

**County Employees Retirement System
Board of Trustees Special Board Meeting
May 19, 2021, 2 p.m. EDT (1 p.m. CDT)
Live Video Conference/Facebook Live**

AGENDA

1. **Call to Order**
2. **Roll Call** Alane Foley
3. **Public Comment**
4. **Minutes, April 21, 2021 and May 10, 2021*** Betty Pendergrass
5. **Finance Committee Report*** Bill O'Mara
 - ^More details available in [Finance Meeting Packet](#)
 - a. Requests for Hazardous Duty Classifications^ D'Juan Surratt
 - b. Informational Reports Rebecca Adkins
 - i. Quarterly Financial Reports
 - ii. Employer Penalty Waivers^
 - iii. Outstanding Employer Invoices^
6. **Investment Committee Report*** Dr. Merl Hackbart
 - ^More details available in [Investment Meeting Packet](#)
 - a. Investment Compliance Report
 - b. Wilshire Performance Reports Steven Herbert
 - c. Staff Performance Reports Steven Herbert
 - d. Real Estate Allocations Steven Herbert
7. **2021 Actuarial Valuation**
 - a. GRS Recommendations* Danny White, GRS
8. **Joint Employee Health Care Committee Report*** Jerry Powell
 - ^More details available in [Health Care Meeting Packet](#)
9. **Closed Session – Litigation** Kathy Rupinen
10. **Adjourn**

*Board may take action on these items.

**MINUTES OF MEETING
BOARD OF TRUSTEES COUNTY EMPLOYEES RETIREMENT SYSTEM
SPECIAL CALLED ANNUAL MEETING APRIL 21, 2021 AT 2:00 P.M.
VIA LIVE VIDEO TELECONFERENCE DUE TO SB 150,
SIGNED INTO LAW BY THE GOVERNOR ON MARCH 30, 2020,
AND EXECUTIVE ORDER 2020-215 DECLARING A STATE OF EMERGENCY
EFFECTIVE MARCH 6, 2020 DUE TO COVID-19**

At the meeting of the County Employees Retirement System Board of Trustees held on April 21, 2021 the following members were present: Betty Pendergrass (Chair), Joe Brothers, George Cheatham, Michael Foster, JT Fulkerson, Merl Hackbart, William O'Mara and Jerry Powell. Staff members present were David Eager, Rebecca Adkins, Erin Surratt, Kathy Rupinen, Carrie Bass, Victoria Hale, Steven Herbert, Kristen Coffey, Marlane Robinson, Shaun Case, Phillip Cook, and Alane Foley.

Ms. Pendergrass called the meeting to order and read the Special Called Meeting COVID-19 statement due to SB 150.

Ms. Alane Foley proceeded to take the Roll Call.

There was no public comment submitted.

Ms. Pendergrass introduced Ms. Kristen Coffey from Internal Audit. There have been discussions regarding a joint Audit Committee, which discusses internal and external audit functions. Section 2.2, item g in the bylaws covers the joint committee functions and responsibilities. Ms. Kristen Coffey explained that the Internal Audit division's focus is to look at the administrative function of KPPA making certain that they comply with state and federal laws as well as state guidelines. They also look at processes making sure they are running effectively and efficiently. Internal Audit reports all gathered information back to the Audit Committee. Each year Internal Audit brings forth the Audit Committee Charter as well as Internal Audit Charter, outlining the role and responsibilities of the Audit Committee and the Internal Audit Division. Ms. Pendergrass outlined

that the Finance Committee would receive the financial reports and hazardous duty position requests and the Joint Audit Committee would receive the internal and external audit reports.

Ms. Pendergrass introduced Simon Keemer and Joseph Overhults from Dean Dorton Allen Ford to discuss external audit functions. Mr. Overhults explained that they report to the governing body which can be a subcommittee of the Board of Trustees and if needed they can communicate with the full Board as well. Mr. O'Mara had two points of clarification; KPPA should hire the external auditor and Mr. Eager as the Director of KPPA should be a point of contact with the external auditor and the Joint Audit Committee.

Ms. Pendergrass introduced agenda item *Approval of Minutes – April 1, 2021*. Mr. Fulkerson made a motion and Dr. Hackbart seconded to approve the minutes as presented with two typographical corrections. The motion passed unanimously.

Ms. Pendergrass introduced agenda item *CEO and General Counsel*. The job descriptions were updated per discussions at the last meeting. Mr. O'Mara provided a few suggested changes. In the CEO RFP, second paragraph instead of actuarial experience it should read, "understanding of actuarial analysis." Also, the summary of duties should mirror Section 1.3 item h within the bylaws stating "The CERS CEO shall be responsible for oversight of CERS investment management to ensure that CERS investments are made in a manner consistent with policies promulgated by the CERS Investment Committee and approved by the CERS Board. In carrying out such responsibilities, the CERS CEO will monitor CERS investment policy compliance, investment performance, and ensure timely reporting to the CERS Board of oversight and monitoring concerns and actions." The Board discussed whether this would be a part-time or a full-time position, most agreed this would be a full-time position with a contract length of two years with renewal options. Ms. Pendergrass suggested recruiting through KLC, KACo and School Boards along with GFOA, NCPERS, NASRA and ICMA. Ms. Pendergrass will review NASRA database to determine a comparable salary range and state that salary will be commiserate with experience on the RFP. After a lengthy discussion, it was agreed that the CERS Board is looking for an employee with a two year employment contract with renewal options, healthcare and retirement benefits. Ms.

Pendergrass will update the CEO position description and RFP per discussions today and bring that back to the Board for approval.

The General Counsel RFP should be updated to read “Understanding of actuarial analysis and legislative analysis is preferred”. While discussing the language on the RFP Trustees decided that they would be open to an individual or a firm. Mr. Foster suggested hiring a legal firm with one or more attorneys secured by a retainer and hourly rate. The suggested language is as follows; CERS Board of Trustees is seeking qualifications for General Counsel services to serve as the primary legal advisor for the CERS Board of Trustees and CERS Chief Executive Officer. In addition, the General Counsel may collaborate with KPPA staff as defined in the CERS bylaws.

Both the CEO and General Counsel positions will be discussed again at the May 19, 2021 Board meeting.

Ms. Pendergrass introduced agenda item By-laws. There was a discussion regarding the Joint Audit Committee previously in this meeting with Ms. Kristen Coffey. Ms. Pendergrass provided details on changes made to the bylaws since the last meeting:

- 1) Section 1.1, item b, 1 and 2 regarding a quorum; there were no questions from the Board.
- 2) Section 1.3, paragraph h regarding Responsibility of Chief Executive Officer; there were no questions from the Board.
- 3) Section 2.2, item F regarding Joint Audit and Retiree Health Plan Committees; there were no questions from the Board.

Mr. Fulkerson made a motion and Mr. Brothers seconded to approve the bylaws as presented. The motion passed unanimously.

Ms. Pendergrass introduced Mr. David Lindberg from Wilshire Consulting. Mr. Lindberg introduced the Wilshire team; Mr. Craig Morton, Mr. Chris Shelby, Mr. Marc Freidburg, Mr. Chris Shelby and Mr. Chris Tessman (who was not present). Mr. Lindburg advised that Wilshire has entered into an investment partnership with CC Capital and Motive Partners. Mr. Lindberg then provided an overview of the 2020 Asset Liability Study for educational purposes

The CERS Board will meet again on May 19, 2021, for a quarterly meeting. Ms. Pendergrass may call additional special Board meetings as the Board continues its organizational planning.

Mr. Cheatham made a motion and Mr. Fulkerson seconded to adjourn the meeting. The motion passed unanimously.

Copies of all documents presented are incorporated as part of the Minutes of the Board of Trustees held April 21, 2021 except documents provided during a closed session conducted pursuant to the open meetings act and exempt under the open records act.

CERTIFICATION

I do certify that I was present at this meeting, and I have recorded the above actions of the Trustees on the various items considered by it at this meeting. Further, I certify that all requirements of KRS 61.805-61.850 were met in conjunction with this meeting.

Recording Secretary

I, the Chair of the Board of Trustees of the County Employees Retirement System, do certify that the Minutes of Meeting held on April 21, 2021 were approved on May 19, 2021.

Chair of the Board of Trustees

I have reviewed the Minutes of the April 1, 2021 Board of Trustees Meeting for content, form, and legality.

Executive Director
Office of Legal Services

**MINUTES OF MEETING
BOARD OF TRUSTEES COUNTY EMPLOYEES RETIREMENT SYSTEM
SPECIAL CALLED MEETING MAY 10, 2021 AT 2:00 P.M.
VIA LIVE VIDEO TELECONFERENCE DUE TO SB 150,
SIGNED INTO LAW BY THE GOVERNOR ON MARCH 30, 2020,
AND EXECUTIVE ORDER 2020-215 DECLARING A STATE OF EMERGENCY
EFFECTIVE MARCH 6, 2020 DUE TO COVID-19**

At the meeting of the County Employees Retirement System Board of Trustees held on May 10, 2021 the following members were present: Betty Pendergrass (Chair), Joe Brothers, George Cheatham, Michael Foster, JT Fulkerson, Merl Hackbart, William O'Mara, Jerry Powell and Patricia. Staff members present were David Eager, Rebecca Adkins, Erin Surratt, Kathy Rupinen, Kristen Coffey, Shaun Case, Phillip Cook, and Alane Foley.

Ms. Pendergrass called the meeting to order and read the Special Called Meeting COVID-19 statement due to SB 150.

Ms. Alane Foley took Roll Call. No public comment was submitted.

Ms. Pendergrass introduced agenda item *CERS Trustee Vacancy* and asked Ms. Kristen Coffey to provide details of the notice. Notice of the vacancy was emailed to the members, posted on the KPPA website and KPPA Facebook page. From April 5, 2021 to April 29, 2021, the CERS Board of Trustees sought comments from CERS members about the proposal to use the 2021 CERS Election results to fill this vacancy. CERS members also had until April 29, 2021 to submit an application to be considered for the vacancy.

- 1) Forty-four (44) comments were received from the CERS membership.
 - a. Forty-three (43) members supported using the election results to fill the vacancy.
Two of these supporting comments were received from individuals who were on the ballot during the 2021 CERS Election.
- 2) One (1) member expressed concern over the appointment of an individual. This person did not specifically state that he opposed the method the CERS Board of Trustees was suggesting to use when making the appointment.

Mr. Powell moved to appoint Ms. Patricia Carver to replace Mr. Rich who resigned; Mr. Fulkerson seconded. Ms. Pendergrass stated that Ms. Carver was third in the election and would have taken office in November. Ms. Pendergrass and Mr. Powell, as the two elected Trustees, voted to appoint Ms. Carver to the vacancy. Ms. Alane Foley, as Notary, swore in Ms. Carver.

Ms. Pendergrass introduced agenda item *Committee Appointments* and made the following appointments:

- 1) Joint Health Care Committee: Mr. Powell and Ms. Carver
- 2) Joint Audit Committee: Mr. O'Mara and Ms. Pendergrass
- 3) DAC/AAC #1: Mr. Powell (Chair) and Ms. Carver
- 4) DAC/AAC #2: Ms. Pendergrass
- 5) Actuarial: Mr. Foster (Chair), Dr. Hackbart and Ms. Carver
- 6) Finance: Mr. O'Mara (Chair), Mr. Cheatham, Mr. Fulkerson and Mr. Brothers
- 7) Investment: Dr. Hackbart (Chair), Mr. O'Mara, Mr. Cheatham, Mr. Powell and Mr. Fulkerson

Ms. Pendergrass introduced agenda item *Job Descriptions and Recruitment*. The CEO position is ready to advertise. The notice will be posted on the KPPA website and KPPA Facebook page as well as the Indeed website. Trustees suggested a few edits to the Notice. Mr. Powell and Mr. Brothers will field applicants and bring those back to the Board for review. Mr. Powell made a motion and Mr. O'Mara seconded to approve the CEO vacancy notice with the June 4, 2021 application deadline. The motion passed unanimously.

Mr. Powell made a motion and Mr. Cheatham seconded to approve the General Counsel vacancy notice and agree to pay any fees associated with posting the vacancy with the Bar Association. The motion passed unanimously.

The CERS Board will meet again on May 19, 2021, for the quarterly meeting.

Mr. Brothers made a motion and Mr. Powell seconded to adjourn the meeting. The motion passed unanimously.

Copies of all documents presented are incorporated as part of the Minutes of the Board of Trustees held May 10, 2021 except documents provided during a closed session conducted pursuant to the open meetings act and exempt under the open records act.

CERTIFICATION

I do certify that I was present at this meeting, and I have recorded the above actions of the Trustees on the various items considered by it at this meeting. Further, I certify that all requirements of KRS 61.805-61.850 were met in conjunction with this meeting.

Recording Secretary

I, the Chair of the Board of Trustees of the County Employees Retirement System, do certify that the Minutes of Meeting held on May 10, 2021 were approved on May 19, 2021.

Chair of the Board of Trustees

I have reviewed the Minutes of the May 10, 2021 Board of Trustees Meeting for content, form, and legality.

Executive Director
Office of Legal Services



KENTUCKY PUBLIC PENSIONS AUTHORITY

David L. Eager, Executive Director

1260 Louisville Road • Frankfort, Kentucky 40601
 kyret.ky.gov • Phone: 502-696-8800 • Fax: 502-696-8822



Kentucky Public Pensions Authority

To: CERS Finance Committee

From: D’Juan Surratt
 Director of Employer Reporting, Compliance and Education

Date: 04/27/2021

Subject: Hazardous Position Classification

AGENCIES ARE REQUESTING HAZARDOUS DUTY COVERAGE FOR THE FOLLOWING POSITIONS:

<u>Agency</u>	<u>Position</u>	<u>Effective Date</u>
City of Russell	Detective	May 1, 2021
Franklin County Fiscal Court	Sheriff Captain	January 1, 2019
Franklin County Fiscal Court	Sheriff Detective	January 1, 2017
Franklin County Fiscal Court	Sheriff Lieutenant	June 1, 2018
Okolona Fire District	Emergency Medical Services Field Supervisor, Paramedic	June 1, 2020
Hebron Fire Protection District	Firefighter/EMS Coordinator	November 1, 2020
Hebron Fire Protection District	Battalion Chief – EMT	February 04, 2020
Hebron Fire Protection District	Battalion Chief – Paramedic	May 1, 2021
Walton Fire District/EMS	Battalion Chief	May 1, 2021
City of Georgetown	Assistant Fire Chief of Operations	September 1, 2020
City of Georgetown	Assistant Fire Chief of Prevention	September 1, 2020
Clark County Fiscal Court	Fire Lieutenant	January 4, 2003
Clark County Fiscal Court	Firefighter III	February 27, 2002
City of Olive Hill	Chief of Police	January 1, 2021
City of Olive Hill	Police Officer	January 1, 2021
City of Olive Hill	Police Sergeant/Detective	January 1, 2021
City of Olive Hill	Assistant Chief of Police	January 1, 2021
Pulaski County Fiscal Court	Sheriff	April 1, 2021

Kentucky Public Pensions Authority has reviewed the above requests and determined that they meet the statutory guidelines for Hazardous coverage. Position Questionnaires and Job Descriptions are attached. Franklin County Fiscal Court, Hebron Fire Protection District and Clark Count Fiscal Court are requesting older retro dates due to the Employer Reporting division auditing their accounts due to member pension spiking cases received. In these specific cases it was found these positions did not go through the formal process in getting approved for hazardous duty coverage by the Board of Trustees.

