County Employees Retirement System
Board of Trustees – Regular Meeting
December 2, 2024, at 2:00 pm ET (1:00 pm CT)
Live Video Conference/Facebook Live

AGENDA

1.	**Call to Order**	**Lisle Cheatham**
2.	**Opening Statement**	**Eric Branco**
3.	**Roll Call/Public Comment**	**Sherry Rankin**
4.	**Approval of Minutes* -- October 10, 2024, October 16, 2024, and November 4, 2024**	**Lisle Cheatham**
5.	**Chairman's Corner**	**Lisle Cheatham**
6.	**Actuarial Committee**	**Mike Foster**
	a. Update on 2024 Actuarial Valuation	**Danny White, GRS** **Janie Shaw, GRS**
	b. Employer Contribution Rates FY 25-26*	**Mike Foster**
7.	**KPPA Audit Committee Report**	**Bill O'Mara**
	a. CERS Draft FYE June 30, 2024 External Audit*, Includes: Financial Section of the Annual Report and GASB 67 and 74; report on internal control; Auditor Communications with those Charged with Governance	**Ryan Graham, Blue & Co**
	b. CERS Draft ACFR in its entirety to be approved and sent to KPPA for publication*	**Mike Lamb**
	c. GFOA ACFR Letter	**Mike Lamb**
	d. Internal Audit Report	**Kristen Coffey**
8.	**Investment Committee**	**Dr. Merl Hackbart**
	a. Investment Policy Statement*	**David Lindberg** **Craig Morton** **Chris Tessman**
	b. Quarterly Investment Update	**Steve Willer**
9.	**Finance Committee**	**Bill O'Mara**
	a. Hazardous Duty Requests*	**D'Juan Surratt**
	b. Quarterly Financial Update	**Mike Lamb**
10.	**CERS Election Update/Timeline**	**Kristen Coffey**
11.	**Closed Session***	**Eric Branco** **Michael Board**
12.	**Adjourn**	**Lisle Cheatham**

***Board May Take Action**

MINUTES OF MEETING
COUNTY EMPLOYEES RETIREMENT SYSTEM
BOARD OF TRUSTEES SPECIAL CALLED MEETING
OCTOBER 10, 2024, AT 2:00 P.M. ET
VIA LIVE VIDEO TELECONFERENCE

At the Special Called Meeting of the County Employees Retirement System Board of Trustees held on October 10, 2024, the following members were present: George Cheatham, Michael Foster, JT Fulkerson, Dr. Merl Hackbart, William O'Mara, Betty Pendergrass, and Jerry Powell. Staff members present were CERS CEO Ed Owens, III, Ryan Barrow, Rebecca Adkins, Erin Surratt, Michael Lamb, Michael Board, Steve Willer, Shaun Case, and Sherry Rankin. Others present included Patrick Brennan with Johnson Branco & Brennan, LLP; Craig Morton, Chris Tessman, David Lindberg, and Madeline Osadjan with Wilshire; and James Gibson, Shawn Fray, and Steve Webb, CERS Trustee Candidates.

1. Mr. Cheatham called the meeting to order.

2. Mr. Brennan read the Opening Statement.

3. Ms. Rankin called Roll.

4. Mr. Cheatham introduce agenda item ***Public Comment.*** Ms. Rankin noted there was no public comment.

5. Mr. Cheatham introduced agenda item ***Chairman's Corner*** *(Video 00:10:05 to 00:12:00).* First, Mr. Cheatham expressed his gratitude to all CERS candidates who stepped forward to be on the ballot in next year's Trustee election and thanked them for taking the time to attend today's meeting. Next, Mr. Cheatham provided an update on the revisions to the Investment Policy Statement and indicated that it will be brought to the full Board once completed. Also, he, along with Mr. Owens and Mr. Lamb, have been working closely with KPPA CEO Ryan Barrow to resolve some pending legal issues. Mr. Cheatham reported on the collaborative efforts being taken to strengthen the relationships with legislators and employers.

6. Mr. Cheatham introduced agenda item ***Investment Committee Recommendation*** *(Video 00:12:00 to 00:24:56).* Dr. Hackbart noted the CERS Investment Committee held a special meeting on September 17, 2024 to consider Real Return asset recommendations from the Investment Office and discuss the CERS Investment Policy Statement (IPS).

   Regarding the Real Asset allocation recommendation, the Investment Committee approved by unanimous vote on allocation of $60 million dollars to the Investment Manager, Strategic Value Partners, for a continuation vehicle in Project Spurs. After the presentation and discussion, the Investment Committee voted unanimously to approve the recommendation and now requests that the CERS Board of Trustees ratify the action taken by the Investment Committee.

   Dr. Hackbart then reviewed the proposed changes made by the Wilshire team to the Investment Policy Statement (IPS). The Board received a redline version of the current IPS, a clean version of the new IPS, and a memo highlighting the proposed changes for consideration. After thoroughly discussing the entire document, the Board requested that a version of the old IPS be created, showcasing the proposed changes side-by-side to help better understand the impact of the proposed changes. Consequently, no vote was taken, and this matter will be revisited at the next regularly scheduled investment committee meeting.

   Mr. Anthony Chiu then presented a Real Asset recommendation to the Board. Mr. Chiu gave an informative summary of the proposed investment with Strategic Value Partners (SVP) in a continuation vehicle for Project Spurs. Spurs is a 41-mile toll road asset in Texas between Austin and San Antonio which SVP acquired directly from lenders during a 2017 restructuring. Given the attractiveness of the asset, the compelling market opportunity, and current Real Return allocations, the Investment Staff is recommending a $60 million-dollar investment to be distributed among all CERS plans, pending successful legal negotiations. When fully funded, this would represent an additional ~0.3-0.4% of plan assets, depending on fluctuations in market value. It is anticipated this investment would be funded by existing cash or the unwinding of proxy positions based on the specific needs of each plan. Mr. Chiu also reviewed the other Real Return strategies under consideration. Following his presentation, Mr. Chiu answered questions from the Trustees. Dr. Hackbart noted several committee members expressed their appreciation for the presentation format used by the Investment Office, which highlighted other Real Return options that were considered but, for various reasons, not considered for investment at this time.

Mr. Powell made the motion to ratify the CERS Investment Committee's approval to allocate $60 million dollars to the Investment Manager, Strategic Value Partners, for a continuation vehicle in Project Spurs. Jim Tony Fulkerson seconded the motion, and the motion passed unanimously.

7. Mr. Cheatham introduced agenda item ***CERS Board Election Ballot*** *(Video 00:24:56 to 00:09:45)*. On behalf of Ms. Kristen Coffey, Mr. Owens III announced there are six (6) candidates for the two (2) Non-Hazardous Board of Trustee seats and two (2) candidates for the one (1) Hazardous Board of Trustee seat. All eight candidates were invited to the meeting and given an opportunity to introduce themselves and provide a brief statement regarding their desire to be a member of the Board. James Gibson, Shawn Fray, and Steve Webb were in attendance and briefly introduced themselves to the board members, providing a summary of their background and experience. Kenneth Reynolds, Sr., and Miriam Fisher were unable to attend the meeting. However, they submitted a written statement, which was read by Ms. Rankin. After hearing from each candidate, Mr. Owens III mentioned that a response has been requested from the Attorney General of the State of Kentucky regarding the potential candidates who are currently employed by a State Agency. Discussions surrounded the requirement to leave their current positions within State Government upon appointment to the CERS Board. Following the discussion, the Board requested that this issue will be resolved with the Attorney General as soon as possible but no later than January, when the formal ballots are due to be finalized.

8. Mr. Cheatham introduced agenda item ***CEO Report*** *(Video 00:57:08 to 01:03:01).* Mr. Owens III presented the CEO Quarterly Report highlighting the key achievements and

updates. He collaborated with the Chair and KPPA Communications Department to create and distribute a CERS press release. This release was sent to local newspapers and radio stations across the state, as well as to the KPPA legislative newsletter lists. The press release highlighted the exceptional returns recorded during the most recent fiscal year. As a result, every legislator received the press release at their official email address. Mr. Owens III also mentioned the positive feedback received from legislators, noting that the work done by the Board was widely heralded by the Kentucky League of Cities (KLC).

He also indicated the collaborative work being done by Wilshire, the KPPA Investment Office, and the CERS Investment Committee Chair to review and revise the Investment Policy Statement (IPS). The IPS was presented at the most recent Investment Committee for approval. However, after a very robust discussion, it was determined additional work needed to be completed before the entire IPS could be approved. He stated that the Investment Committee, as well as the full CERS Board, realize the importance of the IPS and deem it is the most significant policy determination the Trustees will make, and the deliberation process will ensure the most comprehensive policy and the best application of their fiduciary responsibility.

9. Mr. Cheatham introduced agenda item ***KPPA Executive Director Report*** *(Video 01:03:01 to 01:10:00).* Mr. Barrow provided the CERS Board of Trustees a written KPPA Update. In his review, he covered topics including communication, legislator meetings, legislation tracking, Louisville office update, the National Association of State Retirement Administrators Conference, rating agencies, Public Pension Oversight Board Meeting, the upcoming risk management training, All Employee Meetings, and the Kentucky Employee Charitable Campaign. Mr. Barrow announced that Steve Willer, CIO, received the Markets Group 2024 Elite Award celebrating Chief Investment Officers from Public Pension Funds, Endowments, Foundations, and Corporate Pension Funds for their excellent contributions and innovative strategies in their respective areas.

10. Mr. Cheatham introduced agenda item ***Closed Session*** *(Video 01:10:00 to 01:10:20).* Mr. Branco noted there was no business to discuss in Closed Session.

11. There being no further business, Mr. Cheatham requested a motion to ***adjourn*.** Mr. Fulkerson made a motion to adjourn and was seconded by Mr. O'Mara. The motion was passed unanimously.

The remainder of this page is left blank intentionally.

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 October 10, 2024, were approved on December 2, 2024.

Chair of the Board of Trustees

I have reviewed the Minutes of the October 10, 2024, Board of Trustees Meeting for content, form, and legality.

Executive Director
Office of Legal Services

MINUTES OF MEETING
COUNTY EMPLOYEES RETIREMENT SYSTEM
BOARD OF TRUSTEES EDUCATION SESSION
OCTOBER 16, 2024, AT 2:00 P.M. ET
VIA LIVE VIDEO TELECONFERENCE

At the Trustee Education Session Meeting of the County Employees Retirement System Board of Trustees held on October 16, 2024, the following members were present: George Cheatham, Dr. Patricia Carter, Michael Foster, Jim Tony Fulkerson, Dr. Merl Hackbart, William O'Mara, and Betty Pendergrass. Staff members present were CERS CEO Ed Owens III, Ryan Barrow, Rebecca Adkins, Erin Surratt, Michael Lamb, Victoria Hale, Steve Willer, Connie Pettyjohn, Jeff Pritchett, Wes Crosthwaite, Phillip Cook, Ashley Gabbard, Sherry Rankin, and Sandy Hardin. Others present was Eric Branco with Johnson, Branco, & Brennan LLC.

1. Mr. Cheatham called the meeting to order.

2. Mr. Branco read the Opening Statement.

3. Ms. Rankin called Roll.

4. Mr. Cheatham introduce agenda item ***Public Comment.*** Ms. Rankin noted there was no public comment.

5. Mr. Cheatham introduced agenda item ***Chairman's Corner*** *(Video 00:07:00 to 00:07:35).* Mr. Cheatham expressed his to gratitude Erin Surratt, Executive Director of the Office Benefits, for the informative presentation that she and her staff have prepared for today's education session.

6. Mr. Cheatham introduced agenda item ***Members Benefits Training – Payment Options Pension Spiking, and Medicare Eligible Insurance*** *(Video 00:07:35 to 01:34:47).* Ms. Surratt and her staff delivered a training presentation on CERS benefits focusing on retirement payment options; pension spiking; and health insurance, specifically focusing on transitioning to Medicare. Following the informative presentation, Ms. Surratt

answered questions posed by the Board.

7. There being no further business, Mr. Cheatham requested a motion to ***adjourn.*** Mr. Fulkerson made a motion to adjourn and was seconded by Dr. Carver. The motion was passed unanimously.

The remainder of this page is left blank intentionally.

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 October 16, 2024, were approved on December 2, 2024.

____

Chair of the Board of Trustees

I have reviewed the Minutes of the October 16, 2024, Board of Trustees Meeting for content, form, and legality.

____

Executive Director
Office of Legal Services

MINUTES OF MEETING
COUNTY EMPLOYEES RETIREMENT SYSTEM
BOARD OF TRUSTEES MEETING
NOVEMBER 4, 2024, AT 2:00 P.M. ET
VIA LIVE VIDEO TELECONFERENCE

At the Regular Meeting of the County Employees Retirement System Board of Trustees held on November 4, 2024, the following members were present: George Cheatham, Dr. Patricia Carver, Michael Foster, Jim Tony Fulkerson, Dr. Merl Hackbart, William O'Mara, Betty Pendergrass, and Jerry Powell. Staff members present were CERS CEO Ed Owens, III, Ryan Barrow, Rebecca Adkins, Erin Surratt, Victoria Hale, Michael Lamb, Steve Willer, Leigh Ann Davis, Connie Pettyjohn, D'Juan Surratt, Brian Caldwell, Anthony Chiu, Joe Gilbert, Shaun Case, Ashley Gabbard, Connie Davis, Sandy Hardin, and Sherry Rankin. Others present included Eric Branco with Johnson Branco & Brennan, LLP; John Patterson, Marc Friedberg, and Chris Tessman with Wilshire; Danny White, Kristi Kiesel, and Janie Shaw with GRS.

1. Mr. Cheatham called the meeting to order.

2. Mr. Branco read the ***Opening Statement***.

3. Ms. Rankin took ***Roll Call***.

4. Mr. Cheatham introduced the agenda item ***Public Comment*** *(Video 00:09:05 to 00:13:25)*. Ms. Rankin indicated that there were three public comments and read as follows:

   Andrew Parrish:
   Good morning, I hope you all are doing well, and I appreciate your commitment to the Commonwealth and the ones you serve. I would like to briefly introduce myself. My name is A. J. Parrish, and I currently serve as the night shift sergeant for the Paducah Police Department and am under the Tier 3 system as I joined the force in May of 2014. I am submitting this comment to you all because I want to bring to light an issue with retention among law enforcement that you are likely all too familiar with. While this issue is affecting agencies nationwide, I want to focus on our issues specifically here in Kentucky.

Currently, the Commonwealth offers three Tiers for retirement, but I will focus on the one that is currently in effect as of January 1, 2014, which is Tier 3. Essentially, peace officers are no longer under a pension style retirement but rather a 401K. Unlike the other retirement Tiers prior to 2014, under Tier 3, the participant has the option to leave law enforcement and take their 401K balance with them. Specifically, they are vested after 60 months (or 5 years) of employment. What this means is that instead of staying in law enforcement for 25 years, officers can now leave law enforcement at 5 years of service and go work in the private sector with their 401K. This is causing a massive strain on law enforcement agencies across the Commonwealth to retain seasoned, veteran officers. Instead, agencies are now forced to cycle through hiring young officers, send them to the academy to get trained and then hope that they will stay faithful to law enforcement for 25 years. While this seems grim, I do have a solution to this issue. In January, House Bill 143 was introduced which would afford Tier 3 participants the option of going to Tier 2. This would greatly benefit the safety and security of the communities within our Commonwealth by retaining law enforcement professionals for 25 years to reach full retirement under the pension system. I humbly request you take some time to fully research this issue and support the efforts to afford us the opportunity to go from a Tier 3 retirement system to Tier 2. I would be happy to discuss this issue further and can be reached via e-mail or phone at xxx-xxx-xxxx. Again, thank you for your time and support in this matter.

<u>Debby Combs:</u>

Please support your devoted retirees that faithfully served their communities by leading action to provide a long-awaited COLA to its retirees.

<u>Thomas Wathen:</u>

It has come to my attention that having a 15-year-old child and turning 65 is a big cost advent. My insurance through the CERS goes from $340.00 for two party to $940.00 for a single child. Hazardous duty Retires which includes helicopter pilots pay zero for spouse and children. How is this possible since we both pay into the retirement system. A person cannot afford this retirement with children unless in the Hazardous duty retirement. I had a Hazardous duty retirement job being an Electrician and working at a Wastewater

Treatment Plant that has constant odor complaints. Can you shine some light on this being 7 days from election time?

Mr. Cheatham requested that CERS CEO Mr. Owens III reach out to these individuals regarding their concerns.

5. Mr. Cheatham introduced agenda item ***Chairman's Corner*** *(Video 00:13:25 to 00:13:36).* Mr. Cheatham noted he did not have anything to report at this time.

6. Mr. Cheatham introduced agenda item ***Approval of Minutes – September 9, 2024, and September 17, 2024*** *(Video 00:13:36 to 00:15:36).*

   Mr. Foster made a motion to approve the September 9, 2024, minutes as presented. The motion was seconded by Mr. O'Mara and passed unanimously.

   Dr. Hackbart made a motion to approve the September 17, 2024, minutes as presented. The motion was seconded by Mr. Fulkerson and passed unanimously.

7. Mr. Cheatham introduced agenda item ***Actuarial Committee Report*** *(Video 00:15:36 to 01:07:27).* Mr. Foster noted that the Actuarial Committee met earlier today and voted to accept the Actuarial Report presented by GRS and to forward to the CERS Board for approval. Mr. Foster introduced Ms. Shaw, Mr. White, and Ms. Kiesel with GRS, who presented a summary of the 2024 Valuation Results and answered questions posed by the Board members. In closing, Ms. Shaw noted last year's increase in active membership and payroll is a positive signal for the System and its participating employees. She emphasized the importance of maintaining the current funding policy to continue improving the System's financial security.

   A motion was made by Dr. Hackbart and seconded by Dr. Carver to adopt the 2024 Actuarial Valuation as presented. The motion passed unanimously.

8. Mr. Cheatham introduced agenda item ***Joint Retiree Health Plan Committee Report***

(Video 01:07:27 to 01:12:52). Mr. Powell stated that the Joint CERS & KRS Retiree Health Plan (RHP) Committee met October 21, 2024, to review an informational presentation from Humana regarding the 2025 Pharmacy Review and Pharmacogenomics. Mr. Powell noted that the outcomes of the Pharmacogenomics pilot plan lacked statistical significance to demonstrate positive impacts and value. Therefore, Humana has no current plans to introduce Pharmacogenomics at this time. Ms. Pettyjohn briefly discussed open enrollment and retiree engagement/outreach efforts.

9. Mr. Cheatham introduced agenda item ***Investment Committee Report*** *(Video 01:12:52 to 01:41:54).* Dr. Hackbart provided a summary of the Investment Committee Special Meeting held on October 22, 2024. The Investment Committee approved by unanimous vote the investment of CERS funds in the Kayne Anderson Continuation Vehicle. Given the exigent circumstances presented by the short due diligence period afforded the Committee, the Committee exercised its authority under the Investment Policy Statement (IPS) to directly approve the recommendation of the Investment Office without CERS Board ratification. The Investment Office recommended, with the support of Wilshire, that the Investment Committee approve the rolling of the KPPA investment into the continuation vehicle. Mr. Steve Willer and Mr. Anthony Chiu provided an overview of the information regarding the Kraken continuation vehicle and addressed questions from the Board members. Mr. Willer noted that the Investment Staff can collaborate with Mr. Owens III to set parameters in the Investment Policy Statement (IPS) to ensure these situations are handled appropriately going forward.

10. Mr. Cheatham introduced agenda item ***Closed Session*** *(Video 01:41:54 to 01:42:49).* Ms. Pendergrass made a motion to enter closed session to discuss pending litigation pursuant to KRS 61.810(1)(c). The motion was seconded by Mr. Powell and passed unanimously.

Mr. Cheatham read the following closed session statement: A motion having been made in open session to move into a closed session for a specific purpose, and such motion having carried by majority vote in open, public session, the Board shall now enter closed session to consider litigation,pursuant to KRS 61.810(1)(c), because of the necessity of protecting the confidentiality of the Systems' litigation strategy and preserving any available attorney-client privilege.

****Mr. Fulkerson exited the meeting prior to the start of Closed Session****

Closed Session *(Video - Part 2 - 00:00:12 to 00:01:55).*

Coming back into open session, Mr. Cheatham requested a motion to come out of Closed Session. Mr. O'Mara made a motion to return to open session and was seconded by Ms. Pendergrass. The motion passed unanimously. Mr. Cheatham stated that no action was taken as a result of the closed session discussions.

11. There being no further business, Mr. Cheatham requested a motion to ***adjourn*** the meeting. The motion to adjourn the meeting was made by Mr. O'Mara and seconded by Mr. Powell. The motion passed unanimously.

Copies of all documents presented are incorporated as part of the Minutes of the Board of Trustees held November 4, 2024, except documents provided during a closed session conducted pursuant to the Open Meetings Act and exempt under the Open Records Act.

The remainder of this page left blank intentionally.

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 November 4, 2024, were approved on December 2, 2024.

Chair of the Board of Trustees

I have reviewed the Minutes of the November 4, 2024, Board of Trustees Meeting for content, form, and legality.

Executive Director
Office of Legal Services

CERS
County Employees Retirement System

MEMORANDUM

TO: County Employees Retirement System Board of Trustees

From: Mike Foster
Chair, Actuary Committee

Date: December 2, 2024

Subject: CERS Employer Contribution Rates FY 2026

The County Employees Retirement System (CERS) held a special called Actuarial Committee meeting on November 4, 2024, where Gabriel, Roeder, Smith & Company (GRS), presented the draft results of the CERS 2024 Actuarial Valuation. Furthermore, that same day, CERS held a regular Board of Trustees meeting, where GRS presented the same draft to the full Board.

The draft valuation included the attached summary of actuarially developed employer contribution rates for the fiscal year beginning July 1, 2025, including a comparison to the previous year. More details about the 2024 valuation can be found in both packets from the CERS Actuarial Committee or CERS Board meeting from November 4, 2024.

The improved funding status of all plans, the increase in active membership and payroll along with investment returns exceeding the assumed rate of return have all contributed to the reduction of the employer contribution rates. The recommendation for CERS Non-Hazardous rates decreased from 19.71% to 18.62%, and CERS Hazardous rates decreased from 38.61% to 35.73% in 2024. Both pension plans are still on track for full funded status in 2049 and both insurance plans remain fully funded at 100% or higher.

Section 1.2 (i) and (j) of the CERS Bylaws require the Board to consider the actuarial valuation and adopt employer contribution rates for both the pension and health insurance plans. KRS 78.784(2) requires CERS to forward a copy of the final actuarial valuation to the Legislative Research Commission, 10 days after receipt and no later than November 15.

RECOMMENDATION: The CERS Board of Trustees should adopt the following actuarially developed employer contribution rates for the fiscal year beginning July 1, 2025, as presented in the CERS 2024 Actuarial Valuation.

RATE CATEGORY	CERS Nonhazardous	CERS Hazardous
Pension	18.62%	34.00%
Insurance	0.00%	1.73%
Total Employer Contribution Rate	**18.62%**	**35.73%**

Required Employer Contributions

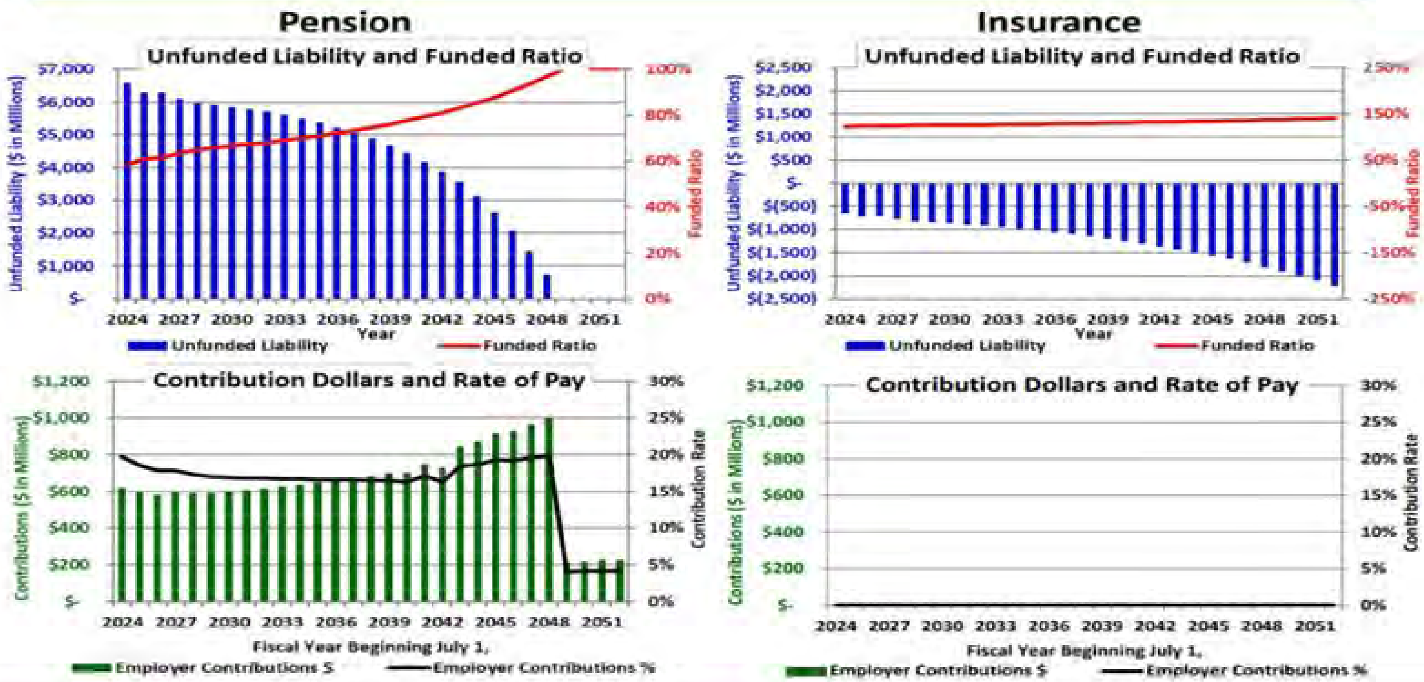
	CERS Non-Hazardous		CERS Hazardous	
	2023 Val	2024 Val	2023 Val	2024 Val
(1)	(2)	(3)	(4)	(5)
Pension Fund	19.71%	18.62%	36.49%	34.00%
Insurance Fund	0.00%	0.00%	2.12%	1.73%
Actuarially Determined Contribution Rate, payable as a percentage of payroll	**19.71%**	**18.62%**	**38.61%**	**35.73%**
Difference		**-1.09%**		**-2.88%**

Note: 2023 Valuation set the contribution rates for FYE2025.
2024 Valuation will be used to set the contribution rates for FYE2026.

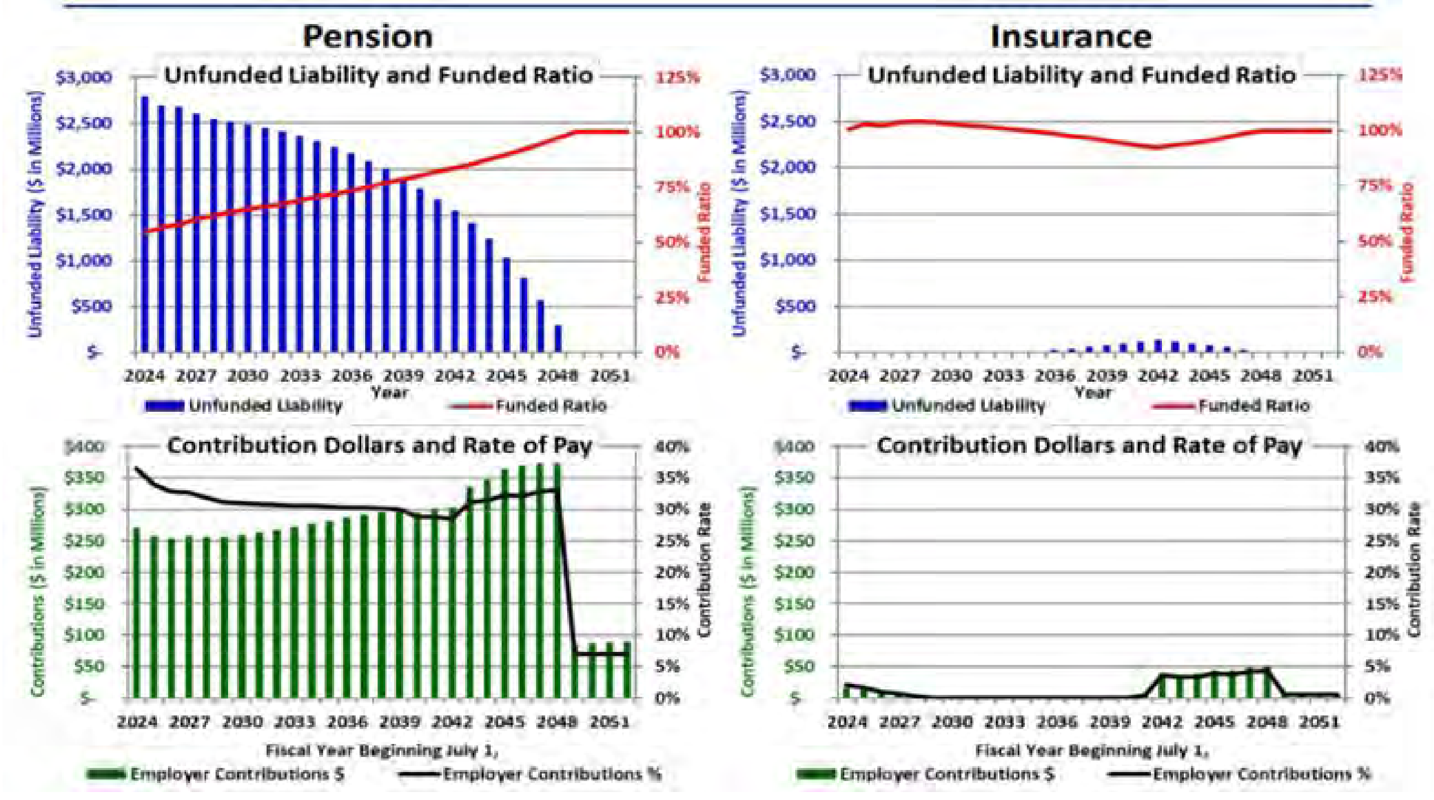
Funding Results – CERS ($ in millions)

	Non-Hazardous System				Hazardous System			
	Pension		Insurance		Pension		Insurance	
Item	2023	2024	2023	2024	2023	2024	2023	2024
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Total Normal Cost Rate	9.46%	9.37%	2.35%	2.15%	17.46%	17.17%	3.77%	3.40%
Member Rate	(5.00)%	(5.00)%	(0.63)%	(0.67)%	(8.00)%	(8.00)%	(0.64)%	(0.69)%
Employer Normal Cost Rate	4.46%	4.37%	1.72%	1.48%	9.46%	9.17%	3.13%	2.71%
Administrative Expenses	0.83%	0.85%	0.03%	0.03%	0.31%	0.31%	0.08%	0.07%
Amortization Cost	14.42%	13.40%	(2.85)%	(2.37)%	26.72%	24.52%	(1.09)%	(1.05)%
Total Actuarially Determined Rate	**19.71%**	**18.62%**	**0.00%**	**0.00%**	**36.49%**	**34.00%**	**2.12%**	**1.73%**
Actuarial Accrued Liability (AAL)	$15,296	$15,776	$2,560	$2,901	$5,850	$6,070	$1,604	$1,668
Actuarial Value of Assets	$8,585	$9,212	$3,366	$3,549	$3,008	$3,280	$1,615	$1,676
Unfunded AAL	**$6,711**	**$6,565**	**$(806)**	**$(648)**	**$2,842**	**$2,791**	**$(11)**	**$(8)**
Funded Ratio	**56.1%**	**58.4%**	**131.5%**	**122.3%**	**51.4%**	**54.0%**	**100.7%**	**100.5%**

CERS Non-Hazardous Projection



CERS Hazardous Projection



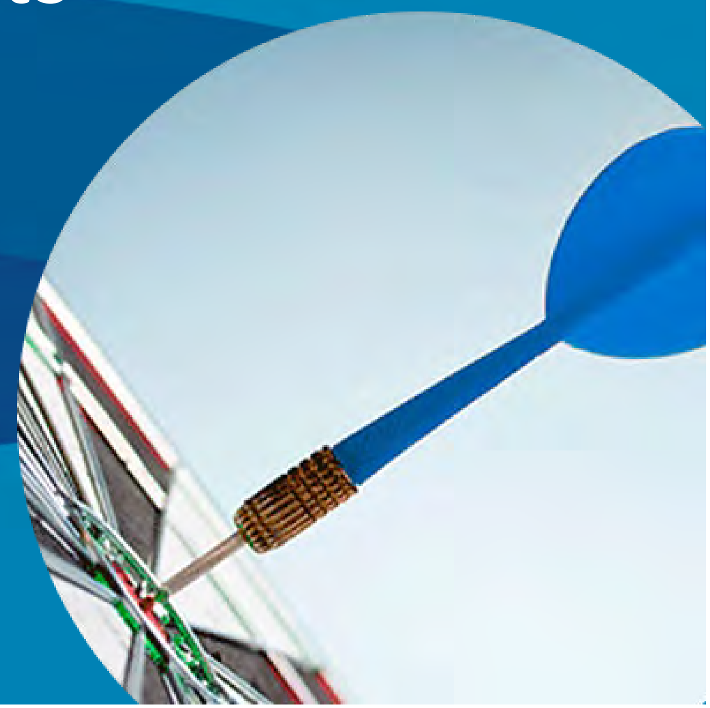
County Employees Retirement System

2024 Actuarial Valuation Results

November 4, 2024

Janie Shaw, ASA, EA, MAAA

Danny White, FSA, EA, MAAA



Comments on Valuation Results

- Change in active membership and payroll
  - Active membership increased across both funds
  - Non-Hazardous: 8% increase in membership payroll
  - Hazardous: 10% increase in membership payroll

Comments on Valuation Results

- FYE 2024 Investment Experience
  - 11% return on market value
    - Assumed rate of return: 6.50%
  - Fund assets $841M more than expected for CERS ($584M pension and $257M insurance)
  - $261M in asset gains recognized this year ($184M pension and $77M insurance)

GRS

Comments on Valuation Results

- Retirement Fund Liability Experience
  - $284M loss for both retirement funds combined
  - Primarily attributed to salary increases greater than expected for individual active members
- Insurance Fund Liability Experience
  - $254M loss for both insurance funds combined
  - 2025 Medicare premiums significantly higher than expected
  - 2025 non-Medicare premiums lower than expected

GRS

Salary Experience

Review of Salary Increase for Members Who Were Active in FY 2023 and FY 2024
($ in Thousands)

NonHazardous

Beginning of Year Service	Count	FY 2023 Pay	FY 2024 Pay	% Increase
(1)	(2)	(3)	(4)	(5)
1 - 5	26,061	$ 812,014	$ 905,199	11%
6 - 10	14,144	543,629	589,174	8%
11 - 15	8,637	363,586	392,403	8%
16 - 20	7,912	362,332	388,834	7%
21 - 25	5,921	287,781	307,663	7%
26 - 30	2,014	109,919	117,145	7%
Over 30	544	33,338	35,444	6%
Total	65,233	2,512,599	2,735,862	9%

Hazardous

Beginning of Year Service	Count	FY 2023 Pay	FY 2024 Pay	% Increase
(1)	(2)	(3)	(4)	(5)
1 - 5	3,007	$ 176,887	$ 200,654	13%
6 - 10	1,986	145,517	155,820	7%
11 - 15	1,406	115,747	124,352	7%
16 - 20	1,476	131,533	139,664	6%
21 - 25	379	38,419	40,817	6%
26 - 30	104	11,452	12,174	6%
Over 30	29	3,629	3,670	1%
Total	8,387	623,184	677,151	9%

Required Employer Contributions

	CERS Non-Hazardous		CERS Hazardous	
	2023 Val	2024 Val	2023 Val	2024 Val
(1)	(2)	(3)	(4)	(5)
Pension Fund	19.71%	18.62%	36.49%	34.00%
Insurance Fund	0.00%	0.00%	2.12%	1.73%
Actuarially Determined Contribution Rate, payable as a percentage of payroll	**19.71%**	**18.62%**	**38.61%**	**35.73%**
Difference		**-1.09%**		**-2.88%**

Note: 2023 Valuation set the contribution rates for FYE2025.
2024 Valuation will be used to set the contribution rates for FYE2026.

Required Employer Contributions ($millions)

	CERS Non-Hazardous		CERS Hazardous	
	2023 Val	2024 Val	2023 Val	2024 Val
(1)	(2)	(3)	(4)	(5)
Pension Fund	$583	$596	$252	$258
Insurance Fund	0	0	15	13
Total Actuarially Determined Employer Contribution	**$583**	**$596**	**$267**	**$271**
Change in Actuarially Determined Employer Contribution		**$13**		**$4**

Note: 2022 Valuation set the contribution rates for FYE2024.
2023 Valuation will be used to set the contribution rates for FYE2025.

