		
BC Universal		0.91%	2.76%	2.73%		

[1]Pension and Insurance benchmark is Barclays Universal Index (Global) and Barclays U.S. High Yield (High Yield).

Top 10 Fixed Income Holdings Pension Fund *($ In Thousands) As of June 30, 2017*

Company	Par Value	Fair Value
MARATHON BLUEGRASS	$311,160	$311,160
CERBERUS	90,773	90,773
U S TREASURY NOTE	47,143	47,143
U S TREASURY BOND	23,942	23,942
NEW ZEALAND GOVT BOND	17,456	12,781
MEXICAN BONOS	200,963	11,103
SINGAPORE GOVERNMENT BOND	12,429	9,027
HCA INC	8,503	8,503
INDONESIA TREASURY BOND	112,356,767	8,430
INTERNATIONAL BANK	78,635	6,952
Total		$529,814

Top 10 Fixed Income Holdings Insurance Fund *($ In Thousands) As of June 30, 2017*

Company	Par Value	Fair Value
MARATHON BLUEGRASS	$122,731	$122,731
CERBERUS	38,903	38,903
U S TREASURY NOTE	16,063	16,063
U S TREASURY BOND	8,025	8,025
NEW ZEALAND GOVT BOND	6,574	4,814
MEXICAN BONOS	74,067	4,092
SINGAPORE GOVERNMENT BOND	4,555	3,309
INDONESIA TREASURY BOND	42,422,990	3,183
INTERNATIONAL BANK	29,893	2,695
APPLE INC	2,281	2,281
Total		$206,096

Note: Par value is the market value in local currency denominations. *A complete list of holdings is located at https://kyret.ky.gov/Investments/Investments-Library/Pages/Investments-Holdings.aspx*

Private Equity

For the fiscal year ending June 30, 2017, the KRS Pension Funds' private equity portfolio posted a return of 12.76%; the portfolio consists primarily of investments within private equity limited partnerships. The Insurance private equity portfolio also returned 12.76%. In a prior fiscal year, it was decided that the short-term benchmark (1-, 3-, & 5-year) would match the actual performance experienced by the portfolios due to the difficulty in assessing short-term returns. Performance is typically based on appraisals of a business's value, so managers are often slow to mark valuations up or down. This can distort relative performance against a public market benchmark when that index moves dramatically. A better indication of the performance of the program would be the mid- to longer-term time periods because businesses have likely been sold and transacted at a true price (rather than estimate of value), which provides a better performance measurement.

For the five years ending June 30, 2017, the Pension and Insurance Funds' private equity portfolios returned 12.19% and 14.16%, respectively. For the ten year period, the Pension Fund trailed its benchmark by 3.31%; the Insurance Fund underperformed by 0.87%. Since its inception in October 1990, the Pension portfolio has matched its benchmark, while the Insurance portfolio has underperformed its benchmark since its July 2001 inception by 0.60%.

Return on Private Equity
As of June 30, 2017

Portfolio	Inception Date	Fiscal Year	3-Year	5-Year	10-Year	Inception
Pension Funds	Oct-90	12.76%	9.23%	12.19%	7.32%	10.95%
↘ Performance Benchmark[1]		12.76%	9.23%	12.19%	10.63%	10.95%
Insurance Fund	Jul-01	12.76%	12.63%	14.16%	8.94%	9.74%
↘ Performance Benchmark[1]		12.76%	12.63%	14.16%	9.81%	10.34%

[1]Pension and Insurance Benchmark beyond 5 years is the Russell 3000 Lagged + 300bps effective January 1, 2016. For shorter term periods, the benchmark matches actual performance experienced.

Real Estate

For the fiscal year ending June 30, 2017, the KRS Pension Funds' real estate portfolio gained 9.87%, exceeding its benchmark return of 7.36%. The KRS Insurance real estate portfolio also surpassed the benchmark, returning 10.44% compared to 7.36%. For the five years ending June 30, 2017, both the Pension and Insurance Fund portfolios underperformed the benchmark's return by 1.55% and 1.85%, respectively.

Return on Real Estate[1]
As of June 30, 2017

Portfolio	Inception Date	Fiscal Year	3-Year	5-Year	10-Year	Inception
Pension Funds	Jul-84	9.87%	8.97%	9.39%	7.23%	5.95%
↘ Performance Benchmark[1]		7.36%	10.77%	10.94%	4.62%	6.44%
Insurance Fund	May-09	10.44%	9.32%	9.09%		8.99%
↘ Performance Benchmark[1]		7.36%	10.77%	10.94%		5.84%

[1]Pension and Insurance benchmark is the NCREIF Open-End Diversified Core Gross effective June 30, 2011.

Real Return

For the fiscal year ending June 30, 2017, the KRS Pension Funds' real return portfolio returned 7.52% versus its benchmark return of 3.12%. The KRS Insurance real return portfolio posted a return of 6.60%, while the benchmark returned 2.96% for the period. Over the past three years, the Pension and Insurance real return portfolios have outperformed their respective benchmarks by 0.83% and 0.55%.

Return on Real Return
As of June 30, 2017

Portfolio	Inception Date	Fiscal Year	3-Year	5-Year	10-Year	Inception
Pension Funds	Jul-11	7.52%	1.44%	2.47%		4.00%
↘ Performance Benchmark[1]		3.12%	0.61%	2.34%		2.73%
Insurance Fund	Jul-11	6.60%	1.32%	2.11%		3.68%
↘ Performance Benchmark[1]		2.96%	0.77%	2.43%		2.81%

[1]Pension and Insurance benchmark is Custom-Allocations Specific.

Absolute Return

For the fiscal year ending June 30, 2017, the KRS Pension Funds' absolute return portfolio was 5.41% versus its benchmark which was 5.05%. The KRS Insurance absolute return portfolio returned 5.32%, while the benchmark was 5.05% for the period. For the five years ending June 30, 2017, the Pension and Insurance portfolios outperformed their respective benchmarks. Since inception, the Pension and Insurance Portfolio has outperformed the benchmark by 1.21% and 1.14%, respectively. The portfolio was comprised of three fund of funds and 26 direct investments. However, over the past few fiscal years the fund of funds have been transitioned into direct relationships. As of June 30, 2017, the portfolios consist of only direct relationships.

Return on Absolute Return
As of June 30, 2017

Portfolio	Inception Date	Fiscal Year	3-Year	5-Year	10-Year	Inception
Pension Funds	Apr-10	5.41%	1.39%	4.89%		3.96%
↘ Performance Benchmark[1]		5.05%	1.72%	3.65%		2.75%
Insurance Fund	Apr-10	5.32%	1.41%	4.87%		3.89%
↘ Performance Benchmark[1]		5.05%	1.72%	3.65%		2.75%

[1]Pension and Insurance benchmark is the HFR FOF: Diversified.

Top 10 Alternatives Asset Holdings Pension Fund *($ In Thousands) As of June 30, 2017*

Company	SUB ASSET	Fair Value
DANIEL BOONE LLC	ABS RET	$409,014
BAY HILLS EMERGING PARTNERS II	PVT EQ	99,300
H/2 CREDIT PARTNERS	REAL EST	82,269
STOCKBRIDGE FUND	REAL EST	81,826
HARRISON STREET CORE PROPERTY	REAL EST	76,041
DAG VENTURES IV	PVT EQ	73,291
PROLOGIS TARGETED US LOGISTICS	REAL EST	63,977
CRESTVIEW CAPITAL PARTNERS II	PVT EQ	63,195
MESA WEST CORE LENDING FUND	REAL EST	58,381
MAGNETAR MTP	REAL RET	57,916
Total		$1,065,211

Top 10 Alternatives Asset Holdings Insurance Fund *($ In Thousands) As of June 30, 2017*

Company	SUB ASSET	Fair Value
DANIEL BOONE LLC	ABS RET	$169,897
SECONDARY OPP FUND III	PVT EQ	37,612
BAY HILLS EMERGING PARTNERS III	PVT EQ	36,318
BLACKSTONE CAPITAL PARTNERS VI	ABS RET	35,935
STOCKBRIDGE FUND	REAL EST	34,361
MESA WEST CORE LENDING FUND	REAL EST	32,576
H/2 CREDIT PARTNERS	REAL EST	31,994
HARRISON STREET CORE PROPERTY	REAL EST	31,556
GREEN EQUITY INVESTORS VI	PVT EQ	28,600
PROLOGIS TARGETED US LOGISTICS	REAL EST	25,320
Total		$438,849

A complete list of holdings is located at https://kyret.ky.gov/Investments/Investments-Library/Pages/Investments-Holdings.aspx

Cash

For the fiscal year ending June 30, 2017, the KRS Pension Funds' cash portfolio returned 0.99%, outpacing its benchmark, the Citi Group 3-month Treasury, by 0.53%. The KRS Insurance cash portfolio also outperformed the index, posting a return of 0.62% during the same 12 month period.

As the accompanying table indicates, the longer-term results from the cash portfolios have performed well compared to their benchmark. For the five years ending June 30, 2017, the Pension Funds portfolio has outperformed its custom benchmark by 0.36% on an annualized basis. Since its inception, the portfolio has exceeded its benchmark by 0.45% per year. The Insurance portfolio has also done very well, exceeding its benchmark return over the five-year and since inception periods by 0.22% and 0.14%, respectively.

Return on Cash
As of June 30, 2017

Portfolio	Inception Date	Fiscal Year	3-Year	5-Year	10-Year	Inception
Pension Funds	Jan-88	0.99%	0.54%	0.51%	1.06%	3.65%
↘ Performance Benchmark[1]		0.46%	0.20%	0.15%	0.51%	3.20%
Insurance Fund	Jul-92	0.62%	0.38%	0.37%	0.76%	2.69%
↘ Performance Benchmark[1]		0.46%	0.20%	0.15%	0.51%	2.55%

[1]Pension and Insurance benchmark is the Citi Group 3-month Treasury

Additional Schedules & Required Supplemental Information

In the following are additional schedules which include the assets under management for each firm the Systems employs, external investment-related expenses, commissions paid , and portfolio summaries for each of the five pension and insurance plans as of the fiscal year ending June 30, 2017. This section is followed by letter from KRS' investment consultants.

Investment Advisors & Assets Under Management *($ In Thousands)*

As of June 30, 2017

Advisor	Assets Under Management
American Century Investments	$479,615
AMERRA Capital Management	100,548
Anchorage Capital	36,804
Arbor Investments	8,177
Arcano Capital	32,091
ARES Capital	12,205
Avenue Capital Group	9
Blackstone Alternative Asset Management	44,661
Bay Hills Emerging Partners	195,098
Black Diamond Capital Management	31,926
BlackRock ACWI Ex-US	1,858,674
Blackrock	39,702
Blackstone Capital Partners	97,438
BTG Pactual	13,723
BNY Mellon Accruals	(901)
Cash Accounts	487,282
Cerberus	129,676
CM Growth Capital Partners	13,322
Coatue	25,921
Columbia Asset Management	310,172
Columbia Capital	6,432
Credit Suisse	40,989
Crestview Partners	88,412
CVC Capital Partners	24,186
DAG Ventures	147,507
Davidson-Kempner	65,859
DB Secondary Opportunities	50,150
DCM	14,768
DivcoWest	11,545
DSAM Capital Partners	820
Essex Woodland	22,395
Finisterre Capital	25,418

Investment Advisors & Assets Under Management *($ In Thousands)*

As of June 30, 2017

Advisor	Assets Under Management
Franklin Templeton	339,482
Fundamental Partners	36,790
Glenview Institution	531
Gotham Neutral Strategies	18,692
Governor's Lane	31,222
Green Equity Investors	132,345
Greenfield Acquisition Partners	49,631
GTCR Golder Rauner	6,037
H/2 Credit Partners	114,263
Harrison Street	107,597
Harvest Partners	62,630
HBK Capital Management	62,387
Hellman & Friedman	6,037
H.I.G Capital	23,657
Horsley Bridge International	63,043
IG Credit FI Unit	512,656
Institutional Venture Partners	14,828
Internal US Mid Cap	446,843
Internal TIPS	285,895
JW Childs Equity	3
Karya	22,049
Kayne Anderson	56,347
KCP Capital	5,145
Keyhaven Capital Partners	26,107
Knighthead Capital	13,844
Lazard Asset Management	730,967
Levine Leichtman	58,404
LibreMax Capital	266
Liquidalts H20 Force	22,695
Loomis, Sayles & Company	125
LSV Asset Management	705,474
Lubert-Adler	49,007
Luxor Capital	18,010
Magnetar Capital	100,134
Manulife Financial	574,872
Marathon Bluegrass	430,290
Matlin Patterson	32,331
Merit Capital Partners	6,419
Mesa West	97,593

Investment Advisors & Assets Under Management *($ In Thousands)*

As of June 30, 2017

Advisor	Assets Under Management
MHR Institutional Advisors	1,753
Mill Road Capital	24,053
Myriad Opportunities	45,113
New Mountain Partners	72,101
NISA Investment Advisors	396,918
Non-US Transition	7,988
Northern Trust Global Investments	482,915
Nuveen Real Asset	309,584
Oak Hill Partners	32,960
Oberland Capital	5,017
Oaktree Capital Management	542
Pacific Alternative Asset Management Company	1,314
Patron Capital	5,929
Perimeter Park	7,300
PIMCO	450,553
Pine River Capital	10,030
Prisma	578,911
Prologis	89,297
Prudential	22,399
QMS Diversified Global	22,237
River Road Asset Management	255,148
Riverside Capital	44,384
Rubenstein Capital	22,738
Internal S& P 500	1,905,325
Internal Scientific Beta	479,723
Scopia PX	10,371
Senator PX	29,032
Shenkman Capital	128,750
Stockbridge	116,187
Sun Capital Partners	642
Systematic Financial Management	426,968
Systematica Bluematrix	16,548
Taurus Mine Finance	17,536
Technology Crossover Ventures VI, Palo Alto, California	649
Tenaska Power	1,098
Tide Point Partners	22,178
Tortoise Capital	100,990
Tourbillon Global	23,408
US Transition KRS Internal Account	56
Triton Fund	22,784

Investment Advisors & Assets Under Management *($ In Thousands)*

As of June 30, 2017

Advisor	Assets Under Management
VantagePoint Capital Partners	16,582
Vista Equity Partners	92,067
Walton Street	58,720
Warburg Pincus	31,963
Waterfall Investment	204,238
Wayzata Investment Partners	28,553
Westfield Capital	219,529
Total	$16,522,353

Note: Totals reflect external manager assets under management, therefore totals will differ from Total Fair Values.

External Investment Expense - Asset Class/Type Breakdown *(in Whole Dollars)*

As of June 30, 2017

Pension Fund

	US Public	Non US Equity	Fixed Income	Real Return	Private Equity	Real Estate	Absolute Return	Cash	Total
Fee for Long Balance	$-	$1,738	$-	$90	$95	$-	$-	$-	$1,924
Lending Fee Rebate	877,241	(172,578)	41,496	(11,971)	-	-	-	-	734,189
Investment Advisory Fees	3,228,813	7,336,695	7,417,187	5,861,154	9,434,943	4,130,692	8,729,463	-	46,138,947
Performance/ Incentive Fees	-	-	6,547,646	280,569	16,343,440	2,150,716	4,328,360	-	29,650,731
Stock Loan Fees	152,830	94,179	54,812	48,419	-	-	-	-	350,239
Taxes and Insurance	-	-		-	(594)	-	-	-	(594)
Miscellaneous	36,098	15,774	(80)	1,066,279	4,411,381	1,843,738	50	250,158	7,623,398
Commission on Future Contracts	2,374	-	14,468	1,281	-	-	-	-	18,123
Consultant Fees	-	-	-	-	-	-	-	1,004,974	1,004,974
Custodial Fees	-	-	-	-	-	-	-	1,084,156	1,084,156
	$4,297,356	$7,275,808	$14,075,528	$7,245,822	$30,189,265	$8,125,146	$13,057,873	$2,339,288	$86,606,086
								Financial Statement Reported Expenses	$86,606,086

Insurance Fund

Fee for Long Balance	$-	$523	$-	$-	$12	$-	$-	$-	$535
Lending Fee Rebate	355,240	(154,450)	6,319	(20,980)	-	-	-	-	186,130
Investment Advisory Fees	1,344,096	2,998,140	2,751,799	2,367,262	4,955,373	1,732,144	3,415,809		19,564,623
Performance/ Incentive Fees	-		2,704,213	127,855	4,828,465	899,182	1,447,378		10,007,093
Stock Loan Fees	53,470	45,543	12,963	20,602					132,578
Miscellaneous	29,932	6,601	70	510,826		986,465	50	87,373	1,621,317
Taxes and Insurance	-	-	-	-	2,730				2,730
Commission on Future Contracts	917	-	5,447	529	1,897,368				1,904,261
Consultant Fees	-	-	-	-	-	-	-	409,159	409,159
Custodial Fees	-	-	-	-	-	-	-	718,410	718,410
	$1,783,656	$2,896,357	$5,480,811	$3,006,094	$11,683,948	$3,617,791	$4,863,237	$1,214,942	$34,546,836
								Financial Statement Reported Expenses	$34,546,836

The Governmental Accounting Standards Board recognizes that it may not be possible or cost-beneficial to separate certain investment expenses from either the related investment income or the general administrative expenses of the plan. KRS has displayed all investment related fees and expenses identifiable and captured by our custodial bank, BNY Mellon and KRS staff.

Schedule of Commissions Paid *(in Whole Dollars)*
As of June 30, 2017

Asset	Total Shares	Commissions Paid	Price per Share
U.S. Equities	96,487,250	$ 1,496,980	$0.0155
Non U.S. Equities	970,885,712	$1,462,533	$0.0015
Total Commissions Paid		$2,959,513	

External Investment Expenses *($ In Thousands)*
As of June 30, 2017

Expense	Fees Paid	Share of Assets
Portfolio Management		
Pension Funds	$84,517	0.72%
Insurance Funds	33,419	0.70%
Custody		
Pension Funds	1,084	0.01%
Insurance Funds	718	0.02%
Consultant		
Pension Funds	1,005	0.01%
Insurance Funds	409	0.01%
Total Pension Funds	$86,606	0.71%
Total Insurance Funds	$34,547	0.66%
Total Expenses	$121,153	0.70%

MARKET VALUES BY PLAN

($ In Thousands)
As of June 30, 2017

Pension

	KERS Non-Hazardous		KERS Hazardous		CERS Non-Hazardous		CERS Hazardous	
Category	Market Value (MV)	% of Total MV	Market Value (MV)	% of Total MV	Market Value (MV)	% of Total MV	Market Value (MV)	% of Total MV
Public Equity	$793,469	39.35%	$308,124	51.32%	$3,479,118	52.01%	$1,148,881	51.83%
US Equity	379,261	18.81%	150,166	25.01%	1,696,693	25.37%	560,114	25.27%
Non-US Equity	414,207	20.54%	157,958	26.31%	1,782,425	26.65%	588,767	26.56%
Fixed Income	454,995	22.56%	91,594	15.26%	1,042,869	15.59%	337,385	15.22%
Global	185,495	9.20%	30,934	5.15%	360,051	5.38%	118,129	5.33%
Credit	269,500	13.36%	60,660	10.10%	682,818	10.21%	219,256	9.89%
Real Return	164,794	8.17%	52,473	8.74%	560,657	8.38%	189,133	8.53%
Private Equity	263,191	13.05%	58,643	9.77%	617,305	9.23%	209,926	9.47%
Real Estate	86,238	4.28%	29,329	4.89%	313,689	4.69%	100,234	4.52%
Absolute Return	163,021	8.08%	42,629	7.10%	508,091	7.60%	161,004	7.26%
Cash	90,767	4.50%	17,592	2.93%	167,029	2.50%	70,107	3.16%
TOTAL PORTFOLIO	$2,016,475		$600,384		$6,688,758		$2,216,670	

Insurance

Public Equity	$405,856	52.79%	$254,053	52.50%	$1,125,764	52.37%	$618,268	52.54%
US Equity	200,209	26.04%	124,584	25.75%	552,164	25.69%	303,148	25.76%
Non-US Equity	205,647	26.75%	129,469	26.76%	573,600	26.68%	315,120	26.78%
Fixed Income	134,146	17.45%	78,189	16.16%	303,874	14.14%	167,776	14.26%
Global	40,132	5.22%	26,827	5.54%	116,683	5.43%	64,608	5.49%
Credit	94,014	12.23%	51,362	10.61%	187,191	8.71%	103,168	8.77%
Real Return	67,088	8.73%	39,051	8.07%	184,939	8.60%	93,995	7.99%
Private Equity	36,377	4.73%	40,289	8.33%	218,167	10.15%	122,542	10.41%
Real Estate	31,721	4.13%	23,909	4.94%	103,679	4.82%	56,848	4.83%
Absolute Return	56,698	7.37%	37,625	7.78%	160,927	7.49%	90,138	7.66%
Cash	36,919	4.80%	10,753	2.22%	52,194	2.43%	27,232	2.31%
TOTAL PORTFOLIO	$768,805		$483,869		$2,149,544		$1,176,799	

FAIR VALUES BY PLAN

($ In Thousands)
As of June 30, 2017

Pension

	SPRS		TOTAL SYSTEMS	
Category	Market Value (MV)	% of Total MV	Market Value (MV)	% of Total MV
Public Equity	$111,968	45.96%	$5,841,560	49.65%
US Equity	55,084	22.61%	2,841,319	24.15%
Non-US Equity	56,883	23.35%	3,000,241	25.50%
Fixed Income	52,228	21.44%	1,979,071	16.82%
Global	19,628	8.06%	714,237	6.07%
Credit	32,600	13.38%	1,264,834	10.75%
Real Return	20,008	8.21%	987,065	8.39%
Private Equity	21,284	8.74%	1,170,349	9.95%
Real Estate	11,851	4.86%	541,341	4.60%
Absolute Return	17,172	7.05%	891,917	7.58%
Cash	9,094	3.73%	354,589	3.01%
TOTAL PORTFOLIO	$243,605		$11,765,892	

Insurance

Public Equity	$93,207	52.54%	$2,497,147	52.50%
US Equity	45,667	25.74%	1,225,771	25.77%
Non-US Equity	47,540	26.80%	1,271,376	26.73%
Fixed Income	25,039	14.11%	709,025	14.91%
Global	9,702	5.47%	257,953	5.42%
Credit	15,337	8.64%	451,072	9.48%
Real Return	12,540	7.07%	397,614	8.36%
Private Equity	18,759	10.57%	436,133	9.17%
Real Estate	9,102	5.13%	225,258	4.74%
Absolute Return	14,107	7.95%	359,495	7.56%
Cash	4,661	2.63%	131,760	2.77%
TOTAL PORTFOLIO	$177,415		$4,756,432	

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Letters from Investment Consultants

CONSULTANTS

Investment Consultants

R.V. Kuhns & Associates, Portland, Oregon
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Regarding: 2016-17 Fiscal Year Investment Portfolio CAFR Letter

Economic Review

The fiscal year 2016-2017 began with the surprise vote by the citizens of the United Kingdom to exit the European Union. Risk-oriented markets initially fell following the news, but supportive comments from global central banks reversed falling markets to generate a positive quarter.

In the United States, the Federal Reserve held interest rates steady despite dissenting views by several Federal Reserve Open Market Committee ("FOMC") members. The flow of U.S. economic data during the first fiscal year quarter continued to indicate moderate expansion. GDP growth for the second quarter (calendar year) was revised up to 1.4% with higher expectation for the third quarter (calendar year). Similarly, ISM PMI data pointed to expansion of economic activity in both the manufacturing and non-manufacturing sectors. However, the Fed kept rates unchanged based on their preferred measure of inflation (core PCE), which was below the target of 2.0%, and evidence that slack remained in labor markets. Market participants discounted a rate hike leading into the U.S. presidential election, but the implied probability of an increase during the December meeting hovered above 50%.