CERS Finance Committee - May 5, 2021 - Quarterly Financial Report

Combining Statement of Fiduciary Net Position - Pension Funds						
As of March 31, 2021 with Comparative Totals as of March 31, 2020 (\$ in Thousands)						
ASSETS	CERS		TOTAL		Percentage of Change	Notes
	Non-Hazardous	Hazardous	2021	2020		
CASH AND SHORT-TERM INVESTMENTS						
Cash Deposits	\$723	\$249	\$972	\$1,693	-74.18%	1
Short-term Investments	248,542	92,661	341,203	608,757	-78.41%	2
Total Cash and Short-term Investments	249,265	92,910	342,175	610,450		
RECEIVABLES						
Accounts Receivable	47,384	17,240	64,625	68,812	-6.48%	
Accounts Receivable - Investments	172,694	59,395	232,090	184,668	20.43%	3
Total Receivables	220,079	76,636	296,714	253,480		
INVESTMENTS, AT FAIR VALUE						
Core Fixed Income	1,074,796	370,005	1,444,801	1,086,918	24.77%	4
Public Equities	3,824,684	1,289,292	5,113,976	3,525,335	31.06%	5
Private Equities	671,205	226,581	897,786	854,647	4.81%	
Specialty Credit	1,355,851	463,529	1,819,380	1,417,706	22.08%	6
Derivatives	3,757	1,289	5,046	2,145	57.49%	7
Absolute Return	0	0	0	138,486		8
Real Return	555,687	186,883	742,570	591,625	20.33%	9
Opportunistic	214,570	70,934	285,504	132,046	53.75%	10
Real Estate	333,474	106,706	440,181	431,290	2.02%	
Total Investments, at Fair Value	8,034,024	2,715,219	10,749,243	8,180,198		
Securities Lending Collateral Invested	225,107	76,321	301,428	354,384	-17.57%	11
CAPITAL/INTANGIBLE ASSETS						
Capital Assets	1,701	153	1,854	1,854	0.00%	
Intangible Assets	9,961	827	10,788	10,788	0.00%	
Accumulated Depreciation	(1,701)	(153)	(1,854)	(1,803)	2.77%	
Accumulated Amortization	(9,476)	(807)	(10,283)	(9,697)	5.70%	
Total Capital Assets	485	20	504	1,142		
Total Assets	8,728,959	2,961,106	11,690,065	9,399,654		
LIABILITIES						
Accounts Payable	3,231	645	3,876	4,080	-5.25%	
Investment Accounts Payable	253,377	87,141	340,518	261,718	23.14%	12
Securities Lending Collateral	225,107	76,321	301,428	354,384	-17.57%	13
Total Liabilities	481,716	164,107	645,823	620,182		
Total Fiduciary Net Position Restricted for Pension Benefits	\$8,247,243	\$2,796,999	\$11,044,242	\$8,779,472		

NOTE - Variance Explanation

- 1) Variance is a result of continuous fluctuation of deposits and transactions that flow through the cash account.
 - 2) Short Term Investments is primarily comprised of the cash on hand with the custodial bank along with any small amounts of cash managers and brokers may have; therefore, the variance is driven by cash flow.
 - 3) The increase in Accounts Receivables is due to pending trades.
 - 4) The increase in Core Fixed Income is a result of additional funding and positive market conditions resulting in increased market values.
 - 5) The increase in Public Equities is due to additional funding and positive market conditions resulting in increased market values.
 - 6) The increase in Specialty Credit is due to additional funding and positive market conditions increasing market values.
 - 7) Variance is a result of hedging and arbitration of risk within the portfolios.
 - 8) The decline in Absolute Return is result of the merging of the Absolute Return asset class with the Real Return asset class.
 - 9) The increase in Real Return is a result of the merging of the Absolute Return asset class with the Real Return asset class.
 - 10) The increase in Opportunistic is due to additional funding and positive market conditions increasing market values.
 - 11) Variance is a result of the demands of the Securities Lending Program.
 - 12) The increase in Accounts Payable is due to pending trades.
 - 13) Variance is a result of the demands of the Securities Lending Program.
- Differences due to rounding.

CERS Finance Committee - May 5, 2021 - Quarterly Financial Report

Combining Statement of Changes In Fiduciary Net Position - Pension Funds						
For the fiscal year ending March 31, 2021, with Comparative Totals as of March 31, 2020 (\$ in Thousands)						
	CERS		Total		Percentage of Change	Notes
	Non-Hazardous	Hazardous	2021	2020		
ADDITIONS						
Member Contributions	\$119,386	\$46,908	\$166,294	\$174,486	-4.69%	
Employer Contributions	338,586	129,460	468,046	472,575	-0.96%	
General Fund Appropriations	-	-	-	-		
Pension Spiking Contributions	19	107	126	243	-48.04%	1
Northern Trust Settlement	-	-	-	-		
Health Insurance Contributions (HB1)	(0)	1	1	7	-87.64%	2
Employer Cessation Contributions	-	-	-	-		
Total Contributions	457,990	176,476	634,466	647,310		
INVESTMENT INCOME						
From Investing Activities						
Net Appreciation (Depreciation) in FV of Investments	1,224,350	413,250	1,637,600	(837,088)	-295.63%	3
Interest/Dividends	151,170	51,096	202,265	180,529	12.04%	4
Total Investing Activities Income	1,375,520	464,346	1,839,865	(656,560)		
Less: Investment Expense	26,174	8,705	34,880	28,396	22.83%	5
Less: Performance Fees	26,706	9,176	35,882	22,045	62.77%	6
Net Income from Investing Activities	1,322,640	446,464	1,769,104	(707,000)		
From Securities Lending Activities						
Securities Lending Income	391	134	525	4,084		
Less: Securities Lending Borrower Rebates	(241)	(82)	(324)	2,463		
Less: Securities Lending Agent Fees	95	32	127	203		
Net Income from Securities Lending	537	184	721	1,418	-49.15%	7
Net Investment Income	1,323,177	446,648	1,769,825	(705,582)		
Total Additions	1,781,167	623,124	2,404,291	(58,271)		
DEDUCTIONS						
Benefit Payments	623,147	216,515	839,662	801,421	4.77%	
Refunds	10,876	3,839	14,715	15,793	-6.82%	
Administrative Expenses	15,441	1,460	16,901	17,631	-4.14%	
Total Deductions	649,465	221,814	871,279	834,844		
Net Increase (Decrease) in Fiduciary Net Position Restricted for Pension Benefits	1,131,702	401,310	1,533,013	(893,116)		
Total Fiduciary Net Position Restricted for Pension Benefits						
Beginning of Period	7,110,889	2,395,688	9,506,578	9,672,588		
End of Period	\$8,242,591	\$2,796,999	\$11,039,590	\$8,779,472		

NOTE - Variance Explanation

- 1) Pension Spiking contributions decreased due to a change in statute. Pension spiking is now the member's responsibility.
 - 2) Health Insurance Contributions will continue to decrease in the Pension Funds, as they are now qualified in the Insurance Fund.
 - 3) The increase in Net Appreciation in Fair Value of Investments is a result of favorable market conditions, particularly in the public equity portfolio.
 - 4) The increase in Interest/Dividends is due to increased income from Real Return, Private Equity and Specialty Credit asset classes for FY21
 - 5) The increase in Investment Expense is due to higher market values.
 - 6) The increase in Performance fees is due to favorable market conditions resulting in higher performance fees.
 - 7) Variance is a result of the demand of the Securities Lending Program.
- Differences due to rounding.

CERS Finance Committee - May 5, 2021 - Quarterly Financial Report

Combining Statement of Fiduciary Net Position - Insurance Fund						
As of March 31, 2021, with Comparative Totals as of March 31, 2020 (\$ In Thousands)						
ASSETS	CERS		TOTAL		Percentage of Change	Notes
	Non-Hazardous	Hazardous	2021	2020		
CASH AND SHORT-TERM INVESTMENTS						
Cash Deposits	\$741	\$30	\$771	\$648	18.92%	1
Short-term Investments	131,651	55,935	187,586	216,834	-13.49%	2
Total Cash and Short-term Investments	132,392	55,964	188,356	217,482		
RECEIVABLES						
Accounts Receivable	11,550	4,482	16,031	16,553	-3.15%	
Investment Accounts Receivable	63,722	32,729	96,451	71,680	34.56%	3
Total Receivables	75,272	37,211	112,483	88,233		
INVESTMENTS, AT FAIR VALUE						
Core Fixed Income	374,776	197,310	572,087	461,507	23.96%	4
Public Equities	1,319,451	676,860	1,996,311	1,388,002	43.83%	5
Specialty Credit	505,151	249,892	755,043	528,847	42.77%	6
Private Equities	270,723	152,311	423,034	417,115	1.42%	
Derivatives	491	264	755	748	0.99%	
Absolute Return	0	0	0	52,846	-100.00%	7
Real Return	191,858	100,998	292,856	232,692	25.86%	8
Opportunistic	86,639	47,200	133,839	61,901	116.22%	9
Real Estate	114,380	62,699	177,079	170,234	4.02%	
Total Investments, at Fair Value	2,863,469	1,487,535	4,351,004	3,313,892		
Securities Lending Collateral Invested	71,051	36,662	107,712	331,926	-67.55%	10
Total Assets	3,142,184	1,617,372	4,759,555	3,951,534		
LIABILITIES						
Accounts Payable	259	71	330	176	87.07%	11
Investment Accounts Payable	92,003	47,169	139,171	100,926	37.89%	12
Securities Lending Collateral	71,051	36,662	107,712	223,727	-51.86%	13
Total Liabilities	163,312	83,902	247,214	324,830		
Total Fiduciary Net Position Restricted for OPEB	\$2,978,872	\$1,533,470	\$4,512,341	\$3,626,704		

NOTE - Variance Explanation

- 1) Variance is a result of continuous fluctuation of deposits and transactions that flow through the cash account.
 - 2) Short Term Investments is primarily comprised of the cash on hand with the custodial bank along with any small amounts of cash managers and brokers may have; therefore, the variance is driven by cash flow.
 - 3) The increase in Accounts Receivables is due to pending trades.
 - 5) The increase in Core Fixed Income is a result of additional funding and positive market conditions resulting in increased market values.
 - 5) The increase in Public Equities is due to additional funding and positive market conditions resulting in increased market values.
 - 6) The increase in Specialty Credit is due to additional funding and positive market conditions increasing market values.
 - 7) The decline in Absolute Return is result of the merging of the Absolute Return asset class with the Real Return asset class.
 - 8) The increase in Real Return is a result of the merging of the Absolute Return asset class with the Real Return asset class.
 - 9) The increase in Opportunistic is due to additional funding and positive market conditions increasing market values.
 - 10) Variance is a result of the demands of the Securities Lending Program.
 - 11) The increase in Accounts Payable is due to an increase in outstanding Employer Reporting credit invoices.
 - 12) The decrease in Accounts Payable is due to pending trades.
 - 13) Variance is a result of the demands of the Securities Lending Program.
- Difference due to rounding.

CERS Finance Committee - May 5, 2021 - Quarterly Financial Report

Combining Statement of Changes In Fiduciary Net Position - Insurance Fund						
For the fiscal year ending March 31, 2021, with Comparative Totals as of March 31, 2020 (\$ In Thousands)						
	CERS		TOTAL		Percentage of Change	Notes
	Non-Hazardous	Hazardous	2021	2020		
ADDITIONS						
Employer Contributions	\$89,258	\$43,930	\$133,188	\$133,562	-0.28%	
Medicare Drug Reimbursement	1	-	1	3	-62.25%	1
Insurance Premiums	424	(158)	267	420	-36.52%	2
Humana Gain Share Payment	20,676	2,990	23,666	-		
Retired Re-employed Healthcare	3,629	949	4,578	4,439	3.13%	
Health Insurance Contributions (HB1)	9,657	2,306	11,962	11,444	4.53%	
Northern Trust Settlement	-	-	-	-		
Employer Cessation Contributions	-	-	-	-		
Total Contributions	123,645	50,017	173,662	149,869		
INVESTMENT INCOME						
From Investing Activities						
Net Appreciation (Depreciation) in FV of Investments	434,267	226,738	661,005	(327,784)	301.66%	3
Interest/Dividends	52,473	27,336	79,810	70,596	13.05%	
Total Investing Activities Income	486,740	254,075	740,815	(257,188)		
Less: Investment Expense	10,191	5,444	15,635	9,363	66.99%	4
Less: Performance Fees	11,185	6,401	17,585	10,992	59.99%	5
Net Income from Investing Activities	465,364	242,230	707,594	(277,542)		
From Securities Lending Activities						
Securities Lending Income	139	70	209	1,542		
Less: Securities Lending Borrower Rebates	(89)	(46)	(134)	963		
Less: Securities Lending Agent Fees	34	17	51	78	-34.17%	6
Net Income from Securities Lending	193	98	292	501		
Net Investment Income	465,558	242,328	707,886	(277,041)		
Total Additions	589,203	292,346	881,548	(127,172)		
DEDUCTIONS						
Healthcare Premiums Subsidies	105,028	63,473	168,501	161,274	4.48%	
Administrative Expenses	658	342	999	1,039	-3.77%	
Self-Funded Healthcare Costs	2,697	193	2,890	3,277	-11.82%	7
Excise Tax Insurance	-	-	-	-		
Total Deductions	108,382	64,008	172,390	165,590		
Net Increase (Decrease) in Fiduciary Net Position Restricted for OPEB	480,821	228,338	709,158	(292,762)		
Total Fiduciary Net Position Restricted for OPEB						
Beginning of Period	2,498,051	1,305,132	3,803,183	5,480,639		
End of Period	\$2,978,872	\$1,533,470	\$4,512,341	\$5,187,877		

NOTE - Variance Explanation

- 1) Medicare drug reimbursement payments fluctuate year to year based on claims reviewed.
 - 2) The decrease in Insurance Premiums received is due to refunds processed to hazardous retirees for premiums paid for dependents that should have been covered by KRS.
 - 3) The increase in Net Appreciation in Fair Value of Investments is a result of favorable market conditions, particularly in the public equity portfolio.
 - 4) The management fees are up due to the increase in market values; however, in 2019 in one of the private equity accounts there was a coding error. A negative performance fee was coded as a partnership expense. All partnership expenses roll up into the Investment Advisory Fee. Due to this coding error, the Investment Advisory Fees are understated and the Performance Fees are overstated for the period.
 - 5) The increase in Performance fees is due to favorable market conditions resulting in higher performance fees.
 - 6) Variance is a result of the demand of the Securities Lending Program.
 - 7) The decrease in Self Funded Healthcare Claims is due to a decrease in claims billed from the self funded insurance plan.
- Difference due to rounding.