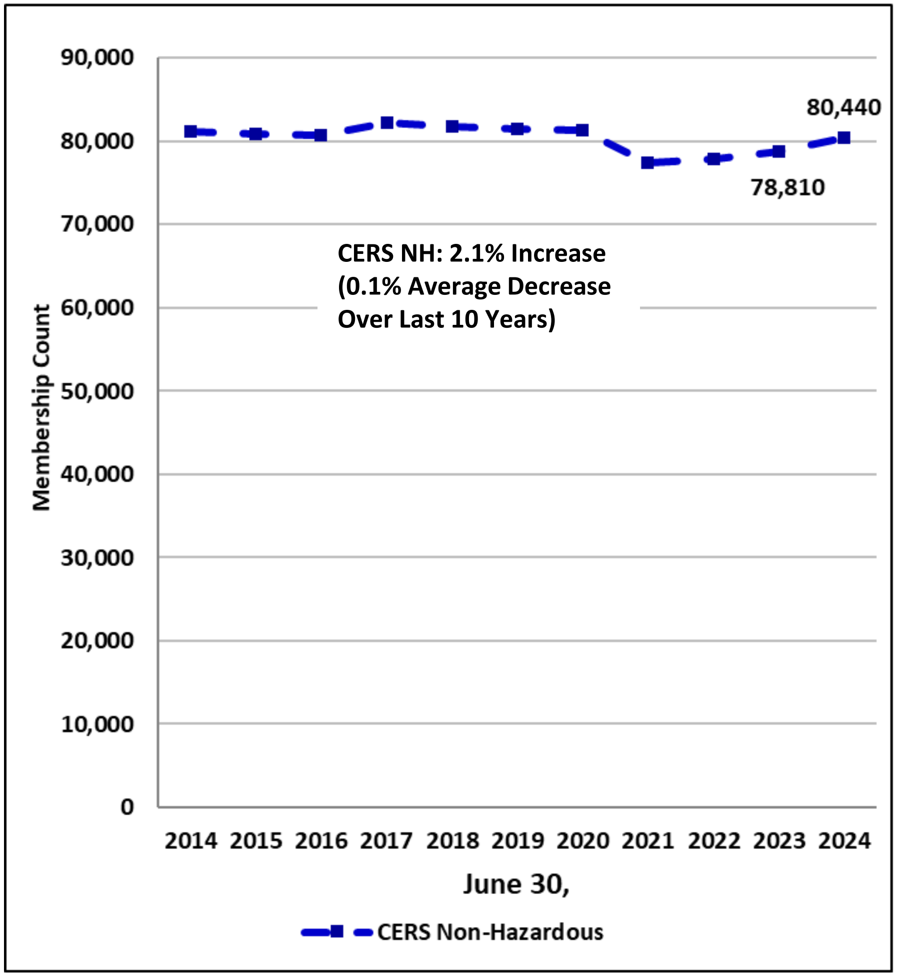
GRS

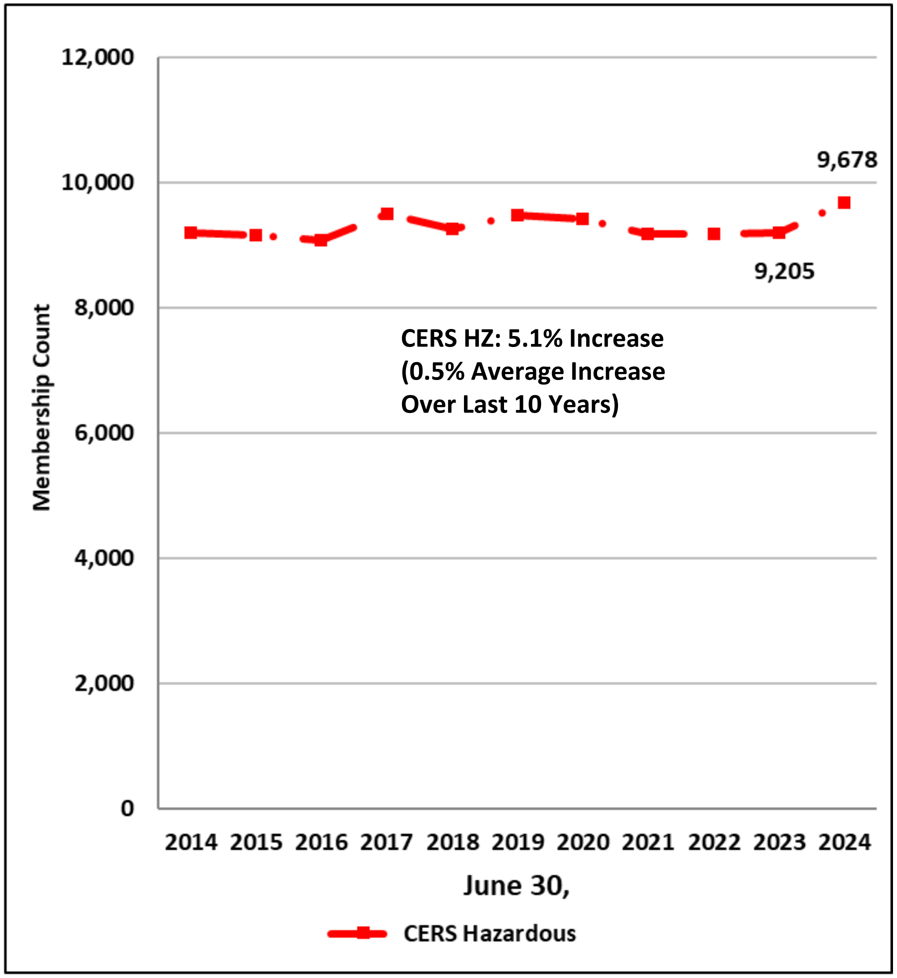
Unfunded Actuarial Accrued Liability – Actuarial Value of Asset Basis ($ in Billions)

	CERS Non-Hazardous		CERS Hazardous	
	2023 Val	2024 Val	2023 Val	2024 Val
(1)	(2)	(3)	(4)	(5)
Pension Fund	$6.71	$6.56	$2.84	$2.79
Insurance Fund	(0.81)	(0.65)	(0.01)	(0.01)
Total Unfunded Actuarial Accrued Liability	**$5.91**	**$5.92**	**$2.83**	**$2.78**
Change in Unfunded Actuarial Accrued Liability		**$0.01**		**$(0.05)**

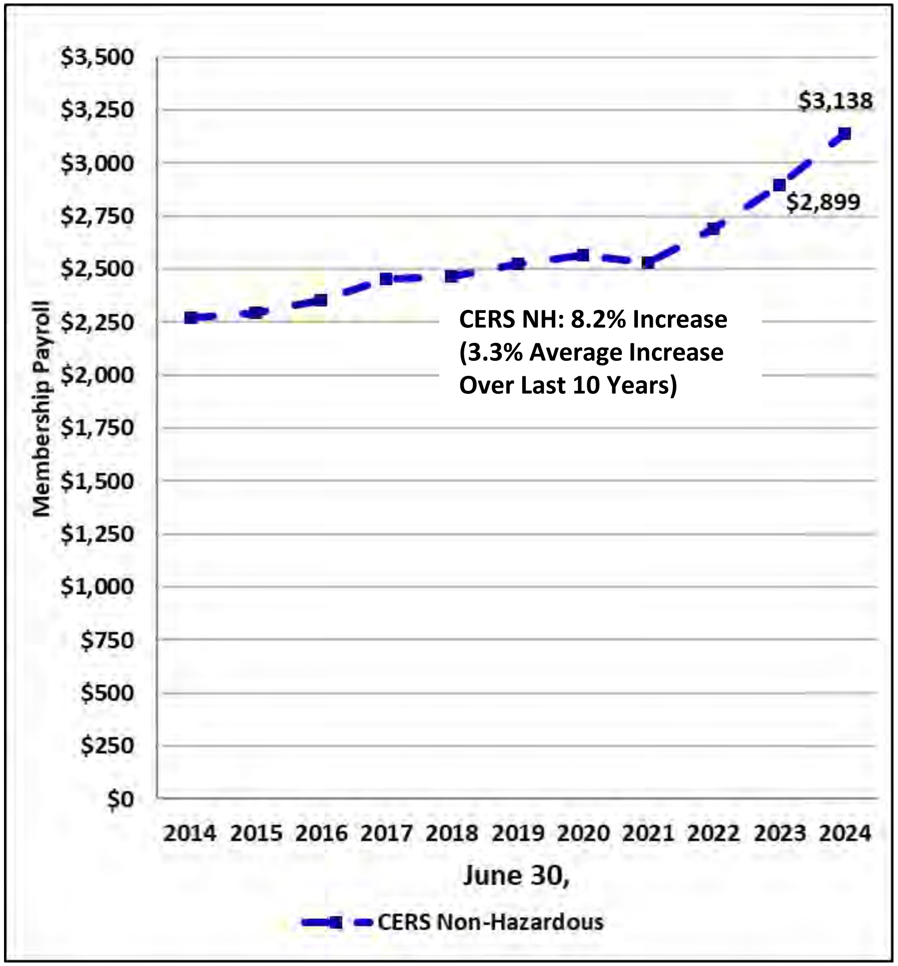
Note: Amounts may not add due to rounding

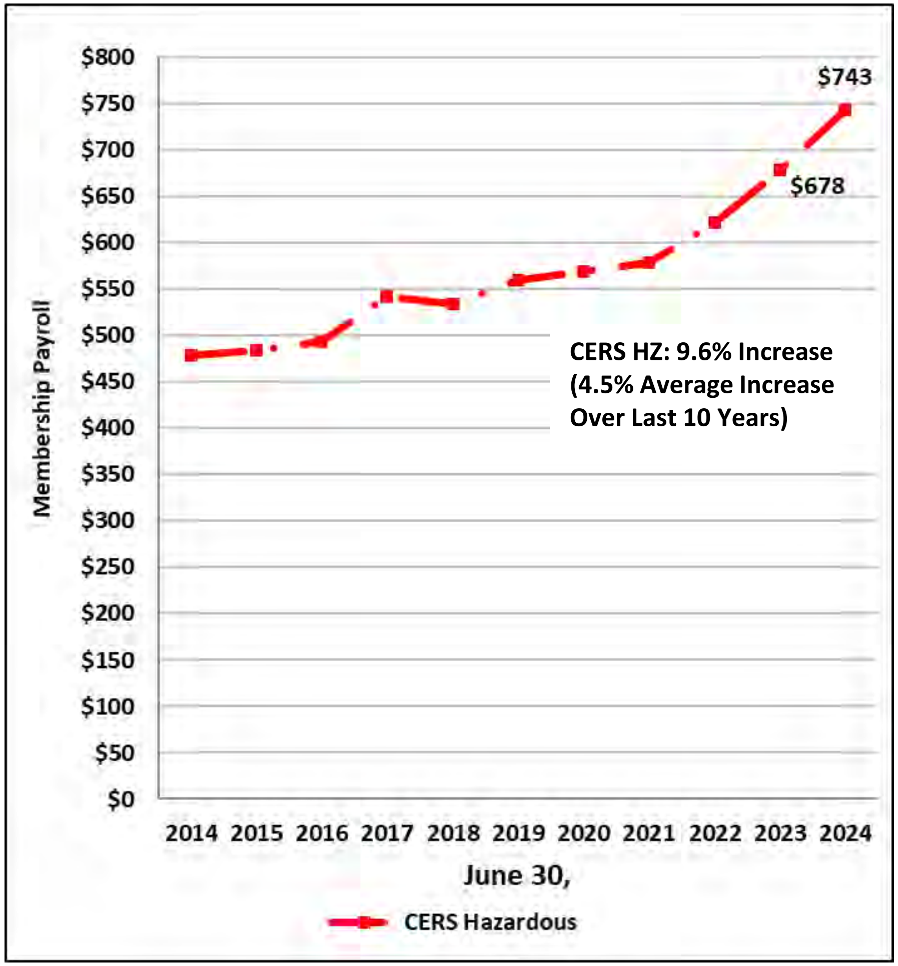
Active Membership Count





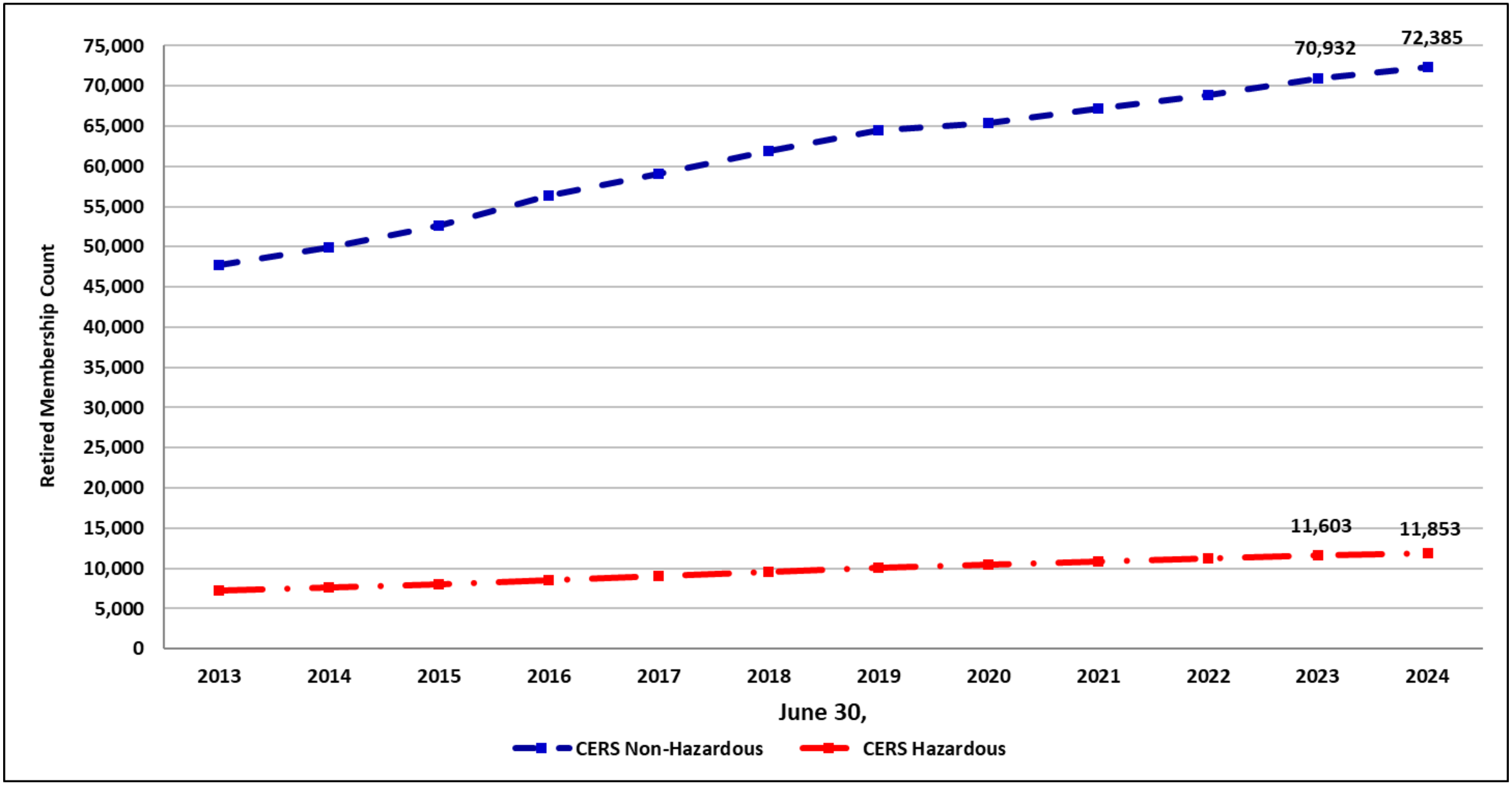
Membership Payroll ($ in Millions)





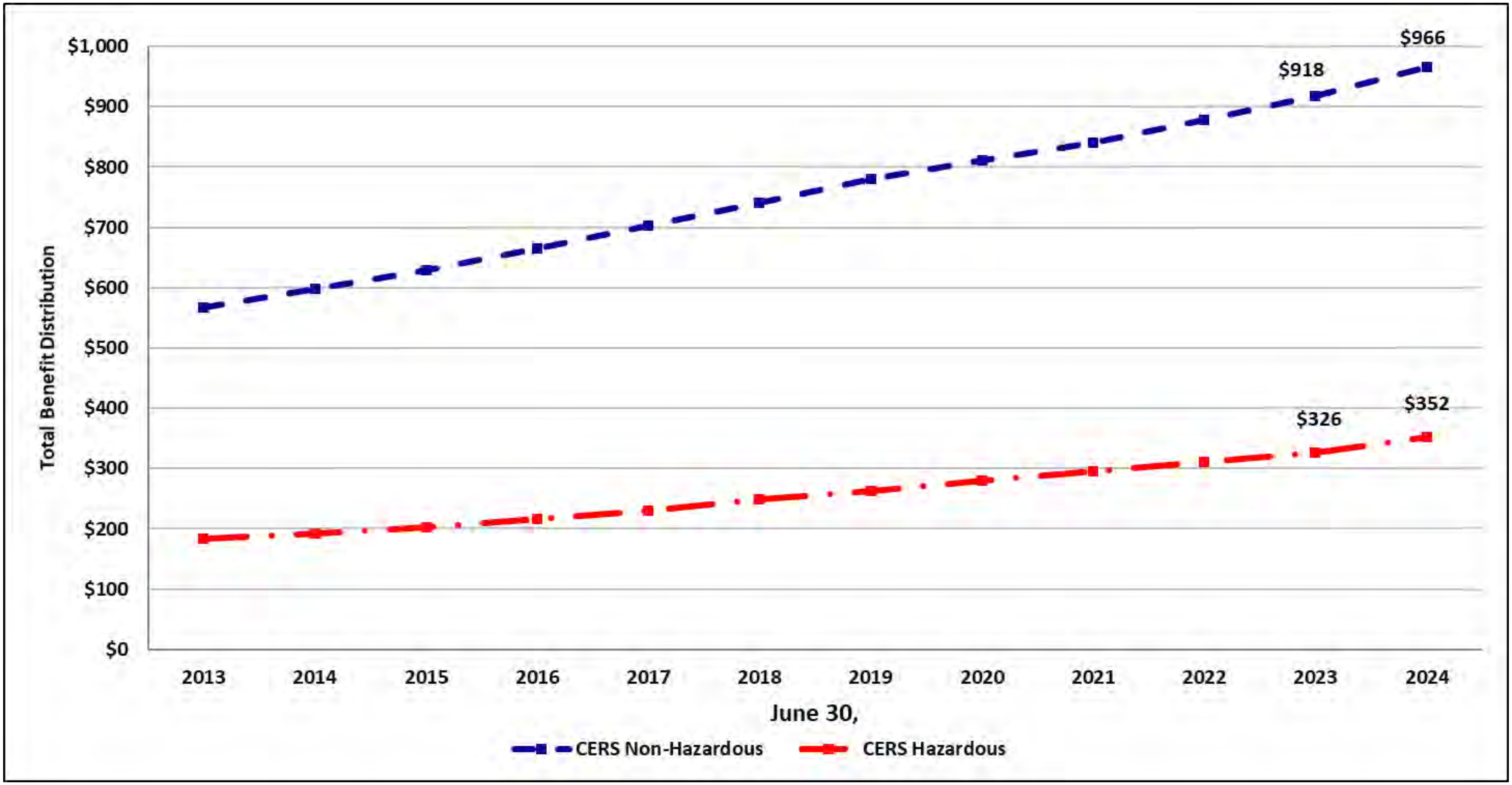
GRS

Retired Membership Count



GRS

Pension Benefit Distributions ($ in Millions)



Funding Results – CERS ($ in millions)

Item	Non-Hazardous System Pension 2023	Non-Hazardous System Pension 2024	Non-Hazardous System Insurance 2023	Non-Hazardous System Insurance 2024	Hazardous System Pension 2023	Hazardous System Pension 2024	Hazardous System Insurance 2023	Hazardous System Insurance 2024
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Total Normal Cost Rate	9.46%	9.37%	2.35%	2.15%	17.46%	17.17%	3.77%	3.40%
Member Rate	(5.00)%	(5.00)%	(0.63)%	(0.67)%	(8.00)%	(8.00)%	(0.64)%	(0.69)%
Employer Normal Cost Rate	4.46%	4.37%	1.72%	1.48%	9.46%	9.17%	3.13%	2.71%
Administrative Expenses	0.83%	0.85%	0.03%	0.03%	0.31%	0.31%	0.08%	0.07%
Amortization Cost	14.42%	13.40%	(2.85)%	(2.37)%	26.72%	24.52%	(1.09)%	(1.05)%
Total Actuarially Determined Rate	**19.71%**	**18.62%**	**0.00%**	**0.00%**	**36.49%**	**34.00%**	**2.12%**	**1.73%**
Actuarial Accrued Liability (AAL)	$15,296	$15,776	$2,560	$2,901	$5,850	$6,070	$1,604	$1,668
Actuarial Value of Assets	$8,585	$9,212	$3,366	$3,549	$3,008	$3,280	$1,615	$1,676
Unfunded AAL	**$6,711**	**$6,565**	**$(806)**	**$(648)**	**$2,842**	**$2,791**	**$(11)**	**$(8)**
Funded Ratio	**56.1%**	**58.4%**	**131.5%**	**122.3%**	**51.4%**	**54.0%**	**100.7%**	**100.5%**

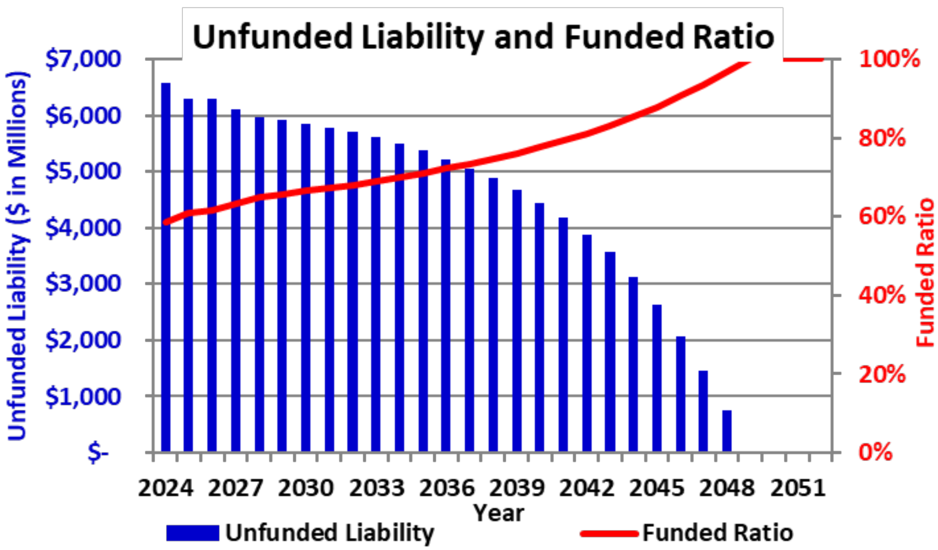
PROJECTION INFORMATION
PENSION AND INSURANCE

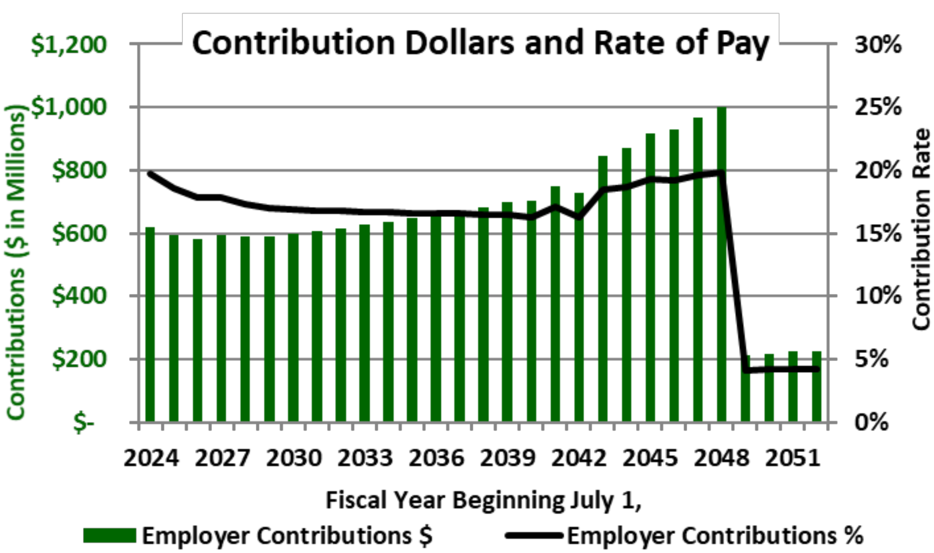
Projection Assumptions

- Assumes that all actuarial assumptions are realized, including the assumed annual asset return of 6.50%
- Full actuarially determined contribution paid each year
- Membership payroll assumed to increase by 2% each year
  - Total active population assumed to remain level

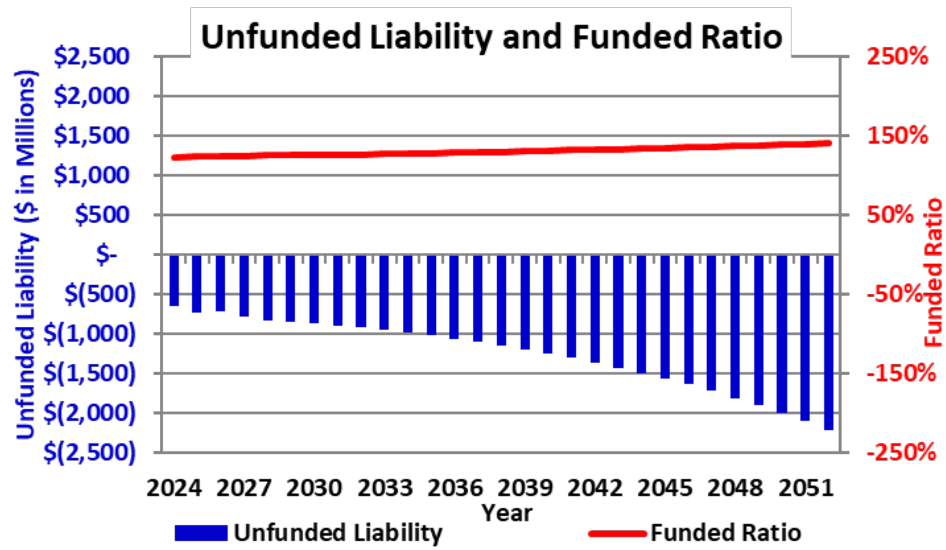
CERS Non-Hazardous Projection

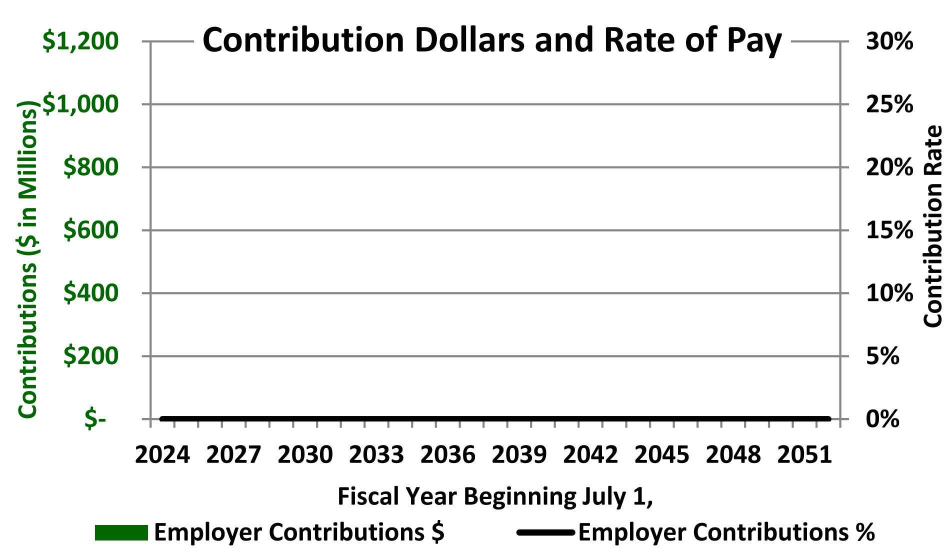
Pension





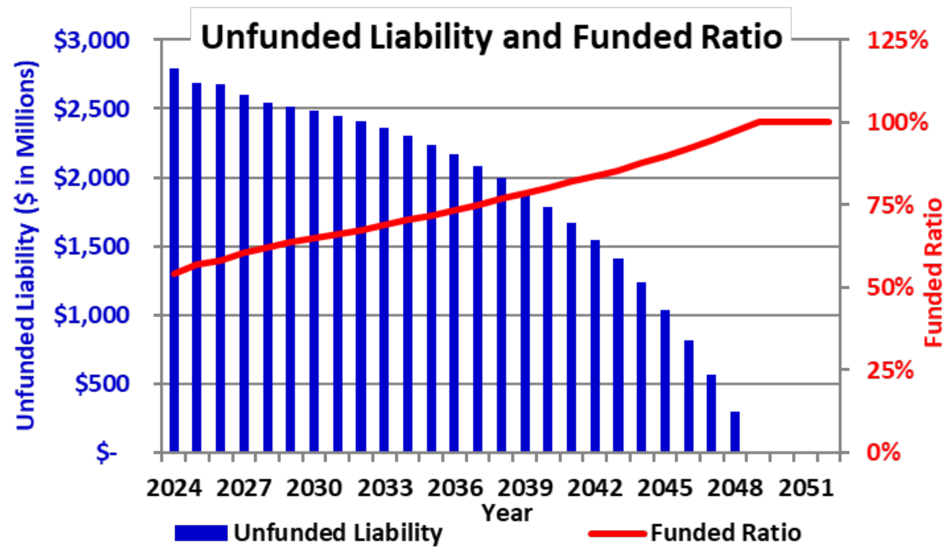
Insurance

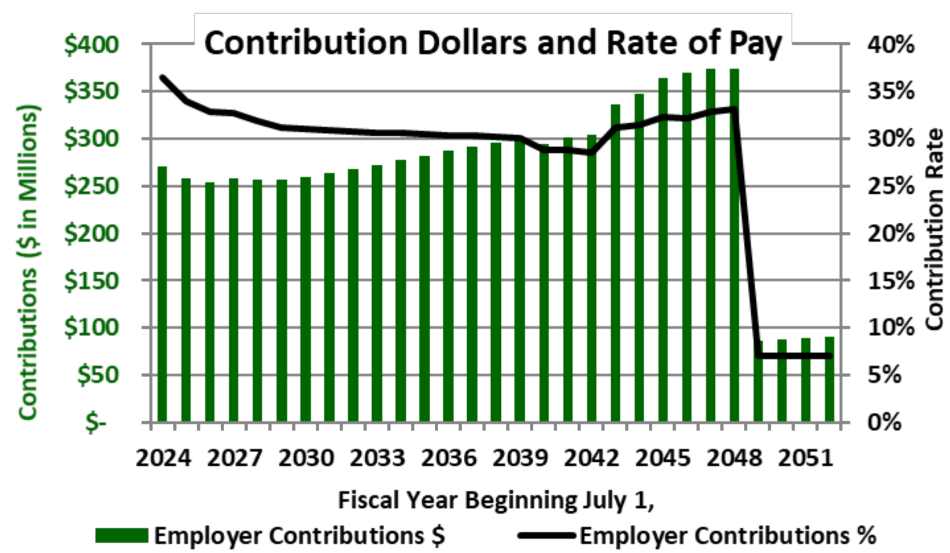




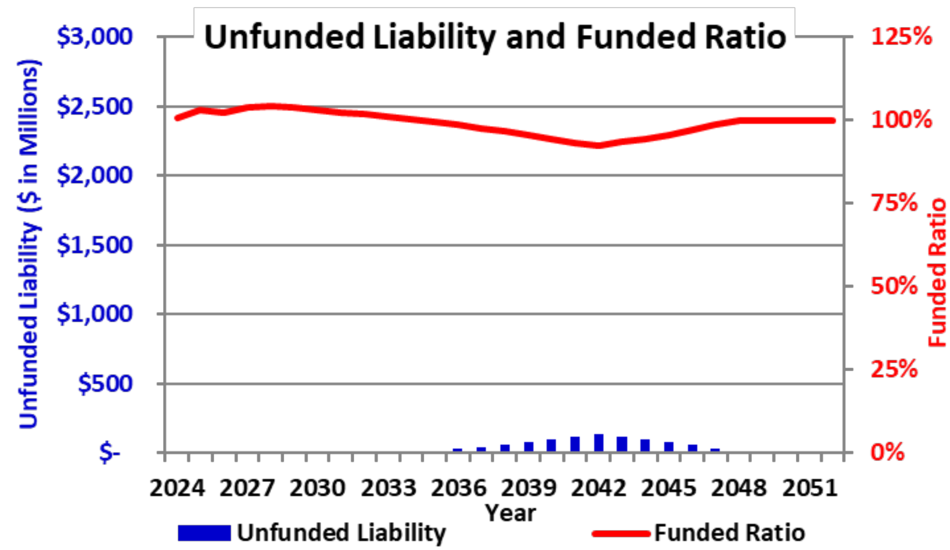
CERS Hazardous Projection

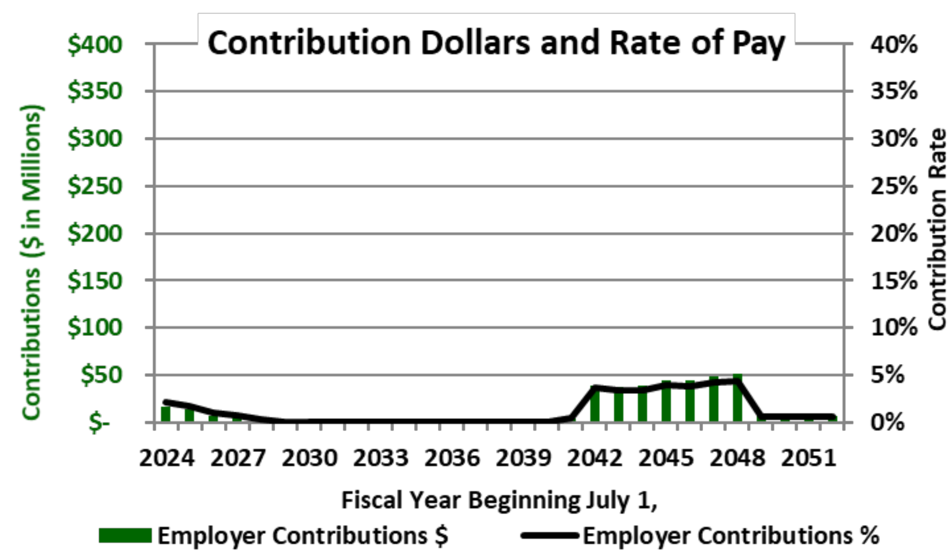
Pension





Insurance





Closing Comments on 2024 Valuation Results

- Last year's increase in active membership and payroll is a positive signal for the System and its participating employers
- It is imperative the current funding policy be maintained as it will continue to improve the System's financial security

Disclaimers

- This presentation is intended to be used in conjunction with the actuarial valuation as of June 30, 2024. This presentation should not be relied on for any purpose other than the purpose described in the valuation report.
- This presentation shall not be construed to provide tax advice, legal advice or investment advice.
- Readers are cautioned to examine original source materials and to consult with subject matter experts before making decisions related to the subject matter of this presentation.

P: 469.524.0000 | www.grsconsulting.com

October 30, 2024

Boards of Trustees
County Employees Retirement System
1260 Louisville Road
Frankfort, KY 40601

Re: Certification for the Actuarial Results as of June 30, 2024

Dear Board of Trustees:

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

The Board of Trustees of the County Employees Retirement System must certify the employer contribution rates for CERS for the fiscal year beginning July 1, 2025 and ending June 30, 2026. The contribution requirements determined by June 30, 2024 actuarial valuations are intended to become effective twelve months after the valuation date and, as such, are intended to be used by the Board for recommending these required contributions effective July 1, 2025.

These contributions are calculated based on the membership data and plan assets as of June 30, 2024. These calculations are also based on the benefit provisions in effect as of June 30, 2024.

FINANCING OBJECTIVES AND FUNDING POLICY

The Kentucky Public Pensions Authority (KPPA) administers pension and health insurance funds to provide for monthly retirement income and retiree health insurance benefits. The total employer contribution requirement is comprised of a contribution to each respective fund.

The employer contribution for CERS is determined in accordance with Section 78.635 of Kentucky Statute. As specified by the Statute, the employer contribution is comprised of a normal cost contribution and an actuarial accrued liability contribution. The actuarial accrued liability contribution is calculated by amortizing the unfunded accrued liability as of June 30, 2019 over a closed 30-year amortization period (25 years remaining as of June 30, 2024). Gains and losses incurring in years after June 30, 2019 are amortized as separate, closed 20-year amortization bases.

5605 North MacArthur Boulevard | Suite 870 | Irving, Texas 75038-2631

If the contributions made are equal to the Actuarially Determined Contribution (ADC), and if all actuarial assumptions are met, there will not be an unfunded accrued liability at the end of the 25-year period remaining from the original closed 30-year amortization base. Accordingly, the ADC under the funding policy can be considered a "Reasonable Actuarially Determined Contribution" as required by the Actuarial Standards of Practice.

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, 2024, the funded ratios for the pension and health insurance funds are as follows:

	Funded Ratio	
System	**Pension**	**Health Insurance**
CERS Non-Hazardous	58.4%	122.3%
CERS Hazardous	54.0%	100.5%

ASSUMPTIONS AND METHODS

The Boards of Trustees, in consultation with the actuary, set the actuarial assumptions and methods used in the actuarial valuation. In general, the assumptions used in the June 30, 2024 actuarial valuations were adopted for first use in the June 30, 2023 actuarial valuations and are based on the experience study conducted through June 30, 2022.

In our opinion, all the assumptions and methods used for funding purposes adopted by the Board's Trustees satisfy the requirements in the Actuarial Standards of Practice that are applicable for actuarial valuations of public retirement systems.

It is our opinion that the actuarial assumptions used to perform these valuations are internally consistent and reasonably reflect the anticipated future experience of the Systems. 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 requirements, and funding periods. The actuarial calculations are intended to provide information for rational decision making.

Boards of Trustees
October 30, 2024
Page 3

ADDITIONAL DISCLOSURES

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, the Solvency Test, the Summary of Active Member Valuation Data, the Summary of Retired Member Valuation Data, 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 June 30, 2024, by KPPA staff. The staff also supplied asset information as of June 30, 2024. 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 KPPA.

CERTIFICATION

We certify that the information presented herein is accurate and fairly portrays the actuarial position of the Retirement Systems as of June 30, 2024. 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.

Boards of Trustees
October 30, 2024
Page 4

To the best of our knowledge, this report is complete and accurate and is in accordance with generally recognized actuarial practices and methods. Mr. White and Ms. Shaw are Enrolled Actuaries. All three 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 herein. In addition, all three are independent of KPPA and are experienced in performing valuations for large public retirement systems. This communication shall not be construed to provide tax advice, legal advice or investment advice.

Sincerely,

Gabriel, Roeder, Smith & Company

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

Janie Shaw, ASA, EA, MAAA
Consultant

Krysti Kiesel, ASA, MAAA
Consultant

County Employees Retirement System (CERS)

Actuarial Valuation Report as of June 30, 2024

P: 469.524.0000 | www.grsconsulting.com

October 30, 2024

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

Subject: Actuarial Valuation as of June 30, 2024

Dear Trustees of the Board:

This report describes the current actuarial condition of the County Employees Retirement System (CERS) and provides the actuarially determined employer contribution rates for fiscal year ending June 30, 2026. In addition, the report analyzes changes in CERS's financial condition and provides various summaries of the data.

Separate reports are issued with regard to valuation results determined in accordance with Governmental Accounting Standards Board (GASB) Statements 67, 68, 74 and 75. Results of this report should not be used for any other purpose without consultation with the undersigned. Valuations are prepared annually as of June 30, the first day of the plan year for CERS. This report was prepared at the request of the Board of Trustees of the County Employees Retirement System (Board) and is intended for use by the Kentucky Public Pensions Authority (KPPA) staff and those designated or approved by the Board.

FINANCING OBJECTIVES AND FUNDING POLICY

The contribution rates determined by these actuarial valuations are intended to become effective twelve months after the valuation date and, as such, are intended to be used by the Board for recommending required contribution rates effective July 1, 2025 and ending June 30, 2026.

The employer contribution rate is determined in accordance with Section 78.635 of Kentucky Statute. As specified by the Statute, the employer contribution is comprised of a normal cost contribution and an actuarial accrued liability contribution. The actuarial accrued liability contribution is calculated by amortizing the unfunded accrued liability as of June 30, 2019 over a closed 30-year amortization period (25 years remaining as of June 30, 2024). Gains and losses incurring in years after June 30, 2019 are amortized as separate closed 20-year amortization bases.

Board of Trustees
October 30, 2024
Page 2

If the contributions made are equal to the Actuarially Determined Contribution (ADC), and if all actuarial assumptions are met, there will not be an unfunded accrued liability at the end of the 25-year period remaining from the original closed 30-year amortization base. Accordingly, the ADC under the funding policy can be considered a “Reasonable Actuarially Determined Contribution” as required by the Actuarial Standards of Practice.

House Bill 362 passed during the 2018 legislative session and limited the increases to the employer contribution rates to 12% over the prior fiscal year through June 30, 2028. This legislation does not impact the contribution rates calculated in this actuarial valuation. The recommended certified contribution rates are equal to the actuarially determined rates.

ASSUMPTIONS AND METHODS

The Board of Trustees, in consultation with the actuary, sets the actuarial assumptions and methods used in the actuarial valuation. Except where noted in this report, the assumptions used in this actuarial valuation are based on an experience study conducted with experience through June 30, 2022, adopted by the Board of Trustees on May 9, 2023.

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.

BENEFIT PROVISIONS

The benefit provisions reflected in these valuations are those which were in effect on June 30, 2024. There were no material benefit provision changes since the prior valuation.