In the U.K., the Bank of England ("BOE") announced an interest rate cut of 0.25% and an expansion of the Bank's quantitative easing program by 70 billion pounds as preemptive measures to counteract the perceived negative effects of the Brexit vote. For the rest of Europe, the response to Brexit was more measured with European Central Bank ("ECB") President Mario Draghi maintaining the existing policy. One of the more interesting developments came from the Bank of Japan, as it announced further measures to stimulate its economy and bring about inflation by targeting a 0.00% interest rate on the 10-year government bond.

The surprise U.S. election results during the fourth quarter (2QFY17) quickly led to a renewed optimism for risk assets as markets began to analyze the Trump team's policy goals – tax repatriation, lower corporate and income tax rates, a significant infrastructure spending bill, and deregulation in the financial sector. Market based measures of inflation expectations increased as well, with the 5-year breakeven spread rising from 1.61% on Election Day to 1.86% at calendar year-end 2016.

As expected, the FMOC to raise the benchmark federal funds rate by 25 basis points during its December meeting. The move was supported by a growth in non-farm payroll consistent with a firming of labor market conditions. The calendar year proved to be the best year for private sector wage growth since 2009, with the monthly compound annual rate averaging 2.9% according to the Bureau of Labor Statistics.

A number of noteworthy events also took place internationally during the quarter. OPEC announced a deal to cut oil production by 1.2 million barrels per day, sending the price of oil up nearly 10% the day of the announcement. This marked the first such production cut for the cartel since 2008. In Europe, the ECB announced a reduction in asset purchases from €80 billion per month to €60 billion, but extended the duration of the purchase program. Lastly, in India, Prime Minister Narendra Modi continued an effort to reduce corruption in the country by declaring that all 500 and 1,000 rupee notes would be invalid, forcing holders of these notes to exchange the old notes for a new series.

Global risk assets performed well over the first quarter of 2017 (3QFY17), driven largely by continued positive expectations for U.S. fiscal policy, as well as continued improvements in global economic growth and inflation more broadly. These fundamental improvements in economic conditions seem to have overshadowed an environment characterized by the rising tide of populism and a heightened level of global geopolitical risk.

RVK

In the U.S., markets received few details of the Trump administration's proposed pro-growth policies touted in the prior quarter, yet equity market valuations climbed higher. U.S. economic fundamentals remained strong during the quarter, with data releases such as retail sales, ISM PMI, Personal Consumption Expenditures, and Non-Farm Payroll growth all consistent with economic expansion. The continued improvement in U.S. economic fundamentals prompted the FOMC to raise policy rates at its March 2017 meeting. The Committee cited strengthened labor market conditions and progress toward its inflation objectives as factors driving their decision, and further guided the markets toward possibly two additional rate hikes in 2017. The potential for a more hawkish Federal Reserve did lead to interest rate volatility.

In Europe, Mario Draghi and the ECB turned more positive on Euro-zone economic fundamentals, citing a long list of recent positive data points including strong Euro-zone business surveys, unemployment rates at a 7-year low, and inflation measures consistent with the ECB's 2% target. Though monetary policy remained unchanged, President Draghi acknowledged the ECB would not likely authorize new supplements to the Quantitative Easing ("QE") program. The Bank of Japan similarly held monetary policy steady, but did not provide indication of a tightening on the horizon as the country's core CPI is barely positive at +0.1%. Oil markets had a challenging quarter as increased U.S. shale production meaningfully offset the production cuts announced by OPEC in November 2016.

Global risk assets continued to perform well during the second quarter of 2017 (4QFY17), with gains broadly supported by strengthening economic data related to global inflation, job growth, and corporate fundamentals. In contrast to prior run-ups in risk assets, the last quarter of the fiscal year was marked by high levels of sector and market factor dispersion. This created significant opportunities for skilled active managers and generated tailwinds for strategies with heavy growth and cyclical biases.

Gains across most risk assets occurred despite persistent political divisiveness in the U.S., heightened geopolitical risks (most notably in North Korea), and a range of other international issues. U.S. interest rates experienced heightened volatility during the quarter before abruptly rising in the last week of the fiscal year. Given expectations that central banks may remove accommodative policy measures over the near term, volatility of global rates may remain high, which could lead to headwinds for longer-duration strategies into the next fiscal year.

The table below displays key domestic economic indicators as of June 30, 2017.

Domestic Economic Indicators
As of June 30, 2017

	June 2017	June 2016	Yr/ Yr	10 Year	20 Year
Capacity Utilization	76.57%	75.83%	▲	76.06%	77.73%
Unemployment Rate	4.40%	4.90%	▼	7.00%	5.90%
PMI - Manufacturing	57.80	52.80	▲	52.20	52.30
Baltic Dry Index - Shipping	901	660	▲	2,287	2,289
Real GDP YoY	2.10%	1.20%	▲	1.40%	2.40%
Consumer Confidence (Conf. Bd.)	117.30	97.40	▲	75.14	93.08
Breakeven Inflation - 10 Year*	1.74%	1.44%	▲	1.99%	N/A
CPI YoY (Headline)**	1.60%	1.00%	▲	1.80%	2.10%
CPI YoY (Core)**	1.70%	2.20%	▼	1.80%	2.00%
PPI YoY	2.20%	-2.00%	▲	1.90%	2.00%
M2 YoY	5.50%	7.00%	▼	6.50%	6.40%
Federal Funds Rate (%)	1.06%	0.30%	▲	0.61%	2.23%
US Dollar Total Weighted Index	90.54	90.65	▼	79.3	86.89
WTI Crude Oil per Barrel	$46	$48	▼	$78	$57
Gold Spot per Oz***	$1,242	$1,322	▼	$1,238	$806

*Breakeven Inflation does not have 20 years of history; therefore, its 20-year average is shown as N/A.
**CPI figures are cyclically adjusted. ***10- and 20-year average Gold spot prices are adjusted for inflation.

RVK

Capital Markets Review

Global Equity

International equity markets outperformed U.S. markets for the fiscal year, with the MSCI EAFE and MSCI Emerging Markets Index (in U.S. dollar terms) returning 20.3% and 23.7%, respectively, versus 18.5% for the Russell 3000 Index.

U.S. markets experienced a slight decline due to uncertainty surrounding the November presidential election but rallied soon after as investors expected the new administration to enact fiscal stimulus, deregulation, and tax reform. Both growth and value stocks contributed to the strong U.S. equity market performance for the fiscal year, but growth outperformed value. The Russell 3000 Growth Index earned 20.7% and the Russell 3000 Value Index earned 16.2%. The pro-national sentiment following the presidential election led small cap stocks to outperform large cap stocks. The Russell 2000 Index posted a 24.6% return versus the Russell 1000 Index's fiscal year return of 18.0%. The S&P 500 Index, the most notable index representing the U.S. large cap market, earned 17.9%.

In a reversal from the prior fiscal year, international and emerging equity market returns were positive and outperformed the broad U.S. equity markets. Economic fundamentals improved across most non-U.S. regions, including the U.K., which faced headwinds associated with its intention to exit as a member of the European Union. Unlike U.S. equity, where growth outperformed value, the MSCI EAFE Value returned 25.0% for the fiscal year, compared with 15.7% for the MSCI EAFE Growth. However, similar to U.S. markets, small cap outperformed large cap as the EAFE Small Cap returned 23.2% for the fiscal year versus 20.0% for its large cap counterpart.

Global Fixed Income

Positive U.S. and global fixed income performance during the first, third, and final quarter of the fiscal year were not enough to offset large losses during the second fiscal year quarter (2016Q4). During the last calendar quarter of 2016, the Bloomberg U.S. Aggregate Bond Index posted a return of -3.0% while the Global Aggregate Bond Index returned -7.0%. The two indices returned -0.3% and -2.2%, respectively, for the fiscal year.

The FOMC moved to raise Federal Funds rate by 0.25% in each of the final three quarters of the fiscal year. Long duration government bonds, which are particularly sensitive to interest rate hikes, fell 11.5% during the second fiscal year quarter and returned -7.2% for the fiscal year.

While the broad fixed income markets had a challenging fiscal year, U.S. high yield performed well as U.S. economic strength continued to compress credit spreads. The Bloomberg U.S. Corporate High Yield Index returned 12.7% for the 1-year period ending June 30, 2017.

Emerging markets debt, both hard and local currency, fell following the U.S. election as the dollar strengthened but posted positive returns for the fiscal year. The JPMorgan Emerging Market Bond Index (hard currency) gained 5.5%, while the JPMorgan Global Bond Index-Emerging Market Global Diversified Index (local currency) returned 6.4% for the one-year period ending June 30, 2017.

Real Return

Most inflation-sensitive assets posted a negative return for the fiscal year with the exception of global infrastructure and global natural resources, which returned 11.7% and 15.3%, respectively. OPEC agreed to its first oil production cut in eight years toward the end of 2016, the only quarter in which the Bloomberg Commodity Index posted a positive return. The index returned -6.5% for the fiscal year.

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The Alerian MLP Index started the fiscal year with three quarters of positive returns before losing 6.4% in last quarter of the fiscal year (2QCY17) as the price of oil declined 9.8%. The MLP index returned 0.4% for the fiscal year. Positive returns for the Bloomberg U.S. Treasury: US TIPS Index in the first and third quarters of the fiscal year were not enough to offset the -2.4% return during second fiscal year quarter. Year-over-year headline CPI declined from 2.4% to 1.9% in the last quarter of the fiscal year and 5- and 10-year Treasury break-evens ended the fiscal year with an inflation expectation of 1.7%, below the FMOC's target of 2.0%.

Real Estate

Core real estate continued its trend of providing consistently positive returns. The NCREIF-ODCE Index returned between 1.5% and 1.9% for each of the four quarters with a fiscal year return of 6.9%. Income and appreciation made up nearly equal shares of the returns in the first two quarters before income began to account for a majority of the returns during the last two quarters of the fiscal years. While valuations continued to climb throughout the fiscal year and remain at elevated levels, fundamentals like rent and vacancy rates continued to be strong.

Hedge Funds

Returns for various hedge fund strategies varied widely over the fiscal year but were generally positive. The HFRI Equity Hedge Index (long/short equity) gained 12.1% for the year, while HFRI merger arbitrage and equity market neutral indices posted returns of 7.1% and 2.9%, respectively. The HFRI Fund of Funds Diversified Index returned 5.2% for the one-year period ending June 30, 2017.

Credit strategies fared relatively well and long/short equity hedge fund managers were able to add value on both the long and short sides of their portfolios. Long/short equity experienced its best quarter in the third fiscal year quarter (2QCY17) since 2010. While most hedge fund strategies experienced gains, macro strategies faced a challenging environment as the HFRI Macro Index posted a -2.4% for the fiscal year.

The following table summarizes the returns earned by the major markets for the trailing one-year period ending June 30, 2017.

One-Year Trailing Asset Class Performance
As of June 30, 2017

Index	Description	Return
S&P 500	Large Cap U.S. Equity	17.90
R Mid Cap	Mid Cap U.S. Equity	16.48
R 2000	Small Cap U.S. Equity	24.60
MSCI EAFE (Gross)	Large Cap Intl Equity	20.83
MSCI EAFE SC (Gross)	Small Cap Intl Equity	23.64
MSCI Emg Mkts (Gross)	Emerging Mkts Equity	24.17
Bloomberg US Agg Bond	U.S. Invmt Grade Bonds	-0.31
Bloomberg US Trsy	U.S. Treasury Bonds	-2.32
Bloomberg US Trsy: US TIPS	U.S. TIPS	-0.63
Bloomberg US Corp: Hi Yld	U.S. High Yield Bonds	12.70
Wilshire US REIT	U.S. Real Estate Inv Trusts	-1.71
NCREIF ODCE (Gross)	U.S. Open End Core Real Estate	7.87
HFRI FOF Diversified	Absolute Return	5.23
BofA ML 3 Mo US T-Bill	U.S. Cash Equivalents	0.49

RVK

Asset Allocation Review

The Board reviewed the asset allocation for each of the pension and insurance plans during the fiscal year as directed by the Investment Committee and in collaboration with RVK. The Investment Committee analyzed the plans from a risk perspective, grouping investments into equity, credit, and diversifying risks. The asset allocation review further took into account the 2015 asset liability study RVK previously presented to KRS, as well as scenario analysis on asset liability results allowing for changes in salary growth, investment returns (over a 10-year period), and head count growth.

Based on the asset allocation analysis and recommendation from the Investment Committee, the Board approved allocation targets of 45% equity risk, 30% credit risk, and 25% diversifying risk for each of the System's plans. Target asset class allocations under each risk category vary by the funded status/financial stability of each plan. The asset liability study results indicated the pension plans (CERS Non Hazardous, CERS Hazardous, and KERS Hazardous) and all of the insurance plans exhibited a healthy and improving set of market value based funded ratios and payout ratios over the next 20 years. As a result, the Investment Committee may consider higher allocations to higher returning (and possibly more risky) and less-liquid sub-asset classes within each risk category. Conversely, results of the asset liability study indicated the KERS Non-Hazardous and the State Police pension plans are severely underfunded (having funded ratios of less than 40%). The results lead to maintaining greater liquidity and reduced volatility.

The new asset allocation targets align with the revised actuarial assumed rate of returns the Board approved at the end of the fiscal year. The pension plans (CERS Non Hazardous, CERS Hazardous, and KERS Hazardous) and all of the insurance plans have an actuarial assumed rate of 6.25%, a downward revision from the previous long-term target of 7.5%. While the KERS Non Hazardous and the State Police pension have an actuarial assumed rate of 5.25%, down from the prior assumed rate of 6.75%.

Pension Plan Review

The combined market values of the Kentucky Retirement System ("System") Pension Plans (collectively called hereafter, "the Pension Fund") increased from $10.7 billion on June 30, 2016, to $11.8 billion on June 30, 2017. The Pension Fund's investments returned 13.5%, net of fees , for the fiscal year, outperforming the target allocation benchmark by approximately 15 basis points. The Pension Fund's three- and five-year annualized net returns of 4.8% and 8.1%, respectively, underperformed the target allocation benchmark returns by approximately 55 basis points and 30 basis points, respectively. Since the inception of tracking the returns for the Pension Fund (April-1984), the Fund generated an annual return of 9.2%, exceeding the Fund's average actuarial assumed rate of return over that period.

The System's current Pension Fund investments are diversified across all segments of the U.S. and international equity markets (both developed and emerging markets). The fixed income portfolio is a diversified mix of U.S. investment grade, high yield, global fixed income, and emerging market debt securities. The System also invests in real return strategies, real estate, absolute return strategies, and private equity. The Board aggressively negotiates fees on all investments. The table below shows the aggregate pension plan asset allocation as of June 30, 2017, relative to the individual target allocations.

All plan returns are net of fees as provided by the custodian bank, BNYMellon.

RVK

Kentucky Retirement Systems
Pension Plan
Asset Allocation vs. Target Allocation

	Market Value ($)	Allocation (%)	KERS Target (%)	KERS - H Target (%)	CERS Target (%)	CERS - H Target (%)	SPRS Target (%)
U.S. Equity	2,841,318,569	24.1	22.0	26.5	26.5	26.5	23.0
Non-U.S. Equity	3,000,241,205	25.5	20.0	26.5	26.5	26.5	23.0
Fixed Income	1,979,070,427	16.8	22.0	12.0	12.0	12.0	18.0
Real Return	987,065,409	8.4	8.0	8.0	8.0	8.0	8.0
Real Estate	534,041,148	4.5	5.0	5.0	5.0	5.0	5.0
Absolute Return	891,916,328	7.6	10.0	10.0	10.0	10.0	10.0
Private Equity	1,170,348,379	9.9	10.0	10.0	10.0	10.0	10.0
Cash Equivalent	355,162,424	3.0	3.0	2.0	2.0	2.0	3.0
Other	6,757,908	0.1	-	-	-	-	-
Total	**11,765,921,798**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Allocations shown may not sum up to 100% due to rounding. Other Composite consists of Perimeter Park and BNY fee accruals.

The current deviations of each plan are within an allowable and acceptable range. The allocations across plans differ based on plan-specific liquidity requirements.

Insurance Plan Review

The combined market value of the Kentucky Retirement System Insurance Plan assets (collectively called hereafter, "the Insurance Fund") increased from $4.2 billion on June 30, 2016, to $4.8 billion on June 30, 2017. The Insurance Fund's investments returned 13.7% (net of fees) for the fiscal year, approximating the return of the target allocation benchmark. The Insurance Fund's three-year annualized return of 5.0% underperformed the target allocation benchmark of 5.9%, and the five-year annualized return of 7.9% fell short of its benchmark's return of 8.7% by approximately 74 basis points. The Insurance Fund also currently targets an actuarial assumed rate of return is 6.25%. Since its inception of April-1987, the Insurance Fund has returned 7.4% annually, exceeding its new funding target.

The System's insurance plan investments are diversified across all segments of the U.S. and international equity markets (both developed and emerging markets). The fixed income portfolio is a diversified mix of U.S. investment grade, high yield, global fixed income, and emerging market debt securities. The System also invests in real return strategies, real estate, absolute return strategies, and private equity. The Board aggressively negotiates fees on all investments.

The table below shows aggregate actual and target allocations as of June 30, 2017.

Kentucky Retirement Systems
Insurance Plan
Asset Allocation vs. Target Allocation

	Market Value ($)	Allocation (%)	Insurance Target (%)
U.S. Equity	1,225,771,491	25.8	26.5
Non-U.S. Equity	1,271,375,678	26.7	26.5
Fixed Income	709,024,663	14.9	12.0
Real Return	397,613,501	8.4	8.0
Real Estate	225,257,998	4.7	5.0
Absolute Return	359,494,838	7.6	10.0
Private Equity	436,133,044	9.2	10.0
Cash Equivalent	132,119,151	2.8	2.0
Total	**4,756,431,530**	**100.0**	**100.0**

Allocations shown may not sum up to 100% due to rounding and the exclusion of the Other Composite from this page. Other Composite includes BNY fee accruals.

The current deviations of the actual allocation from the target allocation are within an allowable and acceptable range. For less liquid asset classes (private equity), it may take years before the current allocation is in line with the target allocation.

Investment Portfolio Review – Pension Plan

Global Equities

The U.S. equity composite returned 18.0% for the year, underperforming the broad market benchmark by 52 basis points. Below-benchmark results were mostly attributed to underperformance from the Scientific Beta strategy and the Northern Trust Small Cap portfolio, which are positioned to partially protect the portfolio in the event of a correction in the U.S. equity markets. The all cap equity composite rebounded from the prior year, outperforming its benchmark, as active managers benefited from improving market conditions during the second half of the fiscal year. Staff and RVK initiated a U.S. Small Cap search at the beginning of the fiscal year to include an additional source of alpha in the in the core-satellite portfolio structure. The search was put on hold until after the asset allocation review was finalized which occurred towards the end of the fiscal year.

During the next fiscal year, additional analysis and review of potential restructuring will be conducted within the U.S. equity portfolio to reset the core/satellite structure, potentially revisit U.S. Small Cap, and account for the change in asset allocation targets. The focus will be on reallocating assets between the passive index portfolio and the high conviction, concentrated "satellite" investments, and controlling total fees.

The non-U.S. equity composite returned 20.2% for the fiscal year. The majority of active managers provided alpha during this period amid improving economic data, generally favorable corporate earnings, reduced political risk, and a weaker U.S. dollar. The current portfolio is positioned as a core-satellite portfolio with the broad international index fund serving as the core position and relatively concentrated active portfolios serving as alpha sources. The active managers have proven to be complementary since the portfolio was restructured during the prior fiscal year.

Global Fixed Income

The fixed income composite returned 6.5% as the majority of the fixed income mandates outperformed their respective benchmarks. Given the sustained low rate environment, securities lending mandates were considered as a potential addition to provide further diversifying sources of yield in the portfolio. As of fiscal year end, Staff and RVK were in the process of conducting a direct lending manager search, with funding of the mandate to come from reducing allocations to dedicated high yield strategies. Upon the funding of the approved slate of direct lending managers, further analysis on weightings of the portfolio will be completed given the new asset allocation targets.

The cash and equivalents held in the portfolio are not expected to add significant value to the portfolio. Instead, the goal is to hold cash close to the target allocation to meet outflow obligation while earning a return in line with 3-month Treasury Bills. For the fiscal year, the cash equivalents portfolio earned 1.0%.

Alternatives

The real return composite continuously harvests and reinvests proceeds according to a long-term pacing model. The composite includes diversified, inflation-sensitive strategies, such as agricultural, timberland, and energy-related investments, which are advised by a dedicated consultant. Some of the newer approved, less-liquid investments will take time to mature before benefiting the total plan. Given the new portfolio policy targets reduce the allocation to real return, the portfolio will be reevaluated to decrease allocations to liquid real return strategies. The real return composite generated a return of 7.5% compared to its benchmark return of 3.1% for the fiscal year. The portfolio's investments in dedicated timberland, mining, and power funds proved most beneficial.

The real estate composite continually evolves as new deals are sourced, funded, and harvested in a prudent manner. Like many of the real asset investments, the private real estate funds are more appropriately measured over longer periods as they mature. Over the fiscal year, the real estate portfolio returned 9.9%, outperforming its benchmark by 250 basis points. The area of focus for the next fiscal year will be increasing real estate exposure for the CERS Non Hazardous, CERS Hazardous, and KERS Hazardous pension plans (and all of the insurance plans) through existing funds and new mandates, in line with the increased real estate target allocation.

During the fiscal year, the absolute return portfolio gained 5.4%, rebounding from losses experienced in the prior fiscal year. The portfolio continued to wind down its fund-of-hedge funds exposure in favor of direct, less expensive strategies expected to mitigate market risk but produce positive returns over time.

The private equity portfolio continually evolves as new deals are sourced and funded in a prudent manner. Because the private equity funds are closed-end funds with terms of ten or more years, it is more appropriate to measure the returns over periods much longer than a 12-month period. The private equity portfolio generated a fiscal year rate of return of 12.8%.

Investment Portfolio Review – Insurance Plan

The Insurance Plan invests in a similar manner as the Pension Plan, with the exception of a few certain investments across the portfolio. Although the insurance plan returns slightly differ from the returns earned in the pension plan due to investment restrictions, the relative under/outperformance of the asset class composites were similar for the fiscal year.

Board Initiatives

As previously mentioned, the Board approved changes to the Plans' target asset allocation, which align with the reduced actuarial assumed rate of return approved at the end of the fiscal year. The Board will continue to monitor target allocations and will consider making additional asset allocation changes if significant changes to the Plans occur. Within each asset class, the Board continues to review opportunities to maximize risk-adjusted returns that positively contribute to the long-term returns of the Plans as well as manage the costs borne by the Plan.

Oversight

The KRS Board, Investment Committee, and staff regularly monitor the System's investment policies, goals, objectives, and performance of its assets with the assistance of RVK and their specialist consultants. These evaluations include reviews of the investment management firms and the custodial bank that serve the System.

Market values and investment performance returns referenced above are based upon financial statements prepared by Bank of New York Mellon (previously prepared by Northern Trust) in their capacity as the custodian bank. We rely on their data and have not independently audited those statements. However, to the best of our knowledge, we believed the custodian's financial statements are reliable.

Summary

The years following the great financial crisis in 2008 have been quite volatile across all markets with winners and losers switching places year after year. The unpredictability of market forces affecting investment strategies in different ways over the years has required investor patience and heightened stewardship by the Board as it executes its duty of care over the obligations owed to the System's employees and retirees. We expect the Board's continued high standard of care for these assets and commitment to diversification to allow the System to meet its long-term goals and objectives.

Sincerely,

Rebecca Gratsinger
Chief Executive Officer, Principal
RVK, Inc.

RVK

ORG Portfolio Management LLC ("ORG") serves as the Real Estate Investment Consultant for Kentucky Retirement Systems ("KRS"). It is ORG's responsibility to present potential investment opportunities to the Investment Staff and Board and to make recommendations related to KRS' real estate portfolio. It is ORG' s commitment to assist KRS in building a successful long term real estate investment portfolio for the KRS pension fund members.