KPPA ADMINISTRATIVE BUDGET 2020-2021 THIRD QUARTER BUDGET-TO-ACTUAL ANALYSIS Fiscal 21					CERS Portion of Administrative Budget 3rd QTR Budget-to-Actual FY 2021			
Acc't #	Account Name	Actual	%		CERS NHz Actual	CHAZ Actual	Total CERS Actual Expenditures	
PERSONNEL					59.90%	5.24%		
111	Salaries	\$11,341,507	26.83%		\$6,793,563	\$594,295	\$7,387,858	
115	Wages (Overtime)	265,000	51,592	213,408	80.53%	30,903	2,703	\$33,607
119	Wages (Block 50)	28,500	8,781	19,719	69.19%	5,260	460	\$5,720
121	Emp Paid FICA	1,135,000	809,087	325,913	28.71%	484,643	42,396	\$527,039
122	Emp Paid Retirement	9,110,721	3,975,924	30.38%	5,457,322	477,402	\$5,934,724	
123	Emp Paid Health Ins	2,550,000	1,814,890	735,110	28.83%	1,087,119	95,100	\$1,182,220
124	Emp Paid Life Ins	3,500	2,459	1,041	29.74%	1,473	129	\$1,602
128	Emp Paid Sick Leave	75,000	13,786	61,214	81.62%	8,258	722	\$8,980
131	Workers Compensation	13,200	75,163	(61,963)	-469.42%	45,023	3,939	\$48,961
132	Unemployment	10,000	(0)	10,000	100.00%	(0)	(0)	\$(0)
133	Tuition Assistance	13,100	7,264	5,836	44.55%	4,351	381	\$4,732
	Investment Tuition							
133I	Assistance	5,000	-	5,000	100.00%	-	-	\$-
133T	Audit Tuition Assistance	2,500	-	2,500	100.00%	-	-	\$-
LEGAL & AUDITING								
141 SERVICES								
141A	Legal Hearing Officers	91,200	32,018	59,183	64.89%	19,178	1,678	\$20,856
141B	Legal (Stoll, Keenon)	340,500	102,093	238,407	70.02%	61,154	5,350	\$66,503
141D	Frost Brown (Tax Advisor)	114,300	139,315	(25,015)	-21.89%	83,450	7,300	\$90,750
141E	Reinhart	444,000	143	443,858	99.97%	85	7	\$93
141F	Ice Miller	187,200	186,267	933	0.50%	111,574	9,760	\$121,335
141L	Legal Expense	125,500	202	125,298	99.84%	121	11	\$132
142	Auditing	176,500	71,582	104,918	59.44%	42,878	3,751	\$46,629
146 CONSULTING SERVICES								
146A	Medical Reviewers	273,865	163,241	110,624	40.39%	97,782	8,554	\$106,335
146E	Escrow for Actuary Fees	12,000	(10,000)	22,000	183.33%	(5,990)	(524)	\$(6,514)
CONTRACTUAL								
150 SERVICES								
150C	Miscellaneous Contracts	22,750	9,864	12,886	56.64%	5,908	517	\$6,425
	Human Resources							
150G	Consulting	7,500	5,794	1,706	22.75%	3,470	304	\$3,774
159	Actuarial Services	612,000	366,919	245,081	40.05%	219,784	19,227	\$239,011
162	Facility Security Charges	80,500	52,543	27,957	34.73%	31,473	2,753	\$34,227
PERSONNEL SUBTOTAL					30.70%	\$14,594,773	\$1,276,738	\$15,871,511
OPERATIONAL								
211	Natural Gas	\$22,500	\$18,336	\$4,164	18.51%	\$10,983	\$961	\$11,944
212	Electric	176,500	109,091	67,409	38.19%	65,345	5,716	71,062
221	Rent-NonState Building	71,600	42,782	28,818	40.25%	25,626	2,242	27,868
222	Building Rental - PPW	1,100,000	765,291	334,710	30.43%	458,409	40,101	498,510
223	Equipment Rental	-	7,163	(7,163)	0.00%	4,291	375	4,666
224	Copier Rental	73,000	41,489	31,511	43.17%	24,852	2,174	27,026
226	Rental Carpool	9,100	2,911	6,189	68.02%	1,743	153	1,896
232	Vehicle/Equip. Mainten.	1,350	-	1,350	100.00%	-	-	-
241	Postage	455,000	463,207	(8,207)	-1.80%	277,461	24,272	301,733
242	Freight	46	-	46	100.00%	-	-	-
251	Printing (State)	11,700	3,042	8,658	74.00%	1,822	159	1,981
252	Printing (non-state)	102,700	77,185	25,515	24.84%	46,234	4,044	50,278
254	Insurance	11,650	3,591	8,059	69.18%	2,151	188	2,339
256	Garbage Collection	5,500	4,412	1,088	19.79%	2,643	231	2,874

CERS Quarterly Board Meeting - May 19, 2021 - Finance Committee Report

CERS Finance Committee - May 5, 2021 - Quarterly Financial Report

Acc't #	Account Name	Actual	%	CERS NHz Actual	CHAZ Actual	Total CERS Actual Expenditures		
259	Conference Expense	18,250	8,251	10,000	54.79%	4,942	432	5,374
	Conference Exp.							
259I	Investment	6,000	-	6,000	100.00%	-	-	-
259T	Conference Exp. Audit	1,500	-	1,500	100.00%	-	-	-
300	MARS Usage	51,300	35,735	15,565	30.34%	21,405	1,872	23,277
302	COVID-19 Expenses	146,800	142,619	4,181	2.85%	85,429	7,473	92,902
321	Office Supplies	89,125	24,414	64,711	72.61%	14,624	1,279	15,904
	Furniture & Office							
346	Equipment	25,075	-	25,075	100.00%	-	-	-
361	Travel (In-State)	30,000	1,079	28,922	96.41%	646	57	703
361I	Travel (In-State) Investment	300	-	300	100.00%	-	-	-
361T	Travel (In-State) Audit	500	-	500	100.00%	-	-	-
362	Travel (Out of State)	20,150	-	20,150	100.00%	-	-	-
362I	Travel (Out of State) Invest	38,700	397	38,303	98.97%	238	21	258
362T	Travel (Out of State) Audit	450	-	450	100.00%	-	-	-
381	Dues & Subscriptions	60,250	34,731	25,519	42.36%	20,804	1,820	22,624
	Dues & Subscriptions							
381I	Invest	1,375	4,300	(2,925)	-212.73%	2,576	225	2,801
381T	Dues & Subscriptions Audit	5,000	615	4,385	87.70%	368	32	401
399	Miscellaneous	2,700	618	2,082	77.11%	370	32	403
399I	Miscellaneous Investment	200	-	200	100.00%	-	-	-
399T	Miscellaneous Audit	200	-	200	100.00%	-	-	-
802	COT Charges	22,225	10,160	12,065	54.29%	6,086	532	6,618
814	Telephone - Wireless	5,100	3,171	1,929	37.83%	1,899	166	2,065
815	Telephone - Other	119,000	77,703	41,297	34.70%	46,544	4,072	50,616
847	Computer Equip./Software	3,325,500	1,496,434	1,829,066	55.00%	896,364	78,413	974,777
	Major Legislative Implementation	7,702,594	-	7,702,594	100.00%	-	-	-
	OPERATIONAL SUBTOTAL		\$3,378,722		75.36%	\$2,023,854	\$177,045	\$2,200,899
	TOTALS		\$27,733,952		43.23%	\$16,612,638	\$1,453,259	\$18,065,897
	CERS Totals		\$18,065,897		43.27%			

Pension Fund Contribution Report

For the period ending March 31, 2021, with Comparative Totals as of March 31, 2020 (\$ in Millions)

**County Employees Retirement System**

	Non-Hazardous		Hazardous	
	FY21	FY20	FY21	FY20
Member Contributions	\$119.4	\$125.8	\$46.9	\$48.7
Employer Contributions	338.6	345.7	129.6	127.1
Net Investment Income	98.8	97.7	33.4	33.8
Total Inflows	556.8	569.2	209.9	209.6
Benefit Payments/Refunds	634.0	608.6	220.4	208.6
Administrative Expenses	15.4	16.2	1.5	1.4
Total Outflows	649.5	624.8	221.8	210.1
NET Contributions	(92.6)	(55.6)	(11.9)	(0.4)
Realized Gain/(Loss)	192.2	240.0	65.3	79.7
Unrealized Gain/(Loss)	1,032.2	(863.6)	348.0	(293.2)
Change in Net Position	1,131.7	(679.2)	401.3	(213.9)
Beginning of Period	7,110.9	7,243.0	2,395.7	2,429.6
End of Period	\$8,242.6	\$6,563.8	\$2,797.0	\$2,215.7

*Differences due to rounding.***Insurance Fund Contribution Report**

For the period ending March 31, 2021, with Comparative Totals as of March 31, 2020 (\$ in Millions)

**County Employees Retirement System**

	Non-Hazardous		Hazardous	
	FY21	FY20	FY21	FY20
Employer Contributions	\$89.3	\$90.7	\$43.9	\$42.9
Insurance Premiums	21.1	0.5	2.8	-
Retired Reemployed Healthcare	3.6	3.6	0.9	0.8
Health Insurance Contributions	9.7	9.4	2.3	2.1
Net Investment Income	31.3	33.4	15.6	17.4
Total Inflows	154.9	137.5	65.6	63.2
Healthcare Premiums	107.7	103.5	63.7	61.1
Administrative Expenses	0.7	0.7	0.3	0.3
Total Outflows	108.4	104.1	64.0	61.4
NET Contributions	46.6	33.3	1.6	1.7
Realized Gain/(Loss)	66.9	73.4	35.1	40.0
Unrealized Gain/(Loss)	367.4	(289.7)	191.7	(151.5)
Change in Net Position	480.8	(183.0)	228.3	(109.8)
Beginning of Period	2,498.1	2,486.5	1,305.1	1,324.8
End of Period	\$2,978.9	\$2,303.5	\$1,533.5	\$1,215.0

Differences due to rounding.

CERS

KRS Pension Fund Asset Allocation for CERS						
For the Quarter Ended March 31, 2021						
Asset Class	Target Allocation	FY2021 Q3	FY2021 Q2	FY2021 Q1	FY2020 Q4	FY2020 Q3
Growth	62.50%	70.67%	66.29%	64.25%	65.27%	66.53%
US Equity	18.75%	23.24%	20.57%	19.98%	20.48%	20.31%
Non US Equity	18.75%	23.16%	20.68%	20.11%	20.72%	21.39%
Private Equity	10.00%	8.47%	8.98%	8.62%	8.88%	8.50%
High Yield/Specialty Credit	15.00%	15.80%	16.06%	15.54%	15.19%	16.33%
Fixed Income / Liquidity	14.50%	14.96%	18.93%	20.56%	18.11%	17.33%
Core Fixed Income	13.50%	13.93%	17.40%	18.16%	16.66%	16.32%
Cash	1.00%	1.03%	1.53%	2.40%	1.45%	1.01%
Diversifying Strategies	23.00%	14.34%	14.71%	15.13%	16.54%	16.15%
Real Estate	5.00%	5.12%	5.36%	5.52%	5.38%	4.33%
Opportunistic	3.00%	2.65%	3.70%	3.85%	3.03%	2.93%
Real Return ²	15.00%	6.57%	5.65%	5.76%	8.13%	8.89%

² Absolute Return funds that were being liquidated were rolled into the Real Return portfolio. For the quarter ended March 31, 2021, there were no allocations to Absolute Return.

CERS-H

KRS Pension Fund Asset Allocation for CERS-H						
For the Quarter Ended March 31, 2021						
Asset Class	Target Allocation	FY2021 Q3	FY2021 Q2	FY2021 Q1	FY2020 Q4	FY2020 Q3
Growth	62.50%	70.64%	66.42%	64.04%	65.18%	64.84%
US Equity	18.75%	23.11%	20.86%	20.35%	19.95%	20.30%
Non US Equity	18.75%	23.05%	20.27%	19.72%	19.84%	20.63%
Private Equity	10.00%	8.43%	8.93%	8.61%	9.96%	8.95%
High Yield/Specialty Credit	15.00%	16.05%	16.36%	15.36%	15.43%	14.96%
Fixed Income / Liquidity	14.50%	15.40%	19.25%	21.18%	19.67%	19.00%
Core Fixed Income	13.50%	14.15%	17.68%	18.49%	14.18%	16.89%
Cash	1.00%	1.25%	1.57%	2.69%	5.49%	2.11%
Diversifying Strategies	23.00%	13.86%	14.23%	14.66%	15.03%	16.15%
Real Estate	5.00%	4.77%	5.01%	5.17%	5.55%	5.03%
Opportunistic	3.00%	2.58%	3.56%	3.71%	3.68%	2.91%
Real Return ³	15.00%	6.51%	5.66%	5.78%	5.80%	8.21%

³ Absolute Return funds that were being liquidated were rolled into the Real Return portfolio. For the quarter ended March 31, 2021, , there were no allocations to Absolute Return.

Investment Objectives and Rates of Return

Returns are measured on a rolling basis and should exceed the return rates of comparable passive market indices. All allocations, ranges, and assumed rates of return are based on actuarial assumptions that went into effect July 12, 2017. The following definitions of short-term and long-term rates of return can be found in KRS' Investment Policy Statement.⁴

Short-Term Rate of Return: defined as a period shorter than the defined long-term period, typically considered as a full market cycle lasting three years. For more information, see the individual portfolio information included in the monthly update.⁵

Long-Term Rate of Return: defined as a period exceeding twenty years. In the long-term, total assets should achieve a return which exceeds the actuarially required rate of return of each plan. In addition to exceeding the actuarially required rate of return, the total fund return should exceed the return achieved by its blended performance benchmark.

The table below displays the market value, percent ownership of the total market value, rate of return, and index for each plan for the third quarter of fiscal year 2021. Note that the Total is the total market value for all funds, so the total will not foot to the market values for CERS and CERS-H.

KRS Pension Fund Market Values and Returns					
For the Quarter Ended March 31, 2021					
	Market Value	% of Total	Index	Return	Performance
CERS	\$8,201,883,088	55.25%	2.99	3.96	Above Target
CERS-H	\$2,780,134,312	18.73%	2.99	3.93	Above Target
TOTAL KRS	\$14,845,454,691				

⁴Kentucky Retirement Systems, "Statement of Investment Policy." Adopted on July 12, 2017 Available at: <https://kvret.kv.gov/Investments/Investment%20Policies/2020%20Statement%20of%20Investment%20Policy.pdf>

⁵ KRS Monthly Staff Performance Reports available at: <https://kvret.kv.gov/Investments/Investments-Library/Pages/Monthly%20Performance%20Updates.aspx>.

The table below shows 1-Year returns for each of CERS' plans and KRS in total.

KRS Pension Fund FY2020 Returns by Plan For the Quarter Ended March 31, 2021				
Fund	Benchmark	Index	Return	Performance
KRS 1-Year Return	KRS Pension Blended Index	28.57	29.02	Above Target
CERS 1-Year Return	CERS Pension Plan Tactical Index	29.39	29.68	Above Target
CERS-H 1-Year Return	CERS-H Pension Plan Tactical Index	29.59	29.39	Above Target

The table below displays 10-Year and 30-Year returns for both CERS plans.

KRS Pension Fund Long-Term Returns For the Quarter Ended March 31, 2021				
Fund	Benchmark	Index	Return	Performance
CERS 30-Year Return	KY Ret. CERS Plan Tactical	8.12	8.22	Above Target
CERS 10-Year Return	KY Ret. CERS Plan Tactical	7.43	7.53	Above Target
CERS-H 30-Year Return	KY Ret. CERS Haz Plan Tactical	8.12	8.22	Above Target
CERS-H 10-Year Return	KY Ret. CERS Haz Plan Tactical	7.43	7.52	Above Target

CERS Special Called Investment Committee Meeting - Wilshire Investment Performance Review

Wilshire Consulting

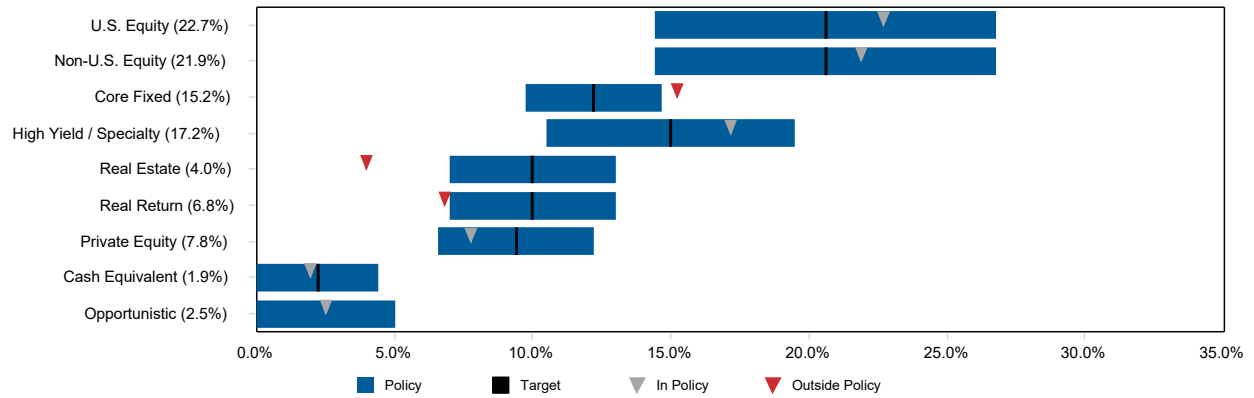


Asset Allocation Compliance

KRS Pension Plan

Periods Ended As of March 31, 2021

Executive Summary



	Asset Allocation \$	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance \$
U.S. Equity	3,368,632,303	22.7	14.4	26.8	20.6	-310,468,637
Non-U.S. Equity	3,250,518,383	21.9	14.4	26.8	20.6	-192,354,717
Core Fixed	2,263,311,445	15.2	9.8	14.6	12.2	-452,165,973
High Yield / Specialty	2,546,489,496	17.2	10.5	19.5	15.0	-319,671,293
Real Estate	589,400,002	4.0	7.0	13.0	10.0	895,145,467
Real Return	1,011,388,853	6.8	7.0	13.0	10.0	473,156,616
Private Equity	1,155,001,941	7.8	6.6	12.2	9.4	240,470,800
Cash Equivalent	285,262,649	1.9	0.0	4.4	2.2	41,337,354
Opportunistic	375,449,617	2.5	0.0	5.0	0.0	-375,449,617
Total Fund	14,845,454,688	100.0			100.0	