DATA

Member data for retired, active and inactive members was supplied as of June 30, 2024, by KPPA staff. The staff also supplied asset information as of June 30, 2024. 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 KPPA.

Board of Trustees
October 30, 2024
Page 3

CERTIFICATION

We certify that the information presented herein is accurate and fairly portrays the actuarial position of CERS as of June 30, 2024.

All of our work conforms with generally accepted actuarial principles and practices, and is 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.

To the best of our knowledge, this report is complete and accurate and is in accordance with generally recognized actuarial practices and methods. Mr. White and Ms. Shaw are Enrolled Actuaries. All three 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 herein. In addition, all three are independent of KPPA and are experienced in performing valuations for large public retirement systems. This communication shall not be construed to provide tax advice, legal advice or investment advice.

Sincerely,

Gabriel, Roeder, Smith & Company

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

Janie Shaw, ASA, EA, MAAA
Consultant

Krysti Kiesel, ASA, MAAA
Consultant

Table of Contents

SECTION 1

EXECUTIVE SUMMARY

Summary of Principal Results

(Dollar amounts expressed in thousands)

	Non-Hazardous		Hazardous		Total	
	June 30, 2024	June 30, 2023	June 30, 2024	June 30, 2023	June 30, 2024	June 30, 2023
Actuarially Determined Contribution:						
Retirement	18.62%	19.71%	34.00%	36.49%		
Insurance	0.00%	0.00%	1.73%	2.12%		
Total	18.62%	19.71%	35.73%	38.61%	N/A	N/A
Contribution Rate for Next Fiscal Year[1]	18.62%	19.71%	35.73%	38.61%		
Assets:						
Retirement						
• Actuarial value (AVAR)	$9,211,735	$8,585,073	$3,279,623	$3,008,147	$12,491,358	$11,593,220
• Market value (MVAR)	$9,596,244	$8,672,597	$3,416,897	$3,035,192	$13,013,141	$11,707,789
• Ratio of actuarial to market value of assets	96.0%	99.0%	96.0%	99.1%	96.0%	99.0%
Insurance						
• Actuarial value (AVAI)	$3,549,422	$3,366,332	$1,676,141	$1,615,349	$5,225,563	$4,981,681
• Market value (MVAI)	$3,707,277	$3,398,375	$1,752,366	$1,634,192	$5,459,643	$5,032,567
• Ratio of actuarial to market value of assets	95.7%	99.1%	95.7%	98.8%	95.7%	99.0%
Funded Status:						
Retirement						
• Actuarial accrued liability	$15,776,491	$15,296,429	$6,070,201	$5,849,995	$21,846,692	$21,146,424
• Unfunded accrued liability on AVAR	$6,564,756	$6,711,356	$2,790,578	$2,841,848	$9,355,334	$9,553,204
• Funded ratio on AVAR	58.4%	56.1%	54.0%	51.4%	57.2%	54.8%
• Unfunded accrued liability on MVAR	$6,180,247	$6,623,832	$2,653,304	$2,814,803	$8,833,551	$9,438,635
• Funded ratio on MVAR	60.8%	56.7%	56.3%	51.9%	59.6%	55.4%
Insurance						
• Actuarial accrued liability	$2,901,345	$2,560,387	$1,668,057	$1,604,146	$4,569,402	$4,164,533
• Unfunded accrued liability on AVAI	($648,077)	($805,945)	($8,084)	($11,203)	($656,161)	($817,148)
• Funded ratio on AVAI	122.3%	131.5%	100.5%	100.7%	114.4%	119.6%
• Unfunded accrued liability on MVAI	($805,932)	($837,988)	($84,309)	($30,046)	($890,241)	($868,034)
• Funded ratio on MVAI	127.8%	132.7%	105.1%	101.9%	119.5%	120.8%
Membership:						
• Number of						
- Active Members	80,440	78,810	9,678	9,205	90,118	88,015
- Retirees and Beneficiaries	72,385	70,932	11,853	11,603	84,238	82,535
- Inactive Members	115,789	111,086	4,418	4,287	120,207	115,373
- Total	268,614	260,828	25,949	25,095	294,563	285,923
• Projected payroll of active members	$3,137,814	$2,898,813	$743,133	$677,988	$3,880,947	$3,576,801
• Average salary of active members	$39,008	$36,782	$76,786	$73,654	$43,065	$40,639

[1] Contribution rates calculated with the June 30, 2024 valuation (June 30, 2023 valuation) are effective for fiscal year ending June 30, 2026 (June 30, 2025).

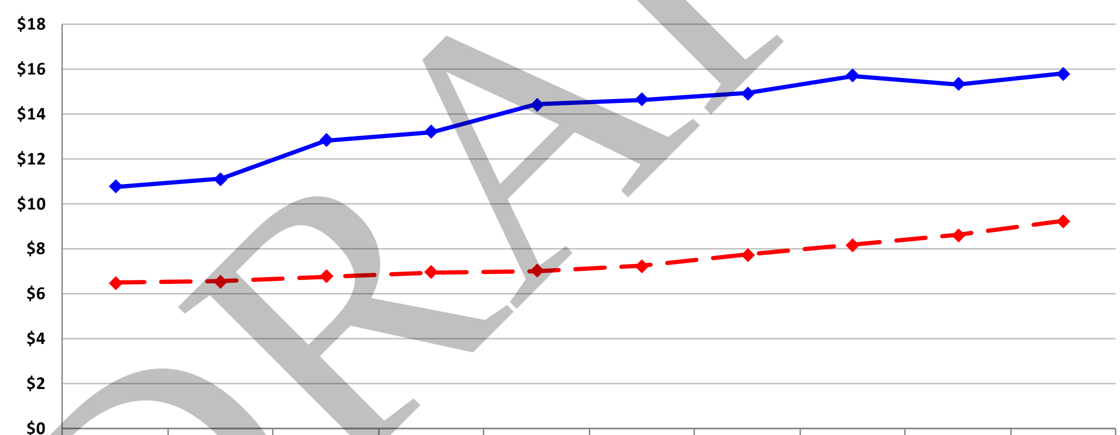
Executive Summary (Continued)

Non-Hazardous Retirement Fund

The unfunded actuarial accrued liability of the non-hazardous retirement fund decreased by $147 million since the prior year's valuation to $6.565 billion. This decrease was approximately $65 million less than expected, primarily due to liability losses as a result of salary increases for individual members being greater than assumed. These liability losses were partially offset by favorable investment experience.

Below is a chart with the historical actuarial value of assets and actuarial accrued liability. The divergence in the assets and liability at the beginning of the ten-year period was due to: (1) actual contributions being insufficient to finance the unfunded actuarial accrued liability, and (2) assumption changes.

History of Actuarial Assets vs. Actuarial Accrued Liability
(Dollars in Billions)



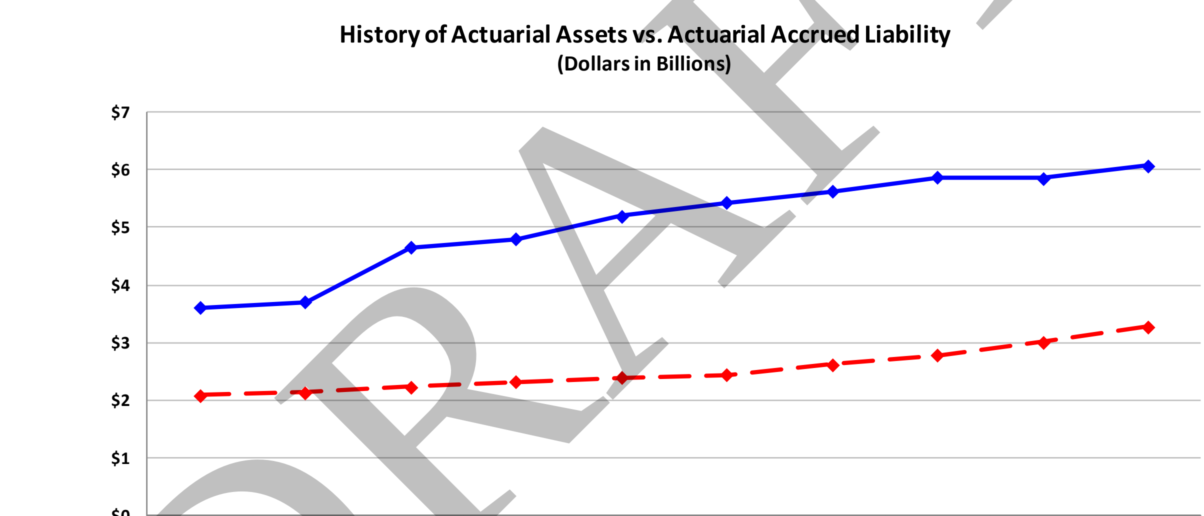
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
AAL	10.7	11.1	12.8	13.2	14.4	14.6	14.9	15.7	15.3	15.8
AVA	6.5	6.5	6.8	7.0	7.0	7.2	7.7	8.1	8.6	9.2

Executive Summary (Continued)

Hazardous Retirement Fund

The unfunded actuarial accrued liability of the hazardous retirement fund decreased by $51 million since the prior year's valuation to $2.791 billion. This decrease was approximately $35 million less than expected, primarily due to liability losses as a result of salary increases for individual members being greater than assumed. These liability losses were partially offset by favorable investment experience.

Below is a chart with the historical actuarial value of assets and actuarial accrued liability. The divergence in the assets and liability at the beginning of the ten-year period was due to: (1) actual contributions being insufficient to finance the unfunded actuarial accrued liability, and (2) assumption changes.



	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
AAL	3.6	3.7	4.6	4.8	5.2	5.4	5.6	5.9	5.8	6.1
AVA	2.1	2.1	2.2	2.3	2.4	2.4	2.6	2.8	3.0	3.3

Executive Summary (Continued)

Summary of Change in Financial Condition of the Insurance Funds

The funding surplus (assets in excess of actuarial accrued liability) of the non-hazardous insurance fund decreased by $158 million since the prior year's valuation to $648 million. The funding surplus was expected to increase by $14 million; therefore, the funding surplus was $172 million lower than expected. This was primarily due to liability losses related to the 2025 premium experience.

The funding surplus of the hazardous insurance fund decreased by $3 million since the prior year's valuation to $8 million. The funding surplus was expected to increase by $2 million; therefore, the funding surplus was a $5 million lower than expected.

On average, pre-Medicare premiums were approximately 5% lower than expected and Medicare premiums were approximately 38% higher than expected. In conjunction with the review of the healthcare per capita claims cost, the assumed increase in future healthcare costs, or trend assumption, is also reviewed on an annual basis. As a result of our review, the ultimate annual trend assumption was increased for pre-Medicare and Medicare Plans from 4.05% to 4.25%. Additionally, the trend assumption for the pre-Medicare Plans was increased during the select period. The updates to the trend assumption increased the liability for the non-hazardous and hazardous insurance funds by approximately $49 million and $48 million, respectively.

SECTION 2

DISCUSSION

Discussion

The County Employees Retirement System (CERS) is a cost-sharing, multiple-employer defined benefit pension plan that provides coverage for regular full-time members employed by positions of each participating county, city, and school board, and any additional eligible local agencies electing to participate in CERS. CERS includes both non-hazardous and hazardous duty benefits. This report presents the results of the June 30, 2024 actuarial funding valuation for both the Retirement Funds and Insurance Funds.

The primary purposes of the valuation report are to describe the current actuarial condition of CERS and provide the actuarially determined employer contribution rates for fiscal year ending June 30, 2026. In addition, the report analyzes changes in CERS's financial condition and provides various summaries of the data.

The actuarially determined contribution consist of two components: a normal cost rate and an amortization cost to finance the unfunded actuarial accrued liability. The normal cost rate is the theoretical amount which would be required to pay the members' benefits, based on the current plan provisions, if this amount had been contributed from each member's entry date and if the fund's experience exactly followed the actuarial assumptions. This is the amount that it should cost to provide the benefits for an average member. Since members contribute to the fund, only the excess of the normal cost rate over the member contribution rate is included in the employer contribution. The amortization cost is the amount necessary to amortize the unfunded actuarial accrued liability. The payroll growth rate and discount rate assumptions are selected by the Board. The funding period is specified in Section 78.635 of Kentucky Statute.

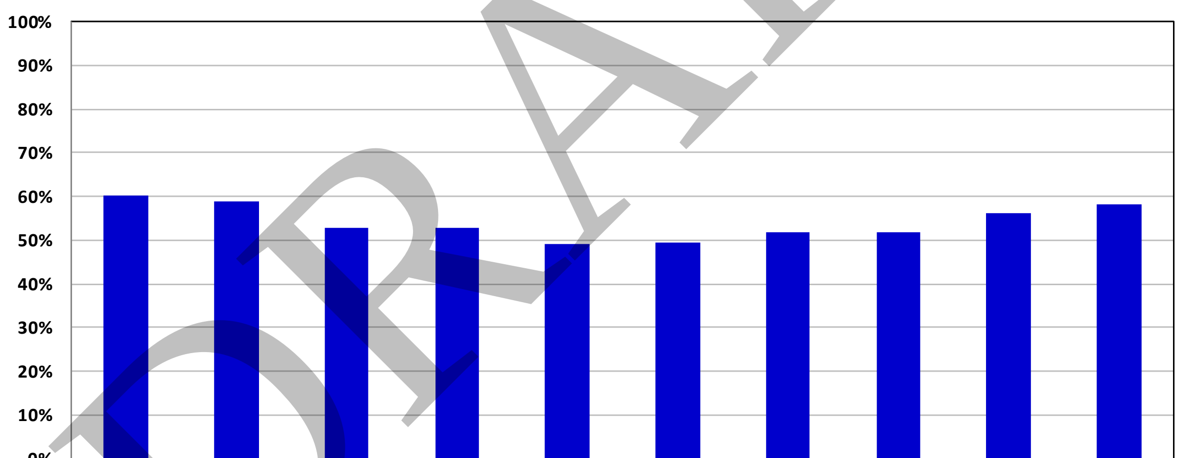
All of the actuarial and financial tables referenced by the other sections of this report appear in Section 3. Section 4 provides additional details related to the calculation of the amortization of the unfunded actuarial accrued liability. Section 5 provides member data and statistical information. Section 6 provides a discussion of various risk measures, which are intended to aid stakeholders in understanding the effects of future experience differing from the assumptions used in performing an actuarial valuation. Appendices A and B provide summaries of the principle actuarial assumptions and methods and plan provisions. Finally, Appendix C provides a glossary of technical terms that are used throughout this report.

Funding Progress

The following charts provide a ten-year history of the retirement funds' funded ratio (i.e. the Actuarial Value of Assets divided by the Actuarial Accrued Liability). The decline in the funded ratio from 2015 through 2019 was generally due to: (1) actual contributions being insufficient to finance the unfunded actuarial accrued liability, and (2) assumption changes.

The funded ratios for both the non-hazardous and hazardous funds have been slowly trending upward since 2019. Now that the full actuarially determined contributions have been fully phased-in and absent significant future unfavorable experience, the funded ratio is expected to continue trending upward. Also, the dollar amount of the unfunded actuarial accrued liability, or the difference between the actuarial accrued liability and the actuarial value of assets, is expected to continue a decreasing trend. Table 9, Schedule of Funding Progress, in the following section of the report provides additional detail regarding the funding progress of the Retirement Funds.

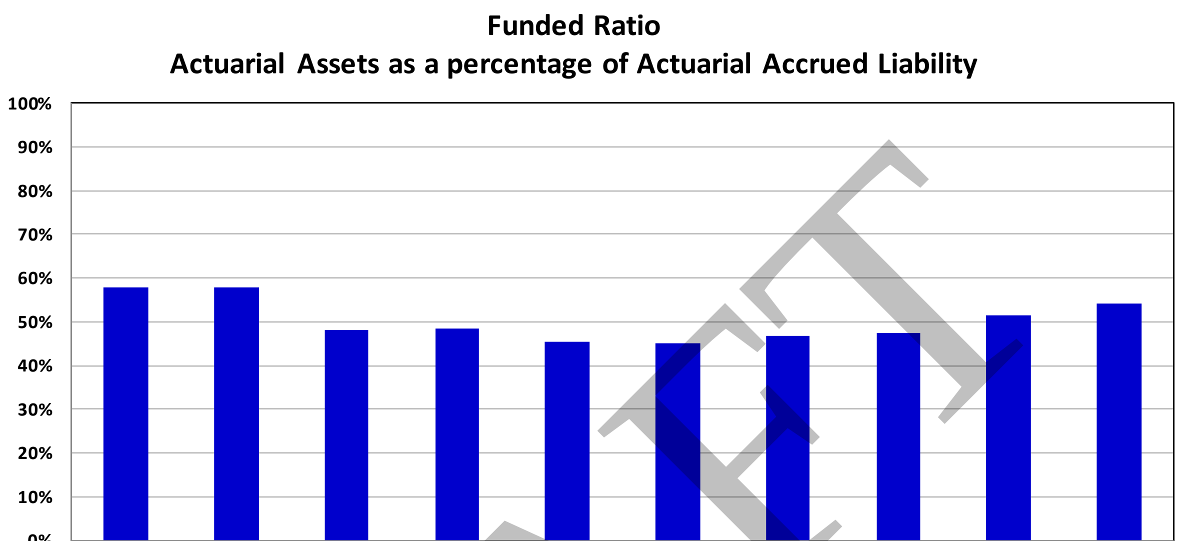
Non-Hazardous Retirement Fund



	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Funded Ratio	60.3%	59.0%	52.8%	52.7%	49.1%	49.4%	51.8%	52.0%	56.1%	58.4%

Funding Progress (Continued)

Hazardous Retirement Fund



	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Funded Ratio	58.0%	57.7%	48.1%	48.4%	45.3%	45.1%	46.7%	47.6%	51.4%	54.0%

Asset Gains/ (Losses)

The actuarial value of assets ("AVA") is based on a smoothed market value of assets, using a systematic approach to phase-in the difference between the actual and expected investment return on the market value of assets (adjusted for receipts and disbursements during the year). This is appropriate because it dampens the short-term volatility inherent in investment markets. The return is computed net of investment expenses.

Non-Hazardous Retirement Fund

The actuarial value of assets for the non-hazardous retirement fund increased from $8.585 billion to $9.212 billion since the prior valuation. The rate of return on the market value of assets on a dollar-weighted basis for the prior fiscal year was 11.5% which is greater than the 6.50% expected annual return. The return on an actuarial (smoothed) asset value was 8.1%, which resulted in a $137 million gain for the fiscal year. The market value of assets is $385 million more than the actuarial value of assets, which signifies that the retirement fund is in a position of net deferred investment gains to be realized in future years.

Hazardous Retirement Fund

Likewise, the actuarial value of assets for the hazardous retirement fund increased from $3.008 billion to $3.280 billion since the prior valuation. The rate of return on the market value of assets on a dollar-weighted basis for the prior fiscal year was 11.6% which is greater than the 6.50% expected annual return. The return on an actuarial (smoothed) asset value was 8.0%, which resulted in a $47 million gain for the fiscal year. The market value of assets is $137 million more than the actuarial value of assets, which signifies that the retirement fund is in a position of net deferred investment gains to be realized in future years.

Table 6 in the following section of this report provides asset information that was included in the annual financial statements of the funds, as well as the estimated yield on a market value basis. Tables 7 and 8 provide the development of the actuarial value of assets and the estimated yield on an actuarial value basis.

Actuarial Gains/ (Losses)

The annual actuarial valuation is a snapshot analysis of the benefit liabilities, assets and funded position of the funds as of the first day of the plan year. In any one fiscal year, the experience can be better or worse from that which is assumed or expected. The actuarial assumptions do not necessarily attempt to model what the experience will be for any one given fiscal year, but instead try to model the overall experience over many years. Therefore, as long as the actual experience of a retirement system is reasonably close to the current assumptions, the long-term funding requirements of the system will remain relatively consistent.

Below are tables that separately show a reconciliation of the unfunded liability since the prior actuarial valuation for the retirement and health insurance funds, which include the effect of asset and liability gains and losses, changes in assumptions, and changes in plan provisions. See the discussion in the Executive Summary for additional information related to the liability experience and additional information in this section of the report related to the asset experience, plan changes, and assumption changes.

Retirement Experience Gain or (Loss)
(Dollar amounts expressed in thousands)

	Non-Hazardous	Hazardous
A. Calculation of total actuarial gain or loss		
1. Unfunded actuarial accrued liability (UAAL), previous year	$ 6,711,356	$ 2,841,848
2. Normal cost and administrative expenses	298,288	120,478
3. Less: contributions for the year	(925,953)	(382,730)
4. Interest accrual	415,839	176,197
5. Expected UAAL (Sum of Items 1 - 4)	$ 6,499,530	$ 2,755,793
6. Actual UAAL as of June 30,2024	$ 6,564,756	$ 2,790,578
7. Total gain (loss) for the year (Item 5 - Item 6)	$ (65,226)	$ (34,785)
B. Source of gains and losses		
8. Asset gain (loss) for the year	$ 137,164	$ 46,758
9. Liability experience gain (loss) for the year	(202,390)	(81,543)
10. Plan Change	—	—
11. Assumption change	—	—
12. Total	$ (65,226)	$ (34,785)

Actuarial Gains/ (Losses) (Continued)

Insurance Experience Gain or (Loss)
(Dollar amounts expressed in thousands)

	Non-Hazardous	Hazardous
A. Calculation of total actuarial gain or loss		
1. Unfunded actuarial accrued liability (UAAL), previous year	$ (805,945)	$ (11,203)
2. Normal cost and administrative expenses	68,263	25,941
3. Less: contributions for the year	(30,794)	(27,624)
4. Interest accrual	(51,169)	(783)
5. Expected UAAL (Sum of Items 1 - 4)	$ (819,645)	$ (13,669)
6. Actual UAAL as of June 30,2024	$ (648,077)	$ (8,084)
7. Total gain (loss) for the year (Item 5 - Item 6)	$ (171,568)	$ (5,585)
B. Source of gains and losses		
8. Asset gain (loss) for the year	$ 51,252	$ 25,643
9. Liability experience gain (loss) for the year	(222,820)	(31,228)
10. Plan Change	—	—
11. Assumption change	—	—
12. Total	$ (171,568)	$ (5,585)

Note, the liability experience gain (loss) shown above includes the impact of any trend assumption changes made in conjunction with the review of the healthcare per capita claims cost, as described in the Executive Summary.

Actuarial Assumptions and Methods

In determining costs and liabilities, actuaries use assumptions about the future, such as rates of salary increase, probabilities of retirement, termination, death and disability, and an annual investment return assumption. The Board of Trustees, in consultation with the actuary, sets the actuarial assumptions and methods used in the actuarial valuation.

In conjunction with the review of the healthcare per capita claims cost, the assumed increase in future healthcare costs, or trend assumption, is reviewed on an annual basis. The trend assumption was increased as a result of our review. All other assumptions were adopted by the Board and are based on an experience study conducted based on experience through June 30, 2022. It is our opinion that the assumptions are internally consistent, reasonable, and reflect anticipated future experience of the System. Appendix A includes a summary of the actuarial assumptions and methods used in this valuation.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. This report does not include a more robust assessment of the risks of future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment.

This report was prepared using our proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

Benefit Provisions

Appendix B of this report includes a summary of the major benefit provisions for System. There have been no material plan provision changes since the prior valuation.

SECTION 3

ACTUARIAL TABLES

Actuarial Tables

RETIREMENT BENEFITS

ACTUARIAL TABLES

Development of Unfunded Actuarial Accrued Liability
Retirement Benefits

(Dollar amounts expressed in thousands)

		June 30, 2024	
		Non-Hazardous (1)	Hazardous (2)
1.	Projected payroll of active members	$ 3,137,814	$ 743,133
2.	Present value of future pay	$ 23,045,773	$ 6,919,809
3.	Normal cost rate		
	a. Total normal cost rate	9.37%	17.17%
	b. Less: member contribution rate	-5.00%	-8.00%
	c. Employer normal cost rate	4.37%	9.17%
4.	Actuarial accrued liability for active members		
	a. Present value of future benefits	$ 7,786,023	$ 3,175,359
	b. Less: present value of future normal costs	(2,065,567)	(1,124,256)
	c. Actuarial accrued liability	$ 5,720,456	$ 2,051,103
5.	Total actuarial accrued liability		
	a. Retirees and beneficiaries	$ 9,342,394	$ 3,935,492
	b. Inactive members	713,641	83,606
	c. Active members (Item 4c)	5,720,456	2,051,103
	d. Total	$ 15,776,491	$ 6,070,201
6.	Actuarial value of assets	$ 9,211,735	$ 3,279,623
7.	Unfunded actuarial accrued liability (UAAL) (Item 5d - Item 6)	$ 6,564,756	$ 2,790,578
8.	Funded Ratio	58.4%	54.0%

Actuarial Present Value of Future Benefits
Retirement Benefits
(Dollar amounts expressed in thousands)

		June 30, 2024	
		Non-Hazardous (1)	Hazardous (2)
1.	Active members		
	a. Service retirement	$ 6,709,865	$ 2,836,643
	b. Deferred termination benefits and refunds	652,479	168,533
	c. Survivor benefits	125,880	26,809
	d. Disability benefits	297,799	143,374
	e. Total	$ 7,786,023	$ 3,175,359
2.	Retired members		
	a. Service retirement	$ 8,317,034	$ 3,568,023
	b. Disability retirement	426,221	110,503
	c. Beneficiaries	599,139	256,966
	d. Total	$ 9,342,394	$ 3,935,492
3.	Inactive members		
	a. Vested terminations	$ 608,998	$ 71,669
	b. Nonvested terminations	104,643	11,937
	c. Total	$ 713,641	$ 83,606
4.	Total actuarial present value of future benefits	$ 17,842,058	$ 7,194,457

Development of Actuarially Determined Contribution Rate
Retirement Benefits

	June 30, 2024	
	Non-Hazardous (1)	Hazardous (2)
1. Total normal cost rate		
a. Service retirement	5.85%	13.16%
b. Deferred termination benefits and refunds	2.62%	2.56%
c. Survivor benefits	0.32%	0.26%
d. Disability benefits	0.58%	1.19%
e. Total	9.37%	17.17%
2. Less: member contribution rate	-5.00%	-8.00%
3. Total employer normal cost rate	4.37%	9.17%
4. Administrative expenses	0.85%	0.31%
5. Net employer normal cost rate	5.22%	9.48%
6. UAAL amortization contribution rate	13.40%	24.52%
7. Total calculated employer contribution	18.62%	34.00%

Actuarial Balance Sheet
Non-Hazardous Members Retirement
(Dollar amounts expressed in thousands)

		June 30, 2024 (1)	June 30, 2023 (2)
1.	Assets - Present and Expected Future Resources		
	a. Current assets (actuarial value)	$ 9,211,735	$ 8,585,073
	b. Present value of future member contributions	$ 1,152,289	$ 1,059,126
	c. Present value of future employer contributions		
	i. Normal cost contributions	$ 913,278	$ 853,551
	ii. Unfunded accrued liability contributions	6,564,756	6,711,356
	iii. Total future employer contributions	$ 7,478,034	$ 7,564,907
	d. Total assets	$ 17,842,058	$ 17,209,106
2.	Liabilities - Present Value of Expected Future Benefit Payments		
	a. Active members		
	i. Present value of future normal costs	$ 2,065,567	$ 1,912,677
	ii. Accrued liability	5,720,456	5,504,824
	iii. Total present value of future benefits	$ 7,786,023	$ 7,417,501
	b. Present value of benefits payable on account of current retired members and beneficiaries	$ 9,342,394	$ 9,117,883
	c. Present value of benefits payable on account of current inactive members	$ 713,641	$ 673,722
	d. Total liabilities	$ 17,842,058	$ 17,209,106

Actuarial Balance Sheet

Hazardous Members Retirement

(Dollar amounts expressed in thousands)

		June 30, 2024		June 30, 2023
		(1)		(2)
1. Assets - Present and Expected Future Resources				
a. Current assets (actuarial value)	$	3,279,623	$	3,008,147
b. Present value of future member contributions	$	553,585	$	493,334
c. Present value of future employer contributions				
i. Normal cost contributions	$	570,671	$	523,334
ii. Unfunded accrued liability contributions		2,790,578		2,841,848
iii. Total future employer contributions	$	3,361,249	$	3,365,182
d. Total assets	$	7,194,457	$	6,866,663
2. Liabilities - Present Value of Expected Future Benefit Payments				
a. Active members				
i. Present value of future normal costs	$	1,124,256	$	1,016,668
ii. Accrued liability		2,051,103		1,944,013
iii. Total present value of future benefits	$	3,175,359	$	2,960,681
b. Present value of benefits payable on account of current retired members and beneficiaries	$	3,935,492	$	3,824,666
c. Present value of benefits payable on account of current inactive members	$	83,606	$	81,316
d. Total liabilities	$	7,194,457	$	6,866,663

Reconciliation of Retirement Net Assets

(Dollar amounts expressed in thousands)[1]

	Year Ending			
	June 30, 2024		June 30, 2024	
	(1)		(2)	
	Non-Hazardous		**Hazardous**	
1. Value of assets at beginning of year	$	8,672,597	$	3,035,192
2. Revenue for the year				
a. Contributions				
i. Member contributions	$	161,176	$	61,438
ii. Employer contributions		764,747		321,224
iii. Other contributions (less 401h)		31		68
iv. Total	$	925,953	$	382,730
b. Income				
i. Interest, dividends, and other income	$	297,706	$	105,081
ii. Investment expenses		(80,327)		(27,154)
iii. Net	$	217,380	$	77,927
c. Net realized and unrealized gains (losses)		772,641		275,508
d. Total revenue	$	1,915,974	$	736,166
3. Expenditures for the year				
a. Disbursements				
i. Refunds	$	25,267	$	8,540
ii. Regular annuity benefits		940,514		343,583
iii. Other benefit payments		0		0
iv. Transfers to other systems		0		0
v. Total	$	965,781	$	352,123
b. Administrative expenses and depreciation		26,547		2,338
c. Total expenditures	$	992,328	$	354,461
4. Increase in net assets (Item 2. - Item 3.)	$	923,646	$	381,705
5. Value of assets at end of year (Item 1. + Item 4.)	$	9,596,244	$	3,416,897
6. Net external cash flow				
a. Dollar amount	$	(66,374)	$	28,270
b. Percentage of market value		-0.7%		0.9%
7. Estimated annual return on net assets		11.5%		11.6%

[1] Amounts may not add due to rounding

[1] Excludes 401h assets

Development of Actuarial Value of Assets

Non-Hazardous Members Retirement

(Dollar amounts expressed in thousands)*

	Year Ending		June 30, 2024
1.	Actuarial value of assets at beginning of year	$	8,585,073
2.	Market value of assets at beginning of year	$	8,672,597
3.	Net new investments		
	a. Contributions	$	925,953
	b. Benefit payments		(965,781)
	c. Administrative expenses		(26,547)
	d. Subtotal	$	(66,374)
4.	Market value of assets at end of year	$	9,596,244
5.	Net earnings (Item 4. - Item 2. - Item 3.d.)	$	990,021
6.	Assumed investment return rate for fiscal year		6.50%
7.	Expected return for immediate recognition	$	561,562
8.	Excess return for phased recognition	$	428,459

9. Phased-in recognition, 20% of excess return on assets for prior years:

	Fiscal Year Ending June 30,		Excess Return		Recognized Amount
a.	2024	$	428,459	$	85,692
b.	2023		310,590		62,118
c.	2022		(1,026,802)		(205,360)
d.	2021		1,330,544		266,109
e.	2020		(385,418)		(77,084)
f.	Total			$	131,475

10.	Actuarial value of assets as of June 30, 2024 (Item 1. + Item 3.d. + Item 7.+ Item 9.f.)	$	9,211,735
11.	Ratio of actuarial value to market value		96.0%
12.	Estimated annual return on actuarial value of assets		8.1%

* Amounts may not add due to rounding

Development of Actuarial Value of Assets

Hazardous Members Retirement

(Dollar amounts expressed in thousands)*

	Year Ending		June 30, 2024
1.	Actuarial value of assets at beginning of year	$	3,008,147
2.	Market value of assets at beginning of year	$	3,035,192
3.	Net new investments		
	a. Contributions	$	382,730
	b. Benefit payments		(352,123)
	c. Administrative expenses		(2,338)
	d. Subtotal	$	28,270
4.	Market value of assets at end of year	$	3,416,897
5.	Net earnings (Item 4. - Item 2. - Item 3.d.)	$	353,435
6.	Assumed investment return rate for fiscal year		6.50%
7.	Expected return for immediate recognition	$	198,206
8.	Excess return for phased recognition	$	155,229

9. Phased-in recognition, 20% of excess return on assets for prior years:

	Fiscal Year Ending June 30,		Excess Return		Recognized Amount
a.	2024	$	155,229	$	31,046
b.	2023		108,990		21,798
c.	2022		(355,681)		(71,136)
d.	2021		449,846		89,969
e.	2020		(133,383)		(26,677)
f.	Total			$	45,000

10.	Actuarial value of assets as of June 30, 2024 (Item 1. + Item 3.d. + Item 7.+ Item 9.f.)	$	3,279,623
11.	Ratio of actuarial value to market value		96.0%
12.	Estimated annual return on actuarial value of assets		8.0%

* Amounts may not add due to rounding

Schedule of Funding Progress
Retirement Benefits
(Dollar amounts expressed in thousands)

June 30, (1)	Actuarial Value of Assets (AVA) (2)	Actuarial Accrued Liability (AAL) (3)	Unfunded Actuarial Accrued Liability (UAAL) (3) - (2) (4)	Funded Ratio (2)/(3) (5)	Annual Covered Payroll (6)	UAAL as % of Payroll (4)/(6) (7)
			Non-Hazardous Members			
2015	$ 6,474,849	$ 10,740,325	$ 4,265,476	60.3%	$ 2,296,716	185.7%
2016	6,535,372	11,076,457	4,541,085	59.0%	2,352,762	193.0%
2017	6,764,873	12,803,510	6,038,637	52.8%	2,452,407	246.2%
2018	6,950,225	13,191,505	6,241,280	52.7%	2,466,801	253.0%
2019	7,049,527	14,356,113	7,306,586	49.1%	2,521,860	289.7%
2020	7,220,607	14,610,868	7,390,261	49.4%	2,565,391	288.1%
2021	7,715,883	14,894,906	7,179,023	51.8%	2,528,735	283.9%
2022	8,148,912	15,674,220	7,525,308	52.0%	2,691,171	279.6%
2023	8,585,073	15,296,429	6,711,356	56.1%	2,898,813	231.5%
2024	9,211,735	15,776,491	6,564,756	58.4%	3,137,814	209.2%
			Hazardous Members			
2015	$ 2,096,783	$ 3,613,308	$ 1,516,525	58.0%	$ 483,641	313.6%
2016	2,139,119	3,704,456	1,565,337	57.7%	492,851	317.6%
2017	2,238,320	4,649,047	2,410,727	48.1%	541,633	445.1%
2018	2,321,721	4,792,548	2,470,827	48.4%	533,618	463.0%
2019	2,375,106	5,245,365	2,870,259	45.3%	559,353	513.1%
2020	2,447,885	5,431,299	2,983,414	45.1%	568,558	524.7%
2021	2,628,621	5,629,458	3,000,837	46.7%	578,355	518.9%
2022	2,788,714	5,861,691	3,072,977	47.6%	620,934	494.9%
2023	3,008,147	5,849,995	2,841,848	51.4%	677,988	419.2%
2024	3,279,623	6,070,201	2,790,578	54.0%	743,133	375.5%
			Total CERS Members			
2015	$ 8,571,632	$ 14,353,633	$ 5,782,001	59.7%	$ 2,780,357	208.0%
2016	8,674,491	14,780,913	6,106,422	58.7%	2,845,613	214.6%
2017	9,003,193	17,452,557	8,449,364	51.6%	2,994,040	282.2%
2018	9,271,946	17,984,053	8,712,107	51.6%	3,000,419	290.4%
2019	9,424,633	19,601,478	10,176,845	48.1%	3,081,213	330.3%
2020	9,668,492	20,042,167	10,373,675	48.2%	3,133,949	331.0%
2021	10,344,504	20,524,364	10,179,860	50.4%	3,107,090	327.6%
2022	10,937,626	21,535,911	10,598,285	50.8%	3,312,105	320.0%
2023	11,593,220	21,146,424	9,553,204	54.8%	3,576,801	267.1%
2024	12,491,358	21,846,692	9,355,334	57.2%	3,880,947	241.1%

Summary of Principal Assumptions and Methods

Below is a summary of the principal economic assumptions, cost method, and the method for financing the unfunded actuarial accrued liability:

	Non-Hazardous	Hazardous
Valuation date:	June 30, 2024	June 30, 2024
Actuarial cost method:	Entry Age Normal	Entry Age Normal
Amortization method:	Level percentage of payroll (2% payroll growth assumed)	Level percentage of payroll (2% payroll growth assumed)
Amortization period for contribution rate:	30-year closed period at June 30, 2019 Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases	30-year closed period at June 30, 2019 Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases
Asset valuation method:	5-Year Smoothed Market	5-Year Smoothed Market
Actuarial assumptions:		
Investment rate of return	6.50%	6.50%
Projected salary increases	3.30% to 10.30% (varies by service)	3.55% to 19.05% (varies by service)
Inflation	2.50%	2.50%
Post-retirement benefit adjustments	0.00%	0.00%
Retiree Mortality	System-specific mortality table based on mortality experience from 2013 to 2022, projected with the ultimate rates from MP-2020 mortality improvement scale using a base year of 2023.	System-specific mortality table based on mortality experience from 2013 to 2022, projected with the ultimate rates from MP-2020 mortality improvement scale using a base year of 2023.