U.S. Market Overview

U.S. real estate fundamentals have continued to remain positive, however transaction volumes continue to fall, down 13.0% from the same period a year ago, as the market bid-ask spread seems to be widening. ORG believes this may be symptomatic of a broad softening of the markets where many would-be sellers are not achieving their target pricing and therefore electing to not transact.

The debt markets have stabilized, financing is generally available, and a significant amount of capital has been raised for debt strategies. However, certain types of financings are difficult to obtain, which includes speculative development or highly leveraged development. In addition, the increasing regulatory environment will continue to deter banks from increasing their real estate lending capacity.

The U.S. commercial real estate market continued to see improvement in 2017. The capitalization rates as of June 30, 2017 for all sectors have declined from the prior year ending June 30, 2017.

Capitalization Rates	2nd Qtr. 2017	2nd Qtr. 2016	Basis Point Change
Total	4.47%	4.60%	-0.13
Apartments	4.35%	4.53%	-0.18
Retail	4.45%	4.61%	-0.16
Office	4.42%	4.48%	-0.06
Industrial/Warehouse	4.86%	5.03%	-0.17

Source: NCREIF – Current Value Weighted Capitalization Rates as of 6/30/2017.

Industrial Sector:

Investor demand for industrial properties has continued to grow, making industrial the only major real estate sector to post year-over-year sales growth in Q2 2017. More than $30.1 billion in industrial assets were purchased in the first half of 2017, 10.0% higher than in the first half of 2016.

With tighter market conditions across the U.S., rent should start to reach record levels and the cap rate compression should start to moderate. Many e-commerce players are focusing on timeliness of delivery which has generated an increased demand for smaller, in-fill, last touch fulfillment real estate. While fundamentals for big-box facilities (those larger than 200,000 square feet) remain strong, the last touch facilities have a smaller footprint, around 50,000 square feet, and are located in population dense locations. Today, e-commerce accounts for 22.5% of all big-box transactions, compared with 3PLs (third-party logistics), at 15.2%, consumer non-durables, at 12.1%, and traditional retail, at 10.4%. E-commerce was 16.1% of big-box activity three years ago. As e-commerce continues to grow, ORG believes there will continue to be an increased demand for build-to-suit developments.

During the second quarter, 70.0% of all space under-construction is being built speculatively. Oversupply is not yet a concern for markets like Los Angeles and Inland Empire, where demand continues to be strong and vacancy is under 5.0%

Apartment Sector:

Completions for the year ending in Q2 totaled approximately 259,400 units, while net absorption totaled approximately 220,300 units, which has led to a slight increase in vacancy rates and has kept rent growth to a minimum in most markets. Freddie Mac is predicting that originations will increase and set another record this year but will be lower than originally forecasted. Higher interest rates and market uncertainty has kept more investors on the sidelines during the first quarter but as interest rates stabilize and economic growth continues investors have become more active. Today, multifamily properties have benefited from the shift away from home ownership to rentals. This trend has been driven by many factors including demographic changes, relative housing affordability, and credit availability (difficulty saving up for the down payment). In addition, housing supply has trailed demand in recent years and is projected to remain below demand as the pace of household formation is projected to increase. The increase in rental households has been driven largely by the cost of homeownership versus the cost to rent today. Gateway markets such as San Francisco, New York and Los Angeles all have prohibitively high costs to own as urban supply constraints, foreign demand and a strong housing market have driven prices up. Lastly, the U.S. student loan balance has continued its tremendous growth as cost of education continues to outpace inflation. Monthly payments on student loans affect young professionals in their ability to save for the 20% required (typically) down payment to access the mortgage market.

Office Sector:

Office demand is slowing for both cyclical and secular reasons. Vacancy rates are down 10 basis points over the past 12 months, but they are rising in most major tech markets including San Francisco, San Jose, Seattle, Austin and Denver. Deliveries are expected to peak for the cycle in 2017 with a more than 50% increase over 2016 by year's end. Net absorption and constructed were 7.1 million square feet and 11.1 million square feet, respectively.

Completions totaled 22.8 million square feet in the first half of 2017 – the highest first half-year total since 2009 – and have exceeded net absorption in three of the past four quarters.

As of June 30, 2017, the NCREIF NPI's office component consisted of approximately 59% central business district ("CBD") office and 41% suburban office by market value. This varies within region as well, as the East region is almost 80% CBD office and only 20% suburban office by market value, but the West region is 36% CBD office and 64% suburban office by value. Within the traditional office space, ORG sees a growing trend of space being converted into creative office use as well as development of creative office. In addition, creative office attracts a different tenant mix, which the industry has called "TAMI" (Technology, Advertising, Media and Information) versus the traditional office tenants known as "FIRE" (Financial Services, Insurance and Real Estate).

Office transactions have historically been the largest component of total commercial real estate transaction volumes, however this is a decreasing trend. In the quarters leading up to the Global Financial Crisis in 2007, office properties saw a huge increase in transaction volume as office properties were large and more efficient for real estate investors looking to deploy capital. Many of these transactions were financed with CMBS, resulting in a dramatic slowdown in office liquidity immediately coming out of the crisis.

Lastly, ORG has noticed an increased number of foreign buyers, mostly Asian or Middle Eastern, acquire or develop trophy offices assets in gateway U.S. markets (predominantly Manhattan). This has tapered in recent quarters.

Retail Sector:

Retail real estate performance continues to be affected by rapid technological change. E-commerce now represents 10.5% of total U.S. retail sales, excluding auto and gas. There continues to be an increase of importance on well-located brick-and-mortar locations. Both Lowe's and Home Depot report in-store pickup rates for online orders exceeding 40%. JC Penney calculated that 40% of in-store pickups or returns for online orders resulted in an in-store purchase. Dick's Sporting Goods has announced that its increasing store count is in part, an effort to accelerate its e-commerce growth rate.

Grocers have been under intense price pressure for decades. Walmart, the largest seller of groceries in the country, has been continually reducing prices on groceries in an effort to drive traffic and gain scale. On top of this, warehouse clubs, dollar stores, drug stores and even gas stations are selling groceries as well. It is unknown whether Amazon, with its limited market share, will make this already extreme price pressure any worse.

A+ and A++ (high-end) malls represent just 13% of mall square footage, but account for roughly 40% of value. With average sales per square foot hovering around $1,000 or more, these properties dominate their trade areas. These assets are often the first choice of tenants who are looking to consolidate their footprint and tenants are also typically willing to pay more for the exposure to these highly trafficked locations.

ORG's View

Real estate markets in the U.S. have largely recovered from the 2008 financial crisis however we are seeing signs of lower returns. The real estate returns decreased over the 2016 levels based upon the National Council of Real Estate Investment Fiduciaries ("NCREIF") Property Index ("NPI") which had a 7.0% return for the period ending June 30, 2017 vs. the 10.6% return for the one-year period ending June 30, 2016.

ORG has noted that the one-year income return as of June 30, 2017 for core open end funds gross of fees as reported by the NCREIF Open-End Diversified Core Equity ("ODCE") Index is 4.4% vs. 4.6% for the one-year period ending June 30, 2016. This low income return will require substantial rental rate growth or appreciation growth in order for the funds to generate the projected 8-9% rate of return expected for core. The long-term Since Inception appreciation return for the ODCE is 1.4%. ORG is concerned that the strategies targeting gateway core markets will underperform expectations for core real estate. These core gateway markets (San Francisco, New York) are 'priced to perfection' with the income returns at an all-time low. ORG has also noted the impacts on e-commerce on the industrial and retail sectors and is keeping watch on the Amazon entry into the grocery area as noted above in the Retail Sector report.

In Europe, outside a few gateway cities (London and Paris), the real estate fundamentals and capital markets continue to recover slower than the U.S.

As an alternative, ORG continues to recommend that investors focus on investment strategies where going in income returns are higher in certain overlooked strategies. The supply/demand fundamentals are favorable for the office market, although there are a few markets with cause for concern (Houston, Austin, Seattle).

ORG recommendations remain largely unchanged from prior period. ORG recommends that a focus should be on sustainable and defensive cash flows by making investments with managers that target investments with existing cash flows or the creation of cash flows through value added investments. In addition, opportunities in real estate can be found in Western Europe, especially the United Kingdom in non-prime assets.

ORG also recommends strategies in opportunistic funds where investors can capitalize on the continual de-leveraging of real estate that continues as debt originated during 2005-2007 continues to mature over the next several years. These opportunities to recapitalize high quality properties that have often been neglected could generate attractive risk adjusted returns over the next several years.

Kentucky Retirement Systems Real Estate Investments

All data below reflects activity through June 30, 2017.

2008-2010 Investment Activity: In December 2008, Kentucky Retirement Systems made $40 million commitments each to the following funds:

1) Mesa West Real Estate Income Fund II, L.P.

2) PRIMA Mortgage Investment Trust.

3) Walton Street Real Estate Fund VI, L.P. In July 2013, an additional $48.0 million was committed to PRIMA Mortgage Investment Trust increasing the total KRS commitment to $82.0 million. In April 2015, $15.5 million was withdrawn from PRIMA bring the total commitment down to $66.5 million and in January 2016, the entire remaining position was liquidated and the funds returned to KRS.

• Mesa West Real Estate Income Fund II – In December 2015, Mesa West completed the fund's liquidation. Since inception, $33.4 million was funded and Mesa West returned $46.5 million for an overall net IRR of 13.0% with a 1.4x equity multiple.

• PRIMA Mortgage Investment Trust – In the 1st quarter 2016, KRS withdrew its entire remaining investment in PRIMA of $76.1 million. Since inception, $82 million was funded and PRIMA returned $112.3 million for an overall net IRR of 8.6% with a 1.4x equity multiple.

• Walton Street Real Estate Fund VI – For the fiscal year ending June 30, 2017, Walton Street VI made no capital calls and returned $3.0 million in capital and gain distributions. Since inception, $35.4 million has been funded with $4.6 million remaining capital to be called.

2011 Investment Activity: Kentucky Retirement Systems made the following commitments:

1) $100 million to H/2 Credit Partners, L.P. in April with an additional $3 million commitment in October 2012. In 2013, $3.3 million was withdrawn from the fund for a total commitment of $99.7 million. In the 1st quarter 2016, KRS withdrew $28.5 million, which reduced the commitment to $71.2 million.

2) $101.9 million to Harrison Street Core Property Fund, L.P. in December with an additional $3.8 million commitment in October 2012 and $17.9 million commitment in June 2013 for a total commitment of $123.6 million. In the 1st quarter 2016, KRS withdrew $46.7 million which reduced the commitment to $76.8 million.

• H/2 Credit Partners – For the fiscal year ending June 30, 2017, H/2 Credit Partners made no distributions. This investment is fully funded.

• Harrison Street Core Property Fund – For the fiscal year ending June 30, 2017, Harrison Street returned $5.8 million of income distributions and of that $1.4 million was reinvested for the Insurance Fund. This investment is fully funded.

2012 Investment Activity: Kentucky Retirement Systems made the following commitments:

1) $52.5 million to Walton Street Real Estate Fund VII, L.P. in August with an additional $2.4 million commitment in October for a total commitment of $54.9 million.

2) $54.9 million to Greenfield Acquisition Partners VI, L.P. in December.

3) $83 million to Mesa West Core Lending Fund, L.P. in December 2012.

• Walton Street Real Estate Fund VII – For the fiscal year ending June 30, 2017, Walton VII made no capital calls and returned $11.9 million of capital, income and gain distributions. Since inception, $23.8 million has been funded with $31.0 million remaining capital to be called.

• Greenfield Acquisition Partners VI – For the fiscal year ending June 30, 2017, Greenfield VI made no capital calls and returned $15.4 million of capital, income and gain distributions. Since inception, $52.7 million has been funded with $2.2 million remaining capital to be called.

• Mesa West Core Lending Fund – For the fiscal year ending June 30, 2017, Mesa West Core returned $6.1 million of income distributions of which $2.1 million was reinvested into the Insurance Fund.

2013 Investment Activity: Kentucky Retirement Systems made the following commitments:

1) $30 million to Rubenstein Properties II, L.P. in July.

2) $30 million to H/2 Core Debt Fund, L.P. in August.

3) $70 million to Prologis Targeted U.S. Logistics Holdings, L.P. in October.

4) $95 million to Stockbridge Smart Markets, L.P. in December 2013.

• Rubenstein Properties II – For the fiscal year ending June 30, 2017, Rubenstein II made one capital call totaling $3.5 million. Since inception, $24.5 million has been funded with $5.5 million remaining capital to be called.

• H/2 Core Debt Fund – For the fiscal year ending June 30, 2017, H/2 Core returned $0.5 million of income distributions. This investment is fully funded. In the 4th quarter 2016, KRS withdrew $26.3 million and the investment was liquidated.

• Prologis Targeted U.S. Logistics Holdings – For the fiscal year ending June 30, 2017, Prologis distributed $3.3 million of which $0.4 was reinvested into the Insurance Fund. This investment is fully funded.

• Stockbridge Smart Markets – For the fiscal year ending June 30, 2017, Stockbridge Smart Markets distributed $4.4 million of which $1.3 million was reinvested into the Insurance Fund. This investment is fully funded.

2014 Investment Activity: Kentucky Retirement Systems made the following commitments:

1) $40 million to Lubert-Adler Real Estate Fund VII, L.P. in March with an additional commitment of $10 million in November.

2) $30 million to Divco West IV, L.P. in April.

3) $40 million to Greenfield Acquisition Partners VII, L.P. in July.

• Lubert-Adler Real Estate Fund VII – For the fiscal year ending June 30, 2017, Lubert-Adler VII made three capital calls totaling $17.5 million and returned $0.03 million of fee rebate distributions. Since inception, $47.5 million has been funded with $2.5 million remaining to be called.

• Divco West IV – For the fiscal year ending June 30, 2017, Divco West IV made no capital calls and returned $25.7 million in capital, income and gain distributions. Since inception, $26.7 million has been funded with $3.3 million remaining to be called.

• Greenfield Acquisition Partners VII – For the fiscal year ending June 30, 2017, Greenfield VII made two capital calls totaling $6.5 million and had no distributions. Since inception, $26.4 million has been funded with $13.6 million remaining capital to be called.

2015 Investment Activity: Kentucky Retirement Systems made no additional commitments to the Real Estate Portfolio in 2015.

Withdrawal requests were sent to managers for the following investments: PRIMA – complete withdrawal of $76.1 million; Harrison Street Core Property Fund – withdrawal of $47.6 million; and H/2 Credit Partners - $28.5 million. Withdrawal requests were honored by the managers as noted in the individual fund write-up noted by year above.

2016 Investment Activity: Kentucky Retirement Systems made the following commitment:

1) €50 million (approximately $55.7 million) to Patron Capital, LP V in June.

2) $50 million to Mesa West Real Estate Income Fund IV, L.P in June.

• Patron Capital V – For the fiscal year ending June 30, 2017, Patron V made two capital calls totaling $7.6 million and had no distributions. Since inception, $7.1 million has been funded with $57.2 million remaining capital to be called.

• Mesa West Real Estate Income IV - For the fiscal year ending June 30, 2017, Mesa West IV made one capital call totaling $6.9 million and had no distributions. Since inception, $6.9 million has been funded with $43.1 million remaining capital to be called.

2017 Investment Activity: Through June 30, 2017, Kentucky Retirement Systems made the following commitments:

1) $100 million to Fundamental Partners III, L.P. in March.

• Fundamental Partners III - For the fiscal year ending June 30, 2017, Fundamental III made two capital calls totaling $42.0 million and returned $9.5 million in capital, income and gain distributions. Since inception, $34.7 million has been funded with $65.3 million remaining capital to be called.

Please feel free to contact us regarding any of the information above.

Very truly yours,

Jonathan Berns
Principal

Edward Schwartz
Principal

ACTUARIAL

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GRS Retirement Consulting

Certification of Actuarial Results

Re: Certification for the Actuarial Results as of June 30, 2017

Dear Board of Trustees:

Actuarial valuations are prepared annually as of June 30, for the Kentucky Employees Retirement System (KERS), the County Employees Retirement System (CERS), and the State Police Retirement System (SPRS). These reports describe the current actuarial condition of the Kentucky Retirement Systems (KRS) and document the calculated employer contribution rates as well as the changes in the financial condition since the prior actuarial valuation.

Under state statute, the Board of Trustees must approve the employer contribution rates determined by each actuarial valuation. The contribution rates are determined actuarially based upon the membership, plan assets, assumptions, and funding policies adopted by the KRS Board. The June 30, 2016 actuarial valuation will be used by the Board of Trustees to certify the KERS and SPRS employer contribution rates for the biennial period beginning July 1, 2018 and ending June 30, 2020. The Board of Trustees uses this actuarial valuation to certify the employer contribution rates for CERS for the fiscal year beginning July 1, 2018 and ending June 30, 2019.

FINANCING OBJECTIVES AND FUNDING POLICY

For each retirement system, KRS administers both a pension and insurance fund to provide for monthly retirement allowances and retiree health insurance benefits respectively. The total employer contribution rate is comprised of a contribution to each respective fund.

The contribution rate for each fund consists of a normal cost rate (which pays the current year's cost) and an amortization rate to finance the existing unfunded actuarial accrued liability (UAAL). In accordance with state statute, the amortization period is a closed 30-year funding period beginning with the June 30, 2013 actuarial valuation, which results in the use of a closed 26-year funding period for use in the calculation of the contribution rates for the June 30, 2017 actuarial valuation. Absent changes in benefits, assumptions, or material liability or investment gains or losses, the total contribution rate for the funds are expected to remain stable, as a percentage of payroll, in future years.
If new legislation is enacted between the valuation date and the date the contribution rates become effective, the Board may adjust the calculated rates before certifying them, in order to reflect this new legislation. Such adjustments are based on information supplied by the actuary.

PROGRESS TOWARD REALIZATION OF FINANCING OBJECTIVES

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) is a standard measure of a plan's funded status. In the absence of benefit improvements, assumption changes, or actuarial losses, it should increase over time, until it reaches at least 100%. As of June 30, 2017, the funded ratio for the pension and health insurance funds are as follows:

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Funding Level				
	2017		2016	
System	Pension Fund	Insurance Fund	Pension Fund	Insurance Fund
KERS Non-Hazardous	13.6%	30.7%	16.0%	30.3%
KERS Hazardous	54.1%	117.6%	59.7%	125.3%
CERS Non-Hazardous	52.8%	66.4%	59.0%	69.6%
CERS Hazardous	48.1%	66.9%	57.7%	72.9%
SPRS	27.0%	65.2%	30.3%	67.2%

ASSUMPTIONS AND METHODS

The Board of Trustees, in consultation with the actuary, sets the actuarial assumptions and methods used in the actuarial valuation. At any time, the Board may adopt updated assumptions for use in an actuarial valuation. Since the prior actuarial valuation, the Board of Trustees adopted the following assumption changes:

» Decrease the price inflation assumption to 2.30% (all Systems Pension and Health Insurance);

» Decrease the assumed rate of return to 5.25% for the pension funds for the KERS Non-Hazardous and SPRS Retirement Systems and to 6.25% for the KERS Hazardous and CERS (Non-Hazardous and Hazardous) pension funds;

» Decrease the assumed rate of return to 6.25% for the health insurance funds for all systems (KERS, CERS, and SPRS);

» Decrease the payroll growth assumption to 0.00% for the KERS and SPRS Systems and to 2.00% for the CERS System.

All the assumptions and methods adopted by the Board Trustees satisfy the requirements in the Actuarial Standards of Practice that are applicable for actuarial valuations of public retirement systems. The Board plans to have the next experience study conducted using the plan's experience for the five-year period ending June 30, 2018. The actuarial assumptions that result from that experience study will be first used to prepare the June 30, 2019 actuarial valuation.

It is our opinion that the actuarial assumptions used to perform this valuation are internally consistent and reasonably reflect the anticipated future experience of the System. The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can, and almost certainly will, differ as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rate, and funding periods. The actuarial calculations are intended to provide information for rational decision making.

The benefit structure is outlined in this section of the annual report. GRS prepared the following schedules in the actuarial section: Summary of Actuarial Valuation Results, Recommended Employer Contribution

Rates, Summary of Actuarial Unfunded Liabilities, and the Solvency Test. GRS also prepared the, Schedule of Retirants Added to and Removed from Rolls, and the Schedule of Funding Progress, Summary of the Assumptions and Methods, and the Summary of the Benefit Provisions.

In addition, GRS prepared the following schedules in the financial section in accordance with GASB Statement No. 67: Net Pension Liability Schedule, Discount Rate Sensitivity Analysis, Schedule of Changes in the Employers' Net Pension Liability, Schedule of Employers' Net Pension Liability, and the Schedule of Employers' Contributions.

DATA

Member data for retired, active and inactive members was supplied as of July 30, 2017, by the KRS staff. The staff also supplied asset information as of June 30, 2017. We did not audit this data, but we did apply a number of tests to the data, and we concluded that it was reasonable and consistent with the prior year's data. GRS is not responsible for the accuracy or completeness of the information provided to us by the Systems.

CERTIFICATION

We certify that the information presented herein is accurate and fairly portrays the actuarial position of the Retirement Systems as of June 30, 2017. All of our work conforms with generally accepted actuarial principles and practices, and in conformity with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of Kentucky Code of Laws and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board.

The undersigned are independent actuaries and consultants. Mr. Newton and Mr. White are Enrolled Actuaries. All three of the undersigned are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries. All are experienced in performing valuations for large public retirement systems.
Sincerely,

Gabriel, Roeder, Smith & Co.

Joseph P. Newton, FSA, MAAA, EA
Senior Consultant

Janie Shaw, ASA, MAAA
Consultant

Daniel J. White, FSA, MAAA, EA
Senior Consultant

Summary of **Actuarial Assumptions**

The results of the actuarial valuation are based upon the assumptions and funding policies adopted by the Board and statutory funding requirements. Assumptions and funding policies are reviewed against actual plan experience at least once every five years through the completion of the Actuarial Experience Study. In general, the assumptions and methods used in the June 30, 2017 valuation are based on the most recent actuarial experience study for the five-year period ending June 30, 2013, submitted April 30, 2014, and adopted by the Board on December 4, 2014. The investment return, price inflation, and payroll growth assumption were adopted by the Board in May and July 2017, for use with the June 30, 2017, valuation in order to reflect future economic expectations.

1. Actuarial Cost Method: The actuarial valuation was prepared using the entry age normal cost (EANC) method as required by state statute. Under this method, the present value of future benefits is determined for each member and allocated equitably as a level percentage of payroll from the member's entry age into the plan to the assumed age of exit from the plan. The portion of the present value of future benefits allocated to the current valuation year is called the normal cost. The portion of the present value of future benefits allocated to prior years of service is called the actuarial accrued liability. The unfunded actuarial accrued liability represents the difference between the actuarial accrued liability and the actuarial value of assets as of the valuation date. Relative to the Pension Fund and the Insurance Fund, an employer contribution rate has been established to be equal to the sum of the normal cost and the amount needed to amortize the unfunded actuarial accrued liability (UAAL).

2. UAL Amortization Method: Effective for the June 30, 2017 valuation, the amortization of any unfunded actuarial accrued liability for KERS and SPRS is established using a level dollar amortization method. The previous valuation used a level percent of pay amortization method and a 4.00% payroll growth assumption. The amortization of any unfunded actuarial accrued liability for CERS is established using a level percent of pay amortization method and a 2.00% payroll growth assumption. The previous valuation used a 4.00% payroll growth assumption. The amortization period was reestablished as a closed 30 year period beginning with the June 30, 2013, actuarial valuation. The amortization period will decrease by one each year in the future.

3. Asset Valuation Method: The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected market value of assets, based on the investment return assumption. The amount recognized each year is 20% of the difference between market value and expected market value.