CERS Special Called Investment Committee Meeting - Wilshire Investment Performance Review

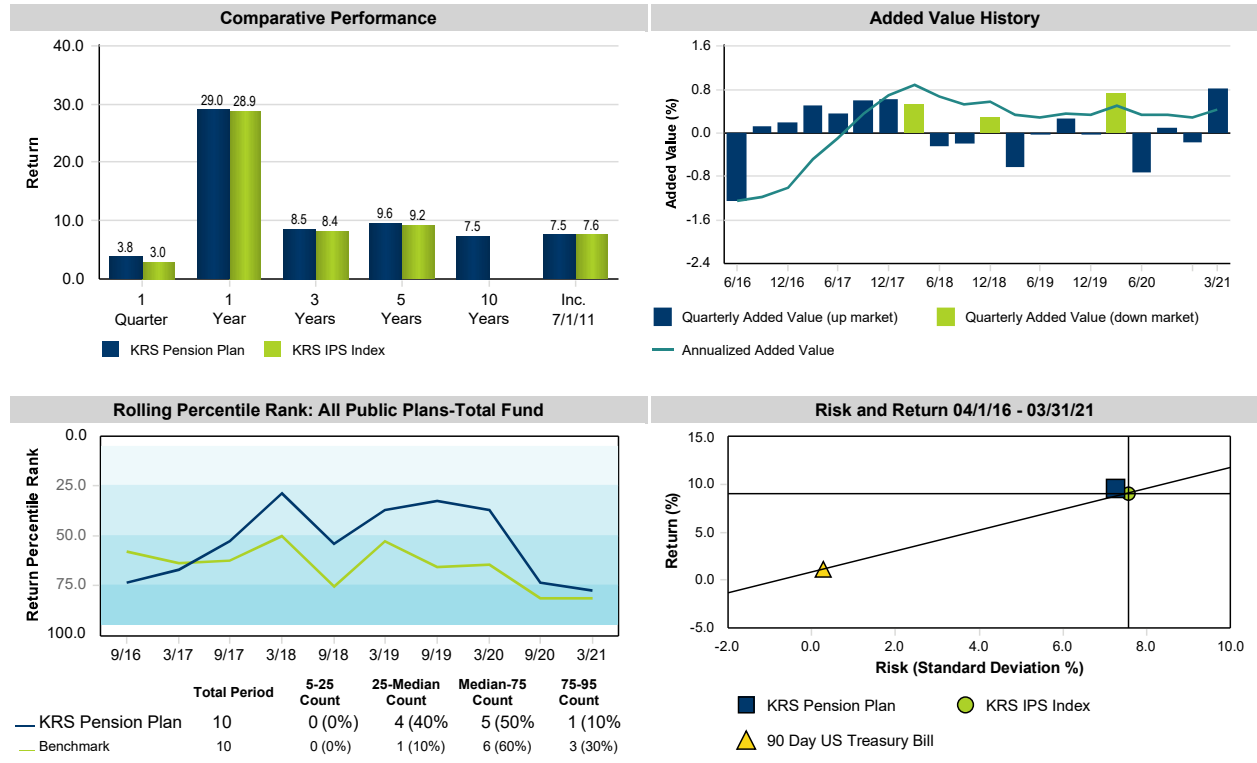
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Total Fund Summary

KRS Pension Plan

Periods Ended March 31, 2021



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KRS Pension Plan as of 3/31 was comprised of KERS, KERS(H), SPRS, CERS & CERS(H) portfolios

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CERS Special Called Investment Committee Meeting - Wilshire Investment Performance Review

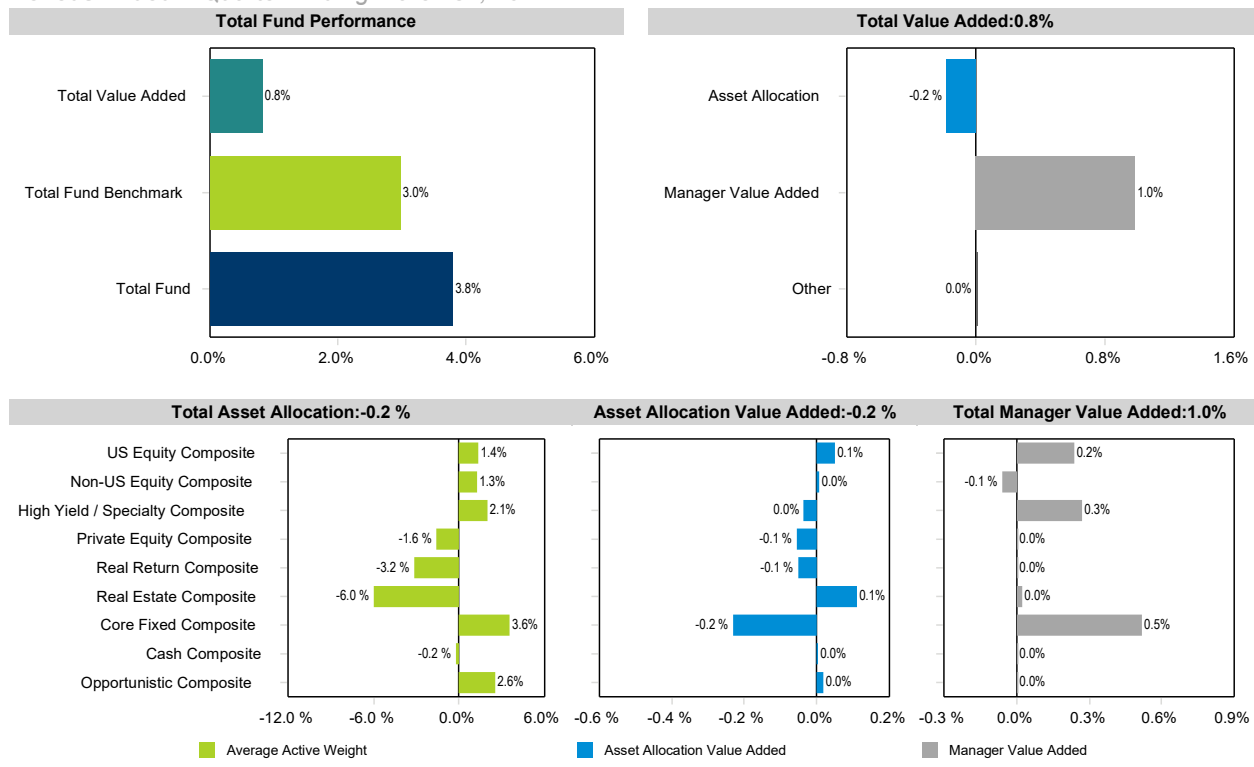
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Total Fund Attribution

KRS Pension Plan

Periods Ended 1 Quarter Ending March 31, 2021



CERS Special Called Investment Committee Meeting - Wilshire Investment Performance Review

Wilshire Consulting



Asset Allocation & Performance

KRS Pension Plan

Periods Ended March 31, 2021

	Allocation		Performance (%) net of fees							
	Market Value \$	%	1 Month	QTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
KRS Pension Plan	14,845,454,688	100.00	1.92	3.79	18.42	28.99	8.51	9.61	9.13	4/1/1984
KRS IPS Index			1.63	2.98	17.59	28.93	8.37	9.17		
Value Added			0.29	0.81	0.83	0.06	0.14	0.44		
CERS Pension Plan	8,201,883,085	55.25	2.01	3.95	18.98	29.65	8.54	9.73	9.14	4/1/1984
CERS IPS Index			1.76	3.22	18.02	29.32	8.48			
Value Added			0.25	0.73	0.96	0.33	0.06			
Assumed Rate 6.25%			0.51	1.53	4.65	6.25	6.25			
Value Added			1.50	2.42	14.33	23.40	2.29			
CERS (H) Pension Plan	2,780,134,311	18.73	2.01	3.93	18.95	29.56	8.52	9.69	9.14	4/1/1984
CERS (H) IPS Index			1.77	3.24	18.07	29.37	8.47			
Value Added			0.24	0.69	0.88	0.19	0.05			
Assumed Rate 6.25%			0.51	1.53	4.65	6.25	6.25			
Value Added			1.50	2.40	14.30	23.31	2.27			

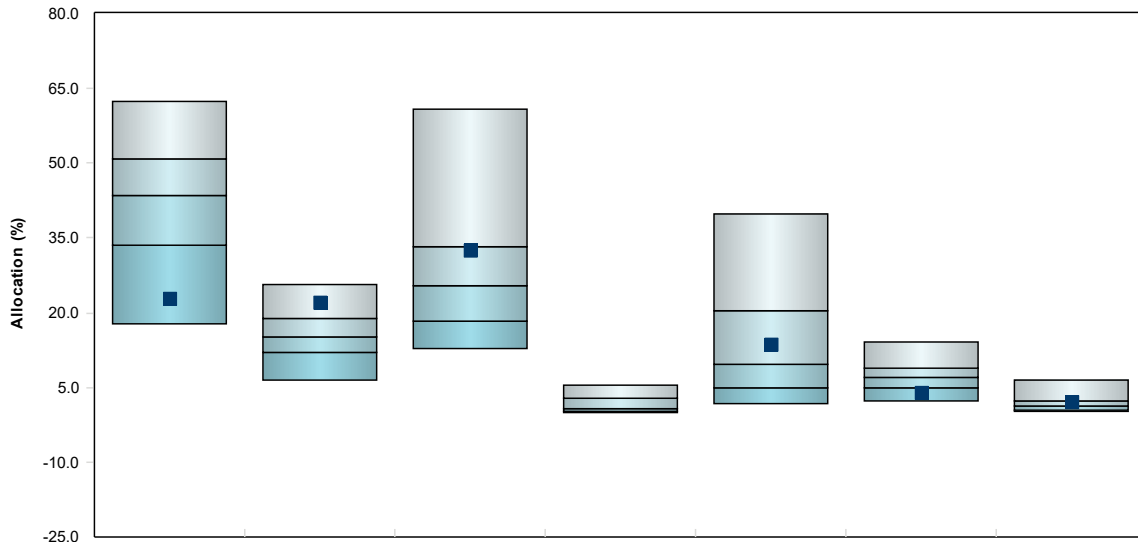
CERS Special Called Investment Committee Meeting - Wilshire Investment Performance Review

Wilshire Consulting



Plan Sponsor TF Asset Allocation

KRS Pension Plan vs All Public Plans-Total Fund
Periods Ended March 31, 2021



	US Equity	Global ex-US Equity	US Fixed	Global ex-US Fixed	Alternatives	Total Real Estate	Cash & Equivalents
■ KRS Pension Plan	22.69	21.90	32.40		13.68	3.97	1.92
5th Percentile	62.39	25.57	60.94	5.45	39.88	14.21	6.49
1st Quartile	50.97	18.92	33.22	2.95	20.38	8.83	2.25
Median	43.45	15.26	25.35	0.72	9.67	7.05	1.25
3rd Quartile	33.42	11.91	18.42	0.16	4.88	4.82	0.54
95th Percentile	17.69	6.40	12.71	0.02	1.86	2.18	0.08

KRS Pension Plan as of 3/31 was comprised of KERS, KERS(H), SPRS, CERS & CERS(H) portfolios

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CERS Special Called Investment Committee Meeting - Wilshire Investment Performance Review

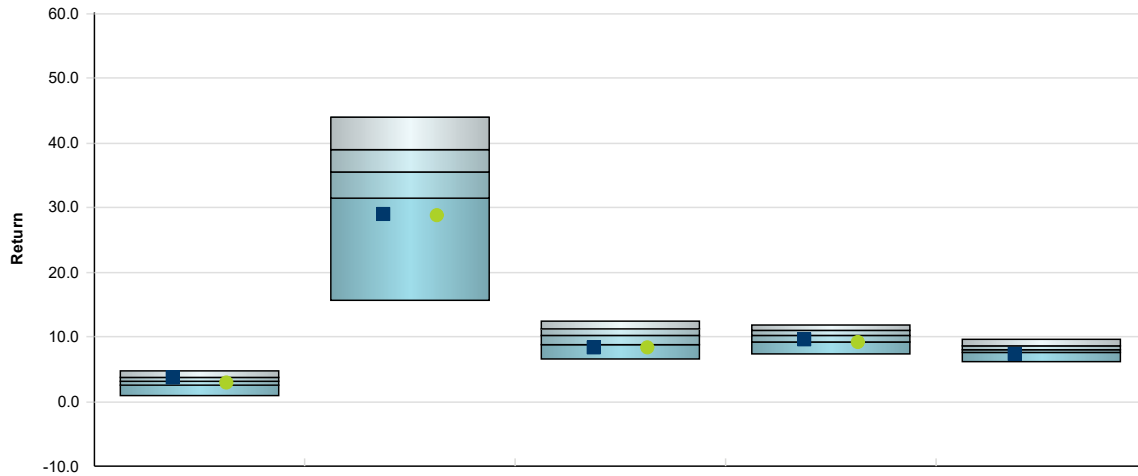
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Plan Sponsor Peer Group Analysis

KRS Pension Plan vs All Public Plans-Total Fund

Periods Ended March 31, 2021



	QTD	1 Year	3 Years	5 Years	10 Years
■ KRS Pension Plan	3.79 (21)	28.99 (86)	8.51 (84)	9.61 (66)	7.47 (78)
● KRS IPS Index	2.98 (55)	28.93 (86)	8.37 (85)	9.17 (75)	
5th Percentile	4.81	44.04	12.43	11.92	9.55
1st Quartile	3.70	39.06	11.29	10.95	8.60
Median	3.10	35.60	10.16	10.16	7.97
3rd Quartile	2.49	31.52	8.89	9.16	7.50
95th Percentile	0.99	15.75	6.56	7.42	6.11
Population	417	416	398	377	310

Parenteses contain percentile rankings.
Calculation based on monthly periodicity.

KRS Pension Plan as of 3/31 was comprised of KERS, KERS(H), SPRS, CERS & CERS(H) portfolios

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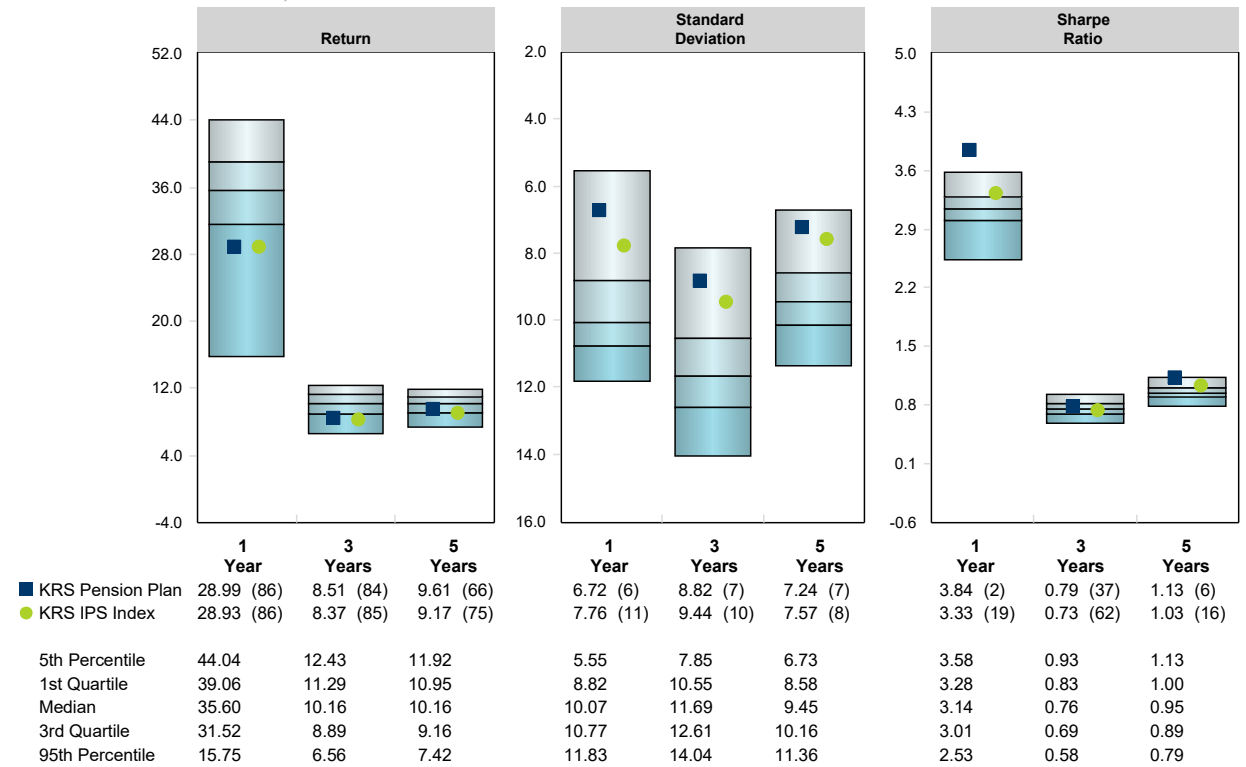
CERS Special Called Investment Committee Meeting - Wilshire Investment Performance Review

Wilshire Consulting



Plan Sponsor Peer Group Analysis - Multi Statistics

KRS Pension Plan vs All Public Plans-Total Fund
Periods Ended March 31, 2021



Parenttheses contain percentile rankings.
Calculation based on monthly periodicity.