Solvency Test
Retirement Benefits
(Dollar amounts expressed in thousands)

	Actuarial Accrued Liability				Portion of Aggregate Accrued Liabilities Covered by Assets		
June 30,	Active Member Contributions	Retired Members & Beneficiaries	Active Members (Employer Financed)	Valuation Assets	Active	Retired	ER Financed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Non-Hazardous Members							
2015	$ 1,216,585	$ 6,489,863	$ 3,033,878	$ 6,474,849	100.0%	81.0%	0.0%
2016	1,231,027	6,785,530	3,059,900	6,535,372	100.0%	78.2%	0.0%
2017	1,277,432	7,731,682	3,794,396	6,764,873	100.0%	71.0%	0.0%
2018	1,269,287	8,196,719	3,725,499	6,950,225	100.0%	69.3%	0.0%
2019	1,280,679	8,905,544	4,169,890	7,049,527	100.0%	64.8%	0.0%
2020	1,312,554	9,088,237	4,210,077	7,220,607	100.0%	65.0%	0.0%
2021	1,324,826	9,397,968	4,172,112	7,715,883	100.0%	68.0%	0.0%
2022	1,335,758	10,021,345	4,317,117	8,148,912	100.0%	68.0%	0.0%
2023	1,341,594	9,791,605	4,163,230	8,585,073	100.0%	74.0%	0.0%
2024	1,384,947	10,056,035	4,335,509	9,211,735	100.0%	77.8%	0.0%
Hazardous Members							
2015	$ 422,359	$ 2,297,703	$ 893,246	$ 2,096,783	100.0%	72.9%	0.0%
2016	428,713	2,388,712	887,031	2,139,119	100.0%	71.6%	0.0%
2017	458,808	2,910,601	1,279,638	2,238,320	100.0%	61.1%	0.0%
2018	442,637	3,151,058	1,198,853	2,321,721	100.0%	59.6%	0.0%
2019	458,559	3,399,954	1,386,852	2,375,106	100.0%	56.4%	0.0%
2020	454,801	3,606,091	1,370,407	2,447,885	100.0%	55.3%	0.0%
2021	457,391	3,777,313	1,394,754	2,628,621	100.0%	57.5%	0.0%
2022	468,325	3,915,964	1,477,402	2,788,714	100.0%	59.3%	0.0%
2023	476,005	3,905,982	1,468,008	3,008,147	100.0%	64.8%	0.0%
2024	509,070	4,019,098	1,542,033	3,279,623	100.0%	68.9%	0.0%

INSURANCE BENEFITS

ACTUARIAL TABLES

Development of Unfunded Actuarial Accrued Liability
Insurance Benefits

(Dollar amounts expressed in thousands)

		June 30, 2024	
		Non-Hazardous (1)	Hazardous (2)
1.	Projected payroll of active members	$ 3,137,814	$ 743,133
2.	Present value of future pay	$ 22,389,999	$ 6,973,325
3.	Normal cost rate		
	a. Total normal cost rate	2.15%	3.40%
	b. Less: member contribution rate	-0.67%	-0.69%
	c. Employer normal cost rate	1.48%	2.71%
4.	Actuarial accrued liability for active members		
	a. Present value of future benefits	$ 1,848,657	$ 627,070
	b. Less: present value of future normal costs	(458,274)	(196,556)
	c. Actuarial accrued liability	$ 1,390,383	$ 430,514
5.	Total actuarial accrued liability		
	a. Retirees and beneficiaries	$ 1,343,043	$ 1,219,648
	b. Inactive members	167,919	17,895
	c. Active members (Item 4c)	1,390,383	430,514
	d. Total	$ 2,901,345	$ 1,668,057
6.	Actuarial value of assets	$ 3,549,422	$ 1,676,141
7.	Unfunded actuarial accrued liability (UAAL) (Item 5d - Item 6)	$ (648,077)	$ (8,084)
8.	Funded Ratio	122.3%	100.5%

Development of Actuarially Determined Contribution Rate
Insurance Benefits

		June 30, 2024	
		Non-Hazardous (1)	Hazardous (2)
1.	Total normal cost rate	2.15%	3.40%
2.	Less: member contribution rate	-0.67%	-0.69%
3.	Total employer normal cost rate	1.48%	2.71%
4.	Administrative expenses	0.03%	0.07%
5.	Net employer normal cost rate	1.51%	2.78%
6.	UAAL amortization contribution rate	-2.37%	-1.05%
7.	Total calculated employer contribution	0.00%	1.73%

Actuarial Balance Sheet

Non-Hazardous Members Insurance

(Dollar amounts expressed in thousands)

	June 30, 2024 (1)	June 30, 2023 (2)
1. Assets - Present and Expected Future Resources		
a. Current assets (actuarial value)	$ 3,549,422	$ 3,366,332
b. Present value of future member contributions	$ 171,473	$ 149,485
c. Present value of future employer contributions		
i. Normal cost contributions	$ 286,801	$ 307,220
ii. Unfunded accrued liability contributions	(648,077)	(805,945)
iii. Total future employer contributions	$ (361,276)	$ (498,725)
d. Total assets	$ 3,359,619	$ 3,017,092
2. Liabilities - Present Value of Expected Future Benefit Payments		
a. Active members		
i. Present value of future normal costs	$ 458,274	$ 456,705
ii. Accrued liability	1,390,383	1,303,858
iii. Total present value of future benefits	$ 1,848,657	$ 1,760,563
b. Present value of benefits payable on account of current retired members and beneficiaries	$ 1,343,043	$ 1,063,114
c. Present value of benefits payable on account of current inactive members	$ 167,919	$ 193,415
d. Total liabilities	$ 3,359,619	$ 3,017,092

Actuarial Balance Sheet

Hazardous Members Insurance

(Dollar amounts expressed in thousands)

		June 30, 2024 (1)	June 30, 2023 (2)
1.	Assets - Present and Expected Future Resources		
a.	Current assets (actuarial value)	$ 1,676,141	$ 1,615,349
b.	Present value of future member contributions	$ 59,830	$ 50,990
c.	Present value of future employer contributions		
	i. Normal cost contributions	$ 136,726	$ 137,624
	ii. Unfunded accrued liability contributions	(8,084)	(11,203)
	iii. Total future employer contributions	$ 128,642	$ 126,421
d.	Total assets	$ 1,864,613	$ 1,792,760
2.	Liabilities - Present Value of Expected Future Benefit Payments		
a.	Active members		
	i. Present value of future normal costs	$ 196,556	$ 188,614
	ii. Accrued liability	430,514	440,832
	iii. Total present value of future benefits	$ 627,070	$ 629,446
b.	Present value of benefits payable on account of current retired members and beneficiaries	$ 1,219,648	$ 1,139,168
c.	Present value of benefits payable on account of current inactive members	$ 17,895	$ 24,146
d.	Total liabilities	$ 1,864,613	$ 1,792,760

Reconciliation of Insurance Net Assets

(Dollar amounts expressed in thousands)[1]

	Year Ending June 30, 2024 (1) Non-Hazardous	Year Ending June 30, 2024 (2) Hazardous
1. Value of assets at beginning of year	$ 3,398,375	$ 1,634,192
2. Revenue for the year		
a. Contributions		
i. Member contributions	$ 20,651	$ 4,979
ii. Employer contributions	2,765	20,557
iii. Other contributions (less 401h)	7,378	2,088
iv. Total	$ 30,794	$ 27,624
b. Income		
i. Interest, dividends, and other income	$ 112,270	$ 53,857
ii. Investment expenses	(30,571)	(16,082)
iii. Net	$ 81,699	$ 37,776
c. Net realized and unrealized gains (losses)	311,438	148,048
d. Total revenue	$ 423,931	$ 213,448
3. Expenditures for the year		
a. Disbursements		
i. Refunds	$ 0	$ 0
ii. Healthcare premium subsidies	122,209	96,052
iii. Other benefit payments[2]	(8,109)	(1,301)
iv. Transfers to other systems	0	0
v. Total	$ 114,100	$ 94,751
b. Administrative expenses and depreciation	930	522
c. Total expenditures	$ 115,030	$ 95,273
4. Increase in net assets (Item 2. - Item 3.)	$ 308,902	$ 118,174
5. Value of assets at end of year (Item 1. + Item 4.)	$ 3,707,277	$ 1,752,366
6. Net external cash flow		
a. Dollar amount	$ (84,236)	$ (67,649)
b. Percentage of market value	-2.4%	-4.0%
7. Estimated annual return on net assets	11.7%	11.6%

[1] Amounts may not add due to rounding and include 401h assets

[2] Benefit payments have been offset by Medicare Drug Reimbursements, Insurance Premiums, and Humana Gain Share Payments

Development of Actuarial Value of Assets

Non-Hazardous Members Insurance

(Dollar amounts expressed in thousands)*

	Year Ending		June 30, 2024
1.	Actuarial value of assets at beginning of year	$	3,366,332
2.	Market value of assets at beginning of year	$	3,398,375
3.	Net new investments		
	a. Contributions	$	30,794
	b. Benefit payments		(114,100)
	c. Administrative expenses		(930)
	d. Subtotal	$	(84,236)
4.	Market value of assets at end of year	$	3,707,277
5.	Net earnings (Item 4. - Item 2. - Item 3.d.)	$	393,138
6.	Assumed investment return rate for fiscal year		6.50%
7.	Expected return for immediate recognition	$	218,157
8.	Excess return for phased recognition	$	174,981

9. Phased-in recognition, 20% of excess return on assets for prior years:

	Fiscal Year Ending June 30,		Excess Return		Recognized Amount
a.	2024	$	174,981	$	34,996
b.	2023		123,546		24,709
c.	2022		(380,135)		(76,027)
d.	2021		478,981		95,796
e.	2020		(151,527)		(30,305)
f.	Total			$	49,169

10.	Actuarial value of assets as of June 30, 2024 (Item 1. + Item 3.d. + Item 7.+ Item 9.f.)	$	3,549,422
11.	Ratio of actuarial value to market value		95.7%
12.	Estimated annual return on actuarial value of assets		8.0%

* Amounts may not add due to rounding

Development of Actuarial Value of Assets

Hazardous Members Insurance

(Dollar amounts expressed in thousands)*

Year Ending			June 30, 2024
1.	Actuarial value of assets at beginning of year	$	1,615,349
2.	Market value of assets at beginning of year	$	1,634,192
3.	Net new investments		
	a. Contributions	$	27,624
	b. Benefit payments		(94,751)
	c. Administrative expenses		(522)
	d. Subtotal	$	(67,649)
4.	Market value of assets at end of year	$	1,752,366
5.	Net earnings (Item 4. - Item 2. - Item 3.d.)	$	185,824
6.	Assumed investment return rate for fiscal year		6.50%
7.	Expected return for immediate recognition	$	104,024
8.	Excess return for phased recognition	$	81,800

9. Phased-in recognition, 20% of excess return on assets for prior years:

	Fiscal Year Ending June 30,		Excess Return		Recognized Amount
a.	2024	$	81,800	$	16,360
b.	2023		56,727		11,345
c.	2022		(180,610)		(36,122)
d.	2021		244,967		48,993
e.	2020		(80,794)		(16,159)
f.	Total			$	24,418

10.	Actuarial value of assets as of June 30, 2024 (Item 1. + Item 3.d. + Item 7.+ Item 9.f.)	$	1,676,141
11.	Ratio of actuarial value to market value		95.7%
12.	Estimated annual return on actuarial value of assets		8.1%

* Amounts may not add due to rounding

Schedule of Funding Progress
Insurance Benefits
(Dollar amounts expressed in thousands)

June 30,	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL) (3) - (2)	Funded Ratio (2)/(3)	Annual Covered Payroll	UAAL as % of Payroll (4)/(6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
			Non-Hazardous Members			
2015	$ 1,997,456	$ 2,907,827	$ 910,371	68.7%	$ 2,296,716	39.6%
2016	2,079,811	2,988,121	908,310	69.6%	2,352,762	38.6%
2017	2,227,401	3,355,151	1,127,750	66.4%	2,452,407	46.0%
2018	2,371,430	3,092,624	721,194	76.7%	2,466,801	29.2%
2019	2,523,249	3,567,947	1,044,698	70.7%	2,521,860	41.4%
2020	2,661,351	3,392,085	730,734	78.5%	2,565,391	28.5%
2021	2,947,312	3,450,484	503,172	85.4%	2,528,735	19.9%
2022	3,160,084	2,391,990	(768,094)	132.1%	2,691,171	-28.5%
2023	3,366,332	2,560,387	(805,945)	131.5%	2,898,813	-27.8%
2024	3,549,422	2,901,345	(648,077)	122.3%	3,137,814	-20.7%
			Hazardous Members			
2015	$ 1,087,707	$ 1,504,015	$ 416,308	72.3%	$ 483,641	86.1%
2016	1,135,784	1,558,818	423,034	72.9%	492,851	85.8%
2017	1,196,780	1,788,433	591,653	66.9%	541,633	109.2%
2018	1,256,306	1,684,028	427,722	74.6%	533,618	80.2%
2019	1,313,659	1,732,879	419,220	75.8%	559,353	74.9%
2020	1,362,028	1,740,971	378,943	78.2%	568,558	66.6%
2021	1,475,635	1,751,203	275,568	84.3%	578,355	47.6%
2022	1,553,761	1,538,131	(15,630)	101.0%	620,934	-2.5%
2023	1,615,349	1,604,146	(11,203)	100.7%	677,988	-1.7%
2024	1,676,141	1,668,057	(8,084)	100.5%	743,133	-1.1%
			Total CERS Members			
2015	$ 3,085,163	$ 4,411,842	$ 1,326,679	69.9%	$ 2,780,357	47.7%
2016	3,215,595	4,546,939	1,331,344	70.7%	2,845,613	46.8%
2017	3,424,181	5,143,584	1,719,403	66.6%	2,994,040	57.4%
2018	3,627,736	4,776,652	1,148,916	75.9%	3,000,419	38.3%
2019	3,836,908	5,300,826	1,463,918	72.4%	3,081,213	47.5%
2020	4,023,379	5,133,056	1,109,677	78.4%	3,133,949	35.4%
2021	4,422,947	5,201,687	778,740	85.0%	3,107,090	25.1%
2022	4,713,845	3,930,121	(783,724)	119.9%	3,312,105	-23.7%
2023	4,981,681	4,164,533	(817,148)	119.6%	3,576,801	-22.8%
2024	5,225,563	4,569,402	(656,161)	114.4%	3,880,947	-16.9%

Solvency Test
Insurance Benefits
(Dollar amounts expressed in thousands)

June 30,	Actuarial Accrued Liability: Active Member Contributions	Actuarial Accrued Liability: Retired Members & Beneficiaries	Actuarial Accrued Liability: Active Members (Employer Financed)	Valuation Assets	Portion of Aggregate Accrued Liabilities Covered by Assets: Active	Portion of Aggregate Accrued Liabilities Covered by Assets: Retired	Portion of Aggregate Accrued Liabilities Covered by Assets: ER Financed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Non-Hazardous Members							
2015	$ -	$ 1,372,597	$ 1,535,231	$ 1,997,456	100.0%	100.0%	40.7%
2016	-	1,484,937	1,503,184	2,079,811	100.0%	100.0%	39.6%
2017	-	1,603,438	1,751,713	2,227,401	100.0%	100.0%	35.6%
2018	-	1,525,323	1,567,301	2,371,430	100.0%	100.0%	54.0%
2019	-	1,830,692	1,737,255	2,523,249	100.0%	100.0%	39.9%
2020	-	1,746,159	1,645,926	2,661,351	100.0%	100.0%	55.6%
2021	-	1,835,734	1,614,750	2,947,312	100.0%	100.0%	68.8%
2022	-	1,055,375	1,336,615	3,160,084	100.0%	100.0%	100.0%
2023	-	1,256,529	1,303,858	3,366,332	100.0%	100.0%	100.0%
2024	-	1,510,962	1,390,383	3,549,422	100.0%	100.0%	100.0%
Hazardous Members							
2015	$ -	$ 790,714	$ 713,301	$ 1,087,707	100.0%	100.0%	41.6%
2016	-	879,360	679,458	1,135,784	100.0%	100.0%	37.7%
2017	-	994,764	793,669	1,196,780	100.0%	100.0%	25.5%
2018	-	1,001,717	682,311	1,256,306	100.0%	100.0%	37.3%
2019	-	1,072,861	660,018	1,313,659	100.0%	100.0%	36.5%
2020	-	1,154,389	586,582	1,362,028	100.0%	100.0%	35.4%
2021	-	1,217,527	533,676	1,475,635	100.0%	100.0%	48.4%
2022	-	1,045,022	493,109	1,553,761	100.0%	100.0%	100.0%
2023	-	1,163,314	440,832	1,615,349	100.0%	100.0%	100.0%
2024	-	1,237,543	430,514	1,676,141	100.0%	100.0%	100.0%

SECTION 4

AMORTIZATION BASES

Amortization of Unfunded Liability

Non-Hazardous Members Retirement

Valuation Year Base Established	Original Amortization Base	Remaining at June 30, 2024	Payments for FYE 2026	Funding Period at June 30, 2024
June 30, 2019	$ 7,306,586	$ 7,435,084	$ 500,921	25
June 30, 2020	(43,634)	65,637	5,853	16
June 30, 2021	(333,595)	(303,830)	(25,989)	17
June 30, 2022	327,156	316,686	26,071	18
June 30, 2023	(803,273)	(905,957)	(71,995)	19
June 30, 2024	(42,864)	(42,864)	(5,835)	20
Total		$ 6,564,756	$ 429,026	

Projected Payroll for FYE 2026	$ 3,200,570
Amortization Payments as a Percentage of Payroll	13.40%

Hazardous Members Retirement

Valuation Year Base Established	Original Amortization Base	Remaining at June 30, 2024	Payments for FYE 2026	Funding Period at June 30, 2024
June 30, 2019	$ 2,870,259	$ 2,942,302	$ 198,231	25
June 30, 2020	41,583	106,526	9,499	16
June 30, 2021	(57,337)	(16,100)	(1,377)	17
June 30, 2022	32,971	22,100	1,819	18
June 30, 2023	(215,367)	(247,537)	(19,671)	19
June 30, 2024	(16,713)	(16,713)	(2,666)	20
Total		$ 2,790,578	$ 185,835	

Projected Payroll for FYE 2026	$ 757,995
Amortization Payments as a Percentage of Payroll	24.52%

Note:
Budgeted contribution rates for FYE 2025 were known at the time of the June 30, 2024 Valuation. Amortization bases established at this valuation date were adjusted accordingly.

Amortization of Unfunded Liability

Non-Hazardous Members Insurance

Valuation Year Base Established	Original Amortization Base	Remaining at June 30, 2024	Payments for FYE 2026	Funding Period at June 30, 2024
June 30, 2019	$ 1,044,698	$ 1,063,550	$ 71,654	25
June 30, 2020	(332,646)	(323,726)	(28,866)	16
June 30, 2021	(219,172)	(227,191)	(19,433)	17
June 30, 2022	(1,261,234)	(1,333,873)	(109,811)	18
June 30, 2023	44,464	14,706	1,169	19
June 30, 2024	158,457	158,457	10,197	20
Total		$ (648,077)	$ (75,090)	

Projected Payroll for FYE 2026	$ 3,168,830
Amortization Payments as a Percentage of Payroll	-2.37%

Hazardous Members Insurance

Valuation Year Base Established	Original Amortization Base	Remaining at June 30, 2024	Payments for FYE 2026	Funding Period at June 30, 2024
June 30, 2019	$ 419,220	$ 422,089	$ 28,437	25
June 30, 2020	(43,079)	(44,181)	(3,940)	16
June 30, 2021	(100,257)	(106,019)	(9,068)	17
June 30, 2022	(282,650)	(299,341)	(24,643)	18
June 30, 2023	23,141	19,902	1,582	19
June 30, 2024	(534)	(534)	(254)	20
Total		$ (8,084)	$ (7,886)	

Projected Payroll for FYE 2026	$ 754,131
Amortization Payments as a Percentage of Payroll	-1.05%

Note:
Budgeted contribution rates for FYE 2025 were known at the time of the June 30, 2024 Valuation. Amortization bases established at this valuation date were adjusted accordingly.

SECTION 5

MEMBERSHIP INFORMATION

Membership Tables

Summary of Membership Data

(Total dollar amounts expressed in thousands)

		Non-Hazardous June 30, 2024	Hazardous June 30, 2024	Total June 30, 2024	Total June 30, 2023
		(1)	(2)	(3)	(4)
1.	Active members				
	a. Males	29,788	8,587	38,375	37,237
	b. Females	50,652	1,091	51,743	50,778
	c. Total members	80,440	9,678	90,118	88,015
	d. Total annualized prior year salaries	$ 3,137,814	$ 743,133	$ 3,880,947	$ 3,576,801
	e. Average salary[3]	$ 39,008	$ 76,786	$ 43,065	$ 40,639
	f. Average age	47.0	37.7	46.0	46.4
	g. Average service	8.6	9.6	8.7	8.9
	h. Member contributions with interest	$ 1,384,947	$ 509,070	$ 1,894,017	$ 1,817,599
	i. Average contributions with interest[3]	$ 17,217	$ 52,601	$ 21,017	$ 20,651
2.	Vested inactive members[2]				
	a. Number	50,532	1,795	52,327	52,326
	b. Total annual deferred benefits	$ 92,724	$ 8,929	$ 101,653	$ 97,661
	c. Average annual deferred benefit[3]	$ 1,835	$ 4,974	$ 1,943	$ 1,866
	d. Average age at the valuation date	55.1	47.6	54.8	54.3
3.	Nonvested inactive members[2]				
	a. Number	65,257	2,623	67,880	63,047
	b. Total member contributions with interest	$ 101,408	$ 11,525	$ 112,933	$ 101,043
	c. Average contributions with interest[3]	$ 1,554	$ 4,394	$ 1,664	$ 1,603
4.	Service retirees[1]				
	a. Number	61,838	9,720	71,558	70,044
	b. Total annual benefits	$ 768,949	$ 292,354	$ 1,061,303	$ 1,025,813
	c. Average annual benefit[3]	$ 12,435	$ 30,078	$ 14,831	$ 14,645
	d. Average age at the valuation date	71.6	63.3	70.5	70.2
5.	Disabled retirees[1]				
	a. Number	3,716	590	4,306	4,360
	b. Total annual benefits	$ 43,923	$ 10,029	$ 53,952	$ 54,241
	c. Average annual benefit[3]	$ 11,820	$ 16,998	$ 12,529	$ 12,441
	d. Average age at the valuation date	67.8	59.5	66.6	66.2
6.	Beneficiaries[1]				
	a. Number	6,831	1,543	8,374	8,131
	b. Total annual benefits	$ 70,320	$ 26,706	$ 97,026	$ 92,648
	c. Average annual benefit[3]	$ 10,294	$ 17,308	$ 11,587	$ 11,394
	d. Average age at the valuation date	69.1	60.9	67.6	67.2

[1] 4,085 members receiving benefits in both the non-hazardous and hazardous fund. Members' headcounts and hazardous benefits included in the hazardous summary above. Members' additional $30,693,000 in non-hazardous annual benefits not included in summary above.

[2] Vested inactive member section includes Tier 1 members eligible for a benefit equal to the actuarially equivalent of two times the member's contribution balance.

[3] Average dollar amounts shown are expressed to the dollar.

Summary of Historical Active Membership

June 30,	Active Members Number	Active Members Percent Increase /(Decrease)	Covered Payroll[1] Amount in Thousands	Covered Payroll[1] Percent Increase /(Decrease)	Average Annual Pay Amount	Average Annual Pay Percent Increase /(Decrease)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
			Non-Hazardous Members			
2015	80,852		$ 2,296,716		$ 28,406	
2016	80,664	-0.2%	2,352,762	2.4%	29,167	2.7%
2017	82,198	1.9%	2,452,407	4.2%	29,835	2.3%
2018	81,818	-0.5%	2,466,801	0.6%	30,150	1.1%
2019	81,506	-0.4%	2,521,860	2.2%	30,941	2.6%
2020	81,250	-0.3%	2,565,391	1.7%	31,574	2.0%
2021	77,367	-4.8%	2,528,735	-1.4%	32,685	3.5%
2022	77,849	0.6%	2,691,171	6.4%	34,569	5.8%
2023	78,810	1.2%	2,898,813	7.7%	36,782	6.4%
2024	80,440	2.1%	3,137,814	8.2%	39,008	6.1%
			Hazardous Members			
2015	9,172		$ 483,641		$ 52,730	
2016	9,084	-1.0%	492,851	1.9%	54,255	2.9%
2017	9,495	4.5%	541,633	9.9%	57,044	5.1%
2018	9,263	-2.4%	533,618	-1.5%	57,607	1.0%
2019	9,474	2.3%	559,353	4.8%	59,041	2.5%
2020	9,419	-0.6%	568,558	1.6%	60,363	2.2%
2021	9,173	-2.6%	578,355	1.7%	63,050	4.5%
2022	9,184	0.1%	620,934	7.4%	67,610	7.2%
2023	9,205	0.2%	677,988	9.2%	73,654	8.9%
2024	9,678	5.1%	743,133	9.6%	76,786	4.3%

[1] Covered payroll is the annualized, projected compensation for the following year and does not include payroll attributable to working retirees.

Distribution of Active Members by Age and by Years of Service

Non-Hazardous Members

	Years of Credited Service												
Attained Age	0 Count & Avg. Comp.	1 Count & Avg. Comp.	2 Count & Avg. Comp.	3 Count & Avg. Comp.	4 Count & Avg. Comp.	5-9 Count & Avg. Comp.	10-14 Count & Avg. Comp.	15-19 Count & Avg. Comp.	20-24 Count & Avg. Comp.	25-29 Count & Avg. Comp.	30-34 Count & Avg. Comp.	35 & Over Count & Avg. Comp.	Total Count & Avg. Comp.
Under 20	574	53	2	0	0	0	0	0	0	0	0	0	629
	$13,910	$15,467	$6,660	$0	$0	$0	$0	$0	$0	$0	$0	$0	$14,018
20-24	2,009	1,046	506	198	68	27	0	0	0	0	0	0	3,854
	$23,099	$29,425	$32,496	$35,241	$38,138	$44,134	$0	$0	$0	$0	$0	$0	$27,086
25-29	1,585	1,269	877	512	416	719	9	0	0	0	0	0	5,387
	$27,659	$33,614	$36,299	$37,927	$39,153	$44,910	$61,764	$0	$0	$0	$0	$0	$34,691
30-34	1,622	1,260	899	560	546	1,753	368	12	0	1	0	0	7,021
	$26,259	$31,545	$34,063	$35,870	$39,254	$44,686	$53,797	$48,984	$0	$22,263	$0	$0	$36,067
35-39	1,424	1,161	911	521	492	2,009	936	385	9	0	0	0	7,848
	$26,381	$31,965	$33,468	$35,222	$37,294	$43,788	$53,878	$59,549	$69,845	$0	$0	$0	$38,713
40-44	1,176	1,048	798	516	534	2,321	1,125	959	428	23	1	0	8,929
	$27,703	$31,703	$33,856	$36,851	$35,390	$40,777	$49,810	$59,123	$61,268	$70,936	$155,155	$0	$41,004
45-49	1,033	849	713	468	485	2,308	1,373	1,199	996	293	7	0	9,724
	$29,699	$35,538	$35,648	$37,770	$37,473	$40,705	$45,387	$53,933	$61,555	$65,185	$75,195	$0	$43,602
50-54	822	808	583	459	442	2,148	1,593	1,576	1,340	634	82	4	10,491
	$29,245	$35,235	$35,575	$37,556	$37,595	$39,910	$43,992	$48,915	$54,360	$65,859	$78,173	$130,137	$43,993
55-59	719	679	529	395	381	1,908	1,458	1,639	1,541	751	142	33	10,175
	$26,689	$32,133	$34,566	$33,406	$37,253	$41,264	$41,774	$44,482	$46,780	$56,661	$74,635	$74,048	$41,957
60-64	606	552	494	351	316	1,735	1,338	1,484	1,397	746	145	57	9,221
	$23,573	$28,749	$29,775	$31,446	$30,364	$37,092	$41,905	$44,241	$44,996	$48,080	$62,418	$68,992	$39,397
65 & Over	626	575	425	303	331	1,599	1,130	934	638	354	137	109	7,161
	$17,587	$25,110	$24,106	$24,237	$29,303	$31,099	$36,182	$39,467	$44,903	$46,030	$51,563	$60,891	$33,355
Total	12,196	9,300	6,737	4,283	4,011	16,527	9,330	8,188	6,349	2,802	514	203	80,440
	$25,432	$31,732	$33,519	$35,102	$36,360	$40,353	$44,703	$48,533	$51,126	$56,110	$65,768	$66,669	$39,008

Distribution of Active Members by Age and by Years of Service
Hazardous Members

	Years of Credited Service												
Attained Age	0 Count & Avg. Comp.	1 Count & Avg. Comp.	2 Count & Avg. Comp.	3 Count & Avg. Comp.	4 Count & Avg. Comp.	5-9 Count & Avg. Comp.	10-14 Count & Avg. Comp.	15-19 Count & Avg. Comp.	20-24 Count & Avg. Comp.	25-29 Count & Avg. Comp.	30-34 Count & Avg. Comp.	35 & Over Count & Avg. Comp.	Total Count & Avg. Comp.
Under 20	14	3	0	0	0	0	0	0	0	0	0	0	17
	$43,099	$51,906	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$44,653
20-24	296	216	128	45	26	1	0	0	0	0	0	0	712
	$44,729	$57,941	$61,408	$65,254	$69,436	$48,594	$0	$0	$0	$0	$0	$0	$53,940
25-29	222	249	242	211	217	361	5	0	0	0	0	0	1,507
	$50,022	$59,438	$63,285	$68,737	$66,807	$74,144	$65,406	$0	$0	$0	$0	$0	$64,574
30-34	104	126	149	126	136	876	210	2	0	0	0	0	1,729
	$47,793	$58,873	$66,129	$68,785	$68,462	$75,919	$82,977	$92,400	$0	$0	$0	$0	$71,911
35-39	77	88	75	63	73	549	659	214	2	0	0	0	1,800
	$46,417	$60,848	$63,482	$62,896	$67,660	$76,310	$85,706	$88,673	$72,449	$0	$0	$0	$77,826
40-44	42	45	32	39	46	221	372	663	121	5	0	0	1,586
	$53,718	$62,316	$62,118	$66,044	$64,989	$77,259	$85,735	$95,919	$95,654	$137,449	$0	$0	$86,656
45-49	22	25	10	16	18	110	161	419	226	51	2	0	1,060
	$54,109	$58,078	$60,272	$51,936	$65,776	$72,233	$83,242	$93,317	$101,647	$105,116	$113,499	$0	$88,932
50-54	21	15	16	8	15	80	100	211	169	87	15	0	737
	$50,628	$52,588	$67,612	$94,441	$71,815	$68,401	$79,765	$90,245	$99,785	$115,059	$126,260	$0	$89,586
55-59	8	10	7	5	6	40	47	99	64	25	8	3	322
	$46,187	$43,083	$64,010	$84,427	$69,229	$69,678	$76,482	$88,760	$98,340	$104,034	$130,574	$127,927	$85,646
60-64	4	3	4	2	2	19	18	63	21	4	7	5	152
	$47,944	$42,902	$48,932	$54,687	$62,260	$62,823	$66,774	$88,955	$84,801	$106,772	$101,302	$115,677	$80,561
65 & Over	0	0	1	2	1	11	6	17	7	5	4	2	56
	$0	$0	$24,870	$48,162	$35,942	$66,527	$69,149	$91,045	$89,199	$141,341	$69,771	$109,898	$83,600
Total	810	780	664	517	540	2,268	1,578	1,688	610	177	36	10	9,678
	$47,609	$58,780	$63,449	$67,426	$67,369	$75,140	$84,104	$92,912	$98,777	$111,824	$115,380	$118,197	$76,786

Distribution of Annuitant Monthly Benefit by Status and Age
Non-Hazardous Retirees and Beneficiaries
(Dollar amounts expressed in thousands)

	Retirement		Disability		Survivors & Beneficiaries		Total	
Current Age	Number of Annuitants	Total Annual Benefit Amount	Number of Annuitants	Total Annual Benefit Amount	Number of Annuitants	Total Annual Benefit Amount	Number of Annuitants	Total Annual Benefit Amount
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Under 50	271	$ 6,700	102	$ 1,332	773	$ 6,982	1,146	$ 15,013
50 - 54	1,282	26,886	202	2,512	277	2,568	1,761	31,966
55 - 59	3,624	61,948	382	4,857	430	4,336	4,436	71,141
60 - 64	8,140	125,397	688	9,356	684	8,497	9,512	143,249
65 - 69	13,887	182,278	877	10,234	923	10,277	15,687	202,788
70 - 74	13,938	163,148	667	7,574	1,077	12,192	15,682	182,914
75 - 79	10,471	110,623	453	4,926	1,067	10,597	11,991	126,146
80 - 84	6,117	57,253	231	2,189	832	8,519	7,180	67,961
85 - 89	2,907	25,264	90	753	508	4,503	3,505	30,520
90 And Over	1,201	9,452	24	191	260	1,851	1,485	11,494
Total	**61,838**	**$ 768,949**	**3,716**	**$ 43,923**	**6,831**	**$ 70,320**	**72,385**	**$ 883,192**

*Amounts may not add due to rounding

Distribution of Annuitant Monthly Benefit by Status and Age
Hazardous Retirees and Beneficiaries
(Dollar amounts expressed in thousands)

	Retirement		Disability		Survivors & Beneficiaries		Total	
Current Age	Number of Annuitants	Total Annual Benefit Amount	Number of Annuitants	Total Annual Benefit Amount	Number of Annuitants	Total Annual Benefit Amount	Number of Annuitants	Total Annual Benefit Amount
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Under 50	877	$ 33,914	100	$ 1,809	335	$ 4,111	1,312	$ 39,833
50 - 54	1,453	52,584	114	1,989	102	1,717	1,669	56,290
55 - 59	1,633	53,743	103	1,939	124	2,253	1,860	57,936
60 - 64	1,612	48,343	103	1,723	153	2,844	1,868	52,910
65 - 69	1,416	37,014	77	1,199	219	4,156	1,712	42,369
70 - 74	1,369	36,505	57	846	216	4,401	1,642	41,752
75 - 79	825	18,993	24	378	180	3,456	1,029	22,827
80 - 84	381	8,008	9	103	133	2,468	523	10,580
85 - 89	126	2,539	2	36	58	1,004	186	3,579
90 And Over	28	711	1	7	23	296	52	1,013
Total	**9,720**	**$ 292,354**	**590**	**$ 10,029**	**1,543**	**$ 26,706**	**11,853**	**$ 329,089**

*Amounts may not add due to rounding

Non-Hazardous Retired Lives Summary

Form of Payment	Male Lives Number		Male Lives Monthly Benefit Amount	Female Lives Number		Female Lives Monthly Benefit Amount	Total Number		Total Monthly Benefit Amount
(1)	(2)		(3)	(4)		(5)	(6)		(7)
Basic	6,599	$	7,385,649	25,432	$	19,976,955	32,031	$	27,362,604
Joint & Survivor:									
100% to Beneficiary	4,662		5,871,567	3,308		2,417,050	7,970		8,288,617
66 2/3% to Beneficiary	925		1,843,370	873		1,013,087	1,798		2,856,457
50% to Beneficiary	1,294		2,233,782	2,119		2,569,068	3,413		4,802,850
Pop-up Option	4,298		7,373,353	4,576		5,103,904	8,874		12,477,257
Social Security Option:									
Age 62 Basic	225		407,340	573		717,877	798		1,125,217
Age 62 Survivorship	580		1,128,376	398		436,951	978		1,565,326
Partial Deferred (Old Plan)	0		0	0		0	0		0
Widows Age 60	0		0	0		0	0		0
5 Years Certain	0		0	0		0	0		0
10 Years Certain	0		0	0		0	0		0
10 Years Certain & Life	1,622		1,978,439	4,366		3,711,191	5,988		5,689,631
15 Years Certain & Life	772		907,594	1,356		1,062,604	2,128		1,970,198
20 Years Certain & Life	541		781,105	1,035		820,057	1,576		1,601,162
Total:	21,518	$	29,910,575	44,036	$	37,828,744	65,554	$	67,739,319

Hazardous Retired Lives Summary

Form of Payment	Male Lives Number	Male Lives Monthly Benefit Amount	Female Lives Number	Female Lives Monthly Benefit Amount	Total Number	Total Monthly Benefit Amount
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Basic	1,449	$ 3,132,484	448	$ 781,141	1,897	$ 3,913,625
Joint & Survivor:						
100% to Beneficiary	1,690	3,906,672	89	128,734	1,779	4,035,406
66 2/3% to Beneficiary	405	1,080,557	31	75,088	436	1,155,645
50% to Beneficiary	578	1,523,875	68	164,448	646	1,688,324
Pop-up Option	3,962	10,834,042	197	456,026	4,159	11,290,068
Social Security Option:						
Age 62 Basic	111	179,872	14	17,912	125	197,784
Age 62 Survivorship	311	603,075	24	40,325	335	643,400
Partial Deferred (Old Plan)	0	0	0	0	0	0
Widows Age 60	0	0	0	0	0	0
5 Years Certain	0	0	0	0	0	0
10 Years Certain	124	488,828	7	23,881	131	512,709
10 Years Certain & Life	277	623,036	80	151,117	357	774,153
15 Years Certain & Life	142	310,794	28	61,661	170	372,454
20 Years Certain & Life	237	552,654	38	62,315	275	614,969
Total:	9,286	$ 23,235,889	1,024	$ 1,962,648	10,310	$ 25,198,537

Non-Hazardous Beneficiary Lives Summary

Form of Payment	Male Lives Number		Male Lives Monthly Benefit Amount	Female Lives Number		Female Lives Monthly Benefit Amount	Total Number		Total Monthly Benefit Amount
(1)	(2)		(3)	(4)		(5)	(6)		(7)
Basic	33	$	12,086	76	$	69,986	109	$	82,072
Joint & Survivor:									
100% to Beneficiary	626		392,306	2,193		1,743,899	2,819		2,136,205
66 2/3% to Beneficiary	108		64,312	318		278,485	426		342,797
50% to Beneficiary	236		113,501	464		280,077	700		393,578
Pop-up Option	337		310,844	1,139		1,311,923	1,476		1,622,768
Social Security Option:									
Age 62 Basic	1		860	5		4,294	6		5,154
Age 62 Survivorship	32		29,467	197		260,258	229		289,725
Partial Deferred (Old Plan)	0		0	0		0	0		0
Widows Age 60	0		0	0		0	0		0
5 Years Certain	112		130,942	147		155,719	259		286,661
10 Years Certain	160		109,806	195		180,797	355		290,603
10 Years Certain & Life	61		53,212	101		110,089	162		163,302
15 Years Certain & Life	55		42,811	105		95,252	160		138,063
20 Years Certain & Life	44		23,678	86		85,436	130		109,114
Total:	1,805	$	1,283,826	5,026	$	4,576,215	6,831	$	5,860,041

Hazardous Beneficiary Lives Summary

Form of Payment	Male Lives Number	Male Lives Monthly Benefit Amount	Female Lives Number	Female Lives Monthly Benefit Amount	Total Number	Total Monthly Benefit Amount
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Basic	16	$ 10,460	99	$ 124,968	115	$ 135,427
Joint & Survivor:						
100% to Beneficiary	36	31,174	412	573,816	448	604,990
66 2/3% to Beneficiary	2	1,688	83	124,609	85	126,296
50% to Beneficiary	21	18,890	135	135,411	156	154,301
Pop-up Option	48	32,812	465	867,414	513	900,226
Social Security Option:						
Age 62 Basic	0	0	2	1,641	2	1,641
Age 62 Survivorship	1	423	109	144,282	110	144,705
Partial Deferred (Old Plan)	0	0	0	0	0	0
Widows Age 60	0	0	2	1,469	2	1,469
5 Years Certain	3	5,691	5	12,473	8	18,164
10 Years Certain	13	19,507	32	52,243	45	71,750
10 Years Certain & Life	2	6,642	10	11,246	12	17,888
15 Years Certain & Life	6	6,755	11	16,656	17	23,411
20 Years Certain & Life	10	7,048	20	18,200	30	25,248
Total:	158	$ 141,089	1,385	$ 2,084,426	1,543	$ 2,225,515

Schedule of Retirees Added to And Removed from Rolls

(Dollar amounts except average allowance expressed in thousands)

Year Ended	Added to Rolls Number	Removed from Rolls Number	Rolls End of the Year Number	Rolls End of the Year Annual Benefits	% Increase in Annual Benefit	Average Annual Benefit
(1)	(2)	(3)	(4)	(5)	(6)	(7)
			Non-Hazardous			
2015	4,020	1,304	52,651	$ 617,551		$ 11,729
2016	4,409	721	56,339	661,217	7.1%	11,736
2017	4,141	1,467	59,013	667,468	0.9%	11,311
2018	4,650	1,725	61,938	710,374	6.4%	11,469
2019	4,472	1,871	64,539	747,117	5.2%	11,576
2020	3,550	2,675	65,414	763,459	2.2%	11,671
2021	4,350	2,558	67,206	791,562	3.7%	11,778
2022	4,693	3,010	68,889	820,678	3.7%	11,913
2023	4,753	2,710	70,932	855,173	4.2%	12,056
2024	4,203	2,750	72,385	883,192	3.3%	12,201
			Hazardous			
2015	526	138	8,034	$ 202,153		$ 25,162
2016	604	75	8,563	215,302	6.5%	25,143
2017	576	141	8,998	226,680	5.3%	25,192
2018	779	190	9,587	245,675	8.4%	25,626
2019	608	172	10,023	258,813	5.3%	25,822
2020	621	192	10,452	274,791	6.2%	26,291
2021	651	245	10,858	288,876	5.1%	26,605
2022	674	301	11,231	301,966	4.5%	26,887
2023	672	300	11,603	317,529	5.2%	27,366
2024	548	298	11,853	329,089	3.6%	27,764

SECTION 6

ASSESSMENT AND DISCLOSURE OF RISK

Risks Associated with Measuring the Accrued Liability And Actuarially Determined Contribution

(As Required by ASOP No. 51)

The determination of CERS's accrued liability and actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. The risk measures illustrated in this section are intended to aid stakeholders in understanding the effects of future experience differing from the assumptions used in performing an actuarial valuation. These risk measures may also help with illustrating the potential volatility in the funded status and actuarially determined contributions that result from differences between actual experience and the expected experience based on the actuarial assumptions.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience (economic and demographic) differing from the assumptions, changes in assumptions due to changing conditions, changes in contribution requirements due to modifications to the funding policy, and changes in the liability and cost due to changes in plan provisions or applicable law. The scope of this actuarial valuation does not include any analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the System's future financial condition include:

- Investment risk – actual investment returns may differ from expected returns;
- Longevity risk – members may live longer or shorter than expected and receive pensions for a time period different than assumed;
- Other demographic risks – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future contributions differing from expected;
- Salary and payroll risk – actual salaries and total payroll may differ from expected, resulting in actual future accrued liabilities or contributions differing from expected;
- Asset/Liability mismatch – changes in assets may be inconsistent with changes in liabilities, thereby altering the relative difference between the assets and liabilities which may alter the funded status and contribution requirements;
- Contribution risk – actual contributions may differ from expected future contributions (for example, actual contributions not being paid in accordance with the System's funding policy, withdrawal liability assessments or other anticipated payments to the plan are not being paid, or material changes occurring in the anticipated number of covered employees, covered payroll, or another relevant contribution base).