4. Retiree Insurance Funding Policy: Effective for the June 30, 2017, valuation, the amortization of any unfunded actuarial accrued liability for the KERS and SPRS Insurance Systems is established using a level dollar amortization method. The previous valuation used a level percent of pay amortization method and a 4.00% payroll growth assumption. The amortization of any unfunded actuarial accrued liability for the CERS Insurance System is established using a level percent of pay amortization method and a 2.00% payroll growth assumption. The previous valuation used a 4.00% payroll growth assumption. The amortization period was reestablished as a closed 30 year period beginning with the June 30, 2013, actuarial valuation. The amortization period will decrease by one each year in the future.

5. Investment Return Assumption: The future investment earnings of plan assets are assumed to accumulate at a rate of 6.25% per annum for CERS Non-Hazardous, CERS Hazardous, KERS Hazardous, and all Insurance Systems. This rate consists

The results of the actuarial valuation are based upon the assumptions and funding policies adopted by the Board and statutory funding requirements. Assumptions and funding policies are reviewed against actual plan experience at least once every five years through the completion of the Actuarial Experience Study.

of a 2.30% price inflation component and a 3.95% real rate of return component. The previous valuation used an assumed rate of return of 7.50%. The assumed rate of return for KERS Non-Hazardous and State Police has been reduced from 6.75% to 5.25%, effective for the June 30, 2017 valuation. This rate consists of a 2.30% inflationary component and a 2.95% real rate of return component.

6. Salary Increase Assumptions: Active member salaries are assumed to increase at the rates provided in Table 1. The rates include a 3.05% price inflation and productivity component, and an additional increase due to promotion based upon plan experience. The assumptions for additional increases due to promotion were adopted in 2014. The assumption for price inflation and productivity was reduced from 4.00% to 3.05% in 2017.

Table 1. Salary Increase Assumptions

Service	KERS Non-Hazardous	KERS Hazardous	CERS Non-Hazardous	CERS Hazardous	SPRS
0-1	15.55%	19.55%	11.55%	18.55%	15.55%
1-2	7.55%	7.55%	8.05%	9.05%	10.55%
2-3	5.05%	5.55%	4.55%	5.05%	8.55%
3-4	4.55%	5.05%	4.55%	4.30%	7.55%
4-5	4.55%	4.55%	4.05%	4.05%	6.55%
5-6	4.55%	4.05%	4.05%	3.55%	5.55%
6-7	4.05%	3.55%	3.80%	3.05%	5.05%
7-8	4.05%	3.55%	3.80%	3.05%	5.05%
8-9	4.05%	3.55%	3.55%	3.05%	4.05%
9-10	3.55%	3.55%	3.55%	3.05%	3.55%
10+	3.55%	3.55%	3.30%	3.05%	3.05%

7. Medical Inflation Rate Assumption: The costs for retiree medical premiums are assumed to increase according to the assumptions provided in Table 2. This assumption was adopted in 2017.

Table 2: Medical Inflation Rate Assumption[1]

January 1	Non-Medicare Plans	Medicare Plans	Dollar Contribution2	January 1	Non-Medicare Plans	Medicare Plans	Dollar Contribution[2]
2019	7.25%	5.10%	1.50%	2026	5.50%	4.40%	1.50%
2020	7.00%	5.00%	1.50%	2027	5.25%	4.30%	1.50%
2021	6.75%	4.90%	1.50%	2028	5.00%	4.20%	1.50%
2022	6.50%	4.80%	1.50%	2029	4.75%	4.10%	1.50%
2023	6.25%	4.70%	1.50%	2030	4.50%	4.05%	1.50%
2024	6.00%	4.60%	1.50%	2031	4.25%	4.05%	1.50%
2025	5.75%	4.50%	1.50%	2032+	4.05%	4.05%	1.50%

1 All increases are assumed to occur on January 1. The 2018 premiums were known at of the time of the June 30, 2017 valuation and were incorporated into the liability measurement using a trend of 1.232% for Non-Medicare plans and a trend of 0.00% for Medicare plans for 2017.
2 Applies to members participating on or after July 1, 2003

8. Payroll Growth Assumption: Active member payroll is assumed to increase at a rate of 2.30% per annum. This assumption was adopted in 2017.

9. Retiree Cost of Living Adjustments (COLA): SB2 only allows the COLAs to be awarded on a biennial basis if the State Legislature so authorizes and either (i) the system is over 100% funded or (ii) the Legislature appropriates sufficient funds to pay the increased liability for the COLA.

10. Retirement Rate Assumptions: The probability, or the likelihood, that a member will retire at a specified age or level of service is provided in Table 3. These assumptions were adopted in 2014.

Table 3. Retirement Rate Assumptions

	Non-Hazardous				Hazardous					
Age	KERS1	KERS2	CERS3	Service	KERS4	KERS5	CERS6	CERS7	SPRS8	SPRS9
55	8.0%		5.0%	20	40.0%		22.5%		22.0%	
56	8.0%		6.0%	21	40.0%		22.5%		22.0%	
57	8.0%		7.0%	22	40.0%		22.5%		22.0%	
58	8.0%		7.0%	23	40.0%		22.5%		28.0%	
59	8.0%		8.0%	24	40.0%		30.0%		28.0%	
60	10.0%	10.0%	9.0%	25	47.0%	40.0%	33.0%	22.5%	28.0%	22.0%
61	20.0%	20.0%	15.0%	26	47.0%	40.0%	33.0%	22.5%	28.0%	22.0%
62	20.0%	20.0%	18.0%	27	47.0%	40.0%	36.0%	22.5%	28.0%	22.0%
63	20.0%	20.0%	18.0%	28	47.0%	40.0%	39.0%	22.5%	44.0%	28.0%
64	20.0%	20.0%	18.0%	29	47.0%	40.0%	55.0%	30.0%	44.0%	28.0%
65	20.0%	25.0%	18.0%	30	47.0%	47.0%	33.0%	33.0%	44.0%	28.0%
66	20.0%	25.0%	18.0%	31	47.0%	47.0%	33.0%	33.0%	58.0%	28.0%
67	20.0%	25.0%	18.0%	32	50.0%	47.0%	50.0%	36.0%	58.0%	28.0%
68	20.0%	25.0%	18.0%	33	50.0%	47.0%	40.0%	39.0%	58.0%	44.0%
69	20.0%	25.0%	18.0%	34	50.0%	47.0%	40.0%	55.0%	58.0%	44.0%
70	20.0%	25.0%	18.0%	35	60.0%	47.0%	40.0%	33.0%	58.0%	44.0%
71	20.0%	25.0%	18.0%	36	60.0%	47.0%	40.0%	33.0%	58.0%	58.0%
72	20.0%	25.0%	18.0%	37	60.0%	50.0%	40.0%	50.0%	58.0%	58.0%
73	20.0%	25.0%	18.0%	38	60.0%	50.0%	40.0%	40.0%	58.0%	58.0%
74	20.0%	25.0%	18.0%	39	60.0%	50.0%	40.0%	40.0%	58.0%	58.0%
75+	100.0%	100.0%	100.0%	40+	60.0%	60.0%	40.0%	40.0%	58.0%	58.0%

1 For members participating before 9/1/2008. If service is at least 27 years, the rate is 35%.
2 For members participating on or after 9/1/2008. If age plus service is at least 87, the rate is 35%.
3 If service is at least 27 years, the rate is 30% for members participating before 9/1/2008. If age plus service is at least 87, the rate is 30% for members participating on or after 9/1/2008.
4 For members participating before 9/1/2008. The annual rate of service retirement is 100% at age 65.
5 For members participating on or after 9/1/2008. The annual rate of service retirement is 100% at age 60.
6 For members participating before 9/1/2008. The annual rate of service retirement is 100% at age 62.
7 For members participating on or after 9/1/2008. The annual rate of service retirement is 100% at age 60.
8 For members participating before 9/1/2008. The annual rate of service retirement is 100% at age 55.
9 For members participating on or after 9/1/2008. The annual rate of service retirement is 100% at age 60.

11. Mortality Assumptions: The mortality for active members is the RP-2000 Combined Mortality Table projected with Scale BB to 2013 (male mortality rates are multiplied by 50% and female mortality rates are multiplied by 30%). The mortality table for healthy retired members and beneficiaries is the RP-2000 Combined Mortality Table projected with Scale BB to 2013 (female mortality rates are set back one year). The mortality table for disabled members is the RP-2000 Combined Disabled Mortality Table projected with Scale BB to 2013 (male mortality rates are set back four years). At the time of the last experience study, performed as of June 30, 2013, this mortality assumption provided 37% and 19% margin for future improvement for males and females, respectively. This will be reviewed again when the next experience investigation is conducted.

Table 4. Sample Annual Rates of Mortality

	Active Member Mortality		Retired Member Mortality*		Disabled Member Mortality*	
Age	Males	Females	Males	Females	Males	Females
Under 20	0.02%	0.01%	0.03%	0.02%	-	-
22	0.02%	0.01%	0.04%	0.02%	-	-
32	0.03%	0.01%	0.05%	0.03%	-	-
42	0.06%	0.02%	0.12%	0.07%	2.17%	0.72%
52	0.13%	0.06%	0.26%	0.18%	2.54%	1.29%
62	0.39%	0.17%	0.78%	0.50%	3.50%	2.06%
72	1.12%	0.53%	2.24%	1.59%	4.68%	3.66%

** For members retiring on or after July 1, 2006.*

12. Withdrawal Rates: The probability, or likelihood, of active members terminating employment prior to retirement is provided in Table 5. These assumptions were adopted in 2014.

Table 5. Selected Rates of Termination Prior to Retirement

	KERS Non-Hazardous	KERS Hazardous		CERS Non-Hazardous	CERS Hazardous		SPRS
Years of Service			Years of Service			Years of Service	
0	22.50%	25.00%	0	28.00%	20.50%	0	20.00%
1	15.50%	10.50%	1	16.00%	13.00%	1	7.00%
2	12.50%	7.50%	2	12.00%	10.50%	2-8	3.00%
3	10.50%	6.50%	3	10.00%	9.00%	9+	2.50%
4	9.00%	5.50%	4	8.00%	8.00%		
5	6.50%	4.50%	5	6.00%	7.00%		
6	5.50%	3.00%	6	5.00%	7.00%		
7	5.00%	3.00%	7	5.00%	6.00%		
8	4.50%	3.00%	8-13	4.00%	6.00%		
9	4.50%	2.50%	14+	3.00%	6.00%		
10	4.00%	2.50%					
11-12	4.00%	2.00%					
13-14	3.50%	2.00%					
15+	3.00%	2.00%					

13. Rates of Disablement: KRS provides disability benefits for those individuals meeting specific qualifications established by state law. This assumption provides the probability, or likelihood, that a member will become disabled during the course of employment for various age levels. These assumptions were adopted in 2014. .

This assumption provides the probability, or likelihood, that a member will become disabled during the course of employment for various age levels.

Table 6: Rates of Disablement

	KERS Non-Hazardous	KERS Hazardous	CERS Non-Hazardous	CERS Hazardous	SPRS
Nearest Age	Probability	Probability	Probability	Probability	Probability
20	0.02%	0.03%	0.02%	0.05%	0.05%
30	0.03%	0.05%	0.03%	0.09%	0.09%
40	0.07%	0.10%	0.07%	0.20%	0.20%
50	0.19%	0.28%	0.19%	0.56%	0.56%
60	0.49%	0.73%	0.49%	1.46%	1.46%

Summary of Actuarial Valuation Results *(As of June 30,2017)*

	KERS Non-Hazardous	KERS Hazardous	CERS Non-Hazardous	CERS Hazardous	SPRS
Recommended Contribution Rate (Fiscal Year 2018-2019)					
Pension Fund Contribution	71.03%	34.39%	21.84%	35.69%	119.05%
Insurance Fund Contribution	12.40%	2.46%	6.21%	12.17%	27.23%
Recommended Employer Contribution	83.43%	36.85%	28.05%	47.86%	146.28%
Funded Status as of Valuation Date					
Pension Fund					
Actuarial Liability	$15,591,641,083	$1,121,419,836	$12,803,509,449	$4,649,046,764	$967,144,667
Actuarial Value of Assets	$2,123,623,157	$607,158,871	$6,764,873,113	$2,238,320,330	$261,320,225
Unfunded Liability on Actuarial Value of Assets	$13,468,017,926	$514,260,965	$6,038,636,336	$2,410,726,434	$705,824,442
Funding Ratio on Actuarial Value of Assets	13.62%	54.14%	52.84%	48.15%	27.02%
Market Value of Assets	$2,056,869,899	$601,528,922	$6,687,237,095	$2,217,996,136	$255,736,583
Unfunded Liability on Market Value of Assets	$13,534,771,184	$519,890,914	$6,116,272,354	$2,431,050,628	$711,408,084
Funding Ratio on Market Value of Assets	13.19%	53.64%	52.23%	47.71%	26.44%
Insurance Fund					
Actuarial Liability	$2,683,496,055	$419,439,652	$3,355,151,286	$1,788,432,768	$276,641,361
Actuarial Value of Assets	$823,917,560	$493,458,367	$2,227,401,268	$1,196,779,877	$180,463,820
Unfunded Liability on Actuarial Value of Assets	$1,859,578,495	($74,018,715)	$1,127,750,018	$591,652,891	$96,177,541
Funding Ratio on Actuarial Value of Assets	30.70%	117.65%	66.39%	66.92%	65.23%
Market Value of Assets	$817,369,841	$488,838,463	$2,212,535,662	$1,189,001,387	$178,838,260
Unfunded Liability on Market Value of Assets	$1,866,126,214	($69,398,811)	$1,142,615,624	$599,431,381	$97,803,101
Funding Ratio on Market Value of Assets	30.46%	116.55%	65.94%	66.48%	64.65%
Member Data *(See Footnotes 1 and 2)*					
Number of Active Members	37,234	4,047	82,198	9,495	903
Total Annual Payroll (Active Members)1	$1,531,534,820	$162,418,070	$2,452,407,113	$541,632,946	$48,598,296
Average Annual Pay (Active Members)	$41,133	$40,133	$29,835	$57,044	$53,819
Number of Retired Members & Beneficiaries	44,916	4,093	59,013	8,998	1,536
Average Annual Retirement Allowance	$20,512	$14,454	$11,311	$25,192	$37,274
Number of Vested Inactive Members	10,794	505	14,563	795	86
Number of Inactive Members Due a Refund	38,864	4,793	70,468	2,403	394

1 Member data in actuarial section will differ from reported data in other CAFR sections. For this section, the data is reported by account instead of by person (ex: a member could have vested service in KERS, but is currently active in a CERS plan and is reported in two membership categories).
2 Annual payroll included in the Summary of Actuarial Valuation Results is based upon the annualized monthly payroll for active members recorded for each month of the fiscal year ending June 30, 2017.

KERS Funds

The contribution rates for KERS Non-Hazardous and KERS Hazardous shown in the tables below are the full funding rates presented by the actuary in the 2008 through 2017 annual valuations. However, the actual employer contribution rates have been less than those shown above. As a result of HB 1 passed in 2008, the statute called for an employer contribution rate at an increasing percentage of the full funding rates until 100% was achieved in 2025 for KERS Non-Hazardous and 2019 for KERS Hazardous. SB2 eliminated this phase-in beginning with the June 30, 2013 actuarial valuation and requires full funding starting in Fiscal Year 2015.

Recommended Employer Contribution Rates *(As of June 30,2017)*

KERS Non-Hazardous Employers

Valuation Date	Applicable Fiscal Year	Pension Fund: Normal Cost	Pension Fund: Payment on Unfunded Liability	Pension Fund Contribution	Insurance Fund Contribution	Recommended Employer Contribution
6/30/08	2009-2010	3.97%	14.99%	18.96%	20.49%	39.45%
6/30/09	2010-2011	4.26%	17.51%	21.77%	16.81%	38.58%
6/30/10	2011-2012	4.23%	20.07%	24.30%	16.41%	40.71%
6/30/11	2012-2013	4.38%	23.65%	28.03%	16.52%	44.55%
6/30/12	2013-2014	4.26%	28.31%	32.57%	12.71%	45.28%
6/30/13	2014-2015	4.13%	26.71%	30.84%	7.93%	38.77%
6/30/14	2015-2016	4.10%	29.47%	33.57%	7.74%	41.31%
6/30/15	2016-2017	3.60%	35.33%	38.93%	8.35%	47.28%
6/30/16	2017-2018	4.93%	37.05%	41.98%	8.41%	50.39%
6/30/17	2018-2019	8.17%	62.86%	71.03%	12.40%	83.43%

KERS Hazardous Employers

Valuation Date	Applicable Fiscal Year	Pension Fund Normal Cost	Pension Fund: Payment on Unfunded Liability	Pension Fund Contribution	Insurance Fund Contribution	Recommended Employer Contribution
6/30/08	2009-2010	4.46%	4.16%	11.98%	23.56%	35.54%
6/30/09	2010-2011	7.94%	6.17%	14.11%	20.26%	34.37%
6/30/10	2011-2012	7.19%	6.92%	14.11%	19.73%	33.84%
6/30/11	2012-2013	7.47%	8.69%	16.16%	19.73%	35.89%
6/30/12	2013-2014	6.09%	10.91%	17.00%	11.84%	28.84%
6/30/13	2014-2015	5.79%	10.58%	16.37%	9.97%	26.34%
6/30/14	2015-2016	5.69%	11.40%	17.09%	7.12%	24.21%
6/30/15	2016-2017	6.93%	14.15%	21.08%	2.74%	23.82%
6/30/16	2017-2018	6.44%	14.04%	20.48%	1.34%	21.82%
6/30/17	2018-2019	9.67%	24.72%	34.39%	2.46%	36.85%

CERS Funds

The Insurance Fund contribution rates and the employer contribution rates for CERS Non-Hazardous and CERS Hazardous shown in the tables below are the full funding rates presented by the actuary in the 2008 through 2017 annual valuations. However, in the case of CERS Non-Hazardous and CERS Hazardous, in 2006 the actuary recommended a five-year phase-in of the rate which requires the payment of the insurance benefit normal cost with a five-year phase-in of the unfunded accrued liability (UAL) associated with the insurance funds. In 2008 this recommendation was changed to a ten-year phase-in from the initial starting date.

Recommended Employer Contribution Rates *(As of June 30,2017)*

CERS Non-Hazardous Employers

Valuation Date	Applicable Fiscal Year	Pension Fund Normal Cost	Pension Fund: Payment on Unfunded Liability	Pension Fund Contribution	Insurance Fund Contribution	Recommended Employer Contribution
6/30/08	2009-2010	4.46%	4.16%	8.62%	12.29%	20.91%
6/30/09	2010-2011	4.60%	5.43%	10.03%	9.78%	19.81%
6/30/10	2011-2012	4.72%	6.98%	11.70%	9.59%	21.29%
6/30/11	2012-2013	4.68%	7.94%	12.62%	8.59%	21.21%
6/30/12	2013-2014	4.68%	9.06%	13.74%	5.84%	19.58%
6/30/13	2014-2015	4.35%	8.40%	12.75%	5.35%	18.10%
6/30/14	2015-2016	4.23%	8.19%	12.42%	4.88%	17.30%
6/30/15	2016-2017	3.80%	10.15%	13.95%	4.93%	18.88%
6/30/16	2017-2018	3.70%	10.78%	14.48%	4.70%	19.18%
6/30/17	2018-2019	5.85%	15.99%	21.84%	6.21%	28.05%

CERS Hazardous Employers

Valuation Date	Applicable Fiscal Year	Pension Fund Normal Cost	Pension Fund: Payment on Unfunded Liability	Pension Fund Contribution	Insurance Fund Contribution	Recommended Employer Contribution
6/30/08	2009-2010	8.23%	7.88%	16.11%	27.25%	43.36%
6/30/09	2010-2011	7.56%	9.23%	16.79%	23.27%	40.06%
6/30/10	2011-2012	7.31%	10.60%	17.91%	23.74%	41.65%
6/30/11	2012-2013	7.40%	12.70%	20.10%	21.84%	41.94%
6/30/12	2013-2014	6.44%	15.33%	21.77%	16.02%	37.79%
6/30/13	2014-2015	6.35%	14.38%	20.73%	14.97%	35.70%
6/30/14	2015-2016	6.21%	14.05%	20.26%	13.42%	33.68%
6/30/15	2016-2017	4.52%	17.19%	21.71%	9.79%	31.50%
6/30/16	2017-2018	4.40%	17.80%	22.20%	9.35%	31.55%
6/30/17	2018-2019	6.78%	28.91%	35.69%	12.17%	47.86%

SPRS Funds

The contribution rates for SPRS shown in the tables below are the full funding rates presented by the actuary in the 2008 through 2017 annual valuations. However, the actual employer contribution rates have been less than those shown below. As a result of HB 1 passed in 2008, the statute called for an employer contribution rate at an increasing percentage of the full funding rates until 100% was achieved in 2025 for KERS Non-Hazardous and 2019 for KERS Hazardous. SB2 eliminated this phase-in beginning with the June 30, 2013 actuarial valuation and requires full funding starting in Fiscal Year 2015.