KRS Pension Plan as of 3/31 was comprised of KERS, KERS(H), SPRS, CERS & CERS(H) portfolios

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March 2021	KRS MONTHLY PERFORMANCE UPDATE
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What’s going on in the marketplace?

The month was marked by optimism in the global equity markets. Vaccine rollouts and predictions for better global economic growth drove markets and were supported by improving corporate earnings, not to mention additional fiscal stimulus. This wave of news propelled U.S. stock sharply, which outperformed their international counterparts. The improved outlook pushed bond yields higher, which in turn created negative returns in the global fixed income markets.

The KRS investment portfolio returned 1.9% versus the benchmark of 1.5%.

Relative outperformance in the Specialty Credit, Core Fixed Income and U.S. Equity asset classes bolstered the overall portfolio performance from a selection perspective. From an allocation perspective, the overweight to U.S. Equity asset class provided a tailwind to the overall portfolio. Some of the relative outperformance offset can be attributed to the underweight to Private Equities combined with an overweight to the credit space.

The fiscal year return to date now stands at 18.4% versus a benchmark return of 17.4%

In general, the portfolio has benefitted from its overweight to the public equity markets, as these have been the strongest performing asset classes for the period. Further, strong absolute performance within private equity has been beneficial.

U.S. Equities

U.S. markets gained 3.6% during the month per the Russell 3000. The strong market performance was led by midcaps, followed by large caps, and then the small cap market segment (MC: 4.7% vs LC: 4.4% vs SC: 1.0%). Extending a recent trend, value outperformed growth during the month (R3000V: 5.8% vs R3000G: 1.4%).

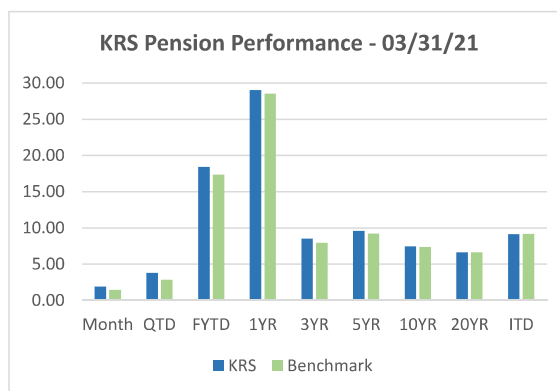
During the month, the KRS U.S. Equity portfolio outpaced its benchmark by 20 bps, returning 3.8% versus the Russell 3000 Index return of 3.6%. The portfolio was mixed in terms of stock selection; however, the internal factor-based large cap and small cap strategies provided solid relative outperformance. In addition, the portfolio’s slight value tilt was beneficial during the period.

For the first nine months of the fiscal year, the portfolio returned 34.3% versus the benchmark return of 33.2%. Stock selection was mixed, though the net result was added to relative performance. Allocation from a style perspective helped the portfolio as the slight value tilt served as a tailwind (R3000V: 38.3% vs R3000G: 28.4%). However, the portfolio’s smaller positioning has also helped as small caps, followed by mid-caps, outpaced their large cap counterparts (SC: 55.4% vs MC: 47.9% vs LC: 29.7%).

Non-U.S. Equities

Non-U.S. equity markets provided a solid 1.4% return during the month per the MSCI ACWI-Ex US Index. Emerging markets trailed their developed market counterparts (MSCI World Ex-US: 2.6% vs MSCI EM: -1.5%). Like the U.S. markets, value outpaced growth in the international markets.

The KRS Non-U.S. Equity portfolio gained 1.4% during the month, matching the index. KRS’ external MSCI ACWI Ex-US mandates and external MSCI EM strategies were mixed in terms of relative performance. The value tilt within the MSCI ACWI-Ex US mandates was beneficial.



During the three quarters of the fiscal year, the KRS Non-U.S. Equity portfolio returned 30.1%, outpacing the index by 23 bps. Individual strategy results have been good, with only one MSCI ACWI Ex-U.S. mandate trailing the core index.

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Fixed Income

Fixed Income markets were negative during the month with the higher yielding segments (those with more significant credit risk) holding up better than those segments that are traditionally considered safer. The high yield gained 0.2% during the period, while the leveraged loan market was flat. The intermediate bond market fell approximately -0.7%, followed by the U.S. Aggregate Index, which lost -1.3%.

The KRS Specialty Credit allocation returned 1.6%, outpacing its benchmark by 153 bps during the month. This primarily can be attributed to the relative strength in the leveraged loan and high yield portion of the allocation. The KRS Core Fixed Income portfolio lost 15 bps; however, it outpaced the Bloomberg Barclays Aggregate (-0.2% vs -1.3%). Relative performance amongst the individual mandates was good, as all strategies outperformed their respective indices.

The KRS Specialty Credit allocation returned 12.1% during the fiscal year to date outpacing its benchmark return of 11.2%. Individual strategy relative performance has been mixed, with the corporate high yield allocations providing the strongest returns generally. The core portion of the credit allocation returned 2.6% for the nine-month period, with the short-term corporate strategy providing the bulk of performance.

Alternative Assets

The diversifying strategy group returned 1.5% during the month, adding 70 bps over its index. Both segments of the allocation provided positive performance. The Real Return portfolio gained 2.0%, while the Real Estate allocation gained 0.3%.

The Private Equity allocation (part of the growth bucket) earned 4.5% during the period.

The Opportunistic bucket, which makes up approximately 2.5% of the total fund, gained 1.0% during the month of March.

For the fiscal year, the diversifying strategy bucket has returned 12.4%, led by the Real Return allocation (16.9%). The Real Estate allocation has returned 5.0% during the period.

Private Equity investments have added 21.6% during the fiscal year and the Opportunistic bucket has returned 17.0%.

Cash

The Cash portfolio outpaced the 3-month T-Bill, returning 3 basis points. This brought the fiscal year return to 11 bps.

NOTES:

- 1) Returns displayed 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 level returns are net of fees beginning with July 2011, and gross of fees for prior data.
- 2) Individual plan allocation and performance (pgs.4&5).
- 3) Prior to January 1, 2014, the inception date for the Private Equity asset class was stated as 10/1/1990 for Pension Fund and 6/1/2001 for Insurance Fund. Prior to 07/01/02, the characteristics of the allocation, and the benchmark itself, were more closely aligned with Real Estate. As such, it is not appropriate to report this portion of the return stream within the Private Equity allocation, whose true inception date has been determined to be 07/01/02 based on funding the Systems' first private equity mandate. The portion of the original return streams that are no longer reported within the Private Equity allocation (Pension from 10/1/90 to 06/30/02; Insurance 06/01/01 to 06/30/02) are reported within the Fund Level performance figures.
- 4)

Private Equity Composite (Pension)	Private Equity Composite (Insurance)
Inception (07/01/02) to 06/30/11	Inception (07/01/02) to 06/30/11
60.00% S&P 1500 Composite Index	80.00% S&P 1500 Composite Index
40.00% Barclays US Corporate High Yield Index	20.00% Barclays US Corporate High Yield Index
07/01/11 to 12/31/15	07/01/11 to 12/31/15
100.00% Russell 3000 Index + 4% (Qtr Lag)	100.00% Russell 3000 Index + 4% (Qtr Lag)

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01/01/16 to Present	01/01/16 to Present
100.00% Russell 3000 Index + 3% (Qtr Lag)	100.00% Russell 3000 Index + 3% (Qtr Lag)
5) The Private Equity & Real Return Benchmarks, from one month returns up until five year returns, is equal to the performance of the associated KRS allocations. Given there is not appropriate benchmark to use for short term performance evaluation, this will allow greater focus on longer term returns, which is more appropriate given the long term nature of these investments.	
<u>Pension Benchmark Composite 01/01/16 to 08/31/17</u>	<u>Insurance Benchmark Composite 01/01/16 to 08/31/17</u>
US Equity: Russell 3000 (25.6%)	US Equity: Russell 3000 (26.5%)
Non US Equity: MSCI AXCI Ex-US IMI (25.2%)	Non US Equity: MSCI AXCI Ex-US IMI (26.5%)
Global Fixed Income: Barclays Universal Index (6.8%)	Global Fixed Income: Barclays Universal Index (6.0%)
Credit Fixed Income: Barclays US High Yield (7.2%)	Credit Fixed Income: Barclays US High Yield (6.0%)
Real Estate: NCREIF ODCE (5.0%)	Real Estate: NCREIF ODCE (5.0%)
Absolute Return: HFRI Diversified FOF (10.0%)	Absolute Return: HFRI Diversified FOF (10.0%)
Real Return: Allocation Specific (8.0%)	Real Return: Allocation Specific (8.0%)
Private Equity<5Yrs: Actual Performance	Private Equity<5Yrs: Actual Performance
Private Equity>5Yrs: Russell 3000 Index+3% (10.0%)	Private Equity>5Yrs: Russell 3000 Index+3% (10.0%)
Cash: Cit Grp 3-mos Treasury Bill (2.2%)	Cash: Cit Grp 3-mos Treasury Bill (2.0%)
<u>Pension Benchmark Composite 09/01/17 to 05/31/18 - Transition Period w/Sliding Targets</u>	<u>Insurance Benchmark Composite 09/01/17 to 05/31/18 - Transition Period w/Sliding Targets</u>
US Equity: Russell 3000 (23.6%)	US Equity: Russell 3000 (24.5%)
Non US Equity: MSCI AXCI Ex-US IMI (23.2%)	Non US Equity: MSCI AXCI Ex-US IMI (24.5%)
Global Fixed Income: Barclays Universal Index (9.0%)	Global Fixed Income: Barclays Universal Index (8.0%)
Credit Fixed Income: Barclays US High Yield (9.0%)	Credit Fixed Income: Barclays US High Yield (8.0%)
Real Estate: NCREIF ODCE (5.0%)	Real Estate: NCREIF ODCE (5.0%)
Absolute Return: HFRI Diversified FOF (10.0%)	Absolute Return: HFRI Diversified FOF (10.0%)
Real Return<5Yrs: Actual Performance	Real Return<5Yrs: Actual Performance
Real Return>5Yrs: CPI+3% (8%)	Real Return>5Yrs: CPI+3% (8%)
Private Equity<5Yrs: Actual Performance	Private Equity<5Yrs: Actual Performance
Private Equity>5Yrs: Russell 3000 Index+3% (10.0%)	Private Equity>5Yrs: Russell 3000 Index+3% (10.0%)
Cash: Cit Grp 3-mos Treasury Bill (2.2%)	Cash: Cit Grp 3-mos Treasury Bill (2.0%)
<u>Pension Benchmark Composite 06/01/18 to 07/31/18</u>	<u>Insurance Benchmark Composite 06/01/18 to 07/31/18</u>
US Equity: Russell 3000 (17.0%)	US Equity: Russell 3000 (17.9%)
Non US Equity: MSCI AXCI Ex-US IMI (21.0%)	Non US Equity: MSCI AXCI Ex-US IMI (21.9%)
Global Fixed Income: Barclays Universal Index (13.0%)	Global Fixed Income: Barclays Universal Index (13.0%)
Credit Fixed Income: Barclays US High Yield (12.4%)	Credit Fixed Income: Barclays US High Yield (11.0%)
Real Estate: NCREIF ODCE (5.0%)	Real Estate: NCREIF ODCE (5.0%)
Absolute Return: HFRI Diversified FOF (10.0%)	Absolute Return: HFRI Diversified FOF (10.0%)
Real Return<5Yrs: Actual Performance	Real Return<5Yrs: Actual Performance
Real Return>5Yrs: CPI+3% (10.0%)	Real Return>5Yrs: CPI+3% (10.0%)
Private Equity<5Yrs: Actual Performance	Private Equity<5Yrs: Actual Performance
Private Equity>5Yrs: Russell 3000 Index+3% (9.4%)	Private Equity>5Yrs: Russell 3000 Index+3% (9.2%)
Cash: Cit Grp 3-mos Treasury Bill (2.2%)	Cash: Cit Grp 3-mos Treasury Bill (2.0%)
<u>Pension Benchmark Composite 07/31/18 to 12/31/20</u>	<u>Insurance Benchmark Composite 07/31/18 to 12/31/20</u>
US Equity: Russell 3000 (18.2%)	US Equity: Russell 3000 (18.75%)
Non US Equity: MSCI AXCI Ex-US IMI (18.2%)	Non US Equity: MSCI AXCI Ex-US IMI (18.75%)
Core Fixed Income: Barclays US Aggregate (14.8%)	Core Fixed Income: Barclays US Aggregate (5.0%)
Specialty Credit/High Yield FI: Custom Benchmark (15.0%)	Specialty Credit/High Yield FI: Custom Benchmark (13.5%)
Real Estate: NCREIF ODCE (5.0%)	Real Estate: NCREIF ODCE (10.0%)
Absolute Return: HFRI Diversified FOF (3.0%)	Absolute Return: HFRI Diversified FOF (3.0%)
Real Return<5Yrs: Actual Performance	Real Return<5Yrs: Actual Performance
Real Return>5Yrs: CPI+3% (15.0%)	Real Return>5Yrs: CPI+3% (15.0%)
Private Equity<5Yrs: Actual Performance	Private Equity<5Yrs: Actual Performance
Private Equity>5Yrs: Russell 3000 Index+3% (9.4%)	Private Equity>5Yrs: Russell 3000 Index+3% (15.0%)

Cash: Cit Grp 3-mos Treasury Bill (1.4%)

Pension Benchmark Composite 01/01/21 to Present

US Equity: Russell 3000 (20.6%)

Non US Equity: MSCI AXCI Ex-US IMI (20.6%)

Core Fixed Income: Barclays US Aggregate (12.2%)

Specialty Credit/High Yield FI: Custom Benchmark (15.0%)

Real Estate: NCREIF ODCE (10.0%)

Real Return<5yrs: Actual Performance

Real Return>5yrs: CPI+3% (10.0%)

Private Equity<5Yrs: Actual Performance

Private Equity>5Yrs: Russell 3000 Index+3% (9.4%)

Cash: Cit Grp 3-mos Treasury Bill (2.2%)

Cash: Cit Grp 3-mos Treasury Bill (1.0%)

Insurance Benchmark Composite 01/01/21 to Present

US Equity: Russell 3000 (21.75%)

Non US Equity: MSCI AXCI Ex-US IMI (21.75%)

Core Fixed Income: Barclays US Aggregate (10.0%)

Specialty Credit/High Yield FI: Custom Benchmark (15.0%)

Real Estate: NCREIF ODCE (10.0%)

Real Return<5yrs: Actual Performance

Real Return>5yrs: CPI+3% (10.0%)

Private Equity<5Yrs: Actual Performance

Private Equity>5Yrs: Russell 3000 Index+3% (10.0%)