Effects of certain experience can generally be anticipated. For example, if investment returns since the most recent actuarial valuation are less (or more) than the assumed rate of return, then the funded status of the plan can be expected to decrease (or increase) more than anticipated.

The required contributions in this report were established in accordance with applicable Statutes and assumptions adopted by the Board. However, stakeholders should be aware that the scheduled contributions specified in State Code do not necessarily guarantee that the contribution requirements will not increase in a future year.

Employer Risk with Contribution Rates

Currently contributions are collected from participating employers based on the employer's total payroll of employees who are earning benefits in CERS (i.e. covered payroll). The actuarially determined contribution rate is comprised of two components - the normal cost rate (to pay for the benefits accruing in the next year) and the unfunded amortization (to pay for the benefits accrued by members in previous years). The unfunded amortization is calculated by first determining the dollar amount necessary to pay for the unfunded liability based on CERS's funding policy, and then by dividing that dollar amount by expected covered payroll to convert that contribution requirement to a percentage of payroll (i.e. a contribution rate).

As the contribution requirement, as a percentage of payroll, increases then there is increased incentive for participating employers to make deliberate business action to reduce their payroll reported to the System in order to reduce their pension cost.

Plan Specific Risk Measures

Risks faced by a pension plan evolve over time. A relatively new plan with virtually no assets and paying few benefits will experience lower investment risk than a mature plan with a significant amount of assets and large number of members receiving benefits. There are a few measures that can assist stakeholders in understanding and comparing the maturity of a plan to other systems, which include:

- Ratio of market value of assets to payroll: The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. If assets are approximately the same as covered payroll, an investment return that is 5% different than assumed would equal 5% of payroll. In another example, if the assets are approximately twice as large as covered payroll, an investment return that is 5% different than assumed would equal 10% of payroll. A ratio that increases over time generally indicates the potential of an increasing volatility in employer contribution rates as a percentage of payroll.
- Ratio of actuarial accrued liability to payroll: The ratio of actuarial accrued liability to payroll can be used as a measure to indicate the potential volatility of contributions due to volatility in the liability experience. For instance, if the actuarial accrued liability is 5 times the size of the covered payroll, then a change in the liability that is 2% different than expected would be a change in magnitude that is 10% of payroll. A ratio that increases over time generally indicates the potential of an increasing volatility in employer contribution rates as a percentage of payroll.
- Percentage of Expected Contributions Actually Received: This measure identifies the percentage difference between the contributions the fund expects to receive during the fiscal year to and actual contributions received by the fund during the fiscal year. A percentage that is less than 100% means that actual contributions the fund received were less than the expected contributions determined by a prior actuarial valuation. On the other hand, a percentage that is greater than 100% means that actual contributions the fund received were more than the expected contributions.

- <u>Ratio of active to retired members</u>: A relatively mature open plan is likely to have close to the same number of actives to retirees resulting in a ratio that is around 1.0. On the other hand, a super-mature plan, or a plan that is closed to new entrants will have more retirees than active members resulting in a ratio below 1.0. As this ratio declines, a larger portion of the total actuarial accrued liability in the System is attributable to retirees. This metric also typically moves in tandem with the liability to payroll metric, which provides an indication of potential contribution volatility.

The following tables provide a summary of these measures for CERS Non-Hazardous and Hazardous Funds for the current year and the prior four years so stakeholders can identify how these measures are trending. While ASOP No. 51 requires this disclosure with respect to only the retirement funds, we have included this information for the insurance funds for completeness.

CERS Non-Hazardous

	Retirement Fund					**Insurance Fund**				
	June 30,					June 30,				
	2024	2023	2022	2021	2020	2024	2023	2022	2021	2020
Ratio of the market value of assets to total payroll	3.06	2.99	2.96	3.39	2.74	1.18	1.17	1.14	1.28	1.01
Ratio of actuarial accrued liability to payroll	5.03	5.28	5.82	5.89	5.70	0.92	0.88	0.89	1.36	1.32
Ratio of net cash flow to market value of assets	-0.7%	-1.2%	-1.3%	-2.9%	-2.7%	-2.4%	0.1%	0.3%	0.8%	0.1%
Percentage of Expected Contribution Actually Received	111% [1]	109%	99%	76%	82%	N/A [1]	109%	110%	88%	102%
Ratio of actives to retirees and beneficiaries	1.11	1.11	1.13	1.15	1.24					

[1] Expected contribution for FYE 2024 based on the actuarially determined contribution rate of 23.34% from the June 30, 2022 valuation and expected compensation based on census data from the June 30, 2023 valuation. As of the 2022 valuation (FYE2024), the required employer contribution was 0% of pay for the insurance fund.

CERS Hazardous

	Retirement Fund					**Insurance Fund**				
	June 30,					June 30,				
	2024	2023	2022	2021	2020	2024	2023	2022	2021	2020
Ratio of the market value of assets to total payroll	4.60	4.48	4.38	5.04	4.19	2.36	2.41	2.45	2.81	2.32
Ratio of actuarial accrued liability to payroll	8.17	8.63	9.44	9.73	9.55	2.24	2.37	2.48	3.03	3.06
Ratio of net cash flow to market value of assets	0.9%	1.3%	-0.8%	-2.3%	-2.1%	-4.0%	-2.5%	-1.6%	-1.4%	-1.6%
Percentage of Expected Contribution Actually Received	113% [1]	114%	87%	71%	80%	115% [1]	114%	113%	102%	104%
Ratio of actives to retirees and beneficiaries	0.82	0.79	0.82	0.84	0.90					

[1] Expected contribution for FYE2024 based on the actuarially determined contribution rate of 43.69% from the June 30, 2022 valuation and expected compensation based on census data from the June 30, 2023 valuation.

Low-Default-Risk Obligation Measure

Introduction
In December 2021, the Actuarial Standards Board (ASB) adopted a revision to Actuarial Standard of Practice (ASOP) No. 4, Measuring Pension Obligations and Determining Pension Plan Costs or Contributions. The revised ASOP No. 4 requires the calculation and disclosure of a liability referred to by the ASOP as the "Low-Default-Risk Obligation Measure" (LDROM). The rationale that the ASB cited for the calculation and disclosure of the LDROM was included in the Transmittal Memorandum of ASOP No. 4 and is presented below (emphasis added):

> "The ASB believes that the calculation and disclosure of this measure provides **appropriate, useful information for the intended user regarding the funded status of a pension plan.** The calculation and disclosure of this additional measure is **not intended to suggest that this is the "right" liability measure** for a pension plan. However, the ASB does believe that **this additional disclosure provides a more complete assessment of a plan's funded status and provides additional information regarding the security of benefits that members have earned as of the measurement date."**

Comparing the Accrued Liabilities and the LDROM
One of the fundamental financial objectives of the County Employees' Retirement System (CERS) is to finance each member's retirement benefits over the period from the member's date of hire until the member's projected date of retirement (entry age actuarial cost method) as a level percentage of payroll. To fulfill this objective, the discount rate that is used to value the accrued liabilities is set equal to the **expected return** on each fund's diversified portfolio of assets (referred to sometimes as the investment return assumption). For the retirement funds, the investment return assumption is 6.50%.

The LDROM is meant to approximately represent the lump sum cost to a plan to purchase low-default-risk fixed income securities whose resulting cash flows essentially replicate in timing and amount the benefits earned (or the costs accrued) as of the measurement date. The LDROM is very dependent upon market interest rates at the time of the LDROM measurement. The lower the market interest rates, the higher the LDROM, and vice versa. The LDROM results presented in this report are based on the entry age actuarial cost method and discount rates based upon the intermediate rate from the FTSE Pension Discount Curve and Liability Index published by the Society of Actuaries. This rate is 5.32% as of June 30, 2024. This measure may not be appropriate for assessing the need for or amount of future contributions. This measure may not be appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligation.

The difference between the two measures (Valuation and LDROM) is one illustration of the savings the sponsor anticipates by taking on risk in a diversified portfolio.

Non-Hazardous Retirement Fund

Valuation Accrued Liabilities	LDROM
$15,776,491,221	$17,915,297,262

Hazardous Retirement Fund

Valuation Accrued Liabilities	LDROM
$6,070,200,056	$6,990,398,585

APPENDIX A

ACTUARIAL ASSUMPTIONS AND METHODS

Summary of Actuarial Methods and Assumptions

The following presents a summary of the actuarial assumptions and methods used in the valuation of the County Employees Retirement System.

In general, the assumptions and methods used in the valuation are based on the actuarial experience study as of June 30, 2022 and adopted by the Board in May 2023.

Investment return rate:

Assumed annual rate of 6.50% net of investment expenses for the retirement funds and the insurance funds

Price Inflation:

Assumed annual rate of 2.50%

Payroll Growth Assumption (used for amortization of unfunded accrued liabilities):

Assumed annual rate of 2.00%

Rates of Annual Salary Increase:

Assumed rates of annual salary increases are shown below.

Service Years	Annual Rates of Salary Increase					
	Merit & seniority		Price Inflation & Productivity		Total Increase	
	Non-Hazardous	Hazardous	Non-Hazardous	Hazardous	Non-Hazardous	Hazardous
0	7.00%	15.50%	3.30%	3.55%	10.30%	19.05%
1	4.00%	5.50%	3.30%	3.55%	7.30%	9.05%
2	3.00%	3.50%	3.30%	3.55%	6.30%	7.05%
3	2.00%	2.50%	3.30%	3.55%	5.30%	6.05%
4	1.75%	2.25%	3.30%	3.55%	5.05%	5.80%
5	1.50%	2.00%	3.30%	3.55%	4.80%	5.55%
6	1.25%	2.00%	3.30%	3.55%	4.55%	5.55%
7	1.00%	1.50%	3.30%	3.55%	4.30%	5.05%
8	0.75%	1.50%	3.30%	3.55%	4.05%	5.05%
9	0.75%	1.00%	3.30%	3.55%	4.05%	4.55%
10	0.50%	1.00%	3.30%	3.55%	3.80%	4.55%
11	0.50%	0.50%	3.30%	3.55%	3.80%	4.05%
12	0.25%	0.50%	3.30%	3.55%	3.55%	4.05%
13	0.25%	0.50%	3.30%	3.55%	3.55%	4.05%
14	0.25%	0.25%	3.30%	3.55%	3.55%	3.80%
15	0.00%	0.25%	3.30%	3.55%	3.30%	3.80%
16 & Over	0.00%	0.00%	3.30%	3.55%	3.30%	3.55%

Retirement rates:

Assumed annual rates of retirement are shown below. Rates are only applicable for members who are eligible for a service retirement.

Age	Non-Hazardous				Service	Hazardous		
	Normal Retirement		Early Retirement[1]			Members participating before 9/1/2008[2]	Members participating between 9/1/2008 and 1/1/2014[3]	Members participating after 1/1/2014[3]
	Male	Female	Male	Female				
Under 45	35.0%	27.0%			5	17.0%		
45	35.0%	27.0%			6	17.0%		
46	35.0%	27.0%			7	17.0%		
47	35.0%	27.0%			8	17.0%		
48	35.0%	27.0%			9	17.0%		
49	35.0%	27.0%			10	17.0%		
50	30.0%	27.0%			11	17.0%		
51	30.0%	27.0%			12	17.0%		
52	30.0%	27.0%			13	17.0%		
53	30.0%	27.0%			14	17.0%		
54	30.0%	27.0%			15	17.0%		
55	30.0%	27.0%	4.0%	5.0%	16	17.0%		
56	30.0%	27.0%	4.0%	5.0%	17	17.0%		
57	30.0%	27.0%	4.0%	5.0%	18	17.0%		
58	30.0%	27.0%	4.0%	5.0%	19	17.0%		
59	30.0%	27.0%	4.0%	5.0%	20	30.0%		
60	30.0%	27.0%	4.0%	8.0%	21	22.5%		
61	30.0%	27.0%	4.0%	9.0%	22	18.0%		
62	30.0%	40.0%	15.0%	20.0%	23	21.0%		
63	30.0%	35.0%	15.0%	18.0%	24	24.0%		
64	30.0%	30.0%	15.0%	16.0%	25	27.0%	21.6%	16.0%
65	30.0%	30.0%			26	30.0%	24.0%	16.0%
66	30.0%	27.0%			27	33.0%	26.4%	16.0%
67	30.0%	27.0%			28	36.0%	28.8%	16.0%
68	30.0%	27.0%			29	39.0%	31.2%	16.0%
69	30.0%	27.0%			30+	39.0%	31.2%	100.0%
70	30.0%	27.0%						
71	30.0%	27.0%						
72	30.0%	27.0%						
73	30.0%	27.0%						
74	30.0%	27.0%						
75	100.0%	100.0%						

[1] The annual rate of retirement is 11% for male members and 12% for female members with 25-26 years of service.
[2] The annual rate of retirement is 100% at age 62.
[3] The annual rate of retirement is 100% at age 60.
Non-Hazardous: There is a 1% increase in the first two years a member becomes eligible under the age of 65. For members hired after 7/1/2003, the rates shown above are multiplied by 80% if the member is under age 65 to reflect the different retiree health insurance benefit.
Hazardous: For members hired after 7/1/2003 and prior to 9/1/2008, the rates shown above are multiplied by 80% if the member is under age 62 to reflect the different retiree health insurance benefit.

Disability rates:

An abbreviated table with assumed rates of disability is show below.

	Non-Hazardous		Hazardous	
Age	Male	Female	Male	Female
20	0.04%	0.04%	0.06%	0.06%
30	0.06%	0.06%	0.11%	0.11%
40	0.13%	0.13%	0.24%	0.24%
50	0.37%	0.37%	0.67%	0.67%
60	0.97%	0.97%	1.75%	1.75%

Withdrawal rates (for causes other than disability and retirement):

Assumed annual rates of withdrawal are shown below and include pre-retirement mortality rates as described on the next page.

Service Years	Annual Rates of Withdrawal	
	Non-Hazardous	Hazardous
1	20.00%	20.00%
2	17.92%	10.48%
3	14.35%	8.33%
4	12.26%	7.06%
5	10.78%	6.18%
6	9.63%	5.47%
7	8.69%	4.91%
8	7.90%	4.43%
9	7.21%	4.01%
10	6.60%	3.66%
11	6.06%	3.32%
12	5.57%	3.02%
13	5.12%	2.76%
14	4.70%	2.51%
15	4.32%	2.28%
16	3.97%	2.07%
17	3.63%	1.86%
18	3.32%	1.68%
19	3.04%	1.50%
20	2.75%	1.33%
21	2.48%	0.00%
22	2.23%	0.00%
23	2.00%	0.00%
24	1.77%	0.00%
25	1.55%	0.00%
26 & Over	0.00%	0.00%

Mortality Assumption:

Pre-retirement mortality: PUB-2010 General Mortality table, for the non-hazardous funds, and the PUB-2010 Public Safety Mortality table for the hazardous funds, projected with the ultimate rates from the MP-2020 mortality improvement scale using a base year of 2010.

Post-retirement mortality (non-disabled): System-specific mortality table based on mortality experience from 2013-2022, projected with the ultimate rates from MP-2020 mortality improvement scale using a base year of 2023.

The following table provides the life expectancy for a non-disabled retiree in future years based on the assumption with full generational projection:

Life Expectancy for an Age 65 Retiree in Years					
Gender	Year of Retirement				
	2025	2030	2035	2040	2045
Male	19.8	20.2	20.6	21.0	21.3
Female	22.4	22.7	23.1	23.4	23.7

Post-retirement mortality (disabled): PUB-2010 Disabled Mortality table, with rates multiplied by 150% for both male and female rates, projected with the ultimate rates from the MP-2020 mortality improvement scale using a base year of 2010.

Marital status:

100% of employees are assumed to be married, with the female spouse 3 years younger than the male spouse.

Line of Duty/Duty-Related Disability

Non-Hazardous: 2% of disabilities are assumed to be duty-related (100% of which are assumed to be “total and permanent”)

Hazardous: 50% of disabilities are assumed to occur in the line of duty (10% of which are assumed to be “total and permanent”)

Line of Duty Death

25% of deaths are assumed to occur in the line of duty

Dependent Children:

For members in the Hazardous Plan who receive a duty-related death or disability benefit, the member is assumed to be survived by two dependent children, each age 6 with payments for 15 years.

Form of Payment:

Members are assumed to elect a life-only annuity at retirement.

Actuarial Cost Method:

Entry Age Normal, Level Percentage of Pay. The Entry Age Normal actuarial cost method allocates the System's actuarial present value of future benefits to various periods based upon service. The portion of the present value of future benefits allocated to years of service prior to the valuation date is the actuarial accrued liability, and the portion allocated to years following the valuation date is the present value of future normal costs. The normal cost is determined for each active member as the level percent of pay necessary to fully fund the expected benefits to be earned over the career of each individual active member. The normal cost is partially funded with active member contributions with the remainder funded by employer contributions.

Health Care Age Related Morbidity/Claims Utilization:

To model the impact of aging on the underlying health care costs for Medicare retirees, the valuation relied on the Society of Actuaries' 2013 Study "Health Care Costs – From Birth to Death". Table 4 (Development of Plan Specific Medicare Age Curve) was used to model the impact of aging for ages 65 and over.

Health Care Cost Trend Rates:

Year	Non-Medicare Plans[1]	Medicare Plans[1]	Dollar Contribution[2]
2026	7.10%	8.00%	1.50%
2027	7.00%	8.00%	1.50%
2028	6.80%	8.00%	1.50%
2029	6.60%	7.50%	1.50%
2030	6.40%	7.00%	1.50%
2031	6.20%	6.50%	1.50%
2032	6.00%	6.00%	1.50%
2033	5.80%	5.50%	1.50%
2034	5.60%	5.00%	1.50%
2035	5.40%	4.50%	1.50%
2036	5.20%	4.25%	1.50%
2037	5.00%	4.25%	1.50%
2038	4.75%	4.25%	1.50%
2039	4.50%	4.25%	1.50%
2040 & Beyond	4.25%	4.25%	1.50%

[1]All increases are assumed to occur on January 1. The 2025 premiums were known at the time of the valuation and were incorporated into the liability measurement
[2]Applies to members participating on or after July 1, 2003. All increases are assumed to occur on July 1.

Health care trend assumptions are based on the model issued by the Society of Actuaries "Getzen model of Long-Run Medical Cost Trends for the SOA; Thomas E. Getzen, iHEA and Temple University 2014 © Society of Actuaries.

The underlying assumptions used to develop the health care trend rates include:

- A short run period-this is a period for which anticipated health care trend rates are manually set based on local information as well as plan-specific and carrier information.
- Long term real GDP growth – 1.75%
- Long term rate of inflation – 2.30%
- Long term nominal GDP growth – 4.25%
- Year that excess rate converges to 0 – 2036

Health care trend rates are thus the manually set rates for the short run period and rates which decline to an ultimate trend rate which equals the assumed nominal long-term GDP growth rate.

Health Care Participation Assumptions:

- Active members are assumed to elect health coverage at retirement at the following participation rates.

Service at Retirement	Members participating before 7/1/2003*	Members participating after 7/1/2003
Under 10	50%	100%
10-14	75%	100%
15-19	90%	100%
Over 20	100%	100%

* 100% of members with a duty disability or a duty death (in service) benefit are assumed to elect coverage at retirement.

- Future retirees are assumed to have a similar distribution by plan type as the current retirees.

Medicare Plan	Participation Percentage	Non-Medicare Plan	Participation Percentage
Medical Only[1]	5%	LivingWell Basic	4%
Essential Plan	7%	LivingWell CDHP	35%
Premium Plan	88%	LivingWell PPO	61%

[1] Includes Mirror Plans

- 50% of deferred vested members participating before July 1, 2003 are assumed to elect health coverage at retirement. 100% of deferred vested members participating after July 1, 2003 are assumed to elect health coverage at retirement.

- Deferred vested members receiving insurance benefits from the non-hazardous fund are assumed to begin health coverage at age 55 for members participating before September 1, 2008, at age 60 for members participating on or after September 1, 2008 but before January 1, 2014, and at age 65 for members participating on or after January 1, 2014.

- Deferred vested members receiving insurance benefits from the hazardous fund are assumed to begin health coverage at age 50 for members participating before January 1, 2014 and at age 60 for members participating on or after January 1, 2014.

- 75% of future retirees, with hazardous service, are assumed to elect spouse health care coverage. No dependent coverage is assumed for members who only have non-hazardous service. 100% of spouses with health care coverage are assumed to continue coverage after the member's death.

Other Assumptions

1. Valuation payroll (used for determining the amortization contribution rate): Current fiscal year payroll.

2. Individual salaries used to project benefits: For salary amounts prior to the valuation date, the salary from the last fiscal year is projected backward with the valuation salary scale assumption. For future salaries, the salary from the last fiscal year is projected forward with one year's salary scale.

3. Pay increase timing: Beginning of (fiscal) year. This is equivalent to assuming that reported salaries represent amounts paid to members during the year ending on the valuation date.

4. Current active members that terminate employment (for reasons other than retirement, disability, or death) are assumed to commence their retirement benefits at first unreduced retirement eligibility. Members are assumed to elect a refund of member contributions if the value of their account balance exceeds the present value of the deferred benefit. Members participating in the Cash Balance plan are assumed to elect to receive a lump sum of their cash balance account if their account balance exceeds the present value of the deferred benefit and the member is not eligible for insurance benefits at termination.

5. The beneficiaries of current active members that die while active are assumed to commence their survivor benefits at the member's first unreduced retirement eligibility. Beneficiaries are assumed to elect a refund of member contributions if the value of the member's account balance exceeds the present value of the survivor benefit. Beneficiaries of active members that die while in the line of duty are assumed to commence their survivor benefits immediately at the death of the member.

6. There will be no recoveries once disabled.

7. Cash Balance Provisions: The cash balance interest crediting rate while a member is an active employee is assumed to equal 6.75%. The interest crediting rate after a member terminates employment is 4%.

8. Decrement timing: Decrements of all types are assumed to occur mid-year. Decrement rates are used as described in this report, without adjustment for multiple decrement table effects.

9. Service: All members are assumed to accrue 1 year of benefit and eligibility service each year.

10. Eligibility testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.

11. Incidence of Contributions: Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.

12. Current Inactive Population (Retirement Fund): All non-vested members are assumed to take an immediate refund of member contributions. Vested members are assumed to elect an immediate refund of member contributions at the valuation date if the value of their account balance exceeds the present value of their deferred benefit. Non-hazardous members are assumed to retire at age 65. Hazardous members hired prior to September 1, 2008 are assumed to retire at age 55 and hazardous members hired on or after September 1, 2008 are assumed to retire at age 60.

13. The additional $5 per year of service insurance dollar subsidy effective January 1, 2023 is assumed to be paid in all applicable years.

Participant Data

Participant data was supplied in electronic text files. There were separate files for (i) active and inactive members, and (ii) members and beneficiaries receiving benefits.

The data for active and terminated members included date of birth, gender, date of participation, benefit tier indicator, service with the current system, total vesting service, salary, employee contribution account balances, and employer pay credits for members participating in the cash balance plan. For retired members and beneficiaries, the data included date of birth, gender, spouse's date of birth (where applicable), amount of monthly benefit, date of retirement, and form of payment code.

Assumptions were made to correct for missing, bad, or inconsistent data. These had no material impact on the results presented.

Changes in assumptions since the prior valuation:

In conjunction with the review of healthcare per capita claims cost, the assumed increase in future healthcare costs, or trend assumption, is reviewed on an annual basis. The trend assumption was increased as a result of our review.

Development of Baseline Claims Cost

For non-Medicare retirees, the initial per capita costs were based on the plan premiums effective January 1, 2025, and are used for both current and future retirees. An inherent assumption in this methodology is that the projected future retirees will have a similar distribution by plan type as the current retirees. The spouse/dependent premium of $1,104.08 for non-Medicare retirees is based on a blending of Family and Couple premiums for the current retirees that have over 4 years of hazardous service. The fully-insured premiums paid to the Kentucky Employees' Health Plan (KEHP) 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 rate subsidy for the non-Medicare eligible retirees. Actuarial Standard of Practice No. 6 (ASOP No. 6) requires aging subsidies (or implicit rate subsidies) to be recognized. However, the health insurance trusts are only used to reimburse KEHP for the employer's portion of the blended premiums. Said another way, the trusts are not used to fund the difference between the underlying retiree claims and the blended KEHP premiums. As a result, the retiree health care liabilities developed in this report for the non-Medicare retirees are based solely on the premiums charged by KEHP, without any age-adjustment. GASB Statements No. 74 and No. 75 prohibit such a deviation from ASOP No. 6. The liabilities developed in this report are solely for the purpose of funding the benefits paid by the health insurance funds and are not appropriate for financial statement disclosures required by GASB. GRS provides separate GASB reports which include the liabilities associated with the implicit rate subsidy.

2025 Monthly Costs for those not Eligible for Medicare		
Age	Member	Spouse/Dependents
<65	$939.54	$1,104.08

For Medicare retirees, the initial per capita costs were estimated based on the plan premiums effective January 1, 2025, and are used for both current and future retirees. An inherent assumption in this methodology is that the projected future retirees will have a similar distribution by plan type as the current retirees. Age graded and sex distinct premiums are utilized for retirees over the age of 65. These costs are appropriate for the unique age and sex distribution currently existing. Over the future years covered by this valuation, the age and sex distribution will most likely change. Therefore, our process "distributes" the average premium over all age/sex combinations and assigns a unique premium for each combination. The age/sex specific costs more accurately reflect the health care utilization and cost at that age.

2025 Monthly Costs for those Eligible for Medicare		
Age	Male	Female
65	$ 121.05	$ 114.17
75	141.62	138.19
85	149.75	151.51

Appendix B of the report provides a full schedule of premiums.

The percentage of the insurance premium paid by CERS is calculated based on the Medical Only premium amounts. The majority of CERS Medicare retirees are covered under the Premium Medicare Advantage plan. Because the premiums for the Medical Only plan are higher than the Premium Medical Advantage plan, retirees with less than 20 years of service pay a smaller contribution toward their insurance coverage. To model the impact of the employer contribution being based on the Medical Only Plan rather than the plan selected by the retiree, the employer share for retirees qualifying for percentage-based subsidies was blended to reflect retiree plan selection.

The above assumption implicitly implies that the Medical Only plan premiums will increase at a rate of 4.80% as of January 1, 2025, decreasing over 6 years to an ultimate trend rate of 4.25%, and that the remaining Medicare plan premiums will increase at the Medicare trend assumption used in the actuarial valuation.

Blake Orth is a Member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Blake Orth

Blake Orth, FSA, EA, MAAA

APPENDIX B

BENEFIT PROVISIONS

Summary of Benefit Provisions for County Employees Retirement System (CERS)

CERS Non-Hazardous Employees

Retirement: Tier 1, Participation before 9/1/2008

Normal Retirement Eligibility	Age 65 with at least 1 month of service credit; or Any age with at least 27 years of service
Benefit Amount	If a member has at least 48 months of service, the monthly benefit is 2.00% times final average compensation times years of service. For members who began participating prior to 8/1/2004, the monthly benefit is 2.20% times final average compensation times years of service. If a member has less than 48 months of service, the monthly benefit is the actuarial equivalent of two times the member's contributions with interest. Final average compensation is based on the member's highest 5 years of compensation.
Early Retirement Eligibility	Any age (prior to age 65) with at least 25 years of service; or Age 55 with at least 5 years of service
Early Retirement Reduction	Normal Retirement benefit reduced 6.5% per year for the first five years and 4.5% per year for the next five years for each year the member's retirement eligibility precedes the member's normal retirement date.

CERS Non-Hazardous Employees (continued)

Retirement: Tier 2, Participation on or after 9/1/2008 but before 1/1/2014

Normal Retirement Eligibility	Age 65 with at least 5 years of service; or Rule of 87 (Age 57 or older if age plus service equals 87)
Benefit Amount	The monthly benefit is equal to the applicable benefit multiplier times final average compensation times years of service.

Years of Service	Benefit Multiplier
10 or less	1.10%
10-20	1.30%
20-26	1.50%
26-30	1.75%
Greater than 30*	2.00%

* The 2.00% benefit multiplier only applies to service credit in excess of 30 years. If a member has greater than 30 years of service at retirement, service prior to 30 years will be multiplied by the 1.75% benefit multiplier.

Final compensation is based on the member's last 5 years of compensation.

Early Retirement Eligibility	Age 60 with at least 10 years of service
Early Retirement Reduction	Normal Retirement benefit reduced 6.5% per year for the first five years and 4.5% per year for the next five years for each year the member's retirement date precedes the member's normal retirement eligibility.

Retirement: Tier 3, Participation on or after 1/1/2014

Normal Retirement Eligibility	Age 65 with at least 5 years of service; or Rule of 87 (Age 57 or older if age plus service equals 87)
Benefit Amount	Each year that the member is active, a 4.00% employer pay credit and the employee's 5.00% contribution will be credited to each member's hypothetical cash balance account. The hypothetical account will earn interest at a minimum rate of 4%, annually. If the System's geometric average net investment return for the previous five years exceeds 4%, then the hypothetical account will be credited with an additional amount of interest in that year equal to 75% of the amount of the return which exceeds 4%. All interest credits will be applied to the hypothetical account balance on June 30 based on the account balance as of June 30 of the previous year. At retirement, the member's hypothetical account balance may be converted into an annuity based on an actuarial factor.
Early Retirement Eligibility	N/A

CERS Non-Hazardous Employees (continued)

Deferred Vested Benefit: Tier 1, Participation before 9/1/2008

Eligibility	At least 1 month of service credit
Benefit Amount	Normal retirement benefit deferred to normal retirement age, or a reduced retirement benefit at an early retirement age

Deferred Vested Benefit: Tier 2, Participation on or after 9/1/2008 but before 1/1/2014

Eligibility	5 years of service
Benefit Amount	Normal retirement benefit deferred to normal retirement age, or a reduced retirement benefit at an early retirement age

Deferred Vested Benefit Tier 3, Participation on or after 1/1/2014

Eligibility	5 years of service
Benefit Amount	At termination of employment, members may choose to leave their account balance with the System and retire once they are eligible. The hypothetical account balance will earn 4% annual interest after termination. Members may also choose to withdrawal their entire accumulated balance. If a member does not have 5 years of service at termination, the member is eligible to receive a partial refund of their account balance. This refund includes the member's contributions with interest.

Disability Retirement: Participation before 8/1/2004

Eligibility	60 months of service (requirement is waived if line of duty disability)
Disability Benefit	Disability benefits are calculated in the same manner as the normal retirement benefit with years of service and final compensation being determined as of the date of disability, except that service credit shall be added to the person's total service beginning with the last date of paid employment and continuing to the member's 65th birthday, with total service not exceeding 25 years. Total service credit added shall not be greater than the member's actual service at disability. For members with at least 25 years of service on the last day of paid employment but less than 27 years of service, total service shall be 27 years. For members with 27 or more years of service credit, actual service will be used.

CERS Non-Hazardous Employees (continued)

Disability Retirement: Participation on or after 8/1/2004 but before 1/1/2014

Eligibility	60 months of service (requirement is waived if line of duty disability)
Disability Benefit	The higher of 20% of the member's final monthly rate of pay or the member's normal retirement benefit (without reduction for early retirement) with years and final compensation being determined as of the date of disability.

Disability Retirement: Participation on or after 1/1/2014

Eligibility	60 months of service (requirement is waived if line of duty disability)
Disability Benefit	The higher of 20% of the member's final monthly rate of pay or the member's retirement benefit calculated at the member's normal retirement date.

Duty-Related Disability Benefit

Disability Benefit	If the disability is a direct result of an act in the line of duty, the benefit shall not be less than 25% of the member's final monthly final rate of pay. If the disability is deemed to be Total and Permanent (and the member is working in a non-hazardous position that could be certified as a hazardous position), then this benefit shall not be less than 75% of the member's monthly average pay.
Child Benefit	Additionally, each eligible dependent child will receive 10% of the member's monthly average pay up to a maximum of 40%. Member and dependent payment shall not exceed 100% of member's monthly average pay.

Pre-Retirement Death Benefit

Eligibility	Eligible for early or normal retirement; or Under age 65 with at least 60 months of service and actively working at the time of death; or At least 144 months of service, if no longer actively working
Spouse Benefit	The member's retirement benefit calculated in the same manner as if the member had retired on the day of the member's death and elected a 100% joint and survivor benefit. The benefit is actuarially reduced if the member dies prior to their normal retirement age.

CERS Non-Hazardous Employees (continued)

Pre-Retirement Death Benefit (Death in the Line of Duty)

Eligibility	One month of service credit
Spouse Benefit	A $10,000 lump sum payment plus a monthly payment of 75% of the deceased member's final monthly average pay. Each dependent child will receive 10% of the final monthly average pay (not to exceed a total child benefit of 25% while the spouse is alive). A spouse may also elect the non-line of duty death benefit.
Child Benefit	In the event there is no surviving spouse, the benefit is 50% of final monthly average pay for one child, 65% of final monthly average pay for two children, or 75% of final monthly average pay for three or more eligible children.

Post-Retirement Death Benefit

Eligibility	48 months of service, and in receipt of retirement benefits
Death Benefit	A $5,000 lump sum payment

Member Contributions

Tier 1, Participation before 9/1/2008	5% of creditable compensation. Members who do not receive a retirement benefit are entitled to a full refund of contributions with interest. The annual interest rate is set by the Board, not less than 2.0%.
Tier 2, Participation on or after 9/1/2008 but before 1/1/2014	5% of creditable compensation plus 1% of creditable compensation, which is deposited into the 401(h) account and is not refundable. Members who do not receive a retirement benefit are entitled to a refund of non-401(h) contributions with interest. The annual interest rate is 2.5%.
Tier 3, Participation after 1/1/2014	5% of creditable compensation plus 1% of creditable compensation, which is deposited into the 401(h) account and is not refundable. Members who do not receive a retirement benefit are entitled to a refund of non-401(h) contributions with interest.

Changes in Non-Hazardous Retirement Benefits since the Prior Valuation

There have been no changes in benefits since the prior valuation.

CERS Hazardous Employees

Retirement: Tier 1, Participation before 9/1/2008

Normal Retirement Eligibility	Age 55 with at least 1 month of service credit; or Any age with at least 20 years of service
Benefit Amount	If a member has at least 60 months of service, the monthly benefit is 2.50% times final average compensation times years of service. If a member has less than 60 months of service, the monthly benefit is the actuarial equivalent of two times the member's contributions with interest. Final average compensation is based on the member's highest 3 years of compensation.
Early Retirement Eligibility	Age 50 with at least 15 years of service
Early Retirement Reduction	Normal Retirement benefit reduced 6.5% per year for the first five years and 4.5% per year for the next five years for each year the member's retirement date precedes the member's normal retirement eligibility.

CERS Hazardous Employees (continued)

Retirement: Tier 2, Participation on or after 9/1/2008 but before 1/1/2014

Normal Retirement Eligibility	Age 60 with at least 5 years of service; or Any age with at least 25 years of service
Benefit Amount	The monthly benefit is equal to the applicable benefit multiplier times final average compensation times years of service.

Years of Service	Benefit Multiplier
10 or less	1.30%
10-20	1.50%
20-25	2.25%
Greater than 25	2.50%

Final average compensation is based on the member's highest 3 years of compensation.

Early Retirement Eligibility	Age 50 with at least 15 years of service
Early Retirement Reduction	Normal Retirement benefit reduced 6.5% per year for the first five years and 4.5% per year for the next five years for each year the member's retirement date precedes the member's normal retirement eligibility.

Retirement: Tier 3, Participation on or after 1/1/2014

Normal Retirement Eligibility	Age 60 with at least 5 years of service; or Any age with at least 25 years of service
Benefit Amount	Each year that the member is active, a 7.50% employer pay credit and the employee's 8.00% contribution will be credited to each member's hypothetical cash balance account. The hypothetical account will earn interest at a minimum rate of 4%, annually. If the System's geometric average net investment return for the previous five years exceeds 4%, then the hypothetical account will be credited with an additional amount of interest in that year equal to 75% of the amount of the return which exceeds 4%. All interest credits will be applied to the hypothetical account balance on June 30 based on the account balance as of June 30 of the previous year.

At retirement, the member's hypothetical account balance may be converted into an annuity based on an actuarial factor.

Early Retirement Eligibility	N/A

CERS Hazardous Employees (continued)

Deferred Vested Benefit: Tier 1, Participation before 9/1/2008

Eligibility	At least 1 month of service credit
Benefit Amount	Normal retirement benefit deferred to normal retirement age, or a reduced retirement benefit at an early retirement age

Deferred Vested Benefit: Tier 2, Participation on or after 9/1/2008 but before 1/1/2014

Eligibility	5 years of service
Benefit Amount	Normal retirement benefit deferred to normal retirement age, or a reduced retirement benefit at an early retirement age

Deferred Vested Benefit Tier 3, Participation on or after 1/1/2014

Eligibility	5 years of service
Benefit Amount	At termination of employment, members may choose to leave their account balance with the System and retire once they are eligible. The hypothetical account balance will earn 4% annual interest after termination. Members may also choose to withdrawal their entire accumulated balance. If a member does not have 5 years of service at termination, the member is eligible to receive a partial refund of their account balance. This refund includes the member's contributions with interest.

Disability Retirement: Participation before 8/1/2004

Eligibility	60 months of service (requirement is waived if line of duty disability)
Disability Benefit	Disability benefits are calculated in the same manner as the normal retirement benefit with years of service and final compensation being determined as of the date of disability, except that if the member has less than 20 years of service at disability, service credit shall be added to the person's total service beginning with the last date of paid employment and continuing to the member's 55th birthday, with total service not exceeding 20 years. Total service credit added shall not be greater than the member's actual service at disability.