SPRS Employers

Valuation Date	Applicable Fiscal Year	Pension Fund Normal Cost	Pension Fund: Payment on Unfunded Liability	Pension Fund Contribution	Insurance Fund Contribution	Recommended Employer Contribution
6/30/08	2009-2010	9.83%	25.40%	35.23%	56.89%	92.12%
6/30/09	2010-2011	8.12%	27.62%	35.74%	49.89%	85.63%
6/30/10	2011-2012	7.75%	32.05%	39.80%	54.83%	94.63%
6/30/11	2012-2013	8.12%	39.36%	47.48%	55.93%	103.41%
6/30/12	2013-2014	8.14%	45.21%	53.35%	43.17%	96.52%
6/30/13	2014-2015	8.46%	45.44%	53.90%	21.86%	75.76%
6/30/14	2015-2016	8.39%	50.05%	58.44%	19.17%	77.61%
6/30/15	2016-2017	8.77%	57.70%	66.47%	18.87%	85.34%
6/30/16	2017-2018	11.16%	60.41%	71.57%	18.10%	89.67%
6/30/17	2018-2019	16.21%	102.84%	119.05%	27.23%	146.28%

Summary of Actuarial Unfunded Liabilities *(As of June 30,2017)*

KERS Non-Hazardous Pension Fund

Valuation Date	Actuarial Liability	Value of Assets		Unfunded Actuarial Liabilities		Funding Level	
		Actuarial	Market	Actuarial	Market	Actuarial	Market
6/30/08	$10,129,689,985	$5,318,792,893	$5,056,867,294	$4,810,897,092	$5,072,822,691	52.51%	49.92%
6/30/09	10,658,549,532	4,794,611,365	3,584,196,429	5,863,938,167	7,074,353,103	44.98%	33.63%
6/30/10	11,004,795,089	4,210,215,585	3,503,007,035	6,794,579,504	6,794,579,504	38.26%	31.83%
6/30/11	11,182,142,032	3,726,986,087	3,538,878,093	7,455,155,945	7,643,263,939	33.33%	31.70%
6/30/12	11,361,048,136	3,101,316,738	2,980,401,603	8,259,731,398	8,380,646,533	27.30%	26.20%
6/30/13	11,386,602,159	2,636,122,852	2,747,428,086	8,750,479,307	8,639,174,073	23.15%	24.10%
6/30/14	11,550,110,224	2,423,956,716	2,560,419,519	9,126,153,508	8,989,690,705	20.99%	22.20%
6/30/15	12,359,672,849	2,350,989,940	2,307,858,072	10,008,682,909	10,051,814,777	19.02%	18.70%
6/30/16	13,224,698,427	2,112,286,498	1,953,422,354	11,112,411,929	11,271,276,073	15.97%	14.80%
6/30/17	$15,591,641,083	$2,123,623,157	$2,056,869,899	$13,468,017,926	$13,534,771,184	13.62%	13.20%

KERS Non-Hazardous Insurance Fund

Valuation Date	Actuarial Liability	Value of Assets		Unfunded Actuarial Liabilities		Funding Level	
		Actuarial	Market	Actuarial	Market	Actuarial	Market
6/30/08	$5,431,499,285	$603,197,761	$574,480,809	$4,828,301,524	$4,857,018,476	11.11%	10.58%
6/30/09	4,507,325,571	534,172,580	365,771,088	3,973,152,991	4,141,554,483	11.85%	8.12%
6/30/10	4,466,136,041	471,341,628	371,002,484	3,994,794,413	4,095,133,557	10.55%	8.31%
6/30/11	4,280,089,633	451,620,442	433,305,243	3,828,469,191	3,846,784,390	10.55%	10.12%
6/30/12	3,125,330,157	446,080,511	430,805,726	2,679,249,646	2,694,524,431	14.27%	13.78%
6/30/13	2,128,754,134	497,584,327	509,364,080	1,631,169,807	1,619,390,054	23.37%	23.93%
6/30/14	2,226,759,925	621,236,646	664,775,708	1,605,523,279	1,561,984,217	27.90%	29.85%
6/30/15	2,413,705,252	695,018,262	687,684,080	1,718,686,990	1,726,021,172	28.79%	28.49%
6/30/16	2,456,677,964	743,270,060	695,188,649	1,713,407,904	1,761,489,315	30.26%	28.30%
6/30/17	$2,683,496,055	$823,917,560	$817,369,841	$1,859,578,495	$1,866,126,214	30.70%	30.46%

KERS Hazardous Pension Fund

Valuation Date	Actuarial Liability	Value of Assets		Unfunded Liability		Funding Level	
		Actuarial	Market	Actuarial	Market	Actuarial	Market
6/30/08	$618,010,827	$502,132,214	$484,440,015	$115,878,613	$133,570,812	81.25%	78.39%
6/30/09	674,411,781	502,503,287	388,913,374	171,908,494	285,498,407	74.51%	57.67%
6/30/10	688,149,451	502,729,009	443,511,663	185,420,442	244,637,788	73.06%	64.45%
6/30/11	721,293,444	510,748,505	510,628,492	210,544,939	210,664,952	70.81%	70.79%
6/30/12	752,699,457	497,226,296	478,103,794	255,473,161	274,595,663	66.06%	63.52%
6/30/13	783,980,594	505,656,808	513,162,166	278,323,786	270,818,428	64.50%	65.46%
6/30/14	816,850,063	527,897,261	559,504,340	288,952,802	257,345,723	64.63%	68.50%
6/30/15	895,433,387	556,687,757	550,120,310	338,745,630	345,313,077	62.17%	61.44%
6/30/16	936,706,126	559,487,184	524,678,968	377,218,942	412,027,158	59.73%	56.01%
6/30/17	$1,121,419,836	$607,158,871	$601,528,922	$514,260,965	$519,890,914	54.14%	53.64%

KERS Hazardous Insurance Fund

Valuation Date	Actuarial Liability	Value of Assets		Unfunded Liability		Funding Level	
		Actuarial	Market	Actuarial	Market	Actuarial	Market
6/30/08	$541,657,214	$288,161,759	$269,299,859	$253,495,455	$272,357,355	53.20%	49.72%
6/30/09	491,132,170	301,634,592	219,537,255	189,497,578	271,594,915	61.42%	44.70%
6/30/10	493,297,529	314,427,296	271,395,843	178,870,233	221,901,686	63.74%	55.02%
6/30/11	507,058,767	329,961,615	321,071,515	177,097,152	185,987,252	65.07%	63.32%
6/30/12	384,592,406	345,573,948	333,298,119	39,018,458	51,294,287	89.85%	86.66%
6/30/13	385,517,675	370,774,403	374,309,576	14,743,272	11,208,099	96.18%	97.09%
6/30/14	396,986,820	419,395,867	435,503,976	(22,409,047)	(38,517,156)	105.64%	109.70%
6/30/15	374,904,234	451,514,191	441,626,285	(76,609,957)	(66,722,051)	120.43%	117.80%
6/30/16	377,745,230	473,160,173	440,596,305	(95,414,943)	(62,851,075)	125.26%	116.64%
6/30/17	$419,439,652	$493,458,367	$488,838,463	($74,018,715)	($69,398,811)	117.65%	116.55%

Summary of Actuarial Unfunded Liabilities *(As of June 30, 2017)*

CERS Non-Hazardous Pension Fund

Valuation Date	Actuarial Liability	Value of Assets		Unfunded Liability		Funding Level	
		Actuarial	Market	Actuarial	Market	Actuarial	Market
6/30/08	$7,304,217,691	$5,731,502,438	$5,431,735,605	$1,572,715,253	$1,872,482,086	78.47%	74.36%
6/30/09	7,912,913,512	5,650,789,991	4,330,593,934	2,262,123,521	3,582,319,578	71.41%	54.73%
6/30/10	8,459,022,280	5,546,857,291	4,819,933,717	2,912,164,989	3,639,088,563	65.57%	56.98%
6/30/11	8,918,085,025	5,629,611,183	5,577,252,295	3,288,473,842	3,340,832,730	63.13%	62.54%
6/30/12	9,139,567,695	5,547,235,599	5,372,769,813	3,592,332,096	3,766,797,882	60.69%	58.79%
6/30/13	9,378,876,114	5,637,094,483	5,780,830,355	3,741,781,631	3,598,045,759	60.10%	61.64%
6/30/14	9,772,522,616	6,117,133,692	6,507,300,157	3,655,388,924	3,265,222,459	62.60%	66.59%
6/30/15	10,740,325,421	6,474,848,513	6,416,853,506	4,265,476,908	4,323,471,915	60.29%	59.75%
6/30/16	11,076,456,794	6,535,372,347	6,106,186,908	4,541,084,447	4,970,269,886	59.00%	55.13%
6/30/17	$12,803,509,449	$6,764,873,113	$6,687,237,095	$6,038,636,336	$6,116,272,354	52.84%	52.23%

CERS Non-Hazardous Insurance Fund

Valuation Date	Actuarial Liability	Value of Assets		Unfunded Liability		Funding Level	
		Actuarial	Market	Actuarial	Market	Actuarial	Market
6/30/08	$3,583,193,466	$1,168,883,170	$1,105,944,178	$2,414,310,296	$2,477,249,288	32.62%	30.86%
6/30/09	3,070,386,018	1,216,631,769	894,905,841	1,853,754,249	2,175,480,177	39.62%	29.15%
6/30/10	3,158,340,174	1,293,038,593	1,096,581,872	1,865,301,581	2,061,758,302	40.94%	34.72%
6/30/11	3,073,973,205	1,433,450,793	1,451,984,026	1,640,522,412	1,621,989,179	46.63%	47.23%
6/30/12	2,370,771,288	1,512,853,851	1,439,226,170	857,917,437	931,545,118	63.81%	60.71%
6/30/13	2,443,894,100	1,628,244,197	1,633,696,661	815,649,903	810,197,439	66.62%	66.85%
6/30/14	2,616,914,600	1,831,199,465	1,899,557,376	785,715,135	717,357,224	69.98%	72.59%
6/30/15	2,907,827,440	1,997,456,463	1,948,454,097	910,370,977	959,373,343	68.69%	67.01%
6/30/16	2,988,121,117	2,079,811,055	1,943,756,727	908,310,062	1,044,364,390	69.60%	65.05%
6/30/17	$3,355,151,286	$2,227,401,268	$2,212,535,662	$1,127,750,018	$1,142,615,624	66.39%	65.94%

CERS Hazardous Pension Fund

Valuation Date	Actuarial Liability	Value of Assets		Unfunded Liability		Funding Level	
		Actuarial	Market	Actuarial	Market	Actuarial	Market
6/30/08	$2,403,122,095	$1,750,867,373	$1,644,983,243	$652,254,722	$758,138,852	72.86%	68.45%
6/30/09	2,578,444,600	1,751,487,540	1,320,522,868	826,957,060	1,257,921,732	67.93%	51.21%
6/30/10	2,672,151,907	1,749,464,388	1,506,787,429	922,687,519	1,165,364,478	65.47%	56.39%
6/30/11	2,859,041,052	1,779,545,393	1,760,602,934	1,079,495,659	1,098,438,118	62.24%	61.58%
6/30/12	3,009,992,047	1,747,379,297	1,677,940,479	1,262,612,750	1,332,051,568	58.05%	55.75%
6/30/13	3,124,205,593	1,801,691,410	1,830,657,969	1,322,514,183	1,293,547,624	57.67%	58.60%
6/30/14	3,288,825,753	1,967,640,027	2,082,998,414	1,321,185,726	1,205,827,339	59.83%	63.34%
6/30/15	3,613,307,547	2,096,782,956	2,073,397,045	1,516,524,591	1,539,910,502	58.03%	57.38%
6/30/16	3,704,456,223	2,139,119,173	2,003,669,273	1,565,337,050	1,700,786,950	57.74%	54.09%
6/30/17	$4,649,046,764	$2,238,320,330	$2,217,996,136	$2,410,726,434	$2,431,050,628	48.15%	47.71%

CERS Hazardous Insurance Fund

Valuation Date	Actuarial Liability	Value of Assets		Unfunded Liability		Funding Level	
		Actuarial	Market	Actuarial	Market	Actuarial	Market
6/30/08	$1,769,782,957	$613,526,319	$576,414,457	$1,156,256,638	$1,193,368,500	34.67%	32.57%
6/30/09	1,593,548,263	651,130,782	483,269,862	942,417,481	1,110,278,401	40.86%	30.33%
6/30/10	1,674,703,216	692,769,770	586,826,965	981,933,446	1,087,876,251	41.37%	35.04%
6/30/11	1,647,702,755	770,790,274	774,509,101	876,912,481	873,193,654	46.78%	47.01%
6/30/12	1,364,843,057	829,040,842	788,070,813	535,802,215	576,772,244	60.74%	57.74%
6/30/13	1,437,332,817	892,774,391	894,232,297	544,558,426	543,100,520	62.11%	62.21%
6/30/14	1,493,864,379	997,733,237	1,034,307,636	496,131,142	459,556,743	66.79%	69.24%
6/30/15	1,504,015,233	1,087,707,118	1,061,560,788	416,308,115	442,454,445	72.32%	70.58%
6/30/16	1,558,818,204	1,135,784,220	1,062,602,089	423,033,984	496,216,115	72.86%	68.17%
6/30/17	$1,788,432,768	$1,196,779,877	$1,189,001,387	$591,652,891	$599,431,381	66.92%	66.48%

Summary of Actuarial Unfunded Liabilities (As of June 30, 2017)

SPRS Pension

Valuation Date	Actuarial Liability	Value of Assets		Unfunded Liability		Funding Level	
		Actuarial	Market	Actuarial	Market	Actuarial	Market
6/30/08	$587,129,257	$350,891,451	$337,358,918	$236,237,806	$249,770,339	59.76%	57.46%
6/30/09	602,328,868	329,966,989	256,571,073	272,361,879	345,757,795	54.78%	42.60%
6/30/10	612,444,806	304,577,292	264,944,089	307,867,514	347,500,717	49.73%	43.26%
6/30/11	634,379,401	285,580,631	279,934,443	348,798,770	354,444,958	45.02%	44.13%
6/30/12	647,688,665	259,791,575	252,896,868	387,897,090	394,791,797	40.11%	39.05%
6/30/13	651,580,654	241,800,328	248,559,040	409,780,326	403,021,614	37.11%	38.15%
6/30/14	681,118,402	242,741,735	260,763,486	438,376,667	420,354,916	35.64%	38.28%
6/30/15	734,156,446	248,387,946	246,968,144	485,768,500	487,188,302	33.83%	33.64%
6/30/16	775,160,294	234,567,536	217,594,068	540,592,758	557,566,226	30.26%	28.07%
6/30/17	$967,144,667	$261,320,225	$255,736,583	$705,824,442	$711,408,084	27.02%	26.44%

SPRS Insurance

Valuation Date	Actuarial Liability	Value of Assets		Unfunded Liability		Funding Level	
		Actuarial	Market	Actuarial	Market	Actuarial	Market
6/30/08	$445,107,468	$123,961,197	$121,781,967	$321,146,271	$323,325,501	27.85%	27.36%
6/30/09	364,031,141	123,526,647	93,686,940	240,504,494	270,344,201	33.93%	25.74%
6/30/10	434,960,495	121,175,083	104,526,550	313,785,412	330,433,945	27.86%	24.03%
6/30/11	438,427,763	123,687,289	127,367,947	314,740,474	311,059,816	28.21%	29.05%
6/30/12	333,903,782	124,372,072	125,567,846	209,531,710	208,335,936	37.25%	37.61%
6/30/13	222,326,743	136,321,060	142,830,916	86,005,683	79,495,827	61.32%	64.24%
6/30/14	234,271,127	155,594,760	165,167,805	78,676,367	69,103,322	66.42%	70.50%
6/30/15	254,838,710	167,774,940	165,018,209	87,063,770	89,820,501	65.84%	64.75%
6/30/16	257,197,259	172,703,691	161,366,312	84,493,568	95,830,947	67.15%	62.74%
6/30/17	$276,641,361	$180,463,820	$178,838,260	$96,177,541	$97,803,101	65.23%	64.65%

Valuation Balance Sheets give the basis for determining the percentage rates for contributions to be made by employers.

Solvency Test (As of June 30, 2017)

KERS Non-Hazardous Pension Fund

Valuation Date	Actuarial Liabilities (1) Active Member Contributions	(2) Retired Members & Beneficiaries	(3) Active Members (Employer Portion)	Actuarial Value of Assets	% of Actuarial Liabilities Covered by Actuarial Assets (1)	(2)	(3)
6/30/08	$875,178,068	$7,162,496,700	$2,092,015,217	$5,318,792,893	100.00%	62.00%	0.00%
6/30/09	793,574,765	8,205,155,691	1,659,819,076	4,794,611,365	100.00%	48.80%	0.00%
6/30/10	869,484,042	8,329,757,802	1,805,553,245	4,210,215,585	100.00%	40.10%	0.00%
6/30/11	916,568,932	8,482,714,356	1,782,858,744	3,726,986,087	100.00%	33.10%	0.00%
6/30/12	885,137,183	8,708,536,338	1,767,374,615	3,101,316,738	100.00%	25.40%	0.00%
6/30/13	922,928,027	8,709,323,622	1,754,350,510	2,636,122,852	100.00%	19.70%	0.00%
6/30/14	928,557,540	8,870,692,596	1,750,860,088	2,423,956,716	100.00%	16.90%	0.00%
6/30/15	925,933,970	9,437,467,771	1,996,271,108	2,350,989,940	100.00%	15.10%	0.00%
6/30/16	920,120,230	10,010,168,246	2,294,409,951	2,112,286,498	100.00%	11.90%	0.00%
6/30/17	$934,559,307	$11,608,345,816	$3,048,735,960	$2,123,623,157	100.00%	10.20%	0.00%

KERS Non-Hazardous Insurance Fund

Valuation Date	Actuarial Liabilities (1) Active Member Contributions	(2) Retired Members & Beneficiaries	(3) Active Members (Employer Portion)	Actuarial Value of Assets	% of Actuarial Liabilities Covered by Actuarial Assets (1)	(2)	(3)
6/30/08	$-	$2,788,189,754	$2,643,309,531	$603,197,761	100.00%	21.60%	0.00%
6/30/09	-	2,861,867,088	1,645,458,483	534,172,580	100.00%	18.70%	0.00%
6/30/10	-	2,744,534,054	1,721,601,987	471,341,628	100.00%	17.20%	0.00%
6/30/11	-	2,568,002,978	1,712,086,655	451,620,442	100.00%	17.60%	0.00%
6/30/12	-	1,924,068,623	1,201,261,534	446,080,511	100.00%	23.20%	0.00%
6/30/13	-	1,338,772,860	789,981,274	497,584,327	100.00%	37.20%	0.00%
6/30/14	-	1,425,604,569	801,155,356	621,236,646	100.00%	43.60%	0.00%
6/30/15	-	1,428,349,857	985,355,395	695,018,262	100.00%	48.70%	0.00%
6/30/16	-	1,483,635,611	973,042,353	743,270,060	100.00%	50.10%	0.00%
6/30/17	$-	$1,575,293,835	$1,108,202,220	$823,917,560	100.00%	52.30%	0.00%

Solvency Test (As of June 30, 2017)

KERS Hazardous Pension Fund

Valuation Date	Actuarial Liabilities (1) Active Member Contributions	(2) Retired Members & Beneficiaries	(3) Active Members (Employer Portion)	Actuarial Value of Assets	% of Actuarial Liabilities Covered by Actuarial Assets (1)	(2)	(3)
6/30/08	$89,590,638	$355,771,877	$172,648,312	$502,132,214	100.00%	100.00%	32.90%
6/30/09	87,779,938	413,972,356	172,659,487	502,503,287	100.00%	100.00%	0.40%
6/30/10	88,511,283	441,657,241	157,980,927	502,729,009	100.00%	93.80%	0.00%
6/30/11	86,614,205	490,395,078	144,284,161	510,748,505	100.00%	86.50%	0.00%
6/30/12	82,100,877	521,688,803	148,909,777	497,226,296	100.00%	79.60%	0.00%
6/30/13	82,145,602	545,596,534	156,238,458	505,656,808	100.00%	77.60%	0.00%
6/30/14	83,663,535	581,231,300	151,955,228	527,897,261	100.00%	76.40%	0.00%
6/30/15	83,606,204	633,189,298	178,637,885	556,687,757	100.00%	74.70%	0.00%
6/30/16	86,705,297	648,482,097	201,518,732	559,487,184	100.00%	72.90%	0.00%
6/30/17	$93,350,292	$746,349,844	$281,719,700	$607,158,871	100.00%	68.80%	0.00%

KERS Hazardous Insurance Fund

Valuation Date	Actuarial Liabilities (1) Active Member Contributions	(2) Retired Members & Beneficiaries	(3) Active Members (Employer Portion)	Actuarial Value of Assets	% of Actuarial Liabilities Covered by Actuarial Assets (1)	(2)	(3)
6/30/08	$-	$228,834,940	$312,822,274	$288,161,759	100.00%	100.00%	19.00%
6/30/09	-	242,123,365	249,008,805	301,634,592	100.00%	100.00%	23.90%
6/30/10	-	268,510,709	224,786,820	314,427,296	100.00%	100.00%	20.40%
6/30/11	-	285,539,861	221,518,906	329,961,615	100.00%	100.00%	20.10%
6/30/12	-	196,578,935	188,013,471	345,573,948	100.00%	100.00%	79.20%
6/30/13	-	202,031,515	183,486,160	370,774,403	100.00%	100.00%	92.00%
6/30/14	-	206,477,405	190,509,415	419,395,867	100.00%	100.00%	100.00%
6/30/15	-	221,114,995	153,789,239	451,514,191	100.00%	100.00%	100.00%
6/30/16	-	228,361,311	149,383,919	473,160,173	100.00%	100.00%	100.00%
6/30/17	$-	$243,816,173	$175,623,479	$493,458,367	100.00%	100.00%	100.00%

Solvency Test (As of June 30, 2017)

CERS Non-Hazardous Pension Fund

Valuation Date	Actuarial Liabilities (1) Active Member Contributions	(2) Retired Members & Beneficiaries	(3) Active Members (Employer Portion)	Actuarial Value of Assets	% of Actuarial Liabilities Covered by Actuarial Assets (1)	(2)	(3)
6/30/08	$963,213,677	$4,058,767,419	$2,282,236,595	$5,731,502,438	100.00%	100.00%	31.10%
6/30/09	991,628,551	4,542,483,102	2,378,801,859	5,650,789,991	100.00%	100.00%	4.90%
6/30/10	1,063,746,826	4,890,659,077	2,504,616,377	5,546,857,291	100.00%	91.70%	0.00%
6/30/11	1,110,967,160	5,209,783,924	2,597,333,941	5,629,611,183	100.00%	86.70%	0.00%
6/30/12	1,117,549,337	5,416,932,995	2,605,085,363	5,547,235,599	100.00%	81.80%	0.00%
6/30/13	1,149,610,832	5,638,370,836	2,590,894,446	5,637,094,483	100.00%	79.60%	0.00%
6/30/14	1,204,383,085	5,873,279,494	2,694,860,037	6,117,133,692	100.00%	83.60%	0.00%
6/30/15	1,216,584,592	6,489,862,734	3,033,878,095	6,474,848,513	100.00%	81.00%	0.00%
6/30/16	1,231,027,269	6,785,529,719	3,059,899,806	6,535,372,347	100.00%	78.20%	0.00%
6/30/17	$1,277,431,672	$7,731,681,600	$3,794,396,177	$6,764,873,113	100.00%	71.00%	0.00%

CERS Non-Hazardous Insurance Fund

Valuation Date	Actuarial Liabilities (1) Active Member Contributions	(2) Retired Members & Beneficiaries	(3) Active Members (Employer Portion)	Actuarial Value of Assets	% of Actuarial Liabilities Covered by Actuarial Assets (1)	(2)	(3)
6/30/08	$-	$1,521,450,274	$2,061,743,192	$1,168,883,170	100.0%	76.80%	0.00%
6/30/09	-	1,478,782,753	1,591,603,265	1,216,631,769	100.0%	82.30%	0.00%
6/30/10		1,526,533,372	1,631,806,802	1,293,038,593	100.0%	84.70%	0.00%
6/30/11	-	1,460,808,255	1,613,164,950	1,433,450,793	100.0%	98.10%	0.00%
6/30/12	-	1,146,907,750	1,223,863,538	1,512,853,851	100.0%	100.00%	29.90%
6/30/13	-	1,205,599,287	1,238,294,813	1,628,244,197	100.0%	100.00%	34.10%
6/30/14	-	1,318,182,882	1,298,731,718	1,831,199,465	100.0%	100.00%	39.50%
6/30/15	-	1,372,596,636	1,535,230,804	1,997,456,463	100.0%	100.00%	40.70%
6/30/16	-	1,484,936,848	1,503,184,269	2,079,811,055	100.0%	100.00%	39.60%
6/30/17	$-	$1,603,438,137	$1,751,713,149	$2,227,401,268	100.0%	100.00%	35.60%

Solvency Test (As of June 30, 2017)

CERS Hazardous Pension Fund

Valuation Date	Actuarial Liabilities (1) Active Member Contributions	(2) Retired Members & Beneficiaries	(3) Active Members (Employer Portion)	Actuarial Value of Assets	% of Actuarial Liabilities Covered by Actuarial Assets (1)	(2)	(3)
6/30/08	$338,324,362	$1,406,982,409	$657,815,324	$1,750,867,373	100.0%	100.00%	0.80%
6/30/09	350,308,879	1,540,262,587	687,873,134	1,751,487,540	100.0%	91.00%	0.00%
6/30/10	369,612,720	1,622,684,455	679,854,732	1,749,464,388	100.0%	85.00%	0.00%
6/30/11	382,072,055	1,768,511,545	708,457,452	1,779,545,393	100.0%	79.00%	0.00%
6/30/12	381,672,428	1,889,884,303	738,435,316	1,747,379,297	100.0%	72.30%	0.00%
6/30/13	390,471,059	1,988,029,963	745,704,571	1,801,691,410	100.0%	71.00%	0.00%
6/30/14	415,069,629	2,077,516,709	796,239,415	1,967,640,027	100.0%	74.70%	0.00%
6/30/15	422,358,688	2,297,703,167	893,245,692	2,096,782,956	100.0%	72.90%	0.00%
6/30/16	428,713,398	2,388,711,595	887,031,230	2,139,119,173	100.0%	71.60%	0.00%
6/30/17	$458,808,121	$2,910,600,850	$1,279,637,793	$2,238,320,330	100.0%	61.10%	0.00%