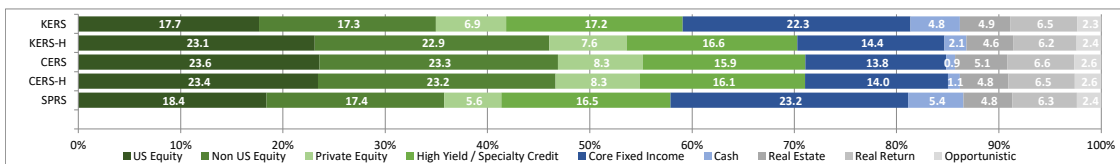
Cash: Cit Grp 3-mos Treasury Bill (1.5%)

**Fund composite benchmark is a roll-up of individual plans, which may differ from one another.

CERS Special Called Investment Committee Meeting - Investment Performance Review

KENTUCKY RETIREMENT SYSTEMS - PENSION FUND - NET RETURNS - 03/31/21													
Structure	Inception	Market Value	% of Total	Month	QTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	ITD	
TOTAL FUND	4/1/1984	14,845,454,693.81	100.00	1.93	3.80	18.44	29.02	8.52	9.61	7.47	6.64	9.13	
KY Ret. Blended Index				1.48	2.83	17.38	28.57	7.98	9.25	7.40	6.62	9.19	
GROWTH	7/1/2018	10,320,642,122.93	69.52	2.55	4.88	25.35	39.74					11.13	
Growth Custom Benchmark				2.29	5.57	30.32	43.84					12.94	
PUBLIC EQUITY	4/1/1984	6,619,150,685.74	44.59	2.58	5.47	32.24	59.44	12.10	13.47	9.20	7.10	10.77	
Global Equity Blended Index				2.48	5.07	31.58	57.28	11.81	13.38	9.10	7.04	10.59	
US PUBLIC	4/1/1984	3,368,632,302.72	22.69	3.78	7.45	34.33	63.72	16.50	15.99	13.13	8.66	11.73	
KY Domestic Equity Blend				3.58	6.35	33.19	62.53	17.12	16.64	13.77	9.05	11.81	
EQUITY NON US	7/1/2000	3,250,518,383.02	21.90	1.37	3.48	30.14	54.86	8.18	11.13	5.80	6.04	4.09	
KY Ret.Int'l Eq. Blended Index				1.37	3.77	29.91	51.94	6.51	10.01	5.31	6.11	4.14	
PRIVATE EQUITY	7/1/2002	1,155,001,941.18	7.78	4.54	5.97	21.62	14.34	11.74	12.12	12.62		11.27	
Russell 3000 + 3%(Qtr Lag)				4.54	5.97	21.62	14.34	11.74	12.12	16.44		12.42	
HIGH YIELD / SPECIALTY CREDIT	7/1/2017	2,546,489,496.01	17.15	1.60	2.89	12.06	13.42	5.73				6.13	
High Yield Custom Benchmark				0.07	1.32	11.17	22.23	5.49				5.09	
FIXED INCOME / LIQUIDITY	7/1/2018	2,549,258,201.90	17.17	-0.13	-0.18	2.25	6.43					4.62	
Liquidity Custom Benchmark				-1.16	-3.14	-1.97	0.68					4.89	
CORE FIXED INCOME	7/1/2013	2,263,311,450.14	15.25	-0.15	-0.21	2.55	8.01	4.99	3.44			3.57	
Bloomberg Barclays US Aggregate				-1.25	-3.37	-2.12	0.71	4.65	3.10			3.28	
CASH	1/1/1988	285,946,751.76	1.93	0.03	0.05	0.11	0.21	1.60	1.50	0.91	1.78	3.43	
Citigroup Treasury Bill-3 Month				0.01	0.02	0.07	0.21	1.45	1.15	0.60	1.36	3.00	
DIVERSIFYING STRATEGIES	7/1/2018	1,600,788,854.42	10.78	1.45	3.50	12.40	16.94					5.14	
Diversifying Strategies Custom				0.75	1.63	4.78	5.83					4.59	
REAL ESTATE	7/1/1984	589,400,001.67	3.97	0.32	1.64	4.99	4.78	8.65	9.33	9.28	7.26	6.29	
NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^				1.10	1.10	-0.41	0.34	3.99	5.27	8.87	6.52	6.24	
REAL RETURN	7/1/2011	1,011,388,852.75	6.81	2.12	4.61	16.89	25.45	3.74	5.25			3.79	
Pension Real Return Custom Benchmark				2.12	4.61	16.89	25.45	3.74	5.25			2.93	
OPPORTUNISTIC	7/1/2018	375,449,617.00	2.53	1.03	3.61	16.99	24.64					8.72	
S&P LSTA Leveraged Loan Index				0.00	1.78	10.03	20.71					4.16	

KENTUCKY RETIREMENT SYSTEMS - PENSION FUND - PLAN NET RETURNS - 03/31/21													
Plan	Inception	Market Value	% of Total	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	ITD	
KERS		2,706,296,495.32	100.00	1.59	3.21	16.40	26.47	8.23	8.98	7.18	6.49	9.05	
KY Ret. KERS Plan Index				1.20	2.26	15.14	25.46	7.56	8.62	7.11	6.48	9.11	
KERS- H		825,636,856.81	100.00	1.91	3.80	18.70	29.80	8.47	9.59	7.49	6.65	9.14	
KY Ret. KERS Haz Plan Index				1.58	2.99	17.94	29.39	8.15	9.46	7.43	6.64	9.20	
CERS		8,201,883,087.75	100.00	2.02	3.96	19.00	29.68	8.56	9.74	7.53	6.66	9.15	
KY Ret. CERS Plan Index				1.58	2.99	17.94	29.39	8.15	9.48	7.43	6.64	9.20	
CERS- H		2,780,134,312.48	100.00	2.02	3.93	18.96	29.59	8.52	9.70	7.52	6.66	9.14	
KY Ret. CERS Haz Plan Index				1.58	2.99	17.94	29.39	8.15	9.47	7.43	6.64	9.20	
SPRS		331,503,938.81	100.00	1.55	3.20	16.09	26.57	8.08	9.02	7.06	6.43	9.02	
KY Ret. SPRS Plan Index				1.20	2.26	15.14	25.46	7.50	8.78	7.10	6.47	9.11	

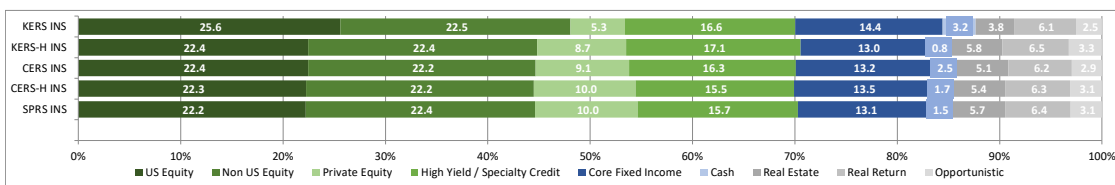


Note: The above chart displays the average monthly allocation.

CERS Special Called Investment Committee Meeting - Investment Performance Review

KENTUCKY RETIREMENT SYSTEMS - INSURANCE FUND - NET RETURNS - 03/31/21													
Structure#	Inception	Market Value#	% of Total#	Month#	QTD	Fiscal YTD#	1 Year#	3 Years#	5 Years#	10 Years#	20 Years#	ITD#	
TOTAL FUND	4/1/1987	6,556,911,109.32	100.00	KRS	KRS	KRS	KRS	KRS	KRS	KRS	KRS	KRS	KRS
				2.02	3.89	18.74	28.86	8.37	9.66	7.07	5.98	7.57	
KY Ret. Blended Index				1.59	2.94	17.72	28.53	7.97	9.40	7.46	6.21	7.87	
GROWTH	7/1/2018	4,683,594,990.26	71.43	2.64	4.94	25.17	38.34					10.54	
Growth Custom Benchmark				2.29	5.57	30.32	43.84					12.94	
PUBLIC EQUITY	7/1/1992	2,988,294,143.74	45.57	2.59	5.47	32.25	59.42	12.03	13.44	9.19	7.10	9.16	
Global Equity Blended Index				2.48	5.06	31.57	57.23	11.77	13.35	9.10	6.67	8.92	
US PUBLIC	7/1/1992	1,533,926,947.95	23.39	3.78	7.41	34.28	63.72	16.44	15.99	13.17	8.59	10.36	
KY Domestic Equity Blend				3.58	6.35	33.19	62.53	17.12	16.64	13.80	8.77	10.31	
EQUITY NON US	4/1/2000	1,454,367,195.79	22.18	1.36	3.50	30.17	54.76	8.07	11.02	5.65	6.39	4.06	
KY Ret.Int'l Eq. Blended Index				1.37	3.77	29.91	51.94	6.51	10.01	5.33	5.77	3.39	
PRIVATE EQUITY	7/1/2002	561,073,080.75	8.56	5.12	6.43	20.83	9.23	9.69	11.56	12.70		10.05	
Russell 3000 + 3%(Qtr Lag)				5.12	6.43	20.83	9.23	9.69	11.56	16.42		11.92	
HIGH YIELD / SPECIALTY CREDIT	7/1/2017	1,134,227,765.77	17.30	1.58	2.86	11.83	12.85	5.47				5.82	
Bloomberg Barclays US High Yield				0.07	1.32	11.17	22.23	5.49				5.09	
FIXED INCOME / LIQUIDITY	7/1/2018	1,005,699,172.08	15.34	-0.17	-0.25	2.13	6.60					4.50	
Liquidity Custom Benchmark				-1.16	-3.14	-1.97	0.68					4.89	
CORE FIXED INCOME	7/1/2013	864,872,800.18	13.19	-0.20	-0.30	2.43	7.78	4.78	3.32			3.24	
Bloomberg Barclays US Aggregate				-1.25	-3.27	-2.12	0.71	4.65	3.10			3.28	
CASH	7/1/1992	140,826,371.90	2.15	0.01	0.02	0.09	0.20	1.43	1.23	0.75	1.57	2.52	
Citigroup Treasury Bill-3 Month				0.01	0.02	0.07	0.21	1.45	1.15	0.60	1.36	2.40	
DIVERSIFYING STRATEGIES	7/1/2018	676,856,904.80	10.32	1.37	3.20	12.22	16.67					5.52	
Diversifying Strategies Custom				0.75	1.63	4.78	5.83					4.59	
REAL ESTATE	5/1/2009	249,384,482.65	3.80	0.36	1.60	5.02	4.89	8.78	9.51	9.22		9.11	
NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^				1.10	1.10	-0.41	0.34	3.99	5.27	8.87		5.43	
REAL RETURN	7/1/2011	427,472,422.15	6.52	1.97	4.15	16.25	24.14	4.27	5.32			3.76	
Pension Real Return Custom Benchmark				1.97	4.15	16.25	24.14	4.27	5.32			3.17	
OPPORTUNISTIC	7/1/2018	191,181,257.00	2.92	1.00	3.61	16.99	24.64					8.72	
S&P LSTA Leveraged Loan Index				0.03	1.78	10.03	20.71					4.16	

KENTUCKY RETIREMENT SYSTEMS - INSURANCE FUND - PLAN NET RETURNS - 03/31/21													
Plan	Inception	Market Value#	% of Total#	Month#	3 Months	Fiscal YTD#	1 Year#	3 Years#	5 Years#	10 Years#	20 Years#	ITD#	
KERS INS		1,230,494,747.53	100.00	1.87	3.73	19.02	30.90	8.29	9.45	6.84	5.87	7.50	
KY Ins. KERS Plan Index				1.61	2.97	17.75	28.62	7.99	9.49	7.36	6.16	7.84	
KERS - H INS		596,829,016.49	100.00	2.05	3.93	18.65	28.39	8.20	9.54	7.02	5.96	7.56	
KY Ins. KERS Haz Plan Index				1.61	2.97	17.75	28.62	8.04	9.50	7.39	6.18	7.85	
CERS INS		2,966,839,435.34	100.00	2.03	3.90	18.62	28.52	8.33	9.65	7.10	5.99	7.58	
KY Ins. CERS Plan Index				1.61	2.97	17.75	28.62	8.04	9.47	7.40	6.19	7.85	
CERS - H INS		1,529,029,858.53	100.00	2.08	3.96	18.71	28.16	8.36	9.69	7.13	6.01	7.59	
KY Ins. CERS Haz Plan Index				1.61	2.97	17.75	28.62	8.04	9.47	7.40	6.19	7.85	
SPRS INS		233,718,047.53	100.00	2.06	3.96	18.94	28.52	8.54	9.80	7.17	6.03	7.60	
KY Ins. SPRS Plan Index				1.61	2.97	17.75	28.62	8.04	9.47	7.41	6.19	7.86	



Note: The above chart displays the average monthly allocation.



KENTUCKY RETIREMENT SYSTEMS



INVESTMENTS

To: Investment Committee – Kentucky Retirement Systems

From: Anthony Chiu, Director

Date: March 29, 2021

Subject: Investment Recommendation – Harrison Street Core Property Fund

KRS Investment Staff is proposing an additional investment in Harrison Street Core Property Fund (the “Core Fund”), an open-end core real estate fund that focuses on stabilized properties in three sectors that Harrison Street believes to be defensive and needs-based: healthcare, education, and storage.

KRS is a founding investor in the fund, which launched in 2011. A commitment of 0.90% of plan assets (around \$120 million at the time) was approved by the Investment Committee in November 2011. The Core Fund has approximately \$10 billion of gross asset value and \$7.5 billion of net asset value as of the end of 2020.

As a result of the new asset allocation that took effect at the beginning of 2021, KRS’s target weight for real estate increased from 5% to 10%. Both KRS’s Pension and Insurance entities began the year with around a 4% allocation to real estate, and this proposed addition will help move the plans toward their increased target as it gets deployed over the next 2-3 quarters.

Business / People:

Harrison Street Capital was founded in 2005 in Chicago by Christopher Merrill (previously at Heitman from 1993-2005) and the Galvin family (founders of Motorola). In 2018, the firm sold a 75% stake to real estate services company Colliers International. The Galvins exited the company as a result of the deal, while Merrill remained the firm’s CEO and is the firm’s largest individual shareholder.

Harrison Street currently has \$32 billion under management across several investment vehicles, including closed-end opportunistic fund series that focus on real estate in the US (7 funds) and Europe (3 funds). The firm also launched an open-end Social Infrastructure fund in 2018 that targets investments servicing universities, health systems, and municipalities.

Joey Lansing joined Harrison Street in 2011 to found the Core Fund and is its Senior Portfolio Manager. Prior to Harrison Street, he was the Chief Operating Officer at real estate consultant ORG Portfolio Management from 2009-2011. Before ORG, Lansing was a Senior Principal at Syndicated Equities, where he led a real estate fund-of-funds strategy.

Lansing is one of seven Core Fund Investment Committee members, which includes Merrill and five other senior executives who have been with the Core Fund since inception. As a firm, Harrison Street has close to 200 employees, including over 30 each on the Transactions and Asset Management teams.

Investment Process and Portfolio:

Over nearly 10 years, the Core Fund has built a portfolio of more than 300 healthcare, education, and storage properties across 36 states and 72 metro areas.

CERS Special Called Investment Committee Meeting - Real Estate Fund Investments Increased Allocation

This has been driven by a network of 50+ operating partners that specialize in the development, leasing, and management of assets in the Core Fund's targeted sectors. These partners provide Harrison Street exclusive opportunities in exchange for their capital and structuring expertise.

By sector and value, the portfolio currently consists of roughly 70% healthcare, 20% student housing, and 10% self-storage. Within healthcare, medical office and senior housing each comprise around 30% of the total portfolio. Medical office occupancy has been stable, remaining at pre-pandemic levels of over 95%. Senior housing occupancy did decline as facilities were closed in early 2020, but move-ins have resumed and the fund's assets are all private pay. The Core Fund's student housing portfolio is also expected to normalize with universities nationwide largely planning to reopen for in-person enrollment in fall 2021.

The Core Fund continued to find attractive deals across its target sectors in 2020. These include a student housing portfolio at University of Massachusetts-Amherst, a medical office building that is master leased to Yale University for 20 years, and a Fort Myers, Florida area self-storage facility built in 2019 that is over 85% occupied.