CERS Hazardous Employees (continued)

Disability Retirement: Participation on or after 8/1/2004 but before 1/1/2014

Eligibility	60 months of service (requirement is waived if line of duty disability)
Disability Benefit	The higher of 25% of the member's final monthly rate of pay or the member's normal retirement benefit (without reduction for early retirement) with years and final compensation being determined as of the date of disability.

Disability Retirement: Participation on or after 1/1/2014

Eligibility	60 months of service (requirement is waived if line of duty disability)
Disability Benefit	The higher of 25% of the member's final monthly rate of pay or the member's retirement benefit calculated at the member's normal retirement date.

Line of Duty Disability Benefit

Disability Benefit	If the disability is a direct result of an act in the line of duty, the benefit shall not be less than 25% of the member's final monthly final rate of pay. If the disability is deemed to be Total and Permanent, then this benefit shall not be less than 75% of the member's monthly average pay.
Child Benefit	Additionally, each eligible dependent child will receive 10% of the member's monthly average pay up to a maximum of 40%. Member and dependent payment shall not exceed 100% of member's monthly average pay.

Pre-Retirement Death Benefit

Eligibility	Eligible for early or normal retirement; or Under age 55 with at least 60 months of service and actively working at the time of death; or At least 144 months of service, if no longer actively working
Spouse Benefit	The member's retirement benefit calculated in the same manner as if the member had retired on the day of the member's death and elected a 100% joint and survivor benefit. The benefit is actuarially reduced if the member dies prior to their normal retirement age.

CERS Hazardous Employees (continued)

Pre-Retirement Death Benefit (Death in the Line of Duty)

Eligibility	One month of service credit
Spouse Benefit	A $10,000 lump sum payment plus a monthly payment of 75% of the deceased member's final monthly average pay. Each dependent child will receive 10% of the final monthly average pay (not to exceed a total child benefit of 25% while the spouse is alive). A spouse may also elect the non-line of duty death benefit.
Non-Spouse Benefit	If the beneficiary is only one person who is a dependent receiving at least 50% of his or her support from the member, the beneficiary may elect a lump sum payment of$10,000.
Child Benefit	In the event there is no surviving spouse, the benefit is 50% of final monthly average pay for one child, 65% of final average pay for two children, or 75% of final average pay for three or more eligible children.

Post-Retirement Death Benefit

Eligibility	48 months of service, and in receipt of retirement benefits
Death Benefit	A $5,000 lump sum payment

Member Contributions

Tier 1, Participation before 9/1/2008	8% of creditable compensation. Members who do not receive a retirement benefit are entitled to a full refund of contributions with interest. The annual interest rate is set by the Board, not less than 2.0%.
Tier 2, Participation on or after 9/1/2008 but before 1/1/2014	8% of creditable compensation plus 1% of creditable compensation, which is deposited into the 401(h) account and is not refundable. Members who do not receive a retirement benefit are entitled to a refund of non-401(h) contributions with interest. The annual interest rate is 2.5%.
Tier 3, Participation after 1/1/2014	8% of creditable compensation plus 1% of creditable compensation, which is deposited into the 401(h) account and is not refundable. Members who do not receive a retirement benefit are entitled to a refund of non-401(h) contributions with interest.

Changes in Hazardous Retirement Benefits since the Prior Valuation

There have been no changes in benefits since the prior valuation.

Summary of Main Retiree Insurance Benefit Provisions

Insurance: Participation began before 7/1/2003

Benefit Eligibility Recipient of a retirement allowance

Benefit Amount

Non-Hazardous Service	Percentage of Member Premium Paid by Retirement System	Hazardous Service	Percentage of Member & Dependent Premium Paid by Retirement System
Less than 4 years	0%	Less than 4 years	0%
4 – 9 years	25%	4 – 9 years	25%
10 – 14 years	50%	10 – 14 years	50%
15 – 19 years	75%	15 – 19 years	75%
20 or more years	100%	20 or more years	100%

The percentage paid by the retirement system is applied to the 'contribution' plan selected by the Board.

Duty Disability Retirement If disability was a result of injuries sustained while in the line of duty, the member receives 100% of the maximum contribution for the member and dependents. This benefit is provided to members in the Non-hazardous and Hazardous plans alike.

Duty Death in Service If an active employee's death was a result of injuries sustained while in the line of duty, the member's spouse and children receive a fully subsidized health insurance benefit. This benefit is provided to members in the Non-hazardous and Hazardous plans alike.

Non-Duty Death in Service If the surviving spouses is in receipt of a pension allowance, he or she is eligible for continued health coverage. The percentage of the premium paid for by the retirement system is based on the member's years of hazardous service at the time of death.

Surviving Spouse of a Retiree A surviving spouse of a retiree, who is in receipt of a pension allowance, will receive a premium subsidy based on the member's years of hazardous service.

Hazardous employees who retired prior to August 1, 1998 System's contribution for spouse and dependents is based on total service.

Insurance: Participation began on or after 7/1/2003

Benefit Eligibility

Recipient of a retirement allowance with at least 120 months of service at retirement (180 months if participation began on or after 9/1/2008)

Non-Hazardous Subsidy

Monthly contribution of $10 for each year of earned non-hazardous service. The monthly contribution is increased by 1.5% each July 1. As of July 1, 2024, the Non-Hazardous monthly contribution was $14.63/year of service. Upon the retiree's death, the surviving spouse may continue coverage (if in receipt of a retirement allowance) but will be 100% responsible for the premiums.

Effective January 1, 2023, members will receive an additional dollar contribution of $5 for every year of non-hazardous service a member attains over 27 years. This additional dollar contribution does not increase by 1.5% annually and is only payable for non-Medicare retirees. Also, it is only payable when the applicable insurance fund is at least 90% funded on an actuarial value of asset basis as of the last actuarial valuation.

Hazardous Subsidy

Monthly contribution of $15 for each year of earned hazardous service. The monthly contribution is increased by 1.5% each July 1. As of July 1, 2024, the Hazardous monthly contribution was $21.94/year of service. Upon the retiree's death, the surviving spouse of a hazardous duty member will receive a monthly contribution of $10 ($14.63 as of July 1, 2024) for each year of hazardous service.

Effective January 1, 2023, members will receive an additional dollar contribution of $5 for every year of hazardous service a Tier 1 member attains over 20 years and a Tier 2 member attains 25 years. This additional dollar contribution does not increase by 1.5% annually and is only payable for non-Medicare retirees. Also, it is only payable when the applicable insurance fund is at least 90% funded on an actuarial value of asset basis as of the last actuarial valuation.

Duty Disability Retirement

If disability was a result of injuries sustained while in the line of duty or was duty-related, the member receives a benefit based on at least 20 years of service. This benefit is provided to members in the Non-Hazardous and Hazardous plans alike.

If the disability is deemed to be Total and Permanent, the insurance premium for the member, the member's spouse, and the member's dependent children shall also be paid in full by the System. For non-hazardous members to be eligible for this benefit, they must be working in a position that could be certified as a hazardous position.

Duty Death in Service

If an active employee's death was a result of injuries sustained while in the line of duty, the member's spouse and children receive a fully subsidized health insurance benefit. This benefit is provided to members in the Non-Hazardous and Hazardous plans alike.

Non-Duty Death in Service

If the surviving spouse is in receipt of a pension allowance, he or she is eligible for continued health coverage. The percentage of the premium paid for by the retirement system is based on the member's years of hazardous service at the time of death.

Monthly Health Plan Premiums – Effective January 1, 2025

		Non-Medicare Plan Options			
Plan Option	Single	Parent Plus	Couple	Family	Family X-Ref
LivingWell PPO	$949.04	$1,320.40	$1,981.62	$2,185.78	$1,126.28
LivingWell CDHP	930.76	1,269.28	1,866.24	2,078.08	1,068.66
LivingWell Basic	901.04	1,234.80	1,863.04	2,069.88	1,057.40
LivingWell HDHP	835.42	1,144.86	1,727.36	1,919.14	980.38

Medicare Plan Options	
Medical Only Plan	$191.95
Essential Mirror Plan	202.69
Premium Mirror Plan	341.59
Essential Medical Advantage Plan	0.00
Premium Medical Advantage Plan	144.91

Contribution plan selected by the Board was the LivingWell PPO plan option for non-Medicare retirees. Contribution plan selected by the Board was the Medical Only plan for the Medicare retirees.

Dollar Contribution Amount for Participation on or after 7/1/2003

Monthly contribution amounts per year of service as of July 1, 2024.

Non-Hazardous Service	Hazardous Service
$14.63	$21.94

Changes in Health Insurance Benefits Since the Prior Valuation

None.

APPENDIX C

GLOSSARY

Glossary

Actuarial Accrued Liability (AAL): That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of Future Plan Benefits which is not provided for by future Normal Costs. It is equal to the Actuarial Present Value of Future Plan Benefits minus the actuarial present value of future Normal Costs.

Actuarial Assumptions: Assumptions as to future experience under the Fund. These include assumptions about the occurrence of future events affecting costs or liabilities, such as:

- mortality, withdrawal, disablement, and retirement;
- future increases in salary;
- future rates of investment earnings and future investment and administrative expenses;
- characteristics of members not specified in the data, such as marital status;
- characteristics of future members;
- future elections made by members; and
- other relevant items.

Actuarial Cost Method or ***Funding Method:*** A procedure for allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability. These items are used to determine the ADC.

Actuarial Gain or ***Actuarial Loss:*** A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. Through the actuarial assumptions, rates of decrements, rates of salary increases, and rates of fund earnings have been forecasted. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., the fund's assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results that produce actuarial liabilities which are larger than projected. Actuarial gains will shorten the time required for funding of the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.

Actuarially Equivalent: Of equal actuarial present value, determined as of a given date and based on a given set of Actuarial Assumptions.

Actuarial Present Value (APV): The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, each such amount or series of amounts is:

a. adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.)

b. multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned, and

c. discounted according to an assumed rate (or rates) of return to reflect the time value of money.

Actuarial Present Value of Future Plan Benefits: The Actuarial Present Value of those benefit amounts which are expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and past and anticipated future compensation and service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive, non-retired members either entitled to a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.

Actuarial Valuation: The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial valuation for a governmental retirement system typically also includes calculations that provide the financial information of the plan, such as the funded ratio, unfunded actuarial accrued liability and the ADC.

Actuarial Value of Assets or ***Valuation Assets:*** The value of the Fund's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly actuaries use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the ADC.

Actuarially Determined: Values which have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the law.

Actuarially Determined Contribution (ADC): The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation. The ADC consists of the Employer Normal Cost and the Amortization Payment.

Amortization Method: A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.

Amortization Payment: The portion of the pension plan contribution or ADC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

Closed Amortization Period: A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Funding Period and Open Amortization Period.

Decrements: Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or termination.

Defined Benefit Plan: A retirement plan that is not a Defined Contribution Plan. Typically a defined benefit plan is one in which benefits are defined by a formula applied to the member's compensation and/or years of service.

Defined Contribution Plan: A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, and the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.

Employer Normal Cost: The portion of the Normal Cost to be paid by the employers. This is equal to the Normal Cost less expected member contributions.

Experience Study: A periodic review and analysis of the actual experience of the Fund which may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.

Funded Ratio: The ratio of the actuarial value of assets (AVA) to the actuarial accrued liability (AAL). Plans sometimes calculate a market funded ratio, using the market value of assets (MVA), rather than the AVA.

Funding Period or ***Amortization Period:*** The term "Funding Period" is used two ways. In the first sense, it is the period used in calculating the Amortization Payment as a component of the ADC. This funding period specified in State statute. In the second sense, it is a calculated item: the number of years in the future that will theoretically be required to amortize (i.e., pay off or eliminate) the Unfunded Actuarial Accrued Liability, based on a statutory employer contribution rate, and assuming no future actuarial gains or losses.

GASB: Governmental Accounting Standards Board.

GASB 67 and ***GASB 68***: Governmental Accounting Standards Board Statements No. 67 and No. 68. These are the governmental accounting standards that set the accounting and reporting rules for public retirement systems and the employers that sponsor, participate in, or contribute to them. Statement No. 67 sets the accounting rules for the financial reporting of the retirement systems, while Statement No. 68 sets the rules for the employers that sponsor, participate in, or contribute to public retirement systems.

Normal Cost: That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method. Any payment in respect of an Unfunded

Actuarial Accrued Liability is not part of Normal Cost (see Amortization Payment). For pension plan benefits which are provided in part by employee contributions, Normal Cost refers to the total of employee contributions and employer Normal Cost unless otherwise specifically stated. Under the entry age normal cost method, the Normal Cost is intended to be the level cost (when expressed as a percentage of pay) needed to fund the benefits of a member from hire until ultimate termination, death, disability or retirement.

Open Amortization Period: An open amortization period is one which is used to determine the Amortization Payment but may not decrease by exactly one year in the subsequent year's actuarial valuation. For instance, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year.

Unfunded Actuarial Accrued Liability: The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus.

Valuation Date or Actuarial Valuation Date: The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.

P: 469.524.0000 | www.grsconsulting.com

October 30, 2024

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

Re: Sensitivity Analysis Based on Results of the June 30, 2024 Actuarial Valuation – CERS

Dear Members of the Board:

Per Kentucky State Statute 61.670, we are providing this supplemental information regarding the sensitivity of the valuation results to changes in some of the economic assumptions. Specifically, the enclosed tables show the impact for the **County Employees Retirement System (CERS)** due to changes in the investment return assumption, the inflation rate assumption, and the payroll growth rate assumption.

Background

Investment Assumption

The investment return assumption is used to discount future expected benefit payments to the valuation date in order to determine the liabilities of the plans. The lower the investment return assumption, the less the benefit payments are discounted and the higher the valuation liability. The current investment return assumption is 6.50% for the non-hazardous and hazardous retirement and insurance funds. The sensitivity analysis shows the financial impact of a 1.00% increase and a 1.00% decrease in the investment return assumption. For purposes of this sensitivity analysis, the inflation assumption and payroll growth assumption remain unchanged from the valuation assumption.

Inflation Assumption

The inflation assumption underlies most of the other economic assumptions, including the investment return, salary increases, and payroll growth rate. This is a macroeconomic assumption and as such the same assumption is used in the valuation of each of the retirement systems. The current assumption is 2.50% for all funds. The sensitivity analysis shows the financial impact of a 0.25% increase and a 0.25% decrease in the inflation assumption. Note, the change in the inflation assumption results in a corresponding change in the investment return assumption, the individual salary increase assumption for projecting members' benefit amounts, the payroll growth rate assumption, and the healthcare trend assumption that is used in the valuation of the health insurance funds.

5605 North MacArthur Boulevard | Suite 870 | Irving, Texas 75038-2631

Board of Trustees
October 30, 2024
Page 2

Payroll Growth Assumption

Participating employers of CERS make contributions to the system as a percentage of covered payroll. Therefore, as payroll changes over time these amortization payments will also change. If actual covered payroll increases at a rate that is less than assumed, then the retirement system receives fewer contribution dollars than expected to finance the unfunded liability, which means the contribution rates in future years will be required to increase in order to finance the unfunded liability over the same time period. The current payroll growth assumption is 2.00% for all the CERS retirement and insurance funds. The analysis shows the impact of a 1.00% increase and a 1.00% decrease in the payroll growth assumption.

Please note that the payroll growth assumption does not impact the valuation liabilities, unfunded liability, or funded status of the system. Rather, this assumption only impacts the amortization rate for financing the existing unfunded actuarial accrued liability and the actuarially determined employer contribution. For purposes of this analysis, the investment return assumption and the inflation assumption are held at their current valuation assumptions.

Certification

The information provided in this letter compliments the information provided in the June 30, 2024 actuarial valuation report. Please refer to the June 30, 2024 actuarial valuation report for additional discussion of the actuarial valuation, including the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

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 purpose of this information is to provide stakeholders the financial sensitivity of the unfunded liability and contribution rates to changes in the inflation, assumed rate of return, and payroll growth assumption.

Board of Trustees
October 30, 2024
Page 3

To the best of our knowledge, this report is complete and accurate and is in accordance with generally recognized actuarial practices and methods. Mr. White and Ms. Shaw are Enrolled Actuaries. All three 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 herein. In addition, all three are independent of KPPA and are experienced in performing valuations for large public retirement systems. This communication shall not be construed to provide tax advice, legal advice or investment advice.

Sincerely,

Gabriel, Roeder, Smith & Company

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

Janie Shaw, ASA, EA, MAAA
Consultant

Krysti Kiesel, ASA, MAAA
Consultant

Sensitivity Analysis - Discount Rate
Non-Hazardous Members
(Dollar amounts expressed in thousands)

(1)	Decrease Discount Rate (2)	Valuation Results (3)	Increase Discount Rate (4)
Payroll Growth Rate	2.00%	2.00%	2.00%
Inflation Rate	2.50%	2.50%	2.50%
Discount Rate - Retirement	5.50%	6.50%	7.50%
Discount Rate - Insurance	5.50%	6.50%	7.50%
Retirement			
Actuarial Accrued Liability	$ 17,557,775	$ 15,776,491	$ 14,301,282
Actuarial Value of Assets	9,211,735	9,211,735	9,211,735
Unfunded Actuarial Accrued Liability	8,346,040	6,564,756	5,089,547
Funded Ratio	52.5%	58.4%	64.4%
Actuarially Determined Contribution Rate	23.69%	18.62%	14.37%
Insurance			
Actuarial Accrued Liability	$ 3,258,997	$ 2,901,345	$ 2,603,501
Actuarial Value of Assets	3,549,422	3,549,422	3,549,422
Unfunded Actuarial Accrued Liability	(290,425)	(648,077)	(945,921)
Funded Ratio	108.9%	122.3%	136.3%
Actuarially Determined Contribution Rate	0.79%	0.00%	0.00%
Combined			
Actuarial Accrued Liability	$ 20,816,772	$ 18,677,836	$ 16,904,783
Actuarial Value of Assets	12,761,157	12,761,157	12,761,157
Unfunded Actuarial Accrued Liability	8,055,615	5,916,679	4,143,626
Funded Ratio	61.3%	68.3%	75.5%
Actuarially Determined Contribution Rate	24.48%	18.62%	14.37%

Sensitivity Analysis - Inflation Rate
Non-Hazardous Members
(Dollar amounts expressed in thousands)

	Decrease Inflation Rate	Valuation Results	Increase Inflation Rate
(1)	(2)	(3)	(4)
Payroll Growth Rate	1.75%	2.00%	2.25%
Inflation Rate	2.25%	2.50%	2.75%
Discount Rate - Retirement	6.25%	6.50%	6.75%
Discount Rate - Insurance	6.25%	6.50%	6.75%
Retirement			
Actuarial Accrued Liability	$ 16,152,914	$ 15,776,491	$ 15,416,531
Actuarial Value of Assets	9,211,735	9,211,735	9,211,735
Unfunded Actuarial Accrued Liability	6,941,179	6,564,756	6,204,796
Funded Ratio	57.0%	58.4%	59.8%
Actuarially Determined Contribution Rate	19.93%	18.62%	17.39%
Insurance			
Actuarial Accrued Liability	$ 2,943,943	$ 2,901,345	$ 2,861,190
Actuarial Value of Assets	3,549,422	3,549,422	3,549,422
Unfunded Actuarial Accrued Liability	(605,479)	(648,077)	(688,232)
Funded Ratio	120.6%	122.3%	124.1%
Actuarially Determined Contribution Rate	0.00%	0.00%	0.00%
Combined			
Actuarial Accrued Liability	$ 19,096,857	$ 18,677,836	$ 18,277,721
Actuarial Value of Assets	12,761,157	12,761,157	12,761,157
Unfunded Actuarial Accrued Liability	6,335,700	5,916,679	5,516,564
Funded Ratio	66.8%	68.3%	69.8%
Actuarially Determined Contribution Rate	19.93%	18.62%	17.39%

Sensitivity Analysis - Payroll Growth
Non-Hazardous Members
(Dollar amounts expressed in thousands)

	Decrease Payroll Growth	Valuation Results	Increase Payroll Growth
(1)	(2)	(3)	(4)
Payroll Growth Rate	1.00%	2.00%	3.00%
Inflation Rate	2.50%	2.50%	2.50%
Discount Rate - Retirement	6.50%	6.50%	6.50%
Discount Rate - Insurance	6.50%	6.50%	6.50%
Retirement			
Actuarial Accrued Liability	$ 15,776,491	$ 15,776,491	$ 15,776,491
Actuarial Value of Assets	9,211,735	9,211,735	9,211,735
Unfunded Actuarial Accrued Liability	6,564,756	6,564,756	6,564,756
Funded Ratio	58.4%	58.4%	58.4%
Actuarially Determined Contribution Rate	20.10%	18.62%	17.25%
Insurance			
Actuarial Accrued Liability	$ 2,901,345	$ 2,901,345	$ 2,901,345
Actuarial Value of Assets	3,549,422	3,549,422	3,549,422
Unfunded Actuarial Accrued Liability	(648,077)	(648,077)	(648,077)
Funded Ratio	122.3%	122.3%	122.3%
Actuarially Determined Contribution Rate	0.00%	0.00%	0.00%
Combined			
Actuarial Accrued Liability	$ 18,677,836	$ 18,677,836	$ 18,677,836
Actuarial Value of Assets	12,761,157	12,761,157	12,761,157
Unfunded Actuarial Accrued Liability	5,916,679	5,916,679	5,916,679
Funded Ratio	68.3%	68.3%	68.3%
Actuarially Determined Contribution Rate	20.10%	18.62%	17.25%

Sensitivity Analysis - Discount Rate
Hazardous Members
(Dollar amounts expressed in thousands)

	Decrease Discount Rate	Valuation Results	Increase Discount Rate
(1)	(2)	(3)	(4)
Payroll Growth Rate	2.00%	2.00%	2.00%
Inflation Rate	2.50%	2.50%	2.50%
Discount Rate - Retirement	5.50%	6.50%	7.50%
Discount Rate - Insurance	5.50%	6.50%	7.50%
Retirement			
Actuarial Accrued Liability	$ 6,835,262	$ 6,070,201	$ 5,453,949
Actuarial Value of Assets	3,279,623	3,279,623	3,279,623
Unfunded Actuarial Accrued Liability	3,555,639	2,790,578	2,174,326
Funded Ratio	48.0%	54.0%	60.1%
Actuarially Determined Contribution Rate	43.69%	34.00%	26.24%
Insurance			
Actuarial Accrued Liability	$ 1,855,592	$ 1,668,057	$ 1,511,995
Actuarial Value of Assets	1,676,141	1,676,141	1,676,141
Unfunded Actuarial Accrued Liability	179,451	(8,084)	(164,146)
Funded Ratio	90.3%	100.5%	110.9%
Actuarially Determined Contribution Rate	4.65%	1.73%	0.00%
Combined			
Actuarial Accrued Liability	$ 8,690,854	$ 7,738,258	$ 6,965,944
Actuarial Value of Assets	4,955,764	4,955,764	4,955,764
Unfunded Actuarial Accrued Liability	3,735,090	2,782,494	2,010,180
Funded Ratio	57.0%	64.0%	71.1%
Actuarially Determined Contribution Rate	48.34%	35.73%	26.24%

Sensitivity Analysis - Inflation Rate
Hazardous Members
(Dollar amounts expressed in thousands)

	Decrease Inflation Rate	Valuation Results	Increase Inflation Rate
(1)	(2)	(3)	(4)
Payroll Growth Rate	1.75%	2.00%	2.25%
Inflation Rate	2.25%	2.50%	2.75%
Discount Rate - Retirement	6.25%	6.50%	6.75%
Discount Rate - Insurance	6.25%	6.50%	6.75%
Retirement			
Actuarial Accrued Liability	$ 6,231,596	$ 6,070,201	$ 5,918,928
Actuarial Value of Assets	3,279,623	3,279,623	3,279,623
Unfunded Actuarial Accrued Liability	2,951,973	2,790,578	2,639,305
Funded Ratio	52.6%	54.0%	55.4%
Actuarially Determined Contribution Rate	36.44%	34.00%	31.78%
Insurance			
Actuarial Accrued Liability	$ 1,685,228	$ 1,668,057	$ 1,651,877
Actuarial Value of Assets	1,676,141	1,676,141	1,676,141
Unfunded Actuarial Accrued Liability	9,087	(8,084)	(24,264)
Funded Ratio	99.5%	100.5%	101.5%
Actuarially Determined Contribution Rate	2.10%	1.73%	1.39%
Combined			
Actuarial Accrued Liability	$ 7,916,824	$ 7,738,258	$ 7,570,805
Actuarial Value of Assets	4,955,764	4,955,764	4,955,764
Unfunded Actuarial Accrued Liability	2,961,060	2,782,494	2,615,041
Funded Ratio	62.6%	64.0%	65.5%
Actuarially Determined Contribution Rate	38.54%	35.73%	33.17%

Sensitivity Analysis - Payroll Growth
Hazardous Members
(Dollar amounts expressed in thousands)

(1)	Decrease Payroll Growth (2)	Valuation Results (3)	Increase Payroll Growth (4)
Payroll Growth Rate	1.00%	2.00%	3.00%
Inflation Rate	2.50%	2.50%	2.50%
Discount Rate - Retirement	6.50%	6.50%	6.50%
Discount Rate - Insurance	6.50%	6.50%	6.50%
Retirement			
Actuarial Accrued Liability	$ 6,070,201	$ 6,070,201	$ 6,070,201
Actuarial Value of Assets	3,279,623	3,279,623	3,279,623
Unfunded Actuarial Accrued Liability	2,790,578	2,790,578	2,790,578
Funded Ratio	54.0%	54.0%	54.0%
Actuarially Determined Contribution Rate	36.62%	34.00%	31.55%
Insurance			
Actuarial Accrued Liability	$ 1,668,057	$ 1,668,057	$ 1,668,057
Actuarial Value of Assets	1,676,141	1,676,141	1,676,141
Unfunded Actuarial Accrued Liability	(8,084)	(8,084)	(8,084)
Funded Ratio	100.5%	100.5%	100.5%
Actuarially Determined Contribution Rate	1.76%	1.73%	1.72%
Combined			
Actuarial Accrued Liability	$ 7,738,258	$ 7,738,258	$ 7,738,258
Actuarial Value of Assets	4,955,764	4,955,764	4,955,764
Unfunded Actuarial Accrued Liability	2,782,494	2,782,494	2,782,494
Funded Ratio	64.0%	64.0%	64.0%
Actuarially Determined Contribution Rate	38.38%	35.73%	33.27%

Kentucky Public Pensions Authority
CERS Non-Hazardous Retirement Fund
($ in Millions)

Fiscal Year Beginning July 1,	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio (3) / (2)	Employer Contribution	Member Contribution	Covered Payroll	Employer Contribution as % of Covered Payroll	Employer Actuarially Determined Contribution
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2024	$ 15,776	$ 9,212	$ 6,564	58%	$ 618	$ 157	$ 3,138	19.71%	19.71%
2025	16,108	9,819	6,289	61%	596	160	3,201	18.62%	18.62%
2026	16,414	10,119	6,295	62%	583	163	3,265	17.85%	17.85%
2027	16,702	10,595	6,107	63%	594	166	3,330	17.83%	17.83%
2028	16,971	11,006	5,965	65%	588	170	3,396	17.32%	17.32%
2029	17,224	11,311	5,913	66%	589	173	3,464	17.00%	17.00%
2030	17,462	11,607	5,855	67%	598	177	3,534	16.91%	16.91%
2031	17,688	11,902	5,786	67%	607	180	3,604	16.83%	16.83%
2032	17,906	12,202	5,704	68%	617	184	3,676	16.77%	16.77%
2033	18,118	12,511	5,607	69%	626	187	3,750	16.70%	16.70%
2034	18,327	12,831	5,496	70%	637	191	3,825	16.65%	16.65%
2035	18,548	13,179	5,369	71%	648	195	3,901	16.61%	16.61%
2036	18,772	13,549	5,223	72%	659	199	3,980	16.57%	16.57%
2037	19,004	13,945	5,059	73%	671	203	4,059	16.54%	16.54%
2038	19,251	14,377	4,874	75%	684	207	4,140	16.52%	16.52%
2039	19,517	14,849	4,668	76%	697	211	4,223	16.50%	16.50%
2040	19,805	15,368	4,437	78%	702	215	4,308	16.30%	16.30%
2041	20,119	15,930	4,189	79%	751	220	4,394	17.10%	17.10%
2042	20,460	16,583	3,877	81%	729	224	4,482	16.27%	16.27%
2043	20,833	17,261	3,572	83%	846	229	4,571	18.51%	18.51%
2044	21,238	18,109	3,129	85%	871	233	4,663	18.68%	18.68%
2045	21,677	19,041	2,636	88%	917	238	4,756	19.29%	19.29%
2046	22,152	20,085	2,067	91%	930	243	4,851	19.17%	19.17%
2047	22,664	21,213	1,451	94%	969	247	4,948	19.58%	19.58%
2048	23,215	22,456	759	97%	999	252	5,047	19.80%	19.80%
2049	23,806	23,806	-	100%	214	257	5,148	4.15%	4.15%
2050	24,439	24,439	-	100%	218	263	5,251	4.16%	4.16%
2051	25,114	25,114	-	100%	223	268	5,356	4.16%	4.16%
2052	25,833	25,833	-	100%	227	273	5,463	4.16%	4.16%
2053	26,595	26,595	-	100%	232	279	5,572	4.16%	4.16%

Notes and assumptions:

The projection is based on the results of the June 30, 2024 actuarial valuation and assumes that all actuarial assumptions are realized, including the assumed annual asset return of 6.50%.

New active members are assumed to be hired as current active members are assumed to terminate employment or retire.

The total active population is assumed to remain level throughout the entire projection.

Covered payroll is assumed to increase 2% each year throughout the entire projection.

The Board certified contribution rate paid by employers is assumed to be equal to the full actuarially determined contribution rate, except as allowed by House Bill 362 (passed during the 2018 legislative session), which limits the certified contribution rate to a 12% increase over the prior year rate for the period of July 1, 2018 to June 30, 2028.

Kentucky Public Pensions Authority
CERS Hazardous Retirement Fund
($ in Millions)

Fiscal Year Beginning July 1,	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio (3) / (2)	Employer Contribution	Member Contribution	Covered Payroll	Employer Contribution as % of Covered Payroll	Employer Actuarially Determined Contribution
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2024	$ 6,070	$ 3,280	$ 2,790	54%	$ 271	$ 59	$ 743	36.49%	36.49%
2025	6,249	3,565	2,684	57%	258	61	758	34.00%	34.00%
2026	6,419	3,741	2,678	58%	254	62	773	32.80%	32.80%
2027	6,584	3,981	2,603	61%	258	63	789	32.66%	32.66%
2028	6,746	4,201	2,545	62%	256	64	804	31.82%	31.82%
2029	6,906	4,389	2,517	64%	256	66	820	31.25%	31.25%
2030	7,067	4,581	2,486	65%	260	67	837	31.07%	31.07%
2031	7,232	4,782	2,450	66%	264	68	854	30.92%	30.92%
2032	7,403	4,995	2,408	68%	268	70	871	30.79%	30.79%
2033	7,582	5,223	2,359	69%	272	71	888	30.67%	30.67%
2034	7,770	5,468	2,302	70%	277	72	906	30.58%	30.58%
2035	7,969	5,730	2,239	72%	282	74	924	30.49%	30.49%
2036	8,175	6,008	2,167	74%	287	75	942	30.40%	30.40%
2037	8,388	6,302	2,086	75%	291	77	961	30.31%	30.31%
2038	8,606	6,611	1,995	77%	296	78	981	30.21%	30.21%
2039	8,826	6,932	1,894	79%	301	80	1,000	30.12%	30.12%
2040	9,051	7,269	1,782	80%	294	82	1,020	28.78%	28.78%
2041	9,282	7,610	1,672	82%	301	83	1,041	28.88%	28.88%
2042	9,520	7,973	1,547	84%	304	85	1,061	28.60%	28.60%
2043	9,767	8,353	1,414	86%	337	87	1,083	31.15%	31.15%
2044	10,022	8,785	1,237	88%	348	88	1,104	31.47%	31.47%
2045	10,284	9,244	1,040	90%	364	90	1,126	32.35%	32.35%
2046	10,551	9,736	815	92%	370	92	1,149	32.21%	32.21%
2047	10,823	10,253	570	95%	385	94	1,172	32.82%	32.82%
2048	11,101	10,804	297	97%	396	96	1,195	33.16%	33.16%
2049	11,385	11,385	-	100%	86	98	1,219	7.03%	7.03%
2050	11,675	11,675	-	100%	88	99	1,244	7.04%	7.04%
2051	11,972	11,972	-	100%	89	101	1,268	7.05%	7.05%
2052	12,276	12,276	-	100%	91	104	1,294	7.06%	7.06%
2053	12,585	12,585	-	100%	93	106	1,320	7.06%	7.06%

Notes and assumptions:

The projection is based on the results of the June 30, 2024 actuarial valuation and assumes that all actuarial assumptions are realized, including the assumed annual asset return of 6.50%.

New active members are assumed to be hired as current active members are assumed to terminate employment or retire.

The total active population is assumed to remain level throughout the entire projection.

Covered payroll is assumed to increase 2% each year throughout the entire projection.

The Board certified contribution rate paid by employers is assumed to be equal to the full actuarially determined contribution rate, except as allowed by House Bill 362 (passed during the 2018 legislative session), which limits the certified contribution rate to a 12% increase over the prior year rate for the period of July 1, 2018 to June 30, 2028.

Kentucky Public Pensions Authority
CERS Non-Hazardous Insurance Fund
($ in Millions)

Fiscal Year Beginning July 1,	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio (3) / (2)	Employer Contribution	Member Contribution	Covered Payroll	Employer Contribution as % of Covered Payroll	Employer Actuarially Determined Contribution
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2024	$ 2,901	$ 3,549	$ (648)	122%	$ -	$ 21	$ 3,107	0.00%	0.00%
2025	3,009	3,741	(732)	124%	-	22	3,169	0.00%	0.00%
2026	3,109	3,831	(722)	123%	-	24	3,232	0.00%	0.00%
2027	3,201	3,993	(792)	125%	-	25	3,297	0.00%	0.00%
2028	3,284	4,124	(840)	126%	-	27	3,363	0.00%	0.00%
2029	3,360	4,215	(855)	125%	-	29	3,430	0.00%	0.00%
2030	3,428	4,303	(875)	126%	-	30	3,499	0.00%	0.00%
2031	3,489	4,387	(898)	126%	-	31	3,569	0.00%	0.00%
2032	3,545	4,469	(924)	126%	-	33	3,640	0.00%	0.00%
2033	3,599	4,552	(953)	127%	-	34	3,713	0.00%	0.00%
2034	3,652	4,638	(986)	127%	-	36	3,787	0.00%	0.00%
2035	3,706	4,728	(1,022)	128%	-	37	3,863	0.00%	0.00%
2036	3,765	4,826	(1,061)	128%	-	38	3,940	0.00%	0.00%
2037	3,829	4,932	(1,103)	129%	-	39	4,019	0.00%	0.00%
2038	3,898	5,046	(1,148)	130%	-	40	4,099	0.00%	0.00%
2039	3,973	5,169	(1,196)	130%	-	41	4,181	0.00%	0.00%
2040	4,054	5,303	(1,249)	131%	-	42	4,265	0.00%	0.00%
2041	4,142	5,446	(1,304)	132%	-	43	4,350	0.00%	0.00%
2042	4,236	5,599	(1,363)	132%	-	44	4,437	0.00%	0.00%
2043	4,336	5,762	(1,426)	133%	-	45	4,526	0.00%	0.00%
2044	4,443	5,936	(1,493)	134%	-	46	4,616	0.00%	0.00%
2045	4,555	6,120	(1,565)	134%	-	47	4,709	0.00%	0.00%
2046	4,672	6,313	(1,641)	135%	-	48	4,803	0.00%	0.00%
2047	4,792	6,515	(1,723)	136%	-	49	4,899	0.00%	0.00%
2048	4,916	6,727	(1,811)	137%	-	50	4,997	0.00%	0.00%
2049	5,043	6,946	(1,903)	138%	-	51	5,097	0.00%	0.00%
2050	5,172	7,174	(2,002)	139%	-	52	5,199	0.00%	0.00%
2051	5,302	7,409	(2,107)	140%	-	53	5,303	0.00%	0.00%
2052	5,433	7,654	(2,221)	141%	-	54	5,409	0.00%	0.00%
2053	5,566	7,907	(2,341)	142%	-	55	5,517	0.00%	0.00%

Notes and assumptions:

The projection is based on the results of the June 30, 2024 actuarial valuation and assumes that all actuarial assumptions are realized, including the assumed annual asset return of 6.50%.

New active members are assumed to be hired as current active members are assumed to terminate employment or retire.

The total active population is assumed to remain level throughout the entire projection.

Covered payroll is assumed to increase 2% each year throughout the entire projection.

The Board certified contribution rate paid by employers is assumed to be equal to the full actuarially determined contribution rate, except as allowed by House Bill 362 (passed during the 2018 legislative session), which limits the certified contribution rate to a 12% increase over the prior year rate for the period of July 1, 2018 to June 30, 2028.

Kentucky Public Pensions Authority
CERS Hazardous Insurance Fund
($ in Millions)

Fiscal Year Beginning July 1,	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio (3) / (2)	Employer Contribution	Member Contribution	Covered Payroll	Employer Contribution as % of Covered Payroll	Employer Actuarially Determined Contribution
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2024	$ 1,668	$ 1,676	$ (8)	101%	$ 16	$ 5	$ 739	2.12%	2.12%
2025	1,691	1,740	(49)	103%	13	5	754	1.73%	1.73%
2026	1,709	1,749	(40)	102%	7	6	769	0.95%	0.95%
2027	1,719	1,782	(63)	104%	6	6	785	0.78%	0.78%
2028	1,723	1,796	(73)	104%	2	7	800	0.26%	0.26%
2029	1,723	1,787	(64)	104%	-	7	816	0.00%	0.00%
2030	1,721	1,774	(53)	103%	-	7	833	0.00%	0.00%
2031	1,716	1,757	(41)	102%	-	8	849	0.00%	0.00%
2032	1,707	1,737	(30)	102%	-	8	866	0.00%	0.00%
2033	1,697	1,714	(17)	101%	-	8	884	0.00%	0.00%
2034	1,687	1,691	(4)	100%	-	9	901	0.00%	0.00%
2035	1,676	1,667	9	100%	-	9	919	0.00%	0.00%
2036	1,669	1,645	24	99%	-	9	938	0.00%	0.00%
2037	1,666	1,626	40	98%	-	9	956	0.00%	0.00%
2038	1,666	1,610	56	97%	-	10	976	0.00%	0.00%
2039	1,671	1,597	74	96%	-	10	995	0.00%	0.00%
2040	1,682	1,588	94	94%	-	10	1,015	0.00%	0.00%
2041	1,697	1,583	114	93%	4	10	1,035	0.40%	0.40%
2042	1,717	1,586	131	92%	39	11	1,056	3.65%	3.65%
2043	1,742	1,628	114	94%	37	11	1,077	3.42%	3.42%
2044	1,772	1,674	98	95%	38	11	1,099	3.44%	3.44%
2045	1,806	1,726	80	96%	44	11	1,121	3.92%	3.92%
2046	1,841	1,787	54	97%	44	11	1,143	3.85%	3.85%
2047	1,878	1,851	27	99%	49	12	1,166	4.16%	4.16%
2048	1,915	1,915	-	100%	51	12	1,189	4.31%	4.31%
2049	1,953	1,953	-	100%	7	12	1,213	0.54%	0.54%
2050	1,990	1,990	-	100%	7	12	1,237	0.54%	0.54%
2051	2,027	2,027	-	100%	7	13	1,262	0.54%	0.54%
2052	2,064	2,064	-	100%	7	13	1,287	0.56%	0.56%
2053	2,101	2,101	-	100%	8	13	1,313	0.58%	0.58%

Notes and assumptions:

The projection is based on the results of the June 30, 2024 actuarial valuation and assumes that all actuarial assumptions are realized, including the assumed annual asset return of 6.50%.