CERS Hazardous Insurance Fund

Valuation Date	Actuarial Liabilities (1) Active Member Contributions	(2) Retired Members & Beneficiaries	(3) Active Members (Employer Portion)	Actuarial Value of Assets	% of Actuarial Liabilities Covered by Actuarial Assets (1)	(2)	(3)
6/30/08	$-	$722,435,184	$1,047,347,773	$613,526,319	100.0%	84.90%	0.00%
6/30/09	-	725,899,836	867,648,427	651,130,782	100.0%	89.70%	0.00%
6/30/10	-	814,300,256	860,402,960	692,769,770	100.0%	85.10%	0.00%
6/30/11	-	771,631,287	876,071,468	770,790,274	100.0%	99.90%	0.00%
6/30/12	-	575,099,089	789,743,968	829,040,842	100.0%	100.00%	32.20%
6/30/13	-	660,955,331	776,377,486	892,774,391	100.0%	100.00%	29.90%
6/30/14	-	700,311,599	793,552,780	997,733,237	100.0%	100.00%	37.50%
6/30/15	-	790,713,766	713,301,467	1,087,707,118	100.0%	100.00%	41.60%
6/30/16	-	879,360,070	679,458,134	1,135,784,220	100.0%	100.00%	37.70%
6/30/17	$-	$994,764,010	$793,668,758	$1,196,779,877	100.0%	100.00%	25.50%

Solvency Test (As of June 30, 2017)

SPRS Pension Fund

Valuation Date	Actuarial Liabilities (1) Active Member Contributions	(2) Retired Members & Beneficiaries	(3) Active Members (Employer Portion)	Actuarial Value of Assets	% of Actuarial Liabilities Covered by Actuarial Assets (1)	(2)	(3)
6/30/08	$41,391,416	$426,311,368	$119,079,046	$350,891,451	100.0%	72.60%	0.00%
6/30/09	41,664,469	459,585,353	101,079,046	329,966,989	100.0%	62.70%	0.00%
6/30/10	42,011,523	475,892,659	94,540,624	304,577,292	100.0%	55.20%	0.00%
6/30/11	43,574,097	499,194,229	91,611,075	285,580,631	100.0%	48.50%	0.00%
6/30/12	41,139,306	523,016,647	83,532,712	259,791,575	100.0%	41.80%	0.00%
6/30/13	39,788,421	535,720,195	76,072,038	241,800,328	100.0%	37.70%	0.00%
6/30/14	41,831,465	563,011,026	76,275,911	242,741,735	100.0%	35.70%	0.00%
6/30/15	41,567,127	605,854,905	86,734,414	248,387,946	100.0%	34.10%	0.00%
6/30/16	41,870,846	636,498,907	96,790,541	234,567,536	100.0%	30.30%	0.00%
6/30/17	$44,797,517	$773,982,141	$148,365,009	$261,320,225	100.0%	28.00%	0.00%

SPRS Insurance Fund

Valuation Date	Actuarial Liabilities (1) Active Member Contributions	(2) Retired Members & Beneficiaries	(3) Active Members (Employer Portion)	Actuarial Value of Assets	% of Actuarial Liabilities Covered by Actuarial Assets (1)	(2)	(3)
6/30/08	$-	$178,655,245	$266,452,223	$123,961,197	100.00%	69.40%	0.00%
6/30/09	-	167,091,453	196,939,688	123,526,647	100.00%	73.90%	0.00%
6/30/10	-	253,439,726	181,379,668	121,175,083	100.00%	47.80%	0.00%
6/30/11	-	252,439,726	185,988,037	123,687,289	100.00%	49.00%	0.00%
6/30/12	-	190,258,729	143,645,053	124,372,072	100.00%	65.40%	0.00%
6/30/13	-	139,508,590	82,818,153	136,321,060	100.00%	97.70%	0.00%
6/30/14	-	143,402,126	90,869,001	155,594,760	100.00%	100.00%	13.40%
6/30/15	-	170,447,207	84,391,503	167,774,940	100.00%	98.40%	0.00%
6/30/16	-	177,094,075	80,103,184	172,703,691	100.00%	97.50%	0.00%
6/30/17	$-	$186,390,016	$90,251,345	$180,463,820	100.00%	96.80%	0.00%

Active Member Valuation

Methodology The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected market value of assets, based on the investment return assumption. The amount recognized each year is 20% of the difference between market value and expected market value. The Asset Valuation Method was adopted in 2006.

Summary of Active Member Valuation Data (As of June 30, 2017)

KERS Non-Hazardous - Schedule of Active Member Valuation Data

Valuation Date	Number of Employers	Total Active Members[1]	Annual Payroll[2]	Annual Average Pay	% Increase In Average Pay	Average Age	Average Years of Service Credit
6/30/08	414	48,085	$1,837,873,488	$38,221	2.90%	43.20	9.10
6/30/09	334	46,060	1,754,412,912	38,090	-0.30%	43.00	8.70
6/30/10	334	47,090	1,815,146,388	38,546	1.20%	43.40	9.00
6/30/11	427	46,617	1,731,632,748	37,146	-3.60%	43.80	9.40
6/30/12	286	42,196	1,644,896,681	38,982	4.90%	44.30	9.80
6/30/13	285	42,226	1,644,408,698	38,943	-0.10%	44.50	10.10
6/30/14	353	40,365	1,577,496,447	39,081	0.40%	44.80	10.50
6/30/15	348	39,056	1,544,234,409	39,539	1.20%	45.00	10.60
6/30/16	349	37,779	1,529,248,873	40,479	2.40%	45.10	10.70
6/30/17	342	37,234	$1,531,534,820	$41,133	1.62%	45.40	10.90

KERS Hazardous - Schedule of Active Member Valuation Data

Valuation Date	Number of Employers	Total Active Members[1]	Annual Payroll[2]	Annual Average Pay	% Increase In Average Pay	Average Age	Average Years of Service Credit
6/30/08	16	4,393	$148,710,060	$33,852	1.60%	41.40	6.90
6/30/09	20	4,334	146,043,576	33,697	-0.50%	41.40	7.00
6/30/10	18	4,291	143,557,944	33,456	-0.70%	41.40	7.00
6/30/11	16	4,291	133,053,792	31,008	-7.30%	41.30	6.90
6/30/12	14	4,086	131,976,754	32,300	4.20%	41.10	7.30
6/30/13	14	4,127	132,015,368	31,988	-1.00%	40.60	7.20
6/30/14	18	4,024	129,076,038	32,077	0.30%	40.60	7.40
6/30/15	17	3,886	128,680,130	33,114	3.20%	40.70	7.50
6/30/16	17	3,959	147,563,457	37,273	12.60%	40.40	7.50
6/30/17	18	4,047	$162,418,070	$40,133	7.67%	40.30	7.60

CERS Non-Hazardous - Schedule of Active Member Valuation Data

Valuation Date	Number of Employers	Total Active Members[1]	Annual Payroll[2]	Annual Average Pay	% Increase In Average Pay	Average Age	Average Years of Service Credit
6/30/08	1,110	85,221	$2,166,612,648	$25,423	3.90%	45.9	8.3
6/30/09	1,108	83,724	2,183,611,848	26,081	2.60%	46.2	8.6
6/30/10	1,102	84,681	2,236,855,380	26,415	1.30%	46.6	8.8
6/30/11	1,102	85,285	2,276,595,948	26,694	1.10%	46.8	9.0
6/30/12	1,080	83,052	2,236,546,345	26,929	0.90%	47.5	9.1
6/30/13	1,081	81,815	2,236,277,489	27,333	1.50%	47.8	9.3
6/30/14	1,101	81,115	2,272,270,287	28,013	2.50%	48.1	9.6
6/30/15	1,092	80,852	2,296,715,957	28,406	1.40%	48.0	9.5
6/30/16	1,095	80,664	2,352,761,794	29,167	2.70%	47.9	9.4
6/30/17	1,096	82,198	$2,452,407,113	$29,835	2.29%	47.9	9.4

CERS Hazardous - Schedule of Active Member Valuation Data

Valuation Date	Number of Employers	Total Active Members[1]	Annual Payroll[2]	Annual Average Pay	% Increase In Average Pay	Average Age	Average Years of Service Credit
6/30/08	299	10,173	$474,241,332	$46,618	2.20%	38.7	8.3
6/30/09	290	9,757	469,315,464	48,100	3.20%	38.4	8.8
6/30/10	282	9,562	466,548,660	48,792	1.40%	38.8	9.2
6/30/11	281	9,407	466,963,860	49,640	1.70%	39.1	9.5
6/30/12	254	9,130	464,228,923	50,847	2.40%	39.3	10.3
6/30/13	248	9,123	461,672,567	50,605	-0.50%	39.1	10.3
6/30/14	254	9,194	479,164,016	52,117	3.00%	39.2	10.6
6/30/15	246	9,172	483,640,601	52,730	1.20%	39.1	10.6
6/30/16	246	9,084	492,850,521	54,255	2.90%	39.1	10.6
6/30/17	250	9,495	$541,632,946	$57,044	5.14%	39.2	10.5

SPRS - Schedule of Active Member Valuation Data

Valuation Date	Number of Employers	Total Active Members[1]	Annual Payroll[2]	Annual Average Pay	% Increase In Average Pay	Average Age	Average Years of Service Credit
6/30/08	1	993	$53,269,080	$53,645	4.20%	36.90	10.80
6/30/09	1	946	51,660,396	54,609	1.80%	37.30	11.00
6/30/10	1	961	51,506,712	53,597	-1.90%	37.2	10.6
6/30/11	1	965	48,692,616	50,459	-5.90%	37.70	10.60
6/30/12	1	907	48,372,506	53,332	5.70%	37.30	10.40
6/30/13	1	902	45,256,202	50,173	-5.90%	37.00	10.00
6/30/14	1	855	44,615,885	52,182	4.00%	37.80	10.90
6/30/15	1	937	45,764,515	48,842	-6.40%	36.80	9.80
6/30/16	1	908	45,551,469	50,167	2.71%	37.00	10.00
6/30/17	1	903	$48,598,296	$53,819	7.28%	37.50	10.60

1 Member data in actuarial section will differ from reported data in other CAFR sections. For this section, the data is reported by account instead of by person (ex: a member could have vested service in KERS, but is currently active in a CERS plan and is reported in two membership categories).
2 Annual payroll included in the Summary of Actuarial Valuation Results is based upon the annualized monthly payroll for active members recorded for each month of the fiscal year ending June 30, 2017.

Summary of Retired Member Valuation Data (As of June 30, 2017)

KERS Non-Hazardous

Valuation Date	Number Added	Number Removed	Total Retirees & Beneficiaries	Annualized Retirement Allowances[1]	% Increase In Allowances	Average Annual Allowance
6/30/08	2,573	1,115	35,307	$710,505,270	13.60%	$20,124
6/30/09	3,465	889	37,883	812,559,070	14.36%	21,449
6/30/10	1,162	1,100	37,945	801,881,911	-1.31%	21,133
6/30/11	1,592	940	38,597	821,197,278	2.41%	21,276
6/30/12	1,707	1,078	39,226	844,880,945	2.88%	21,539
6/30/13	1,982	1,014	40,194	872,139,782	3.23%	21,698
6/30/14	2,067	1,038	41,223	866,046,656	-0.70%	21,009
6/30/15	2,140	1,094	42,269	883,577,572	2.02%	20,904
6/30/16	2,441	706	44,004	934,929,767	5.81%	21,246
6/30/17	2,181	1,269	44,916	$921,301,933	-1.46%	$20,512

KERS Hazardous

Valuation Date	Number Added	Number Removed	Total Retirees & Beneficiaries	Annualized Retirement Allowances[1]	% Increase In Allowances	Average Annual Allowance
6/30/08	261	59	2,404	$33,588,993	22.01%	$13,972
6/30/09	339	95	2,648	38,695,501	15.20%	14,613
6/30/10	282	95	2,835	41,114,800	6.25%	14,503
6/30/11	288	59	3,064	45,609,229	10.93%	14,886
6/30/12	243	54	3,253	49,231,205	7.94%	15,134
6/30/13	229	52	3,430	51,122,456	3.84%	14,905
6/30/14	256	66	3,620	54,271,718	6.16%	14,992
6/30/15	203	65	3,758	56,431,099	3.98%	15,016
6/30/16	237	29	3,966	59,000,949	4.55%	14,877
6/30/17	206	79	4,093	$59,162,282	0.27%	$14,455

CERS Non-Hazardous

Valuation Date	Number Added	Number Removed	Total Retirees & Beneficiaries	Annualized Retirement Allowances[1]	% Increase In Allowances	Average Annual Allowance
6/30/08	3,366	1,351	37,579	$393,757,510	12.92%	$10,478
6/30/09	3,060	883	39,756	440,061,418	11.76%	11,069
6/30/10	2,565	1,283	41,038	452,613,550	2.85%	11,029
6/30/11	3,250	1,077	43,211	483,594,068	6.84%	11,191
6/30/12	3,300	1,207	45,304	515,008,361	6.50%	11,368
6/30/13	3,570	1,198	47,676	557,979,192	8.34%	11,704
6/30/14	3,480	1,221	49,935	582,957,825	4.48%	11,674
6/30/15	4,020	1,304	52,651	617,550,927	5.93%	11,729
6/30/16	4,409	721	56,339	661,216,570	7.07%	11,736
6/30/17	4,141	1,467	59,013	$667,467,736	0.95%	$11,311

CERS Hazardous

Valuation Date	Number Added	Number Removed	Total Retirees & Beneficiaries	Annualized Retirement Allowances[1]	% Increase In Allowances	Average Annual Allowance
6/30/08	469	206	5,422	$127,477,109	12.08%	23511
6/30/09	650	264	5,808	139,886,751	9.73%	24085
6/30/10	423	163	6,068	146,916,812	5.03%	24212
6/30/11	502	102	6,468	160,259,395	9.08%	$24,777
6/30/12	483	73	6,878	173,221,483	8.09%	$25,185
6/30/13	519	104	7,293	182,634,895	5.43%	$25,042
6/30/14	469	116	7,646	191,007,832	4.58%	$24,981
6/30/15	526	138	8,034	202,153,338	5.84%	$25,162
6/30/16	604	75	8,563	215,302,101	6.50%	$25,143
6/30/17	576	141	8,998	$226,680,023	5.28%	$25,192

SPRS

Valuation Date	Number Added	Number Removed	Total Retirees & Beneficiaries	Annualized Retirement Allowances[1]	% Increase In Allowances	Average Annual Allowance
6/30/08	42	12	1,135	$41,293,017	10.98%	$36,382
6/30/09	75	26	1,184	44,273,937	7.22%	37,394
6/30/10	54	15	1,223	45,515,797	2.80%	37,217
6/30/11	52	12	1,263	47,467,404	4.29%	37,583
6/30/12	52	16	1,299	49,887,093	5.10%	38,404
6/30/13	63	16	1,346	50,905,789	2.04%	37,820
6/30/14	95	28	1,413	53,432,446	4.96%	37,815
6/30/15	62	15	1,460	54,930,421	2.80%	37,624
6/30/16	65	10	1,515	56,649,918	3.13%	37,393
6/30/17	30	9	1,536	$57,253,136	1.06%	$37,274

[1]The Annualized Retirement Allowance is the annualized value of the monthly retirement allowance for retired members and beneficiaries as of the valuation date. Consequently, the values will not match the fiscal year total benefit payments recorded in the financial section.

Summary of Benefit Provisions
KERS & CERS Non-Hazardous Plans

Plan Funding
State statute requires active members to contribute 5% of creditable compensation. For members participating on or after September 1, 2008 an additional 1% of creditable compensation is required. This amount is credited to the Insurance Fund and is non-refundable to the member. Employers contribute at the rate determined by the Board to be necessary for the actuarial soundness of the systems, as required by KRS 61.565 and KRS 61.752. KERS rates are subject to state budget approval.

Membership Eligibility
For non-school board employers, all regular full-time positions that average 100 or more hours of work per month over a fiscal or calendar year. For school board employers, all regular full-time positions that average 80 hours of work per month over the actual days worked during the school year.

Retirement Eligibility for Non-Hazardous Employees

Age	Years of Service	Allowance Reduction
TIER 1 — Members Whose Participation Began Before 9/1/2008		
65	4	None
Any	27	None
55	5	6.5% per year for first five years, and 4.5% for next five years before age 65 or 27 years of service.
Any	25	6.5% per year for first five years, and 4.5% for next five years before age 65 or 27 years of service.
TIER 2 — Members Whose Participation Began On or After 9/1/2008 but before 1/1/2014		
65	5	None
57	Rule of 87	None
60	10	6.5% per year for first five years, and 4.5% for next five years before age 65 or Rule of 87 (age plus years of service).
TIER 3 — Members Whose Participation Began On or After 1/1/2014		
65	5	None
57	Rule of 87	None

TIER 1 Benefit Formula for Tiers 1 for Non-Hazardous

Final Compensation	x	Benefit Factor		x	Years of Service
Average of the five highest if participation began before 9/1/2008.		KERS 1.97% if:	Member does not have 13 months credit for 1/1/1998-1/1/1999.		Includes earned service, purchased service, prior service, and sick leave service (if the member's employer participates in an approved sick leave program).
		KERS 2.00% if:	Member has 13 months credit from 1/1/1998-1/1/1999.		
		KERS 2.20% if:	Member has 20 or more years of service, including 13 months from 1/1/1998-1/1/1999 and retires by 1/1/2009.		
		CERS 2.20% if:	Member begins participating prior to 8/1/2004.		

TIER 2 Benefit Formula for Tiers 2 for Non-Hazardous

Average of the last complete five if participation began on or after 9/1/2008 but before 1/1/2014.	CERS 2.00% if:	Member begins participating on or after 8/1/2004 and before 9/1/2008.
	KERS & CERS increasing percent based on service at retirement* plus 2.00% for each year of service over 30 if:	Member begins participating on or after 8/1/2008 but before 1/1/2014.

***Service** (and Benefit Factor): **10 years or less** (1.10%); **10 - 20 years** (1.30%); **20 - 26 years** (1.50%); **26 - 30 years** (1.75%)

TIER 3 (A-B) = C x 75%= D then B+D = Interest *($ In Thousands)*

System	A 5 Year Geometric Average Return	B Less Guarantee Rate of 4%	C Upside Sharing Interest	D Upside Sharing Interest X 75% = Upside Gain	Interest Rate Earned (4%+Upside)	Total Interest Credited to Member Accounts
KERS Non-Hazardous	7.41%	4.00%	3.41%	2.56%	6.56%	$1,366
KERS Hazardous	7.98%	4.00%	3.98%	2.99%	6.99%	$410
CERS Non-Hazardous	7.85%	4.00%	3.85%	2.89%	6.89%	$2,565
CERS Hazardous	8.07%	4.00%	4.07%	3.05%	7.05%	$616
SPRS	7.59%	4.00%	3.59%	2.69%	6.69%	$53

Summary of Benefit Provisions

KERS & CERS Non-Hazardous Plans

Post-Retirement Death Benefits

If the member is receiving a monthly benefit based on at least four (4) years of creditable service, the retirement system will pay a $5,000 death benefit payment to the beneficiary named by the member specifically for this benefit.

Disability Benefits

Members participating before 8/1/2004 may retire on account of disability provided the member has at least 60 months of service credit and is not eligible for an unreduced benefit. Additional service credit may be added for computation of benefits under the benefit formula.

Members participating on or after 8/1/2004 but before 1/1/2014 may retire on account of disability provided the member has at least 60 months of service credit. Benefits are computed as the higher of 20% of Final Rate of Pay or the amount calculated under the Benefit Formula based upon actual service.

Members participating on or after 1/1/2014 may retire on account of disability provided the member has at least 60 months of service credit. The account which includes member contributions, employer contributions and interest credits can be withdrawn from the System as a lump sum or an annuity equal to the larger of 20% of the member's monthly final rate of pay or the annuitized account into a single life annuity option.

Members disabled as a result of a single duty-related injury or act of violence related to their job may be eligible for special benefits.

Pre-Retirement Death Benefits

The beneficiary of a deceased active member will be eligible for a monthly benefit if the member was: (1) eligible for retirement at the time of death or, (2) under the age of 55 with at least 60 months of service credit and currently working for a participating agency at the time of death or (3) no longer working for a participating agency but at the time of death had at least 144 months of service credit. If the beneficiary of a deceased active member is not eligible for a monthly benefit, the beneficiary will receive a lump sum payment of the member's contributions and any accumulated interest.

Cost of Living Adjustment

The Kentucky General Assembly has the authority to increase, suspend or reduce COLAs. Senate Bill 2 of 2013 eliminated all future COLAs unless the State Legislature so authorizes on a biennial basis and either (1) the system is over 100% funded or (2) the Legislature appropriates sufficient funds to pay the increased liability for the COLA.

Insurance Benefits

For members participating prior to July 1, 2003, KRS pays a percentage of the monthly premium for single coverage based upon the service credit accrued at retirement. Members participating on or after July 1, 2003, and before September 1, 2008, are required to earn at least 10 years of service credit in order to be eligible for insurance benefits at retirement. Members participating on or after September 1, 2008 are required to earn at least 15 years of service credit in order to be eligible for insurance benefits at retirement. The monthly health insurance contribution will be $10 for each year of earned service increased by the CPI prior to July 1, 2009, and by 1.5% annually from July 1, 2009.

Refunds

Upon termination of employment, a refund of member contributions and accumulated interest is available to the member.

Interest on Accounts

For Tier 1 employees participating prior to September 1, 2008, the interest paid is set by the Board of Directors and will not be less than 2%, for Tier 2 employees participating on, or after, September 1, 2008, but before January 1, 2014, interest will be credited at a rate of 2.5%. For Tier 3 employees participating on, or after, January 1, 2014, interest will be credited at a minimum rate of 4%.

Summary of Benefit Provisions
KERS Hazardous, CERS Hazardous & SPRS Systems

Plan Funding

State statute requires active members to contribute 8% of creditable compensation. For Tier 2 members participating on, or after, September 1, 2008, an additional 1% of creditable compensation is required. This amount is credited to the Insurance Fund and is non-refundable to the member. Employers contribute at the rate determined by the Board to be necessary for the actuarial soundness of the systems, as required by KRS 61.565 and KRS 61.752. KERS & SPRS rates are subject to state budget approval.

State statute requires active members to contribute 5% of creditable compensation. For Tier 2 members, an additional 1% of creditable compensation is required for health insurance.

Membership Eligibility

All regular full-time hazardous duty positions approved by the Board that average 100 or more hours of work per month over a fiscal or calendar year.

Retirement Eligibility for Hazardous

Age	Years of Service	Allowance Reduction
TIER 1 — Members Whose Participation Began Before 9/1/2008		
55	5	None
Any	20	None
50	15	6.5% per year for first five years, and 4.5% for next five years before age 55 or 20 years of service.
Any	25	6.5% per year for first five years, and 4.5% for next five years before age 65 or 27 years of service.
TIER 2 — Members Whose Participation Began On or After 9/1/2008 but before 1/1/2014		
60	5	None
Any	25	None
50	15	6.5% per year for first five years, and 4.5% for next five years before age 60 or 25 years of service.
TIER 3 — Members Whose Participation Began On or After 1/1/2014		
60	5	None
Any	25	None

Benefit Formula for Hazardous for Tier 1 and Tier 2 only

Final Compensation	x	Benefit Factor		x	Years of Service
Average of the three highest if participation began before 9/1/2008.		KERS 2.49%, CERS 2.50%, SPRS 2.50%, if:	Member begins participating before 9/1/2008.		Includes earned service, purchased service, prior service, and sick leave service (if the member's employer participates in an approved sick leave program).
Average of the three highest complete years if participation began on or after 9/1/2008.		KERS, CERS and SPRS increasing percent based on service at retirement* if:	Member begins participating on or after 9/1/2008 but before 1/1/2014.		