The portfolio currently has and targets around 25% leverage, with a limit of 40%.

Performance:

Fund	1 yr	3 yr	5 yr	Since Inception	Inception Date
Harrison Street Core Property Fund	5.0%	6.4%	7.6%	8.2%	May 2012
NCREIF NFI ODCE Net Index	0.5%	4.3%	5.7%	8.2%	

Source: BNY, Harrison Street, NCREIF as of 9/30/20

From its 4Q 2020 flash report, the Core Fund produced a net return of 4% for 2020 despite the pandemic. Almost all of this consisted of income, as appreciation was essentially flat. For comparison, the ODCE index returned 0.3% for the year.

Conclusion: KRS currently has ~\$125 million in the Core Fund, and Staff is recommending an additional investment of \$200 million to be shared among all plans. This represents an additional 0.9-1.0% of plan assets (depending on fluctuations in market value) and would result in a 1.5-1.6% weight when fully funded.

Investment and Terms Summary

Type of Investment: Real Estate - Core

Structure: Open end

Management Fee: 0.75% of NAV

Performance Fee: None

Purpose: Capture current income from properties serving sectors with ongoing secular demand, with some potential for capital appreciation

Risks: Equity, Leverage, Liquidity, Fund Size

Exp. Net Return: 5 - 9%



KENTUCKY RETIREMENT SYSTEMS



INVESTMENTS

To: Investment Committee – Kentucky Retirement Systems

From: Anthony Chiu, Director

Date: March 29, 2021

Subject: Investment Recommendation – Prologis Targeted U.S. Logistics Fund

KRS Investment Staff is proposing an additional investment in the Prologis Targeted U.S. Logistics Fund (“USLF”), an open-end core real estate fund that focuses exclusively on US industrial real estate.

A commitment to USLF of up to 1% of plan assets (around \$120 million at the time) was approved by the Investment Committee in November 2013. An initial commitment of \$70 million was made in late 2013 and funded at the beginning of 4Q 2014. A follow-on commitment of \$70 million was subsequently added in 3Q 2018.

As a result of the new asset allocation that took effect at the beginning of 2021, KRS’s target weight for real estate increased from 5% to 10%. Both KRS’s Pension and Insurance entities began the year with around a 4% allocation to real estate, and this proposed addition will help move the plans toward their increased target as it gets deployed over the next year.

Business / People:

Prologis is a leading global owner, operator, and developer of industrial real estate. The company is a publicly traded real estate investment trust (NYSE: PLD) and has over \$145 billion of assets under management.

USLF was originally known as AMB U.S. Logistics REIT and was part of AMB Property Corporation, another publicly traded real estate investment trust (NYSE: AMB) that Prologis merged with in 2011.

USLF had approximately \$17 billion of gross asset value and \$13.4 billion of net asset value as of the end of 2020. For alignment, Prologis invests a substantial amount of balance sheet capital alongside institutional investors in vehicles like USLF, which they call their “co-investment ventures.” For USLF, Prologis currently owns more than 25% of the fund’s units.

Bobby Bransfield joined AMB in 1994, has managed USLF since 2004, and leads a Boston-based fund management team of eight. USLF is governed by the Prologis Americas Investment Committee which consists of nine senior executives and seven rotational seats that rotate quarterly among senior personnel. As a firm, Prologis has 1700 employees globally, with over 1000 in the Americas.

Investment Process and Portfolio:

USLF targets investments that they believe will produce a levered gross IRR of 7-9% based on a ten-year hold. The fund takes limited development risk and targets stabilized assets, which they define as having occupancy of at least 90%. The portfolio has ~20% leverage, with a target of 30-40% and a limit of 45%.

CERS Special Called Investment Committee Meeting - Real Estate Fund Investments Increased Allocation

Around 50% of the portfolio consists of third-party acquisitions, with another 45% internally sourced assets from the Prologis development pipeline. For internal deals, USLF has to receive approval from its Investor Advisory Committee (IAC), which consists of 9 rotating investors that serve two-year terms. KRS has previously served on the IAC and has expressed interest in participating again.

USLF owns 730 properties across 29 US markets, with a primary focus on major hub and gateway distribution markets. Southern California is the fund's largest market, comprising over 20% of value, while the New York, San Francisco, and Seattle metro areas each make up around 10%. USLF's customer base is also well-diversified, with its largest and top 10 customers comprising just 3% and 13% of rents, respectively. Portfolio occupancy was at 94% at the end of 2020.

Fund performance has been strong over the past several years given tailwinds like e-commerce growth and reshoring that have greatly benefited the industrial sector. The increased demand for industrial space has continued to drive higher rent growth, especially as inventory hit a 50-year low in 2020. While the double-digit capital appreciation of the past five years may taper somewhat going forward, the Fund seems likely to continue being a steady provider of current income.

Performance:

Fund	1 yr	3 yr	5 yr	Since Inception	Inception Date
Prologis Targeted U.S. Logistics Fund	7.9%	13.5%	15.0%	14.3%	Oct 2014
NCREIF NFI ODCE Net Index	0.5%	4.3%	5.7%	7.0%	

Source: BNY, Prologis, NCREIF as of 9/30/20

From its 4Q 2020 report, USLF produced a net return of 9.8% for 2020, with about a third coming from income and the rest from appreciation. For comparison, the ODCE index returned 0.3% for the year.

Conclusion: KRS currently has ~\$215 million in the Fund, and Staff is recommending an additional investment of \$100 million to be shared among all plans. This represents an additional ~0.5% of plan assets (depending on fluctuations in market value) and would result in a ~1.5% weight when fully funded.

Investment and Terms Summary

Type of Investment: Real Estate - Core

Structure: Open end

Fees: Class A (~\$141MM)

- Management fee: 0.90% of net asset value
- Performance fee: 10% over a 7% IRR
- Acquisition fee: None

Class E (~\$71 million) - no longer offered but KRS has some of these shares

- Management fee: 7.5% of net operating income
- Performance fee: 15% over a 9% IRR and 20% over a 12% IRR
- Acquisition fee: 0.9% on third-party acquisitions

Purpose: Capture current income from US industrial properties, with some potential for rent growth and capital appreciation

Risks: Equity, Leverage, Liquidity, Fund Size

Exp. Net Return: 5 - 9%



May 12, 2021

Board of Trustees
 CERS Retirement System
 Perimeter Park West
 1260 Louisville Road
 Frankfort, KY 40601

Re: Economic Assumptions for Use in the Upcoming June 30, 2021 Actuarial Valuation

Dear Trustees of the Board:

Each year the actuarial committee reviews the principal economic assumptions (i.e. price inflation, investment return assumption, and payroll growth) for use in the actuarial valuation. Economic and demographic assumptions used in an actuarial valuation should be representative of the System's expected long-term experience. These assumptions are not intended to consistently model short-term (e.g. the next two to five years) experience, but are supposed to be representative of expected long-term trends. As a result, short-term experience may differ significantly from the long-term assumption used in an actuarial valuation.

The three primary economic assumptions used in an actuarial valuation include the price inflation, investment return, and payroll growth assumption. The following letter and exhibits provide our recommended assumptions to be adopted by the Board for use in the June 30, 2021 actuarial valuation and rationale for each recommendation.

Assumption	June 30, 2020 Valuation Adopted Assumption	June 30, 2021 Valuation Recommended Assumption
Price Inflation	2.30%	2.30%
Investment Return	6.25%	6.25%
Payroll Growth	2.00%	2.00%

Price Inflation Assumption

Benefits provided to members in CERS are not explicitly impacted by the change in inflation. As a result, the price inflation assumption is a building block for other economic assumptions used in the valuation. The current price inflation assumption is 2.30%. We reviewed several sources that provide various perspectives of forward-looking inflation expectations and recommend the continued use of a 2.30% inflation assumption in the 2021 actuarial valuation.

CERS Board of Trustees
May 12, 2021
Page 2

We acknowledge there has been increased attention to price inflation and the April CPI report made headlines because the CPI for April increased 4.2% year over year. However, many economists believe the recent inflation is transient because it is attributable to the economic disruptions caused by the pandemic. As such, we are cautious of overreacting to recent economic data.

Please see Exhibit 1 for more information on the comparison of future inflation expectations.

Investment Return Assumption

The investment return assumption is perhaps the most important and most subjective assumption used in an actuarial valuation. It represents the expected long-term return on plan assets and is used to discount future expected benefit payments to the valuation date in order to determine the liabilities of the plan.

We believe the most appropriate approach in identifying a reasonable investment return assumption is to understand expectations developed by professional investment consulting firms. To do this, we have analyzed CERS's investment policy with the capital market assumptions from eleven nationally recognized investment consultants. Some of these assumptions are based on a seven- to ten-year time horizon, while others are based on a longer 20- to 30-year time horizon. Since the investment consultants update their assumptions on at least an annual basis, we also compared their 2020 and 2021 expectations to better understand the changes. Attached is Exhibit 2 that provides this comparison for each investment consulting firm for 2020 and 2021.

It is our recommendation that the CERS Board adopt a 6.25% investment return assumption for the valuation of the pension and insurance plans at June 30, 2021. Given the relatively large change in return expectations from 2020 to 2021 and the long-term nature of this assumption, we believe it is reasonable to give additional creditability to the long-term expectations for both 2020 and 2021. Stated another way, we believe it is reasonable for the Board to maintain their current assumption of 6.25% rather than reducing their investment return assumption to align more closely to the 2021 short-term expectations. Given the current volatility in the return expectations developed by these investment consultants, it is possible the 2022 expectations could revert back toward their expectations developed in 2020.

Payroll Growth Assumption

The payroll growth assumption is only used in development of the amortization cost component of the contribution rate. When emerging covered payroll changes are consistent with the payroll growth assumption, the amortization cost will remain relatively constant as a percentage of payroll (assuming there are no other gains or losses). However, if the future change in covered payroll is consistently less than assumed, then the amortization cost will gradually increase as a percentage of covered payroll.



CERS Board of Trustees
May 12, 2021
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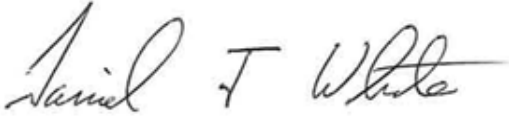
The current payroll growth assumption is 2.00% of pay. Based on the ten-year historical experience of the change in membership and covered payroll that is shown in Exhibit 3, we believe that 2.00% payroll growth remains within a reasonable range of appropriate assumptions and recommend the Board adopt a 2.00% payroll growth assumption for use in the June 30, 2021 actuarial valuation.

Closing Comments

This analysis was conducted in accordance with generally accepted actuarial principles and practices. We believe these recommended assumptions comply with Actuarial Standard of Practice No. 27, Selection of Economic Assumptions for Measuring Pension Obligations.

Both of the undersigned are members of the American Academy of Actuaries and meet all of the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. In addition, all of the undersigned are experienced in performing valuations for large public retirement systems.

Sincerely,



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



Janie Shaw, ASA, MAAA, EA
Consultant

Enclosure



Exhibit 1. Comparison of Price Inflation Assumption to Sources of Forward-Looking Expectations

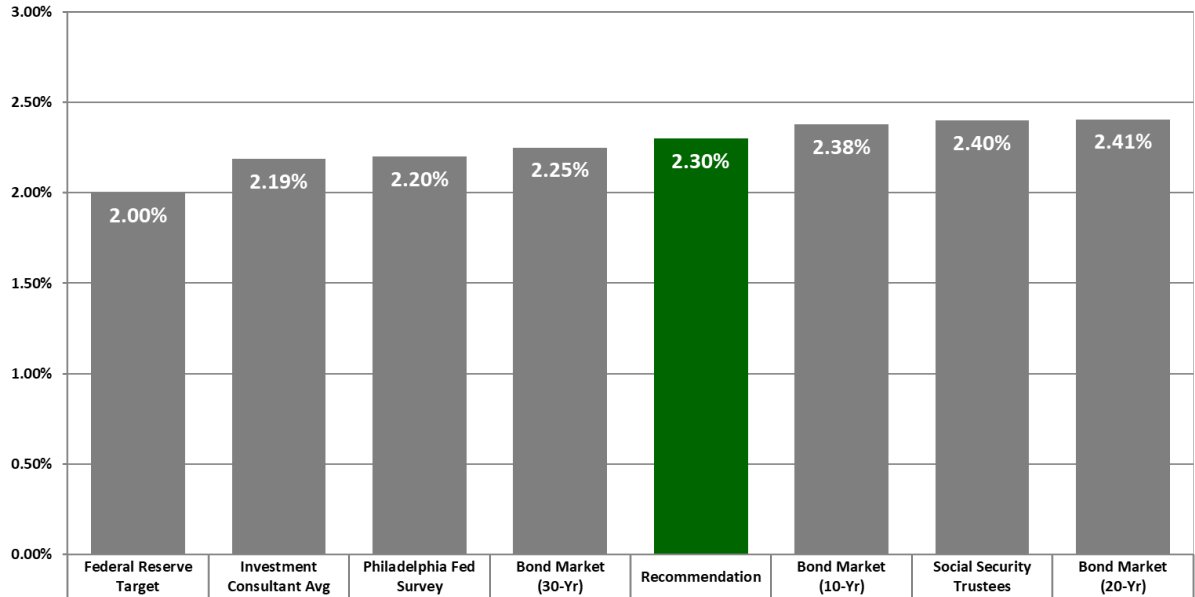


Exhibit 2.

Review of Forward-Looking Capital Market Expectations Mapped CERS's Investment Policy

	Investment Consultant	50th Percentile Expected Return (Geometric)		Probability of Exceeding 6.25%	
		2020	2021	2020	2021
	(1)	(2)	(3)	(4)	(5)
7 to 10 Year Expectations	1	5.85%	5.24%	43.52%	33.53%
	2	6.00%	5.24%	45.95%	35.04%
	3	6.29%	5.34%	50.69%	34.42%
	4	6.51%	5.36%	54.22%	36.43%
	5	5.71%	5.41%	39.15%	35.92%
	6	6.29%	5.60%	50.60%	40.58%
	7	6.20%	5.82%	49.32%	43.58%
20 to 30 Year Expectations	1	6.72%	6.27%	56.71%	50.27%
	2	6.48%	6.05%	53.53%	47.07%
	3	7.43%	7.23%	69.27%	64.70%
	4	6.79%	6.48%	57.84%	53.29%
	5	6.61%	6.17%	55.88%	48.64%
7-10 Year Expectation Avg:		6.12%	5.43%	47.64%	37.07%
20-30 Year Expectation Avg:		6.81%	6.44%	58.65%	52.79%

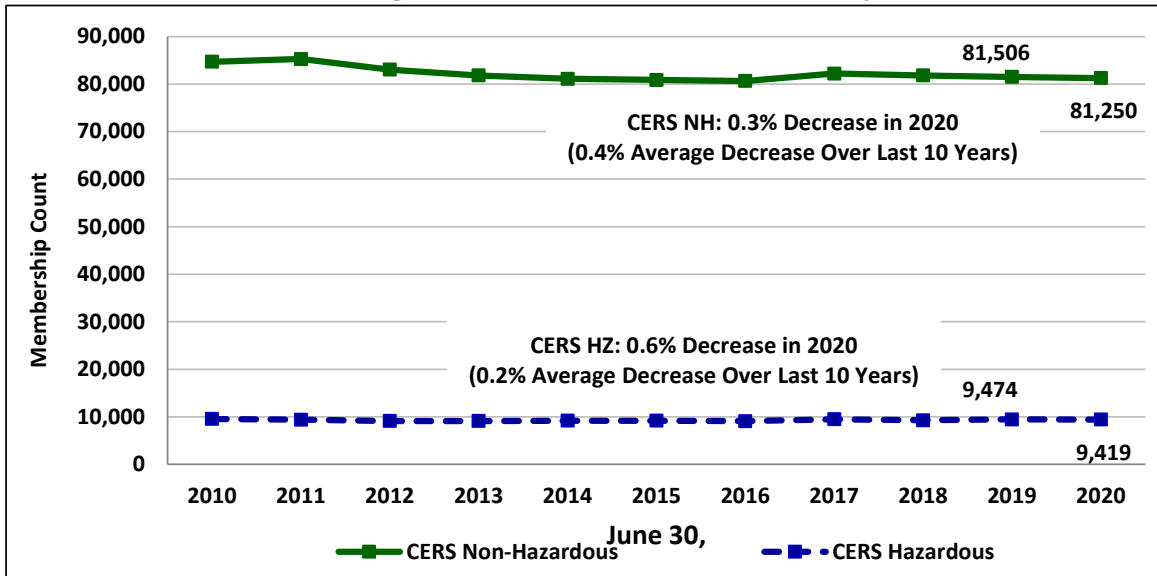
The primary purpose of performing this analysis using multiple investment consulting firms is to quantify the possible difference in forward looking return expectations within the professional investment community. Additionally, we have provided this analysis based on information from the following investment consulting firms:

- Aon
- BlackRock
- Callan Institute
- Cambridge Associates
- J.P. Morgan
- Meketa Investment Group
- Mercer
- NEPC
- RVK, Inc.
- Versus
- Wilshire Associates

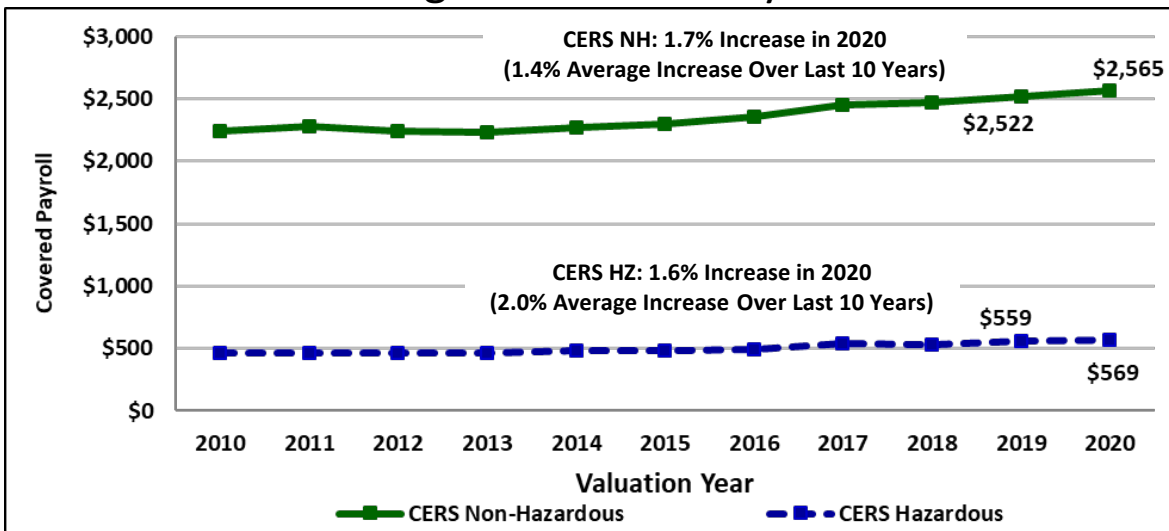


Exhibit 3. Review of Historical Change in Membership and Covered Payroll

Change in Active Membership



Change in Covered Payroll





KENTUCKY PUBLIC PENSIONS AUTHORITY

David L. Eager, Executive Director

1260 Louisville Road • Frankfort, Kentucky 40601
kyret.ky.gov • Phone: 502-696-8800 • Fax: 502-696-8822



TO: Members of the of the CERS & KRS Board of Trustees

FROM: Joint CERS & KRS Retiree Health Plan Committee

DATE: May 19, 2021 & May 20, 2021

SUBJECT: Joint CERS & KRS Retiree Health Plan Committee Report

The Retiree Health Plan Committee met on Tuesday, May 11, 2021. The Committee elected Mr. Jerry Powell (CERS) as Chair and Mr. Joe Grossman (KRS) as Vice-Chair. An overview of the Joint Committee structure was presented by Justin McNeil, Staff Attorney. The Committee reviewed a presentation from Humana regarding the following: Humana 2020 Plan Performance, Factors Expected to Impact 2022 Rates, and Humana Custom Care in an enhanced customer service model. The Committee also viewed a presentation on Kentucky Revised Statute 45a and discussed the time line for the 2022 Medicare Advantage Request for Proposal process.

CERS KRS Joint Retiree Health Care Committee Meeting - May 11, 2021 - Humana Presentation

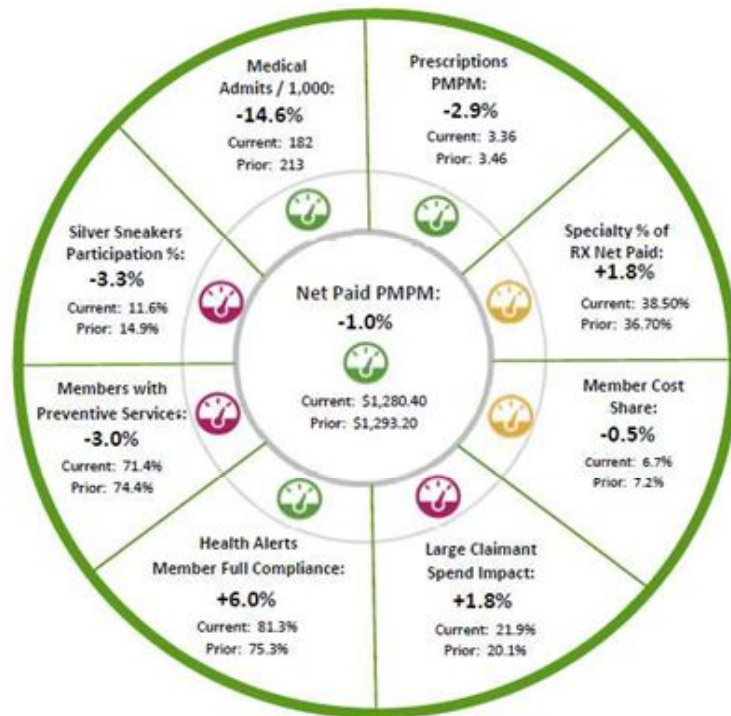
2020 Plan Performance

Presented by Tracey Garrison



CERS KRS Joint Retiree Health Care Committee Meeting - May 11, 2021 - Humana Presentation

Premium Plan – Total Executive Summary

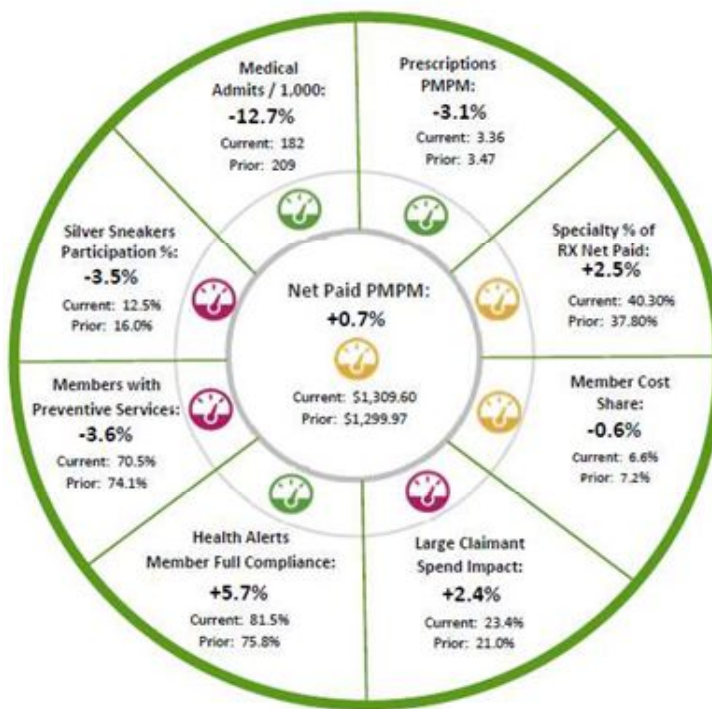


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CERS KRS Joint Retiree Health Care Committee Meeting - May 11, 2021 - Humana Presentation

Premium Plan KERS and SPRS Executive Summary

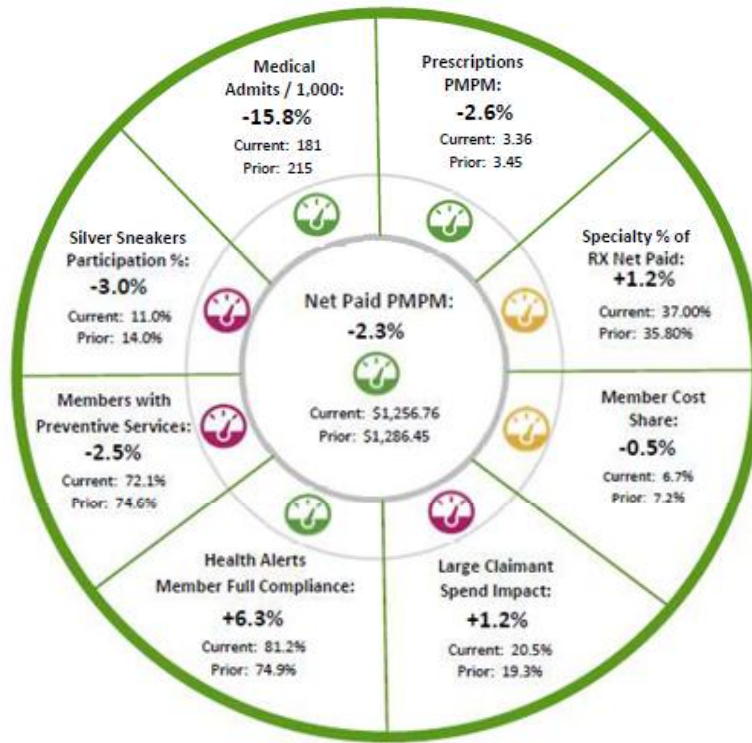


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CERS KRS Joint Retiree Health Care Committee Meeting - May 11, 2021 - Humana Presentation

Premium Plan CERS Executive Summary

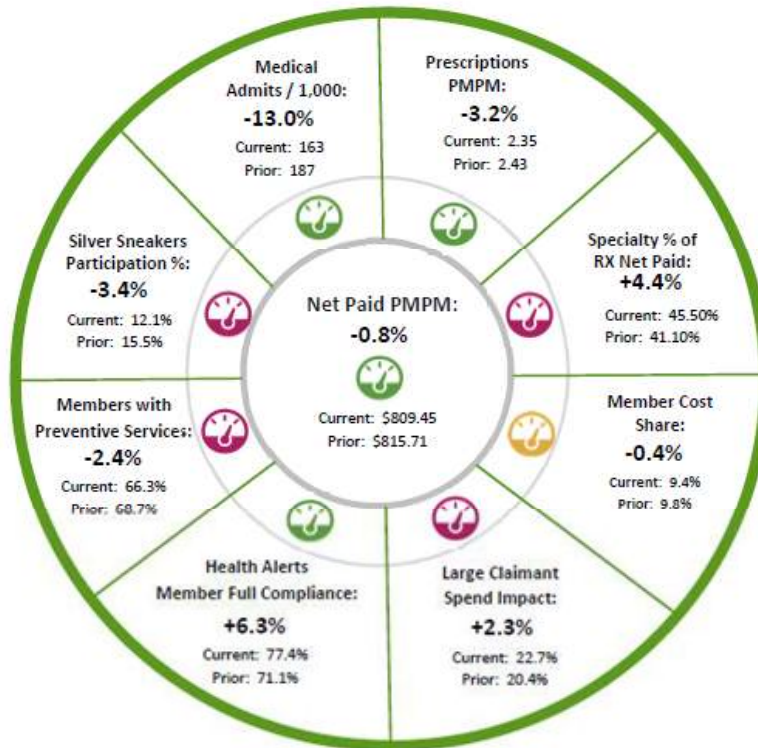


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CERS KRS Joint Retiree Health Care Committee Meeting - May 11, 2021 - Humana Presentation

Essential Plan - Total Executive Summary

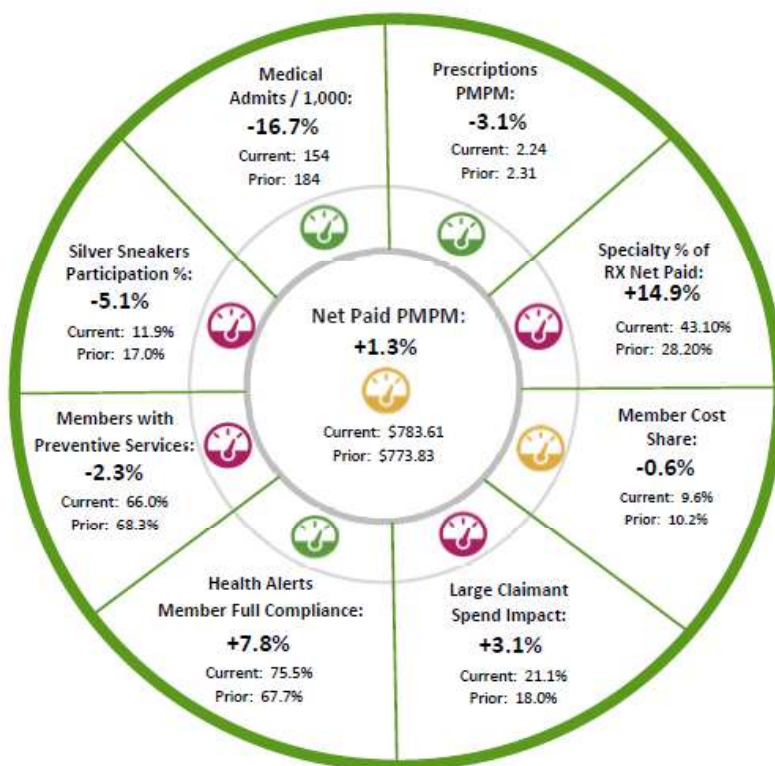


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CERS KRS Joint Retiree Health Care Committee Meeting - May 11, 2021 - Humana Presentation

Essential Plan KERS and SPRS Executive Summary

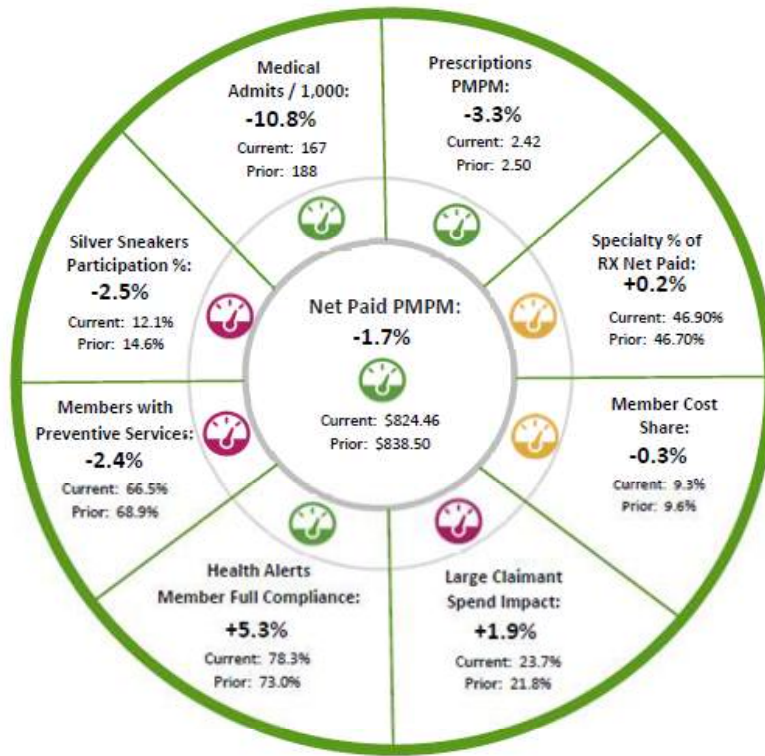


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CERS KRS Joint Retiree Health Care Committee Meeting - May 11, 2021 - Humana Presentation

Essential Plan CERS Executive Summary



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