New active members are assumed to be hired as current active members are assumed to terminate employment or retire.

The total active population is assumed to remain level throughout the entire projection.

Covered payroll is assumed to increase 2% each year throughout the entire projection.

The Board certified contribution rate paid by employers is assumed to be equal to the full actuarially determined contribution rate, except as allowed by House Bill 362 (passed during the 2018 legislative session), which limits the certified contribution rate to a 12% increase over the prior year rate for the period of July 1, 2018 to June 30, 2028.

REPORT OF INDEPENDENT AUDITORS

To the Members
County Employees Retirement System
Frankfort, Kentucky

<u>Report on the Audit of Financial Statements</u>

Opinion

We have audited the accompanying financial statements of County Employees Retirement System (CERS), a component unit of the Commonwealth of Kentucky, as of and for the year ended June 30, 2024, and the related notes to the financial statements, which collectively comprise CERS's financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of CERS, as of June 30, 2024, and the changes in fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of CERS and to meet our other ethical responsibilities in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

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

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about CERS's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that

REPORT OF INDEPENDENT AUDITORS (Continued)

includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgement made by a reasonable user based on the financial statements.

In performing an audit in accordance with generally accepted auditing standards and *Government Auditing Standards*, we:

- Exercise professional judgement and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit 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 CERS's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgement, there are conditions or events, considered in the aggregate, that raise substantial doubt about CERS's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages XX through XX, and the defined benefit pension plan and other post-employment benefit plan supplemental schedules on pages XX through XX, be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic

REPORT OF INDEPENDENT AUDITORS (Continued)

financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming opinion on the financial statements that collectively comprise CERS's basic financial statements. The accompanying schedules of administrative expense, direct investment expenses, and professional consultant fees are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedules of administrative expense, direct investment expenses, and professional consultant fees are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

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

<u>Other Reporting Required by *Government Auditing Standards*</u>

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

Blue & Co., LLC

Lexington, Kentucky
DATE

CERS County Employees Retirement System (CERS)
A component unit and a pension trust fund of the Commonwealth of Kentucky.

Annual Comprehensive *Financial Report*

For the fiscal year ended
June 30
2024

Prepared through the joint efforts of KPPA's team members.

Available online at kyret.ky.gov

Photo, front cover: Overview of Frankfort, KY, dry brush stylized.

FINANCIAL
TABLE OF CONTENTS

Management's Discussion & Analysis (Unaudited)

INTRODUCTION

Management's Discussion and Analysis (MD&A) provides insight into the financial performance of CERS for the Fiscal Year ended June 30, 2024. It is meant to be read in the context of the accompanying Letter of Transmittal in the Introduction, the Basic Financial Statements and the Notes to those statements, the Required Supplementary Information (RSI), and additional material following this section. Together, this information provides a comprehensive picture of CERS' financial position.

CERS includes hazardous and nonhazardous defined benefit pension and OPEB (hospital and medical insurance benefits) plans for local government employees and nonteaching staff of local school boards and regional universities and is governed by a nine-member board of Trustees. Daily system activities, including investment management, benefits counseling, legal services, accounting, and payroll functions, are performed by a staff of professional employees of KPPA, which is the special-purpose government responsible for the administration of CERS.

FINANCIAL HIGHLIGHTS AND ANALYSIS

The following are the Condensed Comparative Statements of Fiduciary Net Position and Condensed Comparative Statements of Changes in Fiduciary Net Position of CERS for the fiscal years ended June 30, 2024, and 2023:

Condensed Summary of Fiduciary Net Position
As of June 30 ($ in Thousands)

	CERS TOTAL 2024	CERS TOTAL 2023	CHANGE	% CHANGE
ASSETS				
Cash, Short-term Investments, and Receivables	$765,874	$879,049	$(113,176)	(12.87%)
Investments, at fair value	18,308,660	16,337,103	1,971,558	12.07%
TOTAL ASSETS	**19,074,534**	**17,216,152**	**1,858,382**	**10.79%**
TOTAL LIABILITES	**601,749**	**475,796**	**125,953**	**26.47%**
FIDICUIARY NET POSITION	**$18,472,785**	**$16,740,356**	**$1,732,429**	**10.35%**

Management's Discussion & Analysis (Unaudited)

Condensed Summary of Changes in Fiduciary Net Position For the fiscal year ending June 30 ($ in Thousands)				
	CERS TOTAL	CERS TOTAL		
	2024	2023	CHANGE	% CHANGE
ADDITIONS				
Member Contributions	$248,354	$226,513	$21,841	(9.64%)
Employer Contributions	1,118,858	1,162,351	(43,492.00)	(3.74%)
Total Contributions	1,367,212	1,388,864	(21,651.00)	(1.56%)
Net Investment Income (Loss)	1,922,417	1,552,125	370,292	23.86%
Other Additions	12,082	6,865	5,217	75.99%
TOTAL ADDITIONS	**$3,301,712**	**$2,947,854**	**$353,858**	**12.00%**
DEDUCTIONS				
Benefits and Refunds	1,317,904	1,243,777	74,127	5.96%
Other Deductions	251,380	248,196	3,185	1.28%
TOTAL DEDUCTIONS	**$1,569,284**	**$1,491,973**	**$77,312**	**5.18%**
NET INCREASE (DECREASE)	**$1,732,427**	**$1,455,881**	**$276,546**	**19.00%**
FIDICUIARY NET POSITION				
Beginning of the Period	$16,740,356	$15,284,475	$1,455,881	9.53%
End of Period	$18,472,783	$16,740,356	$1,732,429	10.35%

Management's Discussion & Analysis (Unaudited)

Fiduciary Net Position

The Fiduciary Net Position of CERS was $16,740.4 million at the beginning of the fiscal year and increased by 10.35% to $18,472.8 million as of June 30, 2024. The $1,732.4 million increase is primarily attributable to the appreciation of the fair value of investments.

Contributions

Total contributions reported for fiscal year 2024 were $1,367.2 million compared to $1,388.9 million in fiscal year 2023, a decrease of 1.56% or $21.7 million. This decrease was driven by a reduction of the employer contribution rates, offset by an increase in covered payroll for both the nonhazardous and hazardous plans. The combined pension and insurance employer contribution rate for the nonhazardous plan decreased by 3.45%, and the combined rate for the hazardous plan decreased by 5.90%.

Investments

The CERS pension and insurance portfolios investment returns averaged 11.7% for the fiscal year ended June 30, 2024, compared to 10.3% for the fiscal year ended June 30, 2023. This was due to the Core Fixed Income, Specialty Credit, and Real Return portfolios significantly outpacing their benchmarks, and sizeable returns in the Public Equity portfolio. See investment results beginning on page 84 of the investment section.

The fair value of investments, as of June 30, 2024, were $18,309 million, an increase of $1,971 million from the prior year, and net investment income was $1,922 million for the current year, compared to $1,552 million for the prior year.

Investment returns are reported net of fees and investment expenses, including carried interests. Investment fees and expenses totaled $172 million for fiscal year 2024 compared to $133 million in the prior fiscal year.

($ in millions)	1-year return		Fair Value of Investments			Investment fees & expenses			Net Investment Income		
	2024	2023	2024	2023	change	2024	2023	change	2024	2023	change
PENSION											
CERS Nonhazardous	11.60%	10.20%	$9,640	$8,585	$1,055	$91	$71	$20	$1,003	$815	$188
CERS Hazardous	11.70%	10.30%	3,367	2,939	428	31	24	7	356	282	74
INSURANCE											
CERS Nonhazardous	11.80%	10.30%	3,574	3,208	366	33	25	8	380	306	74
CERS Hazardous	11.70%	10.10%	1,728	1,606	122	17	13	4	183	149	34
AVERAGE / TOTAL	11.70%	10.30%	$18,309	$16,338	$1,971	$172	$133	$39	$1,922	$1,552	$370

Asset allocation is the primary driver of long-term investment performance and is designed to achieve an optimal long-term asset mix. The investment policy statement (IPS) of the CERS board has established the following asset allocation guidelines. See also the investment overview beginning on page 80 if the investment section.

Management's Discussion & Analysis (Unaudited)

Asset Class	Target	Minimum	Maximum
Public Equity	50.00%	35.00%	65.00%
Private Equity	10.00%	7.00%	13.00%
Core Fixed Income	10.00%	8.00%	12.00%
Specialty Credit	10.00%	7.00%	13.00%
Cash	0.00%	0.00%	3.00%
Real Estate	7.00%	5.00%	9.00%
Real Return	13.00%	9.00%	17.00%
	100.00%		

Deductions

Benefits and refunds paid for fiscal year 2024 totaled $1,317.9 million compared to $1,243.8 million in fiscal year 2023, a 5.96% increase, due to the slight increase in retired membership of the system.

ACTUARIAL HIGHLIGHTS

The actuarial accrued liability (AAL) is the measure of the cost of benefits that have been earned to date, but not yet paid, and is calculated using the entry age normal cost method (EANC) as required by state statute. The difference in value between the AAL and the actuarial value of assets is defined as the unfunded actuarial accrued liability (UAAL).

The UAAL for CERS, from the June 30, 2024, actuarial valuation, is $8,699.2 million for fiscal year ended June 30, 2024, compared to $8,736.1 million for fiscal year ended June 30, 2023, a decrease of $36.9 million. The UAAL for the Pension Plans decreased by $197.8 due to in the increase in the fair value of the assets related to favorable market conditions, and an increase in covered payroll during fiscal year 2024. The UAAL for the Insurance Plans increased by $161 million, driven by the decrease in employer contribution rates for the insurance funds for fiscal year 2024.

Management's Discussion & Analysis (Unaudited)

Schedule of Unfunded Actuarial Accrued Liabily (UAAL) As of June 30 ($ in millions)								
	CERS Nonhazardous				CERS Hazardous			
	Pension		Insurance		Pension		Insurance	
	2024	2023	2024	2023	2024	2023	2024	2023
Actuarial Accrued Liability (AAL)	$15,776	$15,296	$2,901	$2,560	$6,070	$5,850	$1,668	$1,604
Actuarial Value of Assets	9,212	8,585	3,549	3,366	3,280	3,008	1,676	1,615
Unfunded Actuarial Accrued Lliability (UAAL)	$6,565	$6,711	($648)	($806)	$2,791	$2,842	($8)	($11)
Funded Ratio	58.39%	56.12%	122.34%	131.48%	54.03%	51.42%	100.48%	100.70%

Please refer to Note I and the RSI of the Financial Section, as well as the Actuarial Section for more analysis of the funding status, asset values, actuarial assumptions, and actuarially determined employer contributions.

INFORMATION REQUESTS

This financial report is designed to provide a general overview of CERS' financial position. Questions concerning any of the information provided in this report or requests for additional information should be directed to:

ATTN: Director of Accounting

Kentucky Public Pensions Authority

1260 Louisville Road

Frankfort, KY 40601

CERS DRAFT RAN 11-13-2024

Basic Financial Statements

Combining Statement of Fiduciary Net Position as of June 30, 2024 ($ in Thousands)					
	Pension		Insurance		CERS
	CERS	CERS	CERS	CERS	Total
ASSETS	Nonhazardous	Hazardous	Nonhazardous	Hazardous	2024
CASH AND SHORT-TERM INVESTMENTS					
Cash Deposits	$276	$26	$103	$22	$427
Short-term Investments	274,855	146,718	89,412	38,115	549,100
Total Cash and Short-term Investments	**275,131**	**146,744**	**89,515**	**38,137**	**549,527**
RECEIVABLES					
Accounts Receivable	96,651	28,809	4,948	2,288	132,696
Accounts Receivable - Investments	43,044	15,644	17,711	7,252	83,651
Total Receivables	**139,695**	**44,453**	**22,659**	**9,540**	**216,347**
INVESTMENTS, AT FAIR VALUE					
Core Fixed Income	956,091	336,202	356,789	160,988	1,810,070
Public Equities	4,994,488	1,760,119	1,862,408	897,774	9,514,789
Private Equities	614,731	219,397	246,964	138,211	1,219,303
Specialty Credit	1,923,638	662,597	720,433	331,860	3,638,528
Derivatives	121	49	37	12	219
Real Return	393,377	138,312	130,977	63,385	726,051
Real Estate	507,979	161,767	183,572	100,729	954,047
Securities Lending Collateral	249,969	88,298	72,492	34,894	445,653
Total Investments, at Fair Value	**9,640,394**	**3,366,741**	**3,573,672**	**1,727,853**	**18,308,660**
Total Assets	**10,055,220**	**3,557,938**	**3,685,846**	**1,775,530**	**19,074,534**
LIABILITIES					
Accounts Payable	7,296	1,074	229	5	8,604
Accounts Payable - Investments	80,329	28,705	27,231	11,227	147,492
Securities Lending Collateral	249,969	88,298	72,492	34,894	445,653
Total Liabilities	**337,594**	**118,077**	**99,952**	**46,126**	**601,749**
Fiduciary Net Position					
Total Restricted for Benefits	**$9,717,626**	**$3,439,861**	**$3,585,894**	**$1,729,404**	**$18,472,785**

See accompanying notes which are an integral part of these combining financial statements.

Note: The displayed fair values include investable assets held by each System and its associated contributions, payables, equipment and intangible assets; unlike those found in the Investment Section, which include only those investable assets held by each System.

CERS DRAFT RAN 11-13-2024

Combining Statement of Changes In Fiduciary Net Position

For the fiscal year ending June 30, 2024 ($ in Thousands)

	Pension		Insurance		CERS
	CERS Nonhazardous	CERS Hazardous	CERS Nonhazardous	CERS Hazardous	Total 2024
ADDITIONS					
Member Contributions	$161,090	$61,379	$20,998	$4,887	$248,354
Employer Contributions	764,778	321,293	10,143	22,644	1,118,858
Other	-	-	10,445	1,637	12,082
Total Contributions	**925,868**	**382,672**	**41,586**	**29,168**	**1,379,294**
INVESTMENT INCOME					
Net Appreciation (Depreciation) in FV of Investments	785,266	277,925	298,813	145,631	1,507,635
Interest/Dividends	296,682	104,715	111,897	53,690	566,984
Securities Lending Income	11,380	4,084	3,296	1,484	20,244
Less: Investment Expense	61,810	20,928	23,115	11,978	117,831
Less: Performance Fees	18,517	6,226	7,456	4,103	36,302
Less: Securities Lending Fees, Expenses and Rebates	10,355	3,718	2,923	1,317	18,313
Net Investment Income (loss)	**1,002,646**	**355,852**	**380,512**	**183,407**	**1,922,417**
Total Additions	**1,928,514**	**738,524**	**422,098**	**212,575**	**3,301,711**
DEDUCTIONS					
Benefit Payments	940,514	343,583	-	-	1,284,097
Refunds	25,267	8,540	-	-	33,807
Administrative Expenses	26,547	2,338	943	522	30,350
Healthcare Expenses	-	-	124,794	96,236	221,030
Total Deductions	**992,328**	**354,461**	**125,737**	**96,758**	**1,569,284**
Net Increase (Decrease) in Fiduciary Net Position Restricted for Pension Benefits	936,186	384,063	296,361	115,817	1,732,427
Total Fiduciary Net Position Restricted for Pension Benefits					
Beginning of Period	**8,781,440**	**3,055,797**	**3,289,533**	**1,613,586**	**16,740,356**
End of Period	**$9,717,626**	**$3,439,860**	**$3,585,894**	**$1,729,403**	**$18,472,783**

See accompanying notes, which are an integral part of these combining financial statements.

NOTE A. Summary of Significant Accounting Policies

HB 484, passed in the 2020 Legislative Session, created a separate governing board in Kentucky Revised Statutes 78.782, County Employees Retirement System (CERS), to govern the cost-sharing plans for local government employers. KPPA is responsible for administering the personnel system, the system of accounting, and day-to-day functions of CERS, as well as selecting consulting and service contractors to provide administrative services including an external auditor. KPPA is also responsible for promulgating administrative regulations on behalf of CERS. It is additionally tasked with administering and operating any held assets for CERS including, but not limited to real estate, office space, equipment, and supplies. KPPA staff manages assets in accordance with investment policies developed by the CERS Investment Committee and approved by the CERS Board. KPPA staff recommends to the Board the hiring, retention and termination of investment managers. The CERS Board is responsible for selection of investment services for the management and custody of the assets while KPPA is responsible for the remaining investment services.

This summary of KPPA's significant accounting policies is presented to assist in understanding the combining financial statements for CERS. The combining financial statements and notes are representations of KPPA's management, which is responsible for their integrity and objectivity. These accounting policies conform to Generally Accepted Accounting Principles (GAAP) and have been consistently applied in the preparation of the combining financial statements.

Basis of Accounting

CERS' combining financial statements are prepared using the accrual basis of accounting. Member contributions are recognized in the period in which contributions are due. Employer contributions 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 the terms of the plan. Premium payments are recognized when due and payable in accordance with the insurance terms of the plan. Administrative and investment expenses are recognized when incurred. The net position represents the funds of CERS, and the funds of the Kentucky Retirement Insurance Trust Fund (Insurance Fund) that have accumulated thus far to pay pension benefits for retirees, active and inactive members, and health care premiums for current and future employees.

Method Used to Value Investments

Investments are reported at fair value. Fair value is the price that would be received upon selling an asset or the amount 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 Investments 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 gains and losses on investments bought and sold as well as held during the fiscal year. Investment returns are recorded in all plans net of investment fees.

Investment Unitization

Within the plan accounting structure there are two primary types of accounts: Plan Accounts and Pool Accounts. Plan Accounts are the owners of the investment pool. An account is established for each plan/fund and these accounts hold Units of Participation that represent the plan's/fund's invested value of the investment pool. Pool Accounts are accounts that hold the assets of the investment pool where all investment related activity and earnings occur. The pooled accounts are the investment strategies of the pool. Units of Participation are bought and sold as each plan/fund contributes or withdraws cash or assets from the investment pool. The investment pool earnings are then allocated to plans utilizing a cost distribution method that allows for fluctuating prices experienced in capital markets. This involves earnings allocated to the plan accounts with an increase or decrease in cost on the Unit of Participation Holdings of the Plan Accounts. Correspondingly, the price of the Unit of Participation Holdings is updated to reflect change in fair value in the investment pool. Earnings are allocated based on the daily weighted average of Master Trust Units held by each plan/fund account during each monthly earnings period. This method is commonly used when plans make multiple contributions or withdrawals from the investment pool throughout the month as it eliminates allocation distortion due to large end of month cash flows.

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

Office 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 as an expense when incurred. The capitalization threshold used in fiscal year 2024 was $3,000.

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 ten years. The capitalization threshold used in fiscal year 2024 was $3,000.

Accounts Receivable

Accounts Receivable consist of amounts due from employers. KPPA management considers accounts 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.

The Investment Accounts Receivable and Investment Accounts Payable consist of investment management earnings and fee accruals, as well as all buys and sells of securities which have not closed as of the reporting date.

Payment of Benefits

Benefits are recorded when paid.

Expense Allocation

KPPA administrative expenses are allocated based on a hybrid allocation developed by the Boards. The hybrid allocation is based on a combination of plan membership and direct plan expenses. All investment related expenses are allocated in proportion to the percentage of investment assets held by each plan.

Component Unit

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

CERS was created by the Kentucky General Assembly on July 1, 1958, pursuant to Kentucky Revised Statutes 78.520, and the separate governing board of trustees was created in 2021. Six of the nine trustees are appointed by the Governor. The administrative budget of KPPA, which incorporates CERS administrative costs is subject to approval by the Kentucky General Assembly. CERS employee contribution rates are set by statute and may be changed only by the Kentucky General Assembly. Employer contributions for CERS are determined by the Board of CERS without further legislative review, and the methods used to determine the employer rates for CERS are specified in Kentucky Revised Statutes 78.635.

Perimeter Park West, Incorporated (PPW) is governed by a three-member board selected by shareholders. Although it is legally separate from KPPA, PPW is reported as part of KPPA, because its sole ownership is Kentucky Retirement Systems, and therefore through unitization is owned by KERS, CERS, and SPRS. PPW functions as a real estate holding company for the offices used by the plans administered by KPPA.

Recent Accounting Pronouncements

KPPA determined that the KPPA lease agreements are not material to the overall financial statements. Therefore, KPPA did not report the leases according to *Statement Number 87 Leases*.

KPPA determined that the KPPA SBITAs lease agreements are not material to the overall financial statements. Therefore, KPPA did not report the SBITAs leases according to Statement Number 96 SBITAs.

GASB Statement Number 100, Accounting Changes and Error Corrections - an amendment of *GASB Statement No. 62.* The requirements of this Statement will take effect for financial statements starting with the fiscal year that ends June 30, 2024. KPPA had no Accounting Changes or Error Corrections for fiscal year June 30, 2024.

GASB Statement Number 101, Compensated Absences. The requirements of the Statement will take effect for financial statements starting with the fiscal year that ends December 31, 2024. KPPA is evaluating the impact of the Statement to the financial report.

GASB Statement Number 102, Certain Risk Disclosures. The requirements of the Statement will take effect for financial statements for fiscal years beginning after June 15, 2024. KPPA is evaluating the impact of the Statement to the financial report.

Note B. Descriptions & Contribution Information

CERS Membership Combined
As of June 30, 2024

Members	Nonhazardous	Hazardous	Total
Retirees and Beneficiaries Receiving Benefits	68,407	9,671	78,078
Inactive Memberships	112,610	3,821	116,431
Active Members	82,505	9,674	92,179
Total	**263,522**	**23,166**	**286,688**

Note: 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.

Retiree Medical Insurance Coverage
As of June 30, 2024

	Single	Couple/ Family	Parent	Medicare Without Prescription	Medicare With Prescription
CERS Nonhazardous	8,562	506	241	1,826	30,026
CERS Hazardous	1,899	3,050	477	144	4,565
CERS Total	**10,461**	**3,556**	**718**	**1,970**	**34,591**

Note: 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. The counts are the number of medical plans contracted with the Department of Employee Insurance or Medicare vendor and are not representative of the number of persons.

Plan Descriptions

The County Employees Retirement System (CERS), provides retirement, disability, and death benefits to system members. Retirement benefits may be extended to beneficiaries of members under certain circumstances. KPPA provides administrative support to CERS and Kentucky Retirement System Insurance Trust Fund (Insurance Fund). In addition to executive management, the CERS and Insurance Fund share investment management, accounting, and information system services, the costs of which are allocated to the plans on an equitable basis.

CERS - County Employees Retirement System

CERS was established by Kentucky Revised Statutes 78.520. The CERS system is comprised of two plans - CERS Nonhazardous plan and CERS Hazardous plan. The CERS Nonhazardous plan was established to provide retirement benefits to all regular full-time members employed in positions of each participating county, city, school board, and any additional eligible local agencies electing to participate in CERS. The membership of the CERS Hazardous plan includes employees whose position is considered hazardous with principal job duties including, but are not limited to, active law enforcement, probation and parole officers, detectives, pilots, paramedics, and emergency medical technicians, with duties that require frequent exposure to a high degree of danger and also require a high degree of physical condition.

The responsibility for the general administration and operation of the plans within CERS is vested in the CERS Board of Trustees. The CERS Board of Trustees consists of 9 members. Six trustees are appointed by the governor and three are elected by CERS members (active, inactive, and/or retired). The six appointed trustees are selected from a list of candidates provided to the Governor's Office by one of three employer advocacy groups: Kentucky League of Cities, Kentucky Association of Counties, or Kentucky School Board Association. Of the six appointed trustees, three must have investment experience and three must have retirement experience as defined by statute. All appointments by the governor are subject to Senate confirmation.

Kentucky Retirement System Insurance Trust Fund

The Insurance Fund was established by Kentucky Revised Statutes 61.701 for the purpose of providing hospital and medical insurance benefits for eligible members receiving benefits from CERS Nonhazardous, CERS Hazardous, KERS Nonhazardous, KERS Hazardous, and SPRS (collectively the Insurance Fund). The responsibility for the general administration and operation of the Insurance Fund is vested with both the CERS Board of Trustees and the KRS Boards of Trustees. Each of the OPEB funds: CERS Nonhazardous, CERS Hazardous, KERS Nonhazardous, KERS Hazardous, and SPRS is legally separated with benefits only eligibility to be paid for each of the respective membership groups.

Cost of Living Adjustment (COLA)

Prior to July 1, 2009, COLAs were provided to retirees annually equal to the percentage increase in the annual average of the consumer price index (CPI) 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 to be limited to 1.50%.

In 2013 the General Assembly created a new law to govern how COLAs will be granted. Language included in Senate Bill 2 during the 2013 Regular Session states COLAs will only be granted in the future if the System's Board determines that assets of the Systems are greater than 100% of the actuarial liabilities and legislation authorizes the use of surplus funds for the COLA; or the General Assembly fully prefunds the COLA or directs the payment of funds in the year the COLA is provided. Kentucky Revised Statutes 78.5518 governs how COLAs may be granted for members of CERS. No COLA has been granted since July 1, 2011.

Employer Contributions

Local government participating employers are required to contribute an actuarially determined rate for CERS pension contributions, per the Kentucky Revised Statutes 78.635. The CERS Board of Trustees establishes the employer contribution rate based on Kentucky Revised Statutes 78.454(33) each year following the annual actuarial valuation as of July 1 and prior to July 1 of the succeeding fiscal year for local governments in Kentucky.

For the fiscal year ended June 30, 2024, participating employers of CERS Nonhazardous, CERS Hazardous, 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 KPPA are financed through employer contributions and investment earnings. See the charts on the following page for the fiscal year employer contribution rates, including the actuarially recommended rates.

Contribution Rate Breakdown by Fund
As of June 30, 2024

	Pension		Insurance		Combined Total	
Fund	Employer Contribution Rates	Actuarially Recommended Rates	Employer Contribution Rates	Actuarially Recommended Rates	Employer Contribution Rates	Actuarially Recommended Rates
CERS Nonhazardous**	23.34%	23.34%	0.00%	0.00%	23.34%	23.34%
CERS Hazardous**	41.11%	41.11%	2.58%	2.58%	43.69%	43.69%

***House Bill 362 passed during the 2018 legislative session caps CERS employer contribution rate increases up to 12% per year over the prior fiscal year for the period of July 1, 2018, to June 30, 2028.*

As of June 30, 2024, the date of the most recent actuarial valuation, membership consisted of:

TIER 1:

Tier 1 plan members who began participating prior to September 1, 2008, are required to contribute 5% (Nonhazardous) or 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% (Nonhazardous) or 9% (Hazardous) of their annual creditable compensation. Further, 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 Insurance Fund (see Kentucky Administrative Regulation (KAR) 105 KAR 1:420). 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% Health Insurance Contribution (HIC) 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 contribute 5% (Nonhazardous) or 8% (Hazardous) of their monthly creditable compensation which is deposited into their account, and an additional 1% which is deposited to an account created for payment of health insurance benefits under 26 USC Section 401(h) in the Insurance Fund (see 105 KAR1:420), which is not refundable. Tier 3 member accounts are also credited with an employer pay credit in the amount of 4% (Non-Hazardous) or 7.5% (Hazardous) of the member's monthly creditable compensation. The employer pay credit amount is deducted from the total employer contribution rate paid on the member's monthly creditable compensation. If a vested (60 months of service) member terminates employment and applies to take a refund, the member is entitled to the members contributions (less HIC) plus employer pay credit plus interest (for both employee contributions and employer pay). If a non-vested (less than 60 months) member terminates employment and applies to take a refund, the member is entitled to receive employee contributions (less HIC) plus interest (on employee contributions only).

Tier 3

Interest is paid into the Tier 3 member's account. The account currently earns 4% interest credit on the member's accumulated account balance as of June 30 of the previous year. The member's account may be credited with additional interest if the fund'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 CERS's 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 fund in CERS may get an Upside Sharing Interest, while another 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 fund basis.

The chart below shows the interest calculated on the members' balances as of June 30, 2023, and credited to each member's account on June 30, 2024.

(A-B) = C x 75% = D then B + D = Interest ($ in Thousands)						
	A	B	C	D		
Fund	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
CERS Nonhazardous	7.67%	4.00%	3.67%	2.75%	6.75%	$35,689
CERS Hazardous	7.85%	4.00%	3.85%	2.89%	6.89%	$13,115

Insurance Fund Description

The Insurance Fund was established to provide hospital and medical insurance for eligible members receiving benefits from CERS. The eligible non-Medicare retirees are covered by the Department of Employee Insurance (DEI) plans. The KPPA Board contracts with Humana to provide health care benefits to the eligible Medicare retirees through a Medicare Advantage Plan. KPPA submits the premium payments to DEI and Humana. 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, 2024, insurance premiums withheld from benefit payments for CERS's members were $18.9 million and $4.3 million for CERS Nonhazardous and Hazardous, respectively.

The amount of benefit paid by the Insurance Fund is based on years of service. For members who began participating prior to July 1, 2003, a percentage of the contribution rate is paid based on years of service with 100% of the contribution rate being paid with 20 years of service. Since the passage of House Bill 290 (2004 Kentucky General Assembly), medical insurance benefits have been calculated differently for members who began participating on or after July 1, 2003. Once members reach a minimum vesting period of 10 years, Nonhazardous 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. 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. House Bill 1 (2008 Kentucky General Assembly) changed the minimum vesting requirement for participation in the health insurance plan to 15 years for members whose participation began on or after September 1, 2008. This benefit is not protected under the inviolable contract provisions of Kentucky Revised Statutes 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 Insurance Plan pays 100% of the contribution rate for hospital and medical insurance premiums for the spouse and dependents of members who die as a direct result of an act in the line of duty or from a duty-related injury.

For members participating prior to July 1, 2003, years of service and respective percentages of the maximum benefit are as follows:

Portion Paid by Insurance Fund
As of June 30, 2024

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%

The amount of benefit paid by the Insurance Fund is based on years of service. For members participating on or after July 1, 2004, the dollar amounts of the benefit per year of service are as follows:

Dollar Contribution for Fiscal Year 2024 For Member participation date on or after July 1, 2003

	(in Whole $)
CERS Nonhazardous	$14.41
CERS Hazardous	$21.62

CERS DRAFT RAN 11-13-2024

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 must be reported as assets on the financial statements. The non-cash collateral is not reported because the securities received as collateral are unable to be pledged or sold unless the borrower defaults. In accordance with GASB *No. 28*, KPPA classifies certain other investments, not related to the securities lending program, as short-term. Cash and short-term investments consist of the following:

Cash, Short-Term Investments, & Securities Lending Collateral
As of June 30, 2024 ($ in Thousands)

CERS Nonhazardous	Pension	Insurance
Cash	$276	$103
Short-Term Investments	274,855	89,412
Securities Lending Collateral Invested	249,969	72,492
Total	**$525,100**	**$162,007**
CERS Nonhazardous		
Cash	$26	$22
Short-Term Investments	146,718	38,115
Securities Lending Collateral Invested	88,298	34,894
Total	**$235,042**	**$73,031**

Note D. Investments

Kentucky Revised Statutes 78.790 specifically states that the Board of Trustees for the respective retirement Plan(s) shall have the full and exclusive power to invest and reinvest the funds of the Plan(s) they govern. In addition, Kentucky Revised Statutes 78.782 require three (3) members of each Board to have at least ten (10) years of investment experience as defined by the statutes. The Board of Trustees are required to establish the Investment Committee who is specifically charged with implementing the investment policies adopted by the Board of Trustees and to act on behalf of the Board of Trustees on all investment-related matters. The Board of Trustees and the Investment Committee members are required to discharge their duty to invest the funds of the Plans in accordance with the "Prudent Person Rule" as set forth in Kentucky Revised Statutes 78.790 and to manage those funds consistent with the long-term nature of the trusts and solely in the interest of the members and beneficiaries. All internal investment staff of the Kentucky Public Pensions Authority, and investment consultants must adhere to the Code of Ethics and Standards of Professional Conduct of the CFA Institute and all board trustees must adhere to the Code of Conduct for Members of a Pension Scheme Governing Body of the CFA Institute. The Board of Trustees is authorized to adopt policies. The Board of Trustee has adopted Investment Policy Statements (IPS) which define the framework for investing the assets of the Plans. The IPS is intended to provide general principles for establishing the investment goals of the Plans, the allocation of assets, employment of outside asset management, and monitoring the results of the respective Plans. A copy of the Board's IPS can be found on the KPPA website. By statutes, the Board, through adopted written policies, shall maintain ownership and control over its assets held in its unitized managed custodial account. Additionally, the Investment Committee establishes specific investment guidelines that are summarized below and are included in the Investment Management Agreement (IMA) for each investment management firm.

Equity

Public Equity

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 (ETFs); or any other type of security contained in a manager's benchmark. Each individual equity account has a comprehensive set of investment guidelines, which contains a listing of permissible investments, portfolio restrictions, and standards of performance.

Private Equity

Subject to the specific approval of the Investment Committees, Private Equity investments may be made for the purpose of creating a diversified portfolio of alternative investments under the Equity umbrella. Private equity investments are expected to achieve attractive risk-adjusted returns and, by definition, possess a higher degree of risk with a higher return potential than traditional investments. Accordingly, total rates of return from private equity investments are expected to be greater than those that might be obtained from conventional public equity or debt investments.

Fixed Income

Core Fixed Income

The Core Fixed Income accounts may include, but are not limited to, the following securities: U.S. government and agency bonds; investment grade U.S. corporate credit; investment grade non-U.S. corporate credit; mortgages, including residential mortgage-backed securities; commercial mortgage-backed securities and whole loans; asset-backed securities; and, asset class relevant ETFs.

Specialty Credit

The Specialty Credit accounts may include, but are not limited to, the following types of securities and investments: 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; private debt; 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 ETFs. Each individual Specialty Credit account shall have a comprehensive set of investment guidelines which contains a listing of permissible investments, portfolio restrictions, risk parameters, and standards of performance for the account.

Cash and 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, and collective short-term investment funds (STIFs), money market funds or instruments (including, but not limited to certificates of deposit, bank notes, deposit notes, bankers' acceptance 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 shall prevail. All instruments shall have a maturity at the time of purchase that does not exceed 397 days.

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.

Inflation Protected

Real Estate and Real Return

Subject to the specific approval of the Investment Committee, investments may be made to create a diversified portfolio of alternative investments. Investments are made in equity and debt real estate for the purpose of achieving the highest total rate of return possible consistent with a prudent level of risk. The purpose of the Real Return investments are to identify strategies that provide both favorable stand-alone risk-adjusted returns as well as the benefit of hedging inflation for the broader plans.

Investment Expenses

In accordance with GASB *Statement No. 67 and No. 74*, *Financial Reporting for Pension Plans and Other Postemployment Benefit Plans other than Pension Plans*, management 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, KPPA changed Private Equity investment fees from a gross basis to a net basis. The Board made the decision to enhance transparency reporting. Prior to 2015, the majority of the trusts' Private Equity investment fees were netted against investment activity which is the standard used within the Private Equity sector. Trusts' net investment income has always included these fees regardless of the reporting method used. During the 2017 Regular Session of the Kentucky General Assembly, legislators passed SB 2 which requires the reporting of all investment fees and expenses. Management continues to work with managers to enhance fee and expense 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. External managers and Investment Staff are permitted to invest in derivative securities, or strategies which make use of derivative investments, for exposure, cost efficiency and risk management purposes, if such investments do not cause the portfolio to be leveraged beyond a 100% invested position. Any derivative security shall be sufficiently liquid that it can be expected to be sold at, or near, its most recently quoted market price. Examples of such derivatives include, but are not limited to the following securities: foreign currency forward contracts; 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 Fiduciary Net Position for both the Pension and Insurance Funds.

In accordance with GASB *Statement No. 53, Accounting and Financial Reporting for Derivative Instruments*, CERS provides additional disclosure regarding its derivatives. The charts included represent the derivatives by types as of June 30, 2024. The chart shows the change in fair value of derivative types as well as the current fair value and notional value. The notional value is the reference amount of the underlying asset times its current spot price. The trusts hold investments in options, commitments, futures, and forward foreign exchange contracts.

CERS Pension and Insurance Derivative Instruments - GASB 53
As of June 30, 2024 ($ in Thousands)

Pension	Net Appreciation (Depreciation) in Fair Value	Classification	Fair Value	Notional
Nonhazardous				
FX Spots and Forwards	$233	Investment	$212	-
Futures	2,366	Investment	(91)	22,012
Commits and Options	1	Investment	-	-
Swaps	-	Investment	-	-
Hazardous				
FX Spots and Forwards	$92	Investment	$83	-
Futures	819	Investment	(34)	7,289
Commits and Options	1	Investment	-	-
Swaps	-	Investment	-	-
Insurance				
Nonhazardous				
FX Spots and Forwards	$72	Investment	$67	-
Futures	873	Investment	(29)	9,745
Commits and Options	1	Investment	-	-
Swaps	-	Investment	-	-
Hazardous				
FX Spots and Forwards	$23	Investment	$21	-
Futures	401	Investment	(9)	5,179
Commits and Options	-	Investment	-	-
Swaps	-	Investment	-	-

Derivative Instruments Subject to Counterparty Credit Risk - GASB 53
As of June 30, 2024

		Pension		Insurance	
Counterparty	S & P Ratings	CERS Percentage of Net Exposure	CERS Hazardous Percentage of Net Exposure	CERS Percentage of Net Exposure	CERS Hazardous Percentage of Net Exposure
Australia & New Zealand Banking Group Ltd	AA-	3.16%	1.23%	2.92%	0.92%
The Bank of America	A-	0.38%	0.13%	0.30%	0.14%
The Bank of New York Mellon Corp	A	1.38%	0.53%	1.44%	0.50%
Barclays PLC	BBB+	4.91%	1.91%	4.60%	1.47%
Brown Brothers Harriman & Co	NR	0.31%	0.11%	0.32%	0.15%
Canadian Imperial Bank of Commerce	A+	6.92%	2.70%	6.41%	2.01%
Citigroup Inc	BBB+	4.93%	1.92%	4.57%	1.43%
The Goldman Sachs Group Inc	BBB+	3.58%	1.40%	3.34%	1.06%
HSBS Holding PLC	A-	7.19%	2.81%	8.22%	2.60%
JPMorgan Chase & Co	A-	2.45%	0.94%	2.43%	0.83%
Morgan Stanley	A-	4.42%	1.73%	4.10%	1.29%
Royal Bank of Canada	AA-	4.78%	1.87%	4.73%	1.49%
State Street Corp	A	5.29%	2.06%	4.96%	1.58%
The Toronto-Dominion Bank	AA-	0.14%	0.05%	0.20%	0.09%
UBS Group AG	A-	3.99%	1.54%	5.25%	1.74%
Westpac Banking Corp	AA-	0.09%	0.03%	0.10%	0.05%
TOTAL		**53.92%**	**20.96%**	**53.89%**	**17.35%**

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 CERS 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). None of these balances were exposed to custodial credit risk as they were either insured or collateralized at required levels.

Custodial Credit Risk for Deposits - GASB 40 As of June 30, 2024 ($ in Thousands)	
CERS Nonhazardous Pension	$1,835
CERS Hazardous Pension	25
CERS Nonhazardous Insurance	105
CERS Hazardous Insurance	22
Clearing	602
Excess Benefit	$-

Note: All the above balances are held at JPM Chase.