* ***Service*** *(with Benefit Factor):* ***10 years or less*** *(1.30%);* ***10 - 20 years*** *(1.50%);* ***20 - 25 years*** *(2.25%)* ***25 + years*** *(2.50%)*

Tier 3

Member begins participating on or after January 1, 2014: Each year that a member is an active, contributing member to the System, the member and the member's employer will contribute 8% and 7.5% of creditable compensation respectively into a current account. This current account will earn interest annually on both the member's and employer's contribution at a minimum rate of 4%. If the System's GANIR for the previous five years exceeds 4%, then the hypothetical account will be credited with an additional amount of interest equal to 75% of the amount of the return which exceeds 4%. All interest credits will be applied to the current account balance on June 30 based on the account balance as of June 30 of the previous year. Upon retirement the hypothetical account which includes member contributions, employer contributions, and interest credits can be withdrawn from the System as a lump sum or annuitized into a single life annuity option.

Disability Benefits

Members hired before August 1, 2004, may retire on account of disability provided the member has at least 60 months of service credit and is not eligible for an unreduced benefit. Additional service credit may be added for computation of benefits under the formula noted above.

Members hired on or after August 1, 2004, but before 1/1/2014 may retire on account of disability provided the member has at least 60 months of service credit. Benefits are computed as the higher of 25% of Final Rate of Pay or the amount calculated under the Benefit Formula based upon actual service.

Members participating on or after January 1, 2014, may retire on account of disability provided the member has at least 60 months of service credit. The account which includes member contributions, employer contributions and interest credits can be withdrawn from the System as a lump sum or an annuity equal to the larger of 25% of the member's monthly final rate of pay or the annuitized account into a single life annuity option.

Members disabled as a result of a single duty-related injury or act of violence related to their job may be eligible for special benefits.

Pre-Retirement Death Benefits

The beneficiary of a deceased active member will be eligible for a monthly benefit if the member was: (1) eligible for retirement at the time of death or, (2) under the age of 55 with at least 60 months of service credit and currently working for a participating agency at the time of death or, (3) no longer working for a participating agency but at the time of death had at least 144 months of service credit. If the beneficiary of a deceased active member is not eligible for a monthly benefit, the beneficiary will receive a lump sum payment of the member's contributions and any accumulated interest.

Post-Retirement Death Benefits

If the member is receiving a monthly benefit based on at least four years of creditable service, the retirement system will pay a $5,000 death benefit payment to the beneficiary named by the member specifically for this benefit.

Cost of Living Adjustment

The Kentucky General Assembly has the authority to increase, suspend or reduce COLAs. Senate Bill 2 of 2013 eliminated all future COLAs unless the State Legislature so authorizes on a biennial basis and either (1) the system is over 100% funded or (2) the Legislature appropriates sufficient funds to pay the increased liability for the COLA.

Insurance Benefits

For members participating prior to July 1, 2003, KRS pays a percentage of the monthly premium for single coverage based upon the service credit accrued at retirement. Hazardous duty members are also eligible for an additional contribution for dependents based upon hazardous service only. Members participating on or after July 1, 2003, and before September 1, 2008, are required to earn at least 10 years of service credit in order to be eligible for insurance benefits at retirement. Members participating on or after September 1, 2008, are required to earn at least 15 years of service credit in order to be eligible for insurance benefits at retirement. The monthly health insurance contribution will be $15.00 for each year of earned service increased by the CPI prior to July 1, 2009, and by 1.5% annually from July 1, 2009.

Refunds

Upon termination of employment, a refund of member contributions and accumulated interest is available to the member.

Interest on Accounts

For Tier 1 employees participating prior to September 1, 2008, the interest paid is set by the Board of Directors and will not be less than 2%, for Tier 2 employees participating on, or after, September 1, 2008, but before January 1, 2014, interest will be credited at a rate of 2.5%. For Tier 3 employees participating on, or after, January 1, 2014, interest will be credited at a minimum rate of 4%.

STATISTICAL

STATISTICAL
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KERS Non-Hazardous Membership

Fiscal Year	Active	Inactive	Retired	Total
2012	41,743	39,338	36,508	117,589
2013	40,710	40,375	37,240	118,325
2014	40,500	41,213	38,022	119,735
2015	39,289	42,479	38,827	120,595
2016	38,121	43,926	40,099	122,146
2017	36,725	44,848	40,813	122,386

KERS Hazardous Membership

Fiscal Year	Active	Inactive	Retired	Total
2012	4,007	2,597	2,180	8,784
2013	4,057	2,882	2,312	9,251
2014	4,094	3,318	2,467	9,879
2015	3,932	3,761	2,575	10,268
2016	3,987	4,067	2,739	10,793
2017	4,061	4,363	2,823	11,247

CERS Non-Hazardous Membership

Fiscal Year	Active	Inactive	Retired	Total
2012	83,658	63,280	42,068	189,006
2013	82,631	67,013	44,164	193,808
2014	82,494	70,231	46,112	198,837
2015	82,969	72,965	48,515	204,449
2016	83,346	75,904	51,673	210,923
2017	84,401	78,940	54,018	217,359

CERS Hazardous Membership

Fiscal Year	Active	Inactive	Retired	Total
2012	9,040	1,914	5,513	16,467
2013	9,069	1,956	5,840	16,865
2014	9,189	2,038	6,066	17,293
2015	9,188	2,142	6,389	17,719
2016	9,139	2,309	6,834	18,282
2017	9,321	2,442	7,186	18,949

SPRS Membership

Fiscal Year	Active	Inactive	Retired	Total
2012	904	224	1,203	2,331
2013	901	236	1,240	2,377
2014	861	239	1,279	2,379
2015	940	257	1,324	2,521
2016	924	262	1,379	2,565
2017	910	278	1,393	2,581

FUND Statistics

DEFINITIONS

Active members are those members who are currently employed by a participating agency and contributing to the Systems as a condition of employment.

Inactive members are those members who are no longer employed with a participating agency but have not yet retired or taken a refund of contributions.

Retired members include both members and beneficiaries who are receiving a monthly benefit from the Systems.

The data reflects the number of accounts in each system. A single member may have multiple accounts, which contribute to one pension. Each person is only counted once in the Membership by System report. A member who has both a membership account and a retired account is included in the retired count. Members who have multiple membership accounts are included under the system where they most recently contributed. Members who have more than one retirement account are included in the system with the greatest service credit. If the retired accounts have equal service credit, they are counted first in SPRS, CERS Hazardous, KERS Hazardous, CERS Non-Hazardous, then KERS Non-Hazardous. These tables do not include individuals receiving payments under dependent child accounts, Qualified Domestic Relations Orders, or multiple beneficiary accounts.

Kentucky Retirement Systems Membership Totals

Fiscal Year	Active	Inactive	Retired	Total
2012	139,352	107,353	87,472	334,177
2013	137,368	112,462	90,796	340,626
2014	137,138	117,039	93,946	348,123
2015	136,318	121,604	97,630	355,552
2016	135,517	126,468	102,725	364,710
2017	135,418	130,871	106,234	372,523

Principal Participating Employers in KERS

Participating Employer	Rank	Covered Employees	% of Total System
Department For Community Based Services	1	4,441	10.67%
Department Of Highways	2	3,919	9.41%
Department Of Corrections	3	3,878	9.32%
Judicial Department Administrative Office Of The Courts	4	1,392	3.34%
Department Of Juvenile Justice	5	1,218	2.93%
Kentucky State Police	6	952	2.29%
Bluegrass.org	7	920	2.21%
Eastern Kentucky University	8	889	2.14%
Unified Prosecutorial System	9	882	2.12%
Department Of Revenue	10	867	2.08%
All Others		22,271	53.50%
Total		41,629	100.00%

Schedule of Participating Employers in KERS

Agency Classification	Number of Agencies	Number of Employees
County Attorneys	61	316
Health Departments	60	2,601
Master Commissioner	37	76
Non-P1 State Agencies	37	909
Other Retirement Systems	2	28
P1 State Agencies	138	31,270
Regional Mental Health Units	12	2,634
Universities	7	3,795
Total	354	41,629
Total Employees By Tier Levels:		
Tier 1		23,605
Tier 2		8,606
Tier 3		9,418

Principal Participating Employers in CERS

Participating Employer	Rank	Covered Employees	% of Total System
Jefferson County Board Of Education	1	6,420	6.78%
Louisville Jefferson County Metro Government	2	5,169	5.46%
Fayette County Board Of Education	3	1,806	1.91%
Lexington Fayette Urban County Government	4	1,768	1.87%
Judicial Department Administrative Office Of The Courts	5	1,660	1.75%
Boone County Board Of Education	6	1,143	1.21%
Pike County Board Of Education	7	1,134	1.20%
Bullitt County Board Of Education	8	1,124	1.19%
Hardin County Board Of Education	9	1,070	1.13%
Warren County Board Of Education	10	931	0.98%
All Others		72,470	76.53%
Total		94,687	100.00%

Schedule of Participating Employers in SPRS

Kentucky State Police - Uniformed Officers	1	934
Total Employees By Tier Levels:		
Tier 1		579
Tier 2		220
Tier 3		135

Schedule of Participating Employers in CERS

Agency Classification	Number of Agencies	Number of Employees
Airport Boards	5	525
Ambulance Services	19	415
Area Development Districts	14	691
Boards of Education	173	48,812
Cities	221	10,234
Community Action Agencies	21	2,857
Conservation Districts	49	62
County Attorneys	77	652
County Clerks	16	588
Development Authorities	6	11
Fire Departments	38	800
Fiscal Courts	118	11,168
Health Departments	1	339
Housing Authorities	42	449
Jailers	2	64
Libraries	85	1,281
Other Retirement Systems	2	3
P1 State Agencies	4	1,660
Parks and Recreation	7	62
Planning Commissions	16	228
Police Departments	2	16
Riverport Authorities	5	76
Sanitation Districts	9	355
Sheriff Departments	12	758
Special Districts & Boards	49	1,478
Tourist Commissions	22	177
Urban Government Agencies	2	6,937
Utility Boards	121	3,989
Total	1,138	94,687
Total Employees By Tier Levels:		
Tier 1		47,859
Tier 2		20,343
Tier 3		26,485

Average Monthly Benefit by Length of Service in KERS

	KERS Non-Hazardous		KERS Hazardous	
Service Credit Range	Number of Accounts	Average Monthly Benefit	Number of Accounts	Average Monthly Benefit
Under 5 Years	5,723	$174.37	760	$201.14
5 or more but less than 10	5,867	$424.63	809	$570.35
10 or more but less than 15	5,268	$710.99	723	$1,010.57
15 or more but less than 20	4,475	$1,040.99	644	$1,534.95
20 or more but less than 25	4,875	$1,384.39	950	$1,996.18
25 or more but less than 30	12,078	$2,288.35	168	$2,801.54
30 or more but less than 35	6,496	$3,239.42	58	$3,571.51
35 or more	2,536	$4,570.58	9	$3,632.52
Total	47,318	$1,667.76	4,121	$1,198.81

Average Monthly Benefit by Length of Service in CERS

	CERS Non-Hazardous		CERS Hazardous	
Service Credit Range	Number of Accounts	Average Monthly Benefit	Number of Accounts	Average Monthly Benefit
Under 5 Years	8,078	$161.47	1,033	$363.82
5 or more but less than 10	10,973	$335.76	1,040	$680.57
10 or more but less than 15	10,592	$530.14	925	$1,218.94
15 or more but less than 20	8,669	$781.06	862	$1,736.64
20 or more but less than 25	9,491	$991.02	3,396	$2,466.43
25 or more but less than 30	11,045	$1,907.05	1,340	$3,450.29
30 or more but less than 35	2,686	$2,689.62	406	$4,182.68
35 or more	729	$3,692.42	99	$5,187.03
Total	62,263	$927.68	9,101	$2,078.80

Average Monthly Benefit by Length of Service in SPRS

Service Credit Range	Number of Accounts	Average Monthly Benefit
Under 5 Years	126	$524.72
5 or more but less than 10	52	$945.52
10 or more but less than 15	54	$1,348.01
15 or more but less than 20	97	$2,005.43
20 or more but less than 25	471	$2,635.72
25 or more but less than 30	466	$3,626.71
30 or more but less than 35	233	$4,754.91
35 or more	60	$5,930.34
Total	1,559	$3,064.65

This table reflects the Average Monthly Pension Benefit. A single member may have multiple accounts, which contribute to one pension. These tables do not reflect dependent child accounts, Qualified Domestic Relations Order (QDRO) accounts or multiple beneficiary accounts.

Plan Net Position *($ in Thousands)*

KERS

	Non-Hazardous			Hazardous		
Fiscal Year	Pension	Insurance	Total	Pension	Insurance	Total
2011	$3,544,242	$428,659	$3,972,901	$511,085	$320,673	$831,758
2012	2,977,935	418,490	3,396,425	476,589	330,730	807,319
2013	2,760,753	496,040	3,256,793	514,592	372,883	887,475
2014	2,578,290	646,905	3,225,195	561,484	433,525	995,009
2015	2,327,782	665,639	2,993.421	552,468	439,113	991,581
2016	1,980,292	668,318	2,648,610	527,880	437,880	965,277
2017	2,092,781	781,406	2,874,187	605,921	484,442	1,090,363

CERS

2011	$5,583,451	$1,446,998	$7,030,449	$1,761,858	$773,139	$2,534,997
2012	5,381,602	1,428,821	6,810,423	1,672,970	785,874	2,458,844
2013	5,795,568	1,618,960	7,414,528	1,833,571	891,320	2,724,891
2014	6,528,147	1,878,711	8,406,858	2,087,002	1,030,303	3,117,305
2015	6,440,800	1,920,946	8,361,746	2,078,202	1,056,480	3,134,682
2016	6,141,396	1,908,550	8,049,946	2,010,177	1,056,097	3,066,274
2017	6,739,142	2,160,553	8,899,695	2,227,679	1,179,313	3,406,992

For additional historical data for all charts presented, please visit our website for previous annual reports at https://kyret.ky.gov/Publications/Pages/Comprehensive-Annual-Financial-Reports.aspx

SPRS

Fiscal Year	Pension	Insurance	Total
2011	$279,927	$127,319	$407,246
2012	250,476	125,398	375,874
2013	248,698	142,691	391,389
2014	260,974	164,958	425,932
2015	247,229	164,714	411,943
2016	218,013	160,949	378,962
2017	256,383	178,191	434,574

Kentucky Retirement Systems Total

Fiscal Year	Pension	Insurance	Total
2011	$11,680,563	$3,096,788	$14,777,351
2012	10,758,706	3,089,313	13,848,019
2013	11,153,182	3,521,894	14,675,076
2014	12,015,897	4,154,402	16,170,299
2015	11,646,481	4,246,892	15,893,373
2016	10,877,757	4,231,311	15,109,068
2017	$11,921,906	$4,783,905	$16,705,811

Changes in Plan Net Position *($ in Thousands)*

KERS Non-Hazardous Pension Fund

Additions	2012	2013	2014	2015	2016	2017
Members' Contributions	$96,418	$96,744	$92,941	$100,424	$101,677	$100,544
Employers' Contributions	211,071	280,874	296,836	520,949	512,670	644,803
General Fund Appropriations						58,193
Health Insurance Contributions (HB1)	5,337	3,344	4,546	4,181	4,817	5,156
Employer Cessation						53,215
Net Investment Income (Loss)	9,789	303,011	337,174	44,094	(20,662)	220,985
Bank of America Settlement	-	-	-	8,442	-	-
Pension Spiking	-	-	-	743	414	909
Total Additions	322,615	683,973	732,246	679,308	598,916	1,083,805
Deductions						
Benefit Payments	858,151	873,906	889,937	905,790	923,288	948,489
Refunds	12,004	12,907	13,627	13,552	12,130	11,819
Administrative Expenses	8,776	10,719	11,145	10,474	10,807	10,974
Capital Project Expenses	8	-	-	-	181	34
Total Deductions	878,939	897,532	914,709	929,816	946,406	971,316
Net Increase (Decrease) in Plan Net Position	(556,324)	(213,559)	(182,463)	(250,508)	(347,490)	112,489

KERS Non-Hazardous Insurance Fund

Additions	2012	2013	2014	2015	2016	2017
Employers' Contributions	$146,844	$162,191	$164,176	$132,208	$131,935	$133,024
Net Investment Income (Loss)	(4,803)	40,661	96,578	8,690	(3,904)	90,915
Retired Re-employed (HB1)	-	-	-	3,732	3,880	3,765
Member Drug Reimbursement	7,865	4,846	8	-	-	1
Premiums Received from Retirees	15,666	14,294	918	272	240	248
Employer Cessations	-	-	-	-	-	15,567
Total Additions	165,563	221,992	264,273	144,902	132,151	243,520
Deductions						
Health Insurance Premiums	163,841	140,157	112,671	125,272	126,550	127,648
Administrative Expenses	5,203	4,285	736	893	818	861
Self Funded Healthcare Costs	-	-	-	-	-	1,920
Excise Tax Insurance	-	-	-	-	-	3
Total Deductions	169,044	144,442	113,407	126,168	129,469	130,432
Net Increase (Decrease) in Plan Net Position	$169,044	$77,550	$150,865	$18,734	$2,679	$113,088

Changes in Plan Net Position *($ in Thousands)*

KERS Hazardous Pension Fund

Additions	2012	2013	2014	2015	2016	2017
Member Contributions	$11,602	$11,467	$11,995	$12,670	$15,055	$17,523
Employer Contributions	17,367	27,334	11,670	28,374	23,690	37,630
General Fund Appropriations	-	-	-	-	-	15,000
Health Insurance Contributions (HB1)	629	402	551	537	684	811
Net Investment Income (Loss)	(10,286)	51,497	80,549	8,572	(1,652)	70,893
Bank of America Settlement	-	-	-	767	-	-
Pension Spiking	-	-	-	162	70	344
Total Additions	19,312	90,700	104,941	51,211	37,847	142,301
Deductions						
Benefit Payments	48,424	48,855	54,320	56,774	59,306	61,231
Refunds	2,543	2,762	2,830	2,609	2,211	2,106
Administrative Expenses	877	733	897	844	903	919
Capital Project Expenses	-	-	-	-	15	4
Total Deductions	51,844	52,350	58,048	60,277	62,435	64,260
Net Increase (Decrease) in Plan Net Position	$(32,532)	$38,350	$46,892	($9,016)	($24,588)	$78,041

KERS Hazardous Insurance Fund

Additions	2012	2013	2014	2015	2016	2017
Employers' Contributions	$23,984	$25,144	$23,336	$14,173	$15,929	$4,688
Net Investment Income (Loss)	60	32,887	52,082	7,793	(882)	59,188
Retired Re-employed (HB1)	-	-	-	709	837	932
Member Drug Reimbursement	351	243	-	-	-	-
Premiums Received from Retirees	876	895	37	14	(13)	(51)
Total Additions	25,271	59,169	76,126	22,689	15,871	64,757
Deductions						
Health Insurance Premiums	13,941	16,837	15,405	17,000	17,490	17,562
Administrative Expenses	335	179	78	101	97	105
Self Funded Healthcare Costs	-	-	-	-	-	45
Excise Tax Insurance	-	-	-	-	-	-
Total Deductions	14,276	17,016	15,482	17,101	17,587	17,712
Net Increase (Decrease) in Plan Net Position	$10,995	$42,153	$60,642	$5,588	($1,716)	$47,045

Changes in Plan Net Position *($ in Thousands)*

CERS Non-Hazardous Pension Fund

Additions	2012	2013	2014	2015	2016	2017
Members' Contributions	$119,123	$120,777	$122,459	$133,637	$133,987	$150,714
Employers' Contributions	270,664	294,914	324,231	297,714	282,767	331,493
Health Insurance Contribution (HB1)	5,101	4,659	6,109	6,674	7,687	9,158
Net Investment Income (Loss)	(3,349)	579,161	893,386	110,569	(40,799)	825,901
Bank of America Settlement	-	-	-	10,280	-	-
Pension Spiking	-	-	-	850	1,339	2,061
Total Additions	391,539	999,511	1,348,330	559,724	384,981	1,319,327
Deductions						
Benefit Payments	524,385	553,204	582,850	615,335	651,247	687,460
Refunds	12.765	13,306	14,286	13,524	13,754	14,430
Administrative Expenses	16,740	17,743	18,615	18,212	19,078	19,614
Capital Project Expenses	9	-	-	-	307	77
Total Deductions	553,899	584,253	615,751	647,071	684,385	721,581
Net Increase (Decrease) in Plan Net Position	$(162,360)	$415,258	$732,579	($87,347)	($299,404)	$597,746

CERS Non-Hazardous Insurance Fund

Additions	2012	2013	2014	2015	2016	2017
Employer Contributions	$164,297	$158,212	$121,161	$115,836	$108,269	$117,310
Net Investment Income (Loss)	(32,992)	147,194	231,743	36,731	(1,422)	259,586
Retired Re-employed (HB1)	-	-	-	3,608	3,567	3,402
Member Drug Reimbursement	8,443	5,360	6	-	-	1
Premiums Received from Retirees	17,493	16,293	1,449	582	629	707
Total Additions	157,241	327,059	357,064	156,757	111,043	121,420
Deductions				-		
Health Insurance Premiums	141,694	132,489	96,804	113,734	122,713	124,573
Administrative Expenses	5,545	4,431	508	782	726	789
Self Funded Healthcare Costs	-	-	-	-	-	3,635
Excise Tax Insurance	-	-	-	-	-	6
Total Deductions	147,239	136,920	97,312	114,522	123,439	129,003
Net Increase (Decrease) in Plan Net Position	$10,002	$190,139	$259,751	$42,235	($12,396)	$252,003

Changes in Plan Net Position *($ in Thousands)*

CERS Hazardous Pension Fund

Additions	2012	2013	2014	2015	2016	2017
Members' Contributions	$41,797	$42,863	$42,631	$46,609	$51,554	$60,102
Employers' Contributions	77,311	120,140	115,240	107,515	104,952	114,315
Health Insurance Contribution (HB1)	811	734	1,091	1,084	1,418	1,708
Net Investment Income (Loss)	(24,724)	181,171	287,816	37,104	(9,021)	270,473
Bank of America Settlement	-	-	-	2,865	-	-
Pension Spiking	-	-	-	557	762	1,632
Total Additions	95,195	344,908	447,452	195,734	149,665	177,757
Deductions						
Benefit Payments	169,352	179,696	189,635	200,134	213,448	226,985
Refunds	3,516	3,158	2,664	3,111	2,879	2,315
Administrative Expenses	1,319	1,202	1,721	1,289	1,337	1,421
Capital Project Expenses	-	-	-	-	26	7
Total Deductions	174,187	184,056	194,020	204,534	217,690	230,728
Net Increase (Decrease) in Plan Net Position	($79,992)	$160,852	$253,431	($8,800)	($68,025)	$217,502

CERS Hazardous Insurance Fund

Additions	2012	2013	2014	2015	2016	2017
Employers' Contributions	$90,204	$84,962	$74,265	$71,008	$66,575	$50,743
Net Investment Income (Loss)	(16,127)	79,885	124,952	20,283	1,102	142,744
Retired Re-employed (HB1)	-	-	-	770	862	794
Member Drug Reimbursement	871	562	-	-	-	-
Premiums Received from Retirees	695	657	32	10	(106)	(301)
Total Additions	75,643	166,066	200,101	92,071	68,615	51,236
Deductions						
Health Insurance Premiums	50,155	59,941	60,843	65,553	68,518	70,407
Administrative Expenses	688	679	275	339	480	381
Self Funded Healthcare Costs	-	-	-	-	-	160
Excise Tax Insurance	-	-	-	-	-	-
Total Deductions	50,843	60,620	61,117	65,894	68,998	70,948
Net Increase (Decrease) in Plan Net Position	$24,800	$105,446	$138,983	$26,177	($383)	$123,216

Changes in Plan Net Position *($ in Thousands)*

SPRS Pension Fund

Additions	2012	2013	2014	2015	2016	2017
Members' Contributions	$5,154	$4,495	$5,005	$5,150	$5,149	$5,349
Employers' Contributions	15,040	18,501	20,279	31,444	25,723	38,028
Health Insurance Contribution (HB1)	46	48	70	94	113	131
Net Investment Income (Loss)	43	25,954	40,291	3,427	(3,841)	26,756
Bank of America Settlement	-	-	-	646	-	-
Pension Spiking	-	-	-	546	99	210
Total Additions	20,283	48,998	65,729	41,307	27,243	68,718
Deductions						
Benefit Payments	48,867	50,559	53,026	54,766	56,268	56,935
Refunds	149	31	214	85	11	26
Administrative Expenses	73	184	215	201	176	181
Capital Project Expenses	-	-	-	-	4	1
Total Deductions	49,089	50,774	53,454	55,052	56,459	57,143
Net Increase (Decrease) in Plan Net Position	($28,806)	($1,776)	$12,276	($13,745)	($29,216)	$38,370

SPRS Insurance Fund

Additions	2012	2013	2014	2015	2016	2017
Employer Contributions	$10,810	$16,829	$14,498	$10,379	$10,228	$9,222
Net Investment Income (Loss)	(1,458)	12,993	20,458	2,921	(48)	21,570
Retired Re-employed (HB1)	-	-	-	3	9	-
Member Drug Reimbursement	279	178	-	-	-	-
Premiums Received from Retirees	20	23	11	1	(29)	(55)
Total Additions	9,651	30,023	35,012	13,304	10,160	9,167
Deductions						
Health Insurance Premiums	10,791	12,546	12,688	13,483	13,836	13,405
Administrative Expenses	201	184	58	65	89	66
Self Funded Healthcare Costs	-	-	-	-	-	24
Excise Tax Insurance	-	-	-	-	-	-
Total Deductions	10,992	12,730	12,745	13,548	13,925	13,495
Net Increase (Decrease) in Plan Net Position	($1,341)	$17,293	$22,267	($244)	($3,765)	$17,242

Schedule of Benefit Expenses

KERS Non-Hazardous

	Normal Retirement	Early Retirement	Disability Retirement	Beneficiary Payments
FY 2011-12				
Average Benefit	$1,008	$1,927	$1,029	$925
Number of Accounts	6,218	31,580	2,626	959
Total Monthly Benefits	$6,269,576	$60,879,802	$2,702,410	$887,236
% of Total Monthly Benefits	8.86%	86.06%	3.82%	1.25%
FY 2012-13				
Average Benefit	$1,003	$1,915	$1,020	$889
Number of Accounts	6,441	32,310	2,687	962
Total Monthly Benefits	$6,459,840	$61,882,399	$2,740,491	$855,033
% of Total Monthly Benefits	8.98%	86.02%	3.81%	1.19%
FY 2013-14				
Average Benefit	$992	$1,911	$987	$886
Number of Accounts	6,678	33,106	2,706	954
Total Monthly Benefits	$6,624,472	$63,255,779	$2,671,749	$845,468
% of Total Monthly Benefits	9.03%	86.18%	3.64%	1.15%
FY 2014-15				
Average Benefit	$992	$1,901	$996	$909
Number of Accounts	6,896	33,940	2,696	983
Total Monthly Benefits	$6,843,193	$64,503,048	$2,684,720	$893,407
% of Total Monthly Benefits	9.13%	86.09%	3.58%	1.19%
FY 2015-16				
Average Benefit	$989	$1,886	$1,005	$902
Number of Accounts	7,390	35,192	2,770	1,014
Total Monthly Benefits	$7,312,293	$66,383,638	$2,784,928	$914,804
% of Total Monthly Benefits	9.45%	85.77%	3.60%	1.18%
FY 2016-17				
Average Benefit	$991.85	$1,883.28	$1,012.96	$924.43
Number of Accounts	7,628	35,890	2,772	1,028
Total Monthly Benefits	$7,566	$67,591	$2,808	$950
% of Total Monthly Benefits	9.59%	85.65%	3.56%	1.20%

These tables include individuals receiving a monthly benefit as of June 30 in the indicated fiscal year. A single member may have multiple accounts which contribute to one pension. This table represents all individuals receiving a benefit including dependent children, Qualified Domestic Relations Order (QDRO) accounts and multiple beneficiary accounts. If a member has died or a disability decision is pending, the monthly benefit amount is reflected as zero until the account status changes.

Schedule of Benefit Expenses

KERS Hazardous

	Normal Retirement	Early Retirement	Disability Retirement	Beneficiary Payments
FY 2011-12				
Average Benefit	$976.67	$1,541.49	$581	$721
Number of Accounts	1,657	1,339	180	92
Total Monthly Benefits	$1,618,343	$2,064,050	$104,644	$66,409
% of Total Monthly Benefits	42.00%	53.56%	2.72%	1.72%
FY 2012-13				
Average Benefit	$961	$1,543	$662	$725
Number of Accounts	1,751	1,417	190	93
Total Monthly Benefits	$1,682,541	$2,186,334	$125,704	$67,440
% of Total Monthly Benefits	41.42%	53.82%	3.10%	1.66%
FY 2013-14				
Average Benefit	$971	$1,560	$649	$749
Number of Accounts	1,851	1,497	191	89
Total Monthly Benefits	$1,797,900	$2,335,190	$123,867	$66,679
% of Total Monthly Benefits	41.58%	54.01%	2.86%	1.54%
FY 2014-15				
Average Benefit	$986	$1,556	$661	$714
Number of Accounts	1,912	1,566	193	90
Total Monthly Benefits	$1,884,477	$2,436,923	$127,477	$64,250
% of Total Monthly Benefits				
FY 2015-16				
Average Benefit	$983.95	$1,542.29	$663.21	$729.84
Number of Accounts	2,046	1,658	194	94
Total Monthly Benefits	$2,011,530	$2,557,114	$128,663	$68,605
% of Total Monthly Benefits	42.21%	53.65%	2.70%	1.44%
FY 2016-17				
Average Benefit	$993.21	$1,540.83	$661.59	$721.41
Number of Accounts	2,101	1,719	205	96
Total Monthly Benefits	$2,087	$2,649	$135	$69
% of Total Monthly Benefits	42.24%	53.61%	2.75%	1.40%

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Schedule of Benefit Expenses

CERS Non-Hazardous

	Normal Retirement	Early Retirement	Disability Retirement	Beneficiary Payments
FY 2011-12				
Average Benefit	$587	$1,039	$870	$636
Number of Accounts	10,620	31,797	4,280	1,052
Total Monthly Benefits	$6,237,369	$33,041,035	$3,724,859	$669,377
% of Total Monthly Benefits	14.28%	75.66%	8.53%	1.53%
FY 2012-13				
Average Benefit	$591	$1,042	$878	$625
Number of Accounts	11,266	33,393	4,537	1,075
Total Monthly Benefits	$6,661,524	$34,797,169	$3,982,213	$672,310
% of Total Monthly Benefits	14.45%	75.46%	8.64%	1.45%
FY 2013-14				
Average Benefit	$596	$1,042	$856	$613
Number of Accounts	11,885	34,911	4,729	1,110
Total Monthly Benefits	$7,081,048	$36,375,607	$4,047,035	$680,784
% of Total Monthly Benefits	14.70%	75.49%	8.40%	1.41%
FY 2014-15				
Average Benefit	$612	$1,044	$862	$616
Number of Accounts	12,749	36,746	4,854	1,161
Total Monthly Benefits	$7,801,662	$38,375,001	$4,186,130	$715,032
% of Total Monthly Benefits	15.27%	75.13%	8.20%	1.40%
FY 2015-16				
Average Benefit	$623	$1,045	$874	$626
Number of Accounts	14,014	39,066	5,118	1,268
Total Monthly Benefits	$8,724,563	$40,823,334	$4,472,723	$793,726
% of Total Monthly Benefits	15.92%	74.48%	8.16%	1.45%
FY 2015-16				
Average Benefit	$633.76	$1,049.90	$882.84	$615.74
Number of Accounts	14,792	40,873	5,280	1,318
Total Monthly Benefits	$9,375	$42,913	$4,661	$812
% of Total Monthly Benefits	16.23%	74.29%	8.07%	1.41%

These tables include individuals receiving a monthly benefit as of June 30 in the indicated fiscal year. A single member may have multiple accounts which contribute to one pension. This table represents all individuals receiving a benefit including dependent children, Qualified Domestic Relations Order(QDRO) accounts and multiple beneficiary accounts. If a member has died or a disability decision is pending, the monthly benefit amount is reflected as zero until the account status changes.

Schedule of Benefit Expenses

CERS Hazardous

	Normal Retirement	Early Retirement	Disability Retirement	Beneficiary Payments
FY 2011-12				
Average Benefit	$1,430	$2,422	$1,300	$1,046
Number of Accounts	1,766	4,407	662	110
Total Monthly Benefits	$2,526,722	$10,673,928	$861,223	$115,107
% of Total Monthly Benefits	17.82%	75.29%	6.07%	0.81%
FY 2012-13				
Average Benefit	$1,433	$2,429	$1,121	$1,073
Number of Accounts	1,883	4,683	681	119
Total Monthly Benefits	$2,699,176	$11,374,811	$763,700	$127,689
% of Total Monthly Benefits	18.04%	76.01%	5.10%	0.85%
FY 2013-14				
Average Benefit	$1,467	$2,437	$1,125	$1,008
Number of Accounts	1,974	4,873	695	119
Total Monthly Benefits	$2,895,353	$11,876,578	$781,685	$119,935
% of Total Monthly Benefits	18.47%	75.77%	4.99,%	0.77%
FY 2014-15				
Average Benefit	$1,480	$2,448	$1,145	$954
Number of Accounts	2,097	5,139	688	127
Total Monthly Benefits	$3,103,613	$12,581,191	$787,549	$121,103
% of Total Monthly Benefits	18.70%	75.82%	4.75%	0.73%
FY 2015-16				
Average Benefit	$1,494	$2,453	$1,137	$975
Number of Accounts	2,269	5,485	742	143
Total Monthly Benefits	$3,388,890	$13,452,235	$843,463	$139,353
% of Total Monthly Benefits	19.01%	75.47%	4.73%	0.78%
FY 2016-17				
Average Benefit	$1,508.81	$2,473.17	$1,137.58	$996.74
Number of Accounts	2,394	5,764	794	149
Total Monthly Benefits	$3,612	$14,255	$903	$149
% of Total Monthly Benefits	19.09%	75.35%	4.77%	0.78%

These tables include individuals receiving a monthly benefit as of June 30 in the indicated fiscal year. A single member may have multiple accounts which contribute to one pension. This table represents all individuals receiving a benefit including dependent children, Qualified Domestic Relations Order (QDRO) accounts and multiple beneficiary accounts. If a member has died or a disability decision is pending, the monthly benefit amount is reflected as zero until the account status changes.

Schedule of Benefit Expenses

SPRS

	Normal Retirement	Early Retirement	Disability Retirement	Beneficiary Payments
FY 2011-12				
Average Benefit	$3,560	$3,135	$1,372	$2,136
Number of Accounts	150	1,083	66	25
Total Monthly Benefits	$534,132	$3,396,203	$90,562	$53,404
% of Total Monthly Benefits	13.11%	83.36%	2.22%	1.31%
FY 2012-13				
Average Benefit	$3,601	$3,130	$1,320	$2,198
Number of Accounts	149	1,126	74	23
Total Monthly Benefits	$536,481	$3,524,248	$97,681	$50,563
% of Total Monthly Benefits	12.75%	83.73%	2.32%	1.20%
FY 2013-14				
Average Benefit	$3,621	$3,197	$1,346	$2,196
Number of Accounts	146	1,172	75	23
Total Monthly Benefits	$528,611	$3,747,012	$100,974	$49,197
% of Total Monthly Benefits	11.94%	84.66%	2.28%	1.11%
FY 2014-15				
Average Benefit	$3,578	$3,189	$1,347	$2,153
Number of Accounts	150	1,213	75	23
Total Monthly Benefits	$536,649	$3,867,971	$101,018	$49,524
% of Total Monthly Benefits	11.78%	84.91%	2.22%	1.09%
FY 2015-16				
Average Benefit	$3,579	$3,135	$1,269	$2,008
Number of Accounts	155	1,277	82	25
Total Monthly Benefits	$554,743	$4,002,993	$104,056	$50,196
% of Total Monthly Benefits	11.77%	84.95%	2.21%	1.07%
FY 2016-17				
Average Benefit	$3,610.95	$3,134.90	$1,277.91	$2,007.83
Number of Accounts	149	1,303	82	25
Total Monthly Benefits	$538	$4,084	$105	$50
% of Total Monthly Benefits	11.26%	85.50%	2.19%	1.05%

These tables include individuals receiving a monthly benefit as of June 30 in the indicated fiscal year. A single member may have multiple accounts which contribute to one pension. This table represents all individuals receiving a benefit including dependent children, Qualified Domestic Relations Order(QDRO) accounts and multiple beneficiary accounts. If a member has died or a disability decision is pending, the monthly benefit amount is reflected as zero until the account status changes.

Analysis of Initial Retirees

	KERS Non-Hazardous	KERS Hazardous	CERS Non-Hazardous	CERS Hazardous	SPRS
FY 2011-12					
Number of Accounts	1,641	206	3,160	410	47
Average Service Credit (months)	190	169	185	210	276
Average Final Compensation	$45,528	$45,815	$32,709	$57,756	$71,298
Average Monthly Benefit	$1,162	$1,312	$872	$2,149	$3,556
Average System Payment for Health Insurance	$291	$496	$271	$826	$981
FY 2012-13					
Number of Accounts	1,810	205	3,303	443	59
Average Service Credit (months)	199	157	189	202	234
Average Final Compensation	$47,168	$46,456	$34,292	$58,516	$69,325
Average Monthly Benefit	$1,275	$1,250	$938	$2,196	$2,893
Average System Payment for Health Insurance	$303	$433	$259	$853	$994
FY 2013-14					
Number of Accounts	2,037	245	3,529	430	77
Average Service Credit (months)	202	165	182	194	260
Average Final Compensation	$46,480	$46,595	$33,816	$57,718	$70,009
Average Monthly Benefit	$1,278	$1,296	$879	$2,021	$3,322
Average System Payment for Health Insurance	$534	$937	$486	$1,279	$1,378
FY 2014-15					
Number of Accounts	2,078	191	4,084	496	55
Average Service Credit (months)	204	164	188	204	251
Average Final Compensation	$47,187	$47,148	$34,561	$59,589	$67,862
Average Monthly Benefit	$1,308	$1,280	$913	$2,178	$3,009
Average System Payment for Health Insurance	$549	$906	$489	$1,254	$1,376
FY 2015-16					
Number of Accounts	2,043	205	4,151	522	57
Average Service Credit (months)	207	160	190	212	234
Average Final Compensation	$47,429	$44,494	$34,632	$58,977	$65,535
Average Monthly Benefit	$1,351	$1,225	$932	$2,303	$2,953
Average System Payment for Health Insurance	$558	$870	$501	$1,277	$1,425
FY 2016-17					
Number of Accounts	2,094	191	4,151	544	30
Average Service Credit (months)	208	146	191	203	241
Average Final Compensation	$47	$48	$35	$58	$68
Average Monthly Benefit	$1,338.96	$1,150.10	$939.73	$2,236.10	$2,934.73
Average System Payment for Health Insurance	$557.91	$872.08	$510.09	$1,247.26	$1,191.75

This table represents all individuals who had an initial retirement date within the fiscal year.

Payment Options Selected by Retired Members

	Basic	Lump Sum	Other	Period Certain	Pop Up	Social Security Adjustment	Survivorship
KERS Non-Hazardous							
Number of Accounts	16,230	2,133	13	5,972	9,094	3,332	10,544
Monthly Benefits	$24,732,694	$2,491,174	$11,745	$9,281,460	$18,796,125	$5,768,856	$17,833,006
KERS Hazardous							
Number of Accounts	1,084	250	4	473	1,122	282	906
Monthly Benefits	$1,190,931	$257,111	$2,414	$526,183	$1,589,815	$330,954	$1,042,889
CERS Non-Hazardous							
Number of Accounts	25,392	3,241	16	8,906	9,884	2,117	12,707
Monthly Benefits	$20,313,654	$2,177,293	$7,741	$7,529,539	$12,115,540	$2,757,069	$12,859,268
CERS Hazardous							
Number of Accounts	1,476	469	28	820	3,561	542	2,205
Monthly Benefits	$2,779,098	$743,949	$15,125	$1,386,693	$8,654,668	$836,687	$4,502,981
SPRS							
Number of Accounts	169	22	1	129	629	196	413
Monthly Benefits	$487,676	$51,466	$893	$326,156	$2,190,851	$400,130	$1,320,615
KRS Total							
Number of Accounts	44,351	6,115	62	16,300	24,290	6,469	26,775
Monthly Benefits	$49,504,053	$5,720,993	$37,918	$19,050,031	$43,346,999	$10,093,696	$37,558,759

The information in this table represents accounts administered by KRS.
A single member may have multiple accounts, which contribute to one pension.

Employer Contribution Rates

In KERS, CERS, and SPRS both the employee and the employer contribute a percentage of creditable compensation to KRS.

The employee contribution rate is set by state statute. Non-Hazardous employees contribute 5% while Hazardous duty members contribute 8%. Employees hired on or after September 1, 2008, contribute an additional 1% to health insurance.

Under Kentucky Revised Statute 61.565, KERS and SPRS employer contribution rates are set by the KRS Board of Trustees based on an annual actuarial valuation. However, KERS and SPRS employer rates are subject to approval by the Kentucky General Assembly through the adoption of the biennial Executive Branch Budget. In recent years, the Kentucky General Assembly has routinely suspended Kentucky Revised Statute 61.565 in the budget in order to provide an employer contribution rate that is less than the amount recommended by the Board's consulting actuary. The table in the Actuarial Section shows the KERS and SPRS employer contribution rates that were actuarially recommended in the annual valuation without any adjustments (Recommended Rate) and the rate specified by the Executive Branch budget bill for each fiscal year (Budgeted Rate).

The CERS employer contribution rates are also set by the KRS Board under Kentucky Revised Statute 61.565 based on an annual actuarial valuation, unless altered by legislation enacted by the Kentucky General Assembly. The CERS employer contribution rates for fiscal year 2008 through 2009 were reduced from the actuarially recommended rate as a result of the passage of House Bill (HB) 1 during the 2008 Extraordinary Session of the Kentucky General Assembly. Also, during its 2009 Regular Session, the Kentucky General Assembly enacted HB 117, which mandated an extension of the phase-in of insurance contribution rates that had been previously approved by the KRS Board in 2006 from five years to 10 years to further mitigate the impact of the application of GASB Statements 43 and 45 on CERS employer contribution rates for health insurance. The "Recommended Rate" shown for CERS Non-Hazardous and Hazardous plans are the actuarially recommended rates as set forth in the annual valuation. The "Budgeted Rate" shown for the two plans is the rate required by the 10 year phase-in mandated in KRS 61.565(6).

Employer Contribution Rates (%)						
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
KERS Non-Hazardous						
Budgeted Rate	19.82	23.61	26.79	38.77	38.77	48.59%
Recommended Rate	40.71	44.55	45.28	38.77	38.77	47.28%
KERS Hazardous						
Budgeted Rate	28.98	29.79	32.21	26.34	26.34	23.82%
Recommended Rate	33.84	35.89	28.84	26.34	26.34	23.82%
CERS Non-Hazardous						
Budgeted Rate	18.96	19.55	18.89	17.67	17.06%	18.68%
Recommended Rate	21.29	21.21	19.58	17.67	17.06%	18.88%
CERS Hazardous						
Budgeted Rate	35.76	37.60	35.70	34.31	32.95%	31.06%
Recommended Rate	41.65	41.94	37.79	34.31	32.95%	31.50%
SPRS						
Budgeted Rate	52.13	63.67	71.15	75.76	75.76	89.21%
Recommended Rate	94.63	103.41	96.52	75.76	75.76	85.34%

Insurance CONTRACTS

KRS provides medical insurance and other managed care coverage for eligible retired members.

Participation in the insurance program is optional and requires the completion of the proper Forms at the time of retirement in order to obtain the insurance coverage. KRS provides access to health insurance coverage through the Kentucky Employees Group Health Plan (KEHP) for recipients until they reach age 65 and/or become Medicare eligible. After a retired member becomes eligible for Medicare, coverage is available through a Medicare eligible plan offered by KRS. A retired member's spouse and/or dependents may also be covered on health insurance through KRS.

Insurance Benefits Paid to Retirees & Beneficiaries Participating in a KRS Health Insurance Plan

	KERS Non-Hazardous	KERS Hazardous	CERS Non-Hazardous	CERS Hazardous	SPRS
Number	31,146	2,660	35,707	7,758	1,666
Average Service Credit (Months)	311	264	261	280	325
Average Monthly System Payment for Health Insurance	$372	$674	$322	$946	$885
Average Monthly Member Payment for Health Insurance	$59	$47	$61	$33	$17
Total Monthly Payment for Health Insurance	$12,522,372	$1,578,292	$12,824,040	$6,209,200	$1,153,001

Insurance Contracts by Type

KERS Non-Hazardous	2012	2013	2014	2015	2016	2017
KEHP Parent Plus	734	618	506	452	441	411
KEHP Couple/Family	1,917	1,276	797	714	656	663
KEHP Single	9,764	9,364	9,491	9,251	8,876	8,627
Medicare without Prescription	1,721	1,474	1,370	1,303	19,447	1,229
Medicare with Prescription	15,015	16,834	17,738	18,577	1,286	20,215
KERS Hazardous						
KEHP Parent Plus	93	106	110	110	97	88
KEHP Couple/Family	517	451	448	448	439	432
KEHP Single	645	625	647	656	663	667
Medicare without Prescription	67	60	56	62	1,302	72
Medicare with Prescription	751	985	1,104	1,177	66	1,401

Insurance Contracts by Type

CERS Non-Hazardous	2012	2013	2014	2015	2016	2017
KEHP Parent Plus	383	340	278	242	235	222
KEHP Couple/Family	1,317	857	546	473	465	462
KEHP Single	7,972	7,652	7,843	8,098	8,164	8,313
Medicare without Prescription	3,119	2,707	2,583	2,531	23,007	2,462
Medicare with Prescription	16,355	18,824	20,200	21,520	2,499	24,247
CERS Hazardous						
KEHP Parent Plus	310	400	432	456	378	395
KEHP Couple/Family	2,237	2,155	2,184	2,255	2,321	2,387
KEHP Single	1,385	1,425	1,447	1,500	1,595	1,645
Medicare without Prescription	73	79	89	107	2,969	125
Medicare with Prescription	1,853	2,324	2,510	2,697	114	3,205
SPRS						
KEHP Parent Plus	62	76	78	81	77	79
KEHP Couple/Family	444	421	444	441	355	420
KEHP Single	291	283	263	265	246	251
Medicare without Prescription	15	20	20	16	850	17
Medicare with Prescription	581	682	712	777	18	897
KRS Total						
KEHP Parent Plus	1,582	1,540	1,404	1,341	1,228	1,195
KEHP Couple/Family	6,432	5,160	4,419	4,331	4,328	4,364
KEHP Single	20,057	19,349	19,691	19,770	19,544	19,503
Medicare without Prescription	4,995	4,340	4,118	4,019	47,575	3,905
Medicare with Prescription	34,555	39,649	42,264	44,748	3,983	49,965

OUR SIX MANDATES

1. Strive for appropriate funding for all plans.
2. Provide members with efficient access to information and helpful counseling to meet their individual needs.
3. Manage the assets in accordance with each plan's needs while adding value to a passive portfolio.
4. Communicate effectively with all constituents, while ensuring appropriate transparency.
5. Maintain a work environment that promotes employee effectiveness, morale, and retention.
6. Insist on a culture of continuous enhancement to everything we do.

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