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, the plans would 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, 2024, 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 Trust's name. Below are total cash and securities held by Global Managers and consist of various currencies.

Custodial Credit Risk for Investments - GASB 40 As of June 30, 2024 ($ in Thousands)	
CERS	
Nonhazardous Pension Fund Foreign Currency	$1,277,270
Hazardous Pension Fund Foreign Currency	445,110
Nonhazardous Insurance Fund Foreign Currency	479,212
Hazardous Insurance Fund Foreign Currency	225,064

CERS Investment Summary - GASB 40 As of June 30, 2024 ($ in Thousands)

	Pension		Insurance	
	Nonhazardous	Hazardous	Nonhazardous	Hazardous
Type	Fair Value		Fair Value	
Core Fixed Income	$956,091	$336,202	$356,789	$160,988
Public Equities	4,994,488	1,760,119	1,862,408	897,774
Private Equities	614,731	219,397	246,964	138,211
Specialty Credit	1,923,638	662,597	720,433	331,860
Derivatives	121	49	37	12
Real Return	393,377	138,312	130,977	63,385
Real Estate	507,979	161,767	183,572	100,729
Short-Term Investments	274,855	146,718	89,412	38,115
Accounts Receivable (Payable), Net	(37,285)	(13,061)	(9,520)	(3,975)
Total	**$9,627,995**	**$3,412,100**	**$3,581,072**	**$1,727,099**

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 Office of Investments staff and by external investment management firms. All portfolio managers are required by the CERS IPS 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.
- The duration of the core fixed income portfolios combined shall not vary from that of the system's Fixed Income Index by more than +/- 25% duration as measured by effective duration, modified duration or dollar duration except when the system's Investment Committee has determined a target duration to be used for an interim basis.
- The amount invested in the debt of a single corporation shall not exceed 5% of the total fair value of CERS' assets.
- No public Fixed Income manager shall invest more than 5% of the fair value of assets held in any single issue Short-Term instrument with the exception of U.S. Government issued, guaranteed or agency obligations.

CERS DRAFT RAN 11-13-2024

As of June 30, 2024, the portfolio had $670.0 million in debt securities rated below BBB- which does not include not rated (NR) or withdrawn (WD) securities.

CERS Debt Securities - GASB 40
As of June 30, 2024 ($ in Thousands)

	Pension		Insurance	
Rating	**Nonhazardous**	**Hazardous**	**Nonhazardous**	**Hazardous**
AAA	$62,091	$22,293	$23,536	$10,095
AA+	4,529	1,686	1,387	527
AA	6,706	2,520	2,389	892
AA-	6,415	2,353	2,300	928
A+	15,660	5,512	5,970	2,671
A	18,253	6,496	6,817	2,984
A-	37,119	13,088	13,593	6,088
BBB+	50,311	17,886	18,432	8,100
BBB	43,050	15,561	16,257	6,748
BBB-	74,276	27,579	26,404	9,432
BB+	53,465	20,475	21,543	5,624
BB	64,426	24,517	27,257	6,409
BB-	63,292	24,029	27,292	6,411
B+	45,345	16,946	19,535	5,046
B	56,098	20,460	24,126	6,622
B-	42,167	15,534	18,646	4,746
CCC+	18,825	7,249	8,688	1,788
CCC	5,768	2,236	2,608	557
CCC-	993	388	494	93
D	162	55	74	27
NR	1,758,056	591,102	641,194	332,763
WR	1	(0)	0	0
Total Credit Risk Debt Securities	**2,427,008**	**837,965**	**908,542**	**418,551**
Government Agencies	11,179	4,074	4,557	1,882
Government Mortgage-Backed Securities	175,995	62,108	66,866	29,931
Government Issued Commercial Mortgage Backed	2,020	710	940	424
Government Collateralized Mortgage Obligations	8,445	3,154	2,974	1,138
Government Bonds	255,082	90,788	93,343	40,922
Total	**$2,879,729**	**$998,799**	**$1,077,222**	**$492,848**

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

Differences due to rounding.

Government Agencies, Government Mortgage-Backed Securities, Government Issued Commercial Mortgage Backed and Government Bonds are highly rated securities since they are backed by the US Government.

The NR reported indicate a rating has not been assigned.

The WR reported are ratings which have been withdrawn.

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 CERS 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. The amount invested in the debt of a single issuer shall not exceed 5% of the total fair value of the Plans' fixed income assets.

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 and can be measured using two methodologies: effective or 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.

Below are the fair values and modified durations for the combined fixed income securities.

CERS Interest Rate Risk - Modified Duration - GASB 40
As of June 30, 2024 ($ in Thousands)

	Pension				Insurance			
	Nonhardous		Hazardous		Nonhardous		Hazardous	
TYPE	Fair Value	Weighted Avg Modified Duration	Fair Value	Weighted Avg Modified Duration	Fair Value	Weighted Avg Modified Duration	Fair Value	Weighted Avg Modified Duration
Asset Backed Securities	$55,663	2.73	$19,578	2.74	$21,434	2.60	$9,249	2.62
Financial Institutions	130,345	3.60	46,877	3.63	50,183	3.68	17,811	3.84
Collateralized Mortgage Obligations	17,676	3.08	6,543	2.96	6,051	3.06	2,366	3.43
Commercial Mortgage Backed Securities	12,129	3.82	4,475	3.79	4,553	3.85	1,822	3.93
Corporate Bonds - Industrial	402,267	4.07	150,532	4.09	164,755	4.05	46,823	4.24
Corporate Bonds - Utilities	53,291	4.95	19,254	4.93	21,630	4.87	8,385	5.01
Agencies	11,179	4.58	4,074	4.55	4,557	4.51	1,882	4.58
Government Bonds - Sovereign Debt	3,634	8.75	1,341	8.59	1,387	9.65	554	10.09
Mortgage Back Securities Pass-through - Not CMO’s	175,995	6.11	62,108	6.11	66,866	6.08	29,931	6.08
Local Authorities - Municipal Bonds	20,085	8.60	7,508	8.68	7,006	8.51	2,679	8.22
Supranational - Multi-National Bonds	2,808	2.51	1,096	2.51	913	2.60	287	2.60
Treasuries	255,082	6.79	90,788	6.77	93,343	6.89	40,922	6.94
Unclassified	1,739,575	0.06	584,625	0.07	634,544	0.06	330,137	0.04
Total	**$2,879,729**	**2.02**	**$998,799**	**2.11**	**$1,077,222**	**2.12**	**$492,848**	**1.79**

Foreign Currency Risk

Foreign currency risk is the risk that occurs if exchange rates adversely affect the value of a non-U.S. dollar based investment or deposit within the portfolios. Currency risk exposure, or exchange rate risk, primarily resides with the portfolios Non-U.S. equity holdings, but also affects other asset classes. CERS doesn't 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 Fair Value of Investments on the combining financial statements.

Foreign Currency Risk - GASB 40
As of June 30, 2024 ($ in Thousands)

	Pension		Insurance	
	Nonhazardous	Hazardous	Nonhazardous	Hazardous
Australian Dollar	$42,546	$15,025	$15,774	$7,163
Brazilian Real	22,152	7,842	8,316	3,761
Canadian Dollar	50,075	17,572	18,286	8,438
Czech Koruna	18	6	10	5
Danish Krone	49,345	17,246	18,509	8,625
Egyptian Pound	496	173	142	66
Euro	402,942	138,570	152,038	73,743
Hong Kong Dollar	86,139	30,105	32,043	14,931
Hungarian Forint	6,125	2,140	2,185	1,018
Indian Rupee	40,975	14,395	14,604	6,719
Indonesian Rupiah	22,884	8,190	8,071	3,536
Israeli Shekel	4,344	1,518	1,625	757
Japanese Yen	158,500	55,524	59,496	27,572
Malaysian Ringgit	1,822	712	570	179
Mexican Peso	5,830	2,070	2,177	978
New Taiwan Dollar	60,225	21,048	21,985	10,244
New Zealand Dollar	(3,369)	(1,315)	(1,095)	(345)
Norwegian Krone	5,238	2,016	1,687	571
Philippine Peso	2,564	1,001	832	262
Pound Sterling	135,119	47,226	51,017	23,767
Singapore Dollar	2,954	895	1,435	829
South African Rand	7,215	2,522	2,729	1,272
South Korean Won	44,358	15,625	17,350	7,943
Swedish Krona	20,897	7,303	8,163	3,803
Swiss Franc	89,269	31,199	34,314	15,989
Thai Baht	11,702	4,090	4,298	2,003
Turkish Lira	5,067	1,771	1,915	892
UAE Dirham	1,837	642	736	343
Total Foreign Investment Securities	**1,277,269**	**445,111**	**479,212**	**225,064**
U.S. Dollar	8,350,726	2,966,989	3,101,860	1,502,035
Total Investment Securities	**$9,627,995**	**$3,412,100**	**$3,581,072**	**$1,727,099**

Fair Value Measurement and Applications (GASB 72)

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

CERS defined the Fair Value Hierarchy and Levels as follows:

Level 1

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

Level 2

Inputs (other than quoted prices included within Level 1) that are observable for an asset or liability, either directly or indirectly. These inputs can include matrix pricing, market corroborated pricing and inputs such as yield curves and indices.

Level 3

Unobservable inputs for an asset or liability, which generally results in using the best information available for the valuation of the assets or liabilities being reported.

Net Asset Value (NAV)

The remaining investments not categorized under the fair value hierarchy are shown at net asset value (NAV). These are investments in non-governmental entities for which a readily determinable fair value is not available, such as member units or an ownership interest in partners' capital to which a proportionate share of net assets is attributed.

Fair Value Measurements and Application (GASB 72) Pension
As of June 30, 2024 ($ in Thousands)

	CERS Nonhazardous			Total	CERS Hazardous			Total
	Level				Level			
Asset Type	**1**	**2**	**3**	**Fair Value**	**1**	**2**	**3**	**Fair Value**
Public Equity								
Emerging Markets	$196,538	$-	$-	**$196,538**	$68,689	$-	$-	**$68,689**
US Equity	3,057,201	-	-	**3,057,201**	1,082,724	-	-	**1,082,724**
Non-US Equity	1,184,771	-	560,088	**1,744,859**	414,069	-	196,079	**610,148**
Total Public Equity	**4,438,510**	**-**	**560,088**	**4,998,598**	**1,565,482**	**-**	**196,079**	**1,761,561**
Fixed Income								
Agencies	374	2,231	-	**2,605**	131	784	-	**915**
Asset-Backed	-	47,724	-	**47,724**	-	16,779	-	**16,779**
Bank & Finance	-	60,029	120,661	**180,690**	-	21,707	42,028	**63,735**
Cash & Cash Equivalent	4,074	(158)		**3,916**	1,437	(57)		**1,380**
Corporate	1,336	455,235	543	**457,114**	521	170,891	201	**171,613**
Healthcare	-	20,799	-	**20,799**	-	7,599	-	**7,599**
Insurance	-	4,672	-	**4,672**	-	1,695	-	**1,695**
Municipals	-	14,370	-	**14,370**	-	5,303	-	**5,303**
Sovereign Debt	-	39,973	-	**39,973**	-	15,413	-	**15,413**
US Government	233,210	181,891	-	**415,101**	82,198	64,183	-	**146,381**
Total Fixed Income	**238,994**	**826,766**	**121,204**	**1,186,964**	**84,287**	**304,297**	**42,229**	**430,813**
Derivatives								
Futures	(91)	-	-	**(91)**	(34)	-	-	**(34)**
Foreign Exchange	-	-	-	**212**	-	-	-	**83**
Total Derivatives	**(91)**	**-**	**-**	**121**	**(34)**	**-**	**-**	**49**
Real Return								
Real Return	143,174	-	-	**143,174**	49,305	-	-	**49,305**
Total Real Return	**143,174**	**-**	**-**	**143,174**	**49,305**	**-**	**-**	**49,305**
Total Investments at Fair Value	**4,820,587**	**826,766**	**681,292**	**6,328,857**	**1,699,040**	**304,297**	**238,308**	**2,241,728**
Investments Measured at NAV								
Specialty Credit	-	-	-	**1,411,971**	-	-	-	**469,662**
Private Equity	-	-	-	**615,829**	-	-	-	**219,860**
Real Estate	-	-	-	**506,913**	-	-	-	**161,435**
Real Return	-	-	-	**251,561**	-	-	-	**89,474**
Fixed Income	-	-	-	**348,300**	-	-	-	**122,477**
Non US Equity	-	-	-	**21,922**	-	-	-	**7,662**
Emerging Markets	-	-	-	**3,162**	-	-	-	**1,105**
US Equity	-	-	-	**29,709**	-	-	-	**10,627**
Total Investments Measured at NAV	**-**	**-**	**-**	**3,189,367**	**-**	**-**	**-**	**1,082,302**
Cash and Accruals	**-**	**-**	**-**	**109,771**	**-**	**-**	**-**	**88,070**
Total Investments	**$4,820,587**	**$826,766**	**$681,292**	**$9,627,995**	**$1,699,040**	**$304,297**	**$238,308**	**$3,412,100**

Note: Cash Equivalents include 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.

CERS DRAFT RAN 11-13-2024

The investments measured at net asset value (NAV) are presented in the chart below:

Fair Value Measurements and Application (GASB 72) Pension
As of June 30, 2024 ($ in Thousands)

	CERS Nonhazardous				CERS Hazardous			
Asset Type	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Specialty Credit [(1)]	$1,411,971	$303,756	Daily - Quarterly	90 Days	$469,662	$107,116	Daily - Quarterly	90 Days
Real Estate [(2)]	506,913	112,865			161,435	35,705		
Real Return [(3)]	251,561	109,417	Daily	30 - 60 Days	89,474	43,903	Daily	30 - 60 Days
Private Equity [(4)]	615,829	155,484			219,860	50,500		
Fixed Income [(5)]	348,300	-	Daily		122,477	-	Daily	
Non US Equity [(5)]	21,922	-	Daily		7,662	-	Daily	
US Equity [(5)]	29,709	-	Daily		10,627	-	Daily	
Emerging Markets [(5)]	3,162	-	Daily		1,105	-	Daily	
Total Investments Measured at NAV	**$3,189,367**	**$681,522**			**$1,082,302**	**$237,224**		

[(1)] This type includes 12 high yield specialty credit managers with multiple strategies. These managers may invest in U.S. or non-U.S. investment grade corporate credit, U.S. or non U.S. non-investment grade corporate credit, including both 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.

[(2)] This type includes 11 real estate funds that invest primarily in U.S. commercial real estate; however, there is one manager who invests solely in non-U.S. commercial real estate. The fair value of the investments have been determined using the NAV per share of the Plan's ownership interest and in the partners' capital. Distributions from each fund will be received as the underlying investments of the funds are liquidated. It is expected that the funds will be liquidated over the next 7 to 10 years. Because it is not probable that any individual investment will be sold, the fair value of each individual investment has been determined using the NAV per share of the Plan's ownership interest in the partners' capital. Due to restrictions in the contract, redemptions are not likely until the assets of the fund are liquidated.

[(3)] This type includes 15 real return managers that invest in multiple strategies such as infrastructure, agriculture, royalties, commodities, and natural resources. These investments are intended to provide both favorable risk-djusted returns and correlation with inflation to help with the hedging of inflation for the broader plan. This group of managers also includes any hedge fund managers remaining in the portfolio which have all been terminated and are only awaiting payouts.

[(4)] This type includes 32 managers with multiple strategies. These investments cannot be redeemed. Instead, the investments are redeemed throughout the life of the investment. Distributions are received through the liquidation of the underlying assets of the fund. It is expected that each fund will remain invested for a period of 5 to 10 years. It is probable that all of the investments in this type will be sold at an amount different from the NAV per share of the Plan's ownership interest in partners' capital. Therefore, the fair values of the investment in this asset class have been determined using recent observable transaction information.

[(5)] This type includes short-term commingled investment instruments issued by the US Government, Federal agencies, sponsored agencies or sponsored corporations.

Fair Value Measurements and Application (GASB 72) Insurance
As of June 30, 2024 ($ in Thousands)

	CERS Nonhazardous			Total	CERS Hazardous			Total
	Level				Level			
Asset Type	**1**	**2**	**3**	**Fair Value**	**1**	**2**	**3**	**Fair Value**
Public Equity								
Emerging Markets	$73,587	$-	$-	**$73,587**	$34,289	$-	$-	**$34,289**
US Equity	1,116,473	-	-	**1,116,473**	543,066	-	-	**543,066**
Non-US Equity	444,664	-	229,226	**673,890**	207,194		113,953	**321,147**
Total Public Equity	**1,634,724**	**-**	**229,226**	**1,863,950**	**784,549**	**-**	**113,953**	**898,502**
Fixed Income								
Agencies	296	975	-	**1,271**	134	440	-	**574**
Asset-Backed	-	18,287	-	**18,287**	-	7,835	-	**7,835**
Bank & Finance	-	21,732	45,805	**67,537**	-	8,760	16,414	**25,174**
Cash & Cash Equivalent	1,677	87	-	**1,764**	771	27		**798**
Corporate	422	187,363	163	**187,948**	133	54,558	55	**54,746**
Healthcare	-	7,890	-	**7,890**	-	2,931	-	**2,931**
Insurance	-	1,733	-	**1,733**	-	698	-	**698**
Municipals	-	5,204	-	**5,204**	-	2,071	-	**2,071**
Sovereign Debt	-	13,017	-	**13,017**	-	4,375	-	**4,375**
US Government	86,608	69,507	-	**156,115**	38,870	31,122	-	**69,992**
Total Fixed Income	**89,003**	**325,795**	**45,968**	**460,766**	**39,908**	**112,817**	**16,469**	**169,194**
Derivatives								
Futures	(29)	-	-	**(29)**	(9)	-	-	**(9)**
Foreign Exchange	-	-	-	**67**	-	-	-	**21**
Total Derivatives	**(29)**	**-**	**-**	**38**	**(9)**	**-**	**-**	**12**
Real Return								
Real Return	38,048	-	-	**38,048**	19,608	-	-	**19,608**
Total Real Return	**38,048**	**-**	**-**	**38,048**	**19,608**	**-**	**-**	**19,608**
Total Investments at Fair Value	**1,761,746**	**325,795**	**275,194**	**2,362,802**	**844,056**	**112,817**	**130,422**	**1,087,316**
Investments Measured at NAV								
Specialty Credit	-	-	-	**516,842**	-	-	-	**277,125**
Private Equity	-	-	-	**247,274**	-	-	-	**138,379**
Real Estate	-	-	-	**183,264**	-	-	-	**100,562**
Real Return	-	-	-	**93,409**	-	-	-	**44,024**
Fixed Income	-	-	-	**123,084**	-	-	-	**55,537**
Non US Equity	-	-	-	**7,399**	-	-	-	**3,448**
Emerging Markets	-	-	-	**1,142**	-	-	-	**532**
US Equity	-	-	-	**11,261**	-	-	-	**5,732**
Total Investments Measured at NAV	**-**	**-**	**-**	**1,183,675**	**-**	**-**	**-**	**625,339**
Cash and Accruals	**-**	**-**	**-**	**34,595**	**-**	**-**	**-**	**14,444**
Total Investments	**$1,761,746**	**$325,795**	**$275,194**	**$3,581,072**	**$844,056**	**$112,817**	**$130,422**	**$1,727,099**

Note: Cash Equivalents include 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.

CERS DRAFT RAN 11-13-2024

The investments measured at net asset value (NAV) are presented in the chart below:

Fair Value Measurements and Application (GASB 72) Insurance
As of June 30, 2024 ($ in Thousands)

	CERS Nonhazardous				CERS Hazardous			
Asset Type	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Specialty Credit [1]	$516,842	$116,016	Daily - Quarterly	90 Days	$277,125	$60,373	Daily - Quarterly	90 Days
Real Estate [2]	183,264	38,344			100,562	21,030		
Real Return [3]	93,409	47,770	Daily	30 - 60 Days	44,024	18,173	Daily	30 - 60 Days
Private Equity [4]	247,274	62,113			138,379	33,829		
Fixed Income [5]	123,084	-	Daily		55,537	-	Daily	
Non US Equity [5]	7,399	-	Daily		3,448	-	Daily	
Emerging Markets [5]	1,142		Daily		532		Daily	
US Equity [5]	11,261	-	Daily		5,732	-	Daily	
Total Investments Measured at NAV	**$1,183,675**	**$264,243**			**$625,339**	**$133,405**		

[1] This type includes 12 high yield specialty credit managers with multiple strategies. These managers may invest in U.S. or non-U.S. investment grade corporate credit, U.S. or non U.S. non-investment grade corporate credit, including both 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.

[2] This type includes 11 real estate funds that invest primarily in U.S. commercial real estate; however, there is one manager who invests solely in non-U.S. commercial real estate. The fair value of the investments have been determined using the NAV per share of the Plan's ownership interest and in the partners' capital. Distributions from each fund will be received as the underlying investments of the funds are liquidated. It is expected that the funds will be liquidated over the next 7 to 10 years. Because it is not probable that any individual investment will be sold, the fair value of each individual investment has been determined using the NAV per share of the Plan's ownership interest in the partners' capital. Due to restrictions in the contract, redemptions are not likely until the assets of the fund are liquidated.

[3] This type includes 15 real return managers that invest in multiple strategies such as infrastructure, agriculture, royalties, commodities, and natural resources. These investments are intended to provide both favorable risk-adjusted returns and correlation with inflation to help with the hedging of inflation for the broader plan. This group of managers also includes any hedge fund managers remaining in the portfolio which have all been terminated and are only awaiting payouts.

[4] This type includes 34 managers with multiple strategies. These investments cannot be redeemed. Instead, the investments are redeemed throughout the life of the investment. Distributions are received through the liquidation of the underlying assets of the fund. It is expected that each fund will remain invested for a period of 5 to 10 years. It is probable that all of the investments in this type will be sold at an amount different from the NAV per share of the Plan's ownership interest in partners' capital. Therefore, the fair values of the investment in this asset class have been determined using recent observable transaction information.

[5] This type includes short-term commingled investment instruments issued by the US Government, Federal agencies, sponsored agencies or sponsored corporations.

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 Plans*, CERS provides this additional disclosure regarding its money-weighted rate of return for the period of June 30, 2024. The money-weighted rate of return is a method of calculating period-by-period returns on the Pension and Insurance Funds' investments that adjusts for the changing amounts actually invested. For the purposes of this Statement, money-weighted rate of return is calculated as the internal rate of return on investments, net of investment expenses, then adjusted for the changing amounts actually invested.

Money-Weighted Rates of Return As of June 30, 2024

	Pension		Insurance	
	CERS Nonhazardous	CERS Hazardous	CERS Nonhazardous	CERS Hazardous
2024	11.59%	11.75%	11.75%	11.67%

Note E. Securities Lending Transactions

Kentucky Revised Statutes 61.650 and 386.020(2) permit the Pension and Insurance Trust Funds to lend their securities to broker-dealers and other entities. CERS utilizes a securities lending program to temporarily lend securities to qualified agents in exchange for 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. 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. Securities Lending transactions are accounted for in accordance with GASB 28. The net earnings for the Pension and Insurance Trust Funds was $1.4 million and $0.5 million, respectively.

The IPS does not address any restrictions on the amount of loans that can be made. As of June 30, 2024, CERS had no credit risk exposure to borrowers because the collateral amounts received exceeded the amounts out on loan. The contracts with the custodial bank require them to indemnify CERS 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. BNY Mellon invests cash collateral as permitted by state statute and Board policy. The agent, BNY Mellon, of the Funds cannot pledge or sell collateral securities received unless the borrower defaults. CERS maintains a conservative approach to investing the cash collateral with BNY Mellon, emphasizing capital preservation, liquidity, and credit quality.

Cash collateral is invested in guaranteed, short-term obligations of the U.S. government, select government agencies and repurchase agreements with qualified agents.CERS cannot pledge or sell collateral securities received unless the borrower defaults. BNY Mellon as the lending agent also indemnifies CERS from any financial loss associated with a borrower's default and collateral inadequacy.

As of June 30, 2024, the average days to maturity for loans was one day, and the weighted average investment maturity of cash collateral investments was one day. The trusts had no credit risk exposure to borrowers because the amounts owed to borrowers exceeded the amounts the borrowers owed the trust, and no losses resulted during the period.

Security lending programs can entail interest rate risk and credit risk. CERS minimizes interest rate risk by limiting the term of cash collateral investments to several days. The credit risk is controlled by investing cash collateral in securities with qualities similar to the credit worthiness of lent securities.

As of June 30, 2024, the cash collateral received for the securities on loan for the Pension and Insurance Trust Funds was $338.3 million and $107.4 million, respectively. The securities non-cash collateral received a total of $140.6 million and $49.8 million, respectively. The collateral volume of the total underlying securities was $478.9 million for Pension and $157.2 million for the Insurance Trust Funds, respectively.

Securities Lending Cash Collateral
As of June 30, 2024, ($ in Thousands)

CERS Nonhazardous		CERS Hazardous		CERS
Pension	Insurance	Pension	Insurance	Total
$249,969	$72,492	$88,298	$34,894	$445,653

Note F. Risk of Loss

KPPA 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 Office of Claims and Appeals 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 $250,000 for a single claim and $400,000 in aggregate per occurrence. Awards and a pro rata share of the operating cost of the Office of Claims and Appeals are paid from the fund of the agency having a claim or claims before the Office of Claims and Appeals.

Claims against the CERS Board, and the KPPA Board, or any of its staff as a result of an actual or alleged breach of fiduciary duty, are self-insured effective May 26, 2019.

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. All medical expenses related to a work injury or illness are paid based upon appropriate statutory and regulatory reductions, 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, CERS is involved in litigation concerning the right of participants, or their beneficiaries, to receive benefits. CERS does not anticipate any material losses for the CERS Pension Funds, or the Insurance Fund as a result of the contingent liabilities. CERS is involved in other litigation; therefore, please see Note O. Litigation, for further information.

Note H. Income Tax Status

The Internal Revenue Service (IRS) has ruled that CERS qualifies under Section 401(a) of the Internal Revenue Code are, generally, not subject to tax. CERS is subject to income tax on any unrelated business income (UBI).

Note I. Financial Report for (GASB 67) Pension Plans and (GASB 74) Postemployment Benefit Plans

The following details actuarial information and assumptions utilized in determining the unfunded (overfunded) actuarial accrued liabilities for CERS, and the Insurance Fund. Please note that calculations for TPL, net fiduciary position, NPL, total OPEB liability, net OPEB fiduciary position, and net OPEB liability are reported in the Plans' Required Supplementary Information (RSI) on pages 57-70 are based on June 30, 2023, actuarial valuations, rolled forward to June 30, 2024. The prior year valuations are used as the basis for the roll forward method and are applied to complete the current year pension and OPEB valuations as of the measurement date, June 30, 2024, in accordance with GASB *Statement No.67*, paragraph 37, and GASB *Statement No. 74*, paragraph 41.

Financial Report for Pension Plan (GASB 67)

Basis of Calculations

GRS completed reports by plan in compliance with GASB S*tatement No. 67 Financial Reporting for Pension Plans.* The TPL, NPL, and sensitivity information are based on an actuarial valuation date of June 30, 2023. The TPL was rolled forward from the valuation date to the Plans' fiscal year ended June 30, 2024, using generally accepted actuarial principles. Information disclosed for years prior to June 30, 2017, were prepared by the prior actuary. GRS will provide separate reports at a later date with additional accounting information determined in accordance with GASB *Statement No. 68, Accounting and Financial Reporting for Pensions.*

Actuarial Assumptions and Plan Provisions

Based on the June 30, 2022, actuarial valuation report, the actuarial methods and assumptions used to calculate these contributions are:

- Investment Return - 6.25% for all plans,
- Inflation - 2.30% for all plans,
- Salary Increases - 3.30% to 10.30% for CERS Nonhazardous, 3.55% to 19.05% for CERS Hazardous,
- Payroll Growth - 2% for all plans,
- Mortality - System-specific mortality table based on mortality experience from 2013 -2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019.

There have been no assumption, method or plan provision changes that would materially impact the total pension liability since June 30, 2023. It is our opinion that these procedures for determining the information contained in these reports are reasonable, appropriate, and comply with applicable requirements under GASB No. 67.

Discount Rate

A single discount rate of 6.50% for the nonhazardous and hazardous plans was used to measure the total pension liability for the fiscal year ending June 30, 2024. 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 plan's 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 plan.

The projection of cash flows used to determine the single discount rate must include an assumption regarding actual employer contributions made each future year. Future contributions are projected assuming that the entire actuarially determined employer contribution is received by each plan each future year, calculated in accordance with the current funding policy.

The provisions of House Bill 362 (passed during the 2018 legislative session) are still in effect and limit the increases to the employer contribution rates to 12% over the prior fiscal year through June 30, 2028. However, contribution rates are not currently projected to increase by more than 12% in any given future year. Therefore, for the purposes of this calculation, the provisions of House Bill 362 do not impact the projected employer contributions.

Additional health care contributions (IRC 401(h) Subaccount)

Based on guidance issued by GASB in connection with GASB *Statement No. 74*, the 1% of pay member contributions for Tier 2 and Tier 3 members to a 401(h) subaccount is considered as an Other Post Employment Benefit (OPEB) asset. As a result, the reported pension fiduciary net positions as of June 30, 2017, and later are net of the 401(h) asset balance.

Additional Disclosures

This report is based upon information furnished to us by the Kentucky Public Pensions Authority (KPPA), which includes benefit provisions, membership information, and financial data. GRS did not audit this data and information, but GRS did apply a number of tests and concluded that it was reasonable and consistent. GRS is not responsible for the accuracy or completeness of the information provided by KPPA. Please see the "Actuarial Valuation Report as of June 30, 2023" for additional discussion of the nature of the actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions. These reports should be considered together as a complete report for the fiscal year ending June 30, 2024.

Financial Reporting for Postemployment Benefit Plans (GASB 74)

GRS completed reports by plan in compliance with GASB S*tatement No. 74*, *Financial Reporting for Postemployment Benefit Plans Other than Pension Plans* for the fiscal year ended June 30, 2024. GRS will provide separate reports at a later date with additional accounting information determined in accordance with GASB *Statement No. 75*, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions.*

Basis of Calculations

The total OPEB liability, net OPEB liability (NOL), and sensitivity information are based on an actuarial valuation date of June 30, 2023. The total OPEB liability was rolled forward from the valuation date to the plan's fiscal year ended June 30, 2024, using generally accepted actuarial principles.

Assumptions

Based on the June 30, 2022, actuarial valuation report, the actuarial methods and assumptions used to calculate these contribution rates are:

- Investment Return - 6.25%
- Inflation - 2.30%
- Salary Increases - 3.30% to 10.30% for CERS Nonhazardous, 3.55% to 19.05% for CERS Hazardous
- Payroll Growth - 2.00%
- Mortality - System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019.
- Healthcare Trend Rates
  - Pre-65 - Initial trend starting at 6.20% on January 1, 2024, gradually decreasing to an ultimate trend rate of 4.05% over a period of 12 years. The 2023 premiums were known at the time of the valuation and were incorporated into the liability measurement.
  - Post-65 – Initial trend starting at 9.00% on January 1, 2024, and gradually decreasing to an ultimate trend rate of 4.05% over a period of 12 years. The 2023 premiums were known at the time of the valuation and were incorporated into the liability measurement.

The discount rate used to calculate the total OPEB liability increased from 5.93% to 5.99% for the nonhazardous plan and from 5.97% to 6.02% for the hazardous plan (see further discussion on the calculation of the single discount rate later in this document). The assumed increase in future health care costs, or trend assumption, was reviewed during the June 30, 2023, valuation process and was updated to better reflect the plan's anticipated long-term healthcare cost increases. In general, the updated assumption is assuming higher future increases in pre-Medicare healthcare costs.

The Total OPEB Liability as of June 30, 2024, is determined using these updated assumptions. It is GRS' opinion that these procedures for determining the information contained in these reports are reasonable, appropriate, and comply with applicable requirements under GASB 74.

Plan Provisions

There have been no plan provision changes that would materially impact the total OPEB liability since June 30, 2023.

Implicit Employer Subsidy for non-Medicare retirees

The fully-insured premiums paid for the Kentucky Employees' Health Plan 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 No. 74 requires that the liability associated with this implicit subsidy be included in the calculation of the Total OPEB Liability.

Discount Rates

The following single discount rates were used to measure the total OPEB liability for the fiscal year ending June 30, 2024,and June 30, 2023.

PLAN	FISCAL YEAR 2024	FISCAL YEAR 2023	CHANGE IN RATE
CERS Nonhazardous	5.99%	5.93%	0.06%
CERS Hazardous	6.02%	5.97%	0.05%

Single discount rates of 5.99% for the non-hazardous plan and 6.02% for the hazardous plan were used to measure the total OPEB liability for the fiscal year ending June 30, 2024. They are based on the expected rate of return on OPEB plan investments of 6.50% and a municipal bond rate of 3.97%, as reported in Fidelity Index's "20-Year Municipal GO AA Index" as of June 30, 2024.

Based on the stated assumptions and the projection of cash flows as of each fiscal year ending, the plan's fiduciary net position and future contributions were projected to be sufficient to finance the future benefit payments of the current plan members. Therefore, the long-term expected rate of return on insurance plan investments was applied to all periods of the projected benefit payments paid from the retirement system. However, the cost associated with the implicit employer subsidy is not currently being included in the calculation of the plan's actuarial determined contributions, and it is our understanding that any cost associated with the implicit subsidy will not be paid out of the plan's trust. Therefore, the municipal bond rate was applied to future expected benefit payments associated with the implicit subsidy.

The projection of cash flows used to determine the single discount rate must include an assumption regarding actual employer contributions made each future year. Future contributions are projected assuming that the entire actuarially determined employer contribution is received by each plan each future year, calculated in accordance with the current funding policy.

Additional health care contributions (IRC 401(h) Subaccount)

Based on guidance issued by GASB in connection with GASB Statement No. 74, the 1% of pay member contributions for Tier 2 and Tier 3 members to a 401(h) subaccount is considered an OPEB asset. As a result, the reported fiduciary net position includes these 401(h) assets. Additionally, these member contributions and associated investment income and administrative expenses are included in the reconciliation of the fiduciary net position.

Additional Disclosures[1]

This report is based upon information furnished to us by KPPA, which includes benefit provisions, membership information, and financial data. GRS did not audit this data and information, but we did apply a number of tests and concluded that it was reasonable and consistent. GRS is not responsible for the accuracy or completeness of the information provided by KPPA. Please see the "Actuarial Valuation Report as of June 30, 2023," for additional discussion of the nature of the actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions. These reports should be considered together as a complete report for the fiscal year ending June 30, 2024.

1 Note: Data and information regarding GASB 67 and GASB 74 reporting was provided by GRS Retirement Consulting.

Target Asset Allocation

The long-term (10-year) expected rates of return were determined by using a building block method in which best estimated ranges of expected future real rates of return were developed for each asset class. The ranges were combined by weighting the expected future real rate of return by the target asset allocation percentage. The target allocation and best estimates of arithmetic real rate of return for each major asset class are summarized in the tables on the following page.

Target Asset Allocation - CERS Pension and Insurance
As of June 30, 2024

Allocations apply to CERS Pension and Insurance Funds

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Equity		
Public Equity	50.00%	4.15%
Private Equity	10.00%	9.10%
Fixed Income		
Core Fixed Income	10.00%	2.85%
Specialty Credit	10.00%	3.82%
Cash	0.00%	1.70%
Inflation Protected		
Real Estate	7.00%	4.90%
Real Return	13.00%	5.35%
Total	**100.00%**	

Sensitivity of the NPL to Changes in the Discount Rate Fiscal Year 2024 As of June 30, 2024 ($ in Thousands)		
	CERS Nonhazardous	CERS Hazardous
	Current 6.50%	Current 6.50%
1% Decrease	$7,709,743	$3,311,189
Current Discount Rate	5,980,423	2,572,006
1% Increase	$4,545,544	$1,968,503

Sensitivity of the Net OPEB Liability to Changes in the Discount Rate and Healthcare Trend Rate As of June 30, 2024 ($ in Thousands)		
	CERS Nonhazardous	CERS Hazardous
	Single 5.99%	Single 6.02%
Sensitivity of the Net OPEB Liability to Changes in the Discount Rate		
1% Decrease	$233,889	$335,224
Single Discount Rate	(172,980)	121,303
1% Increase	$(515,076)	$(57,470)
Sensitivity of the Net OPEB Liability to Changes in the Current Healthcare Cost Trend Rate		
1% Decrease	$(416,169)	$(18,804)
Current Healthcare Cost Trend Rate	$(172,980)	121,303
1% Increase	$110,318	$285,057

Development of Single Discount Rate for OPEB As of June 30, 2024		
	CERS Nonhazardous	CERS Hazardous
Single Discount Rate	5.99%	6.02%
Long-Term Expected Rate of Return	6.50%	6.50%
Long-Term Municipal Bond Rate [1]	3.97%	3.97%

Note: 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, 2024.

Schedule of Employers' NPL - CERS Nonhazardous
As of June 30, 2024 ($ in Thousands)

Total Pension Liability (TPL)	$15,576,667
Plan Fiduciary Net Position	9,596,244
Net Pension Liability	$5,980,423
Ratio of Plan Fiduciary Net Position to TPL	61.61%
Covered Payroll (1)	$3,259,999
Net Pension Liability as a Percentage of Covered Payroll	183.45%

(1) Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.

Schedule of Employers' NPL - CERS Hazardous
As of June 30, 2024 ($ in Thousands)

Total Pension Liability (TPL)	$5,988,903
Plan Fiduciary Net Position	3,416,897
Net Pension Liability	$2,572,006
Ratio of Plan Fiduciary Net Position to TPL	57.05%
Covered Payroll (1)	$775,638
Net Pension Liability as a Percentage of Covered Payroll	331.60%

(1) Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.

Schedule of the Employers' Net OPEB Liability - CERS Nonhazardous
As of June 30, 2024 ($ in Thousands)

Year	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability/(Asset)	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	Covered Payroll (1)	Net OPEB Liability as a Percentage of Covered Payroll
2024	$3,534,297	$3,707,277	$(172,980)	104.89%	$3,259,999	(5.31)%

(1) Based on derived compensation using the provided employer contribution information. For 2024, derived compensation based on pension contribution information, as there were no required employer contributions for the insurance fund for FYE 2024.

Schedule of the Employers' Net OPEB Liability - CERS Hazardous
As of June 30, 2024 ($ in Thousands)

Year	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability/(Asset)	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	Covered Payroll (1)	Net OPEB Liability as a Percentage of Covered Payroll
2024	$1,873,669	$1,752,366	$121,303	93.53%	$796,792	15.22%

(1) Based on derived compensation using the provided employer contribution information.

Note J. Legislation

2024 Regular Session

The 2024 Regular Session of the Kentucky General Assembly adjourned on Monday, April 15, 2024. Highlights of the 2024 Session include the following:

BILLS OF DIRECT INTEREST TO CERS MEMBERS AND RETIREES

House Bill 99: The KPPA Housekeeping bill

House Bill 99 amends various sections of KRS Chapters 16, 61, and 78 to make technical and housekeeping changes relating to KPPA's administration of the systems, including renaming the position of internal auditor to Chief Auditor, providing that the death benefit of $5,000 is payable to a beneficiary of the member, not the member, and is not subject to garnishment, unless the beneficiary is the member's estate or there is an overpayment of benefits or outstanding balance owed to the system, and other technical changes. "Housekeeping bill" is a slang term for typically noncontroversial legislation that "cleans up" statutes by clarifying their language or otherwise updating their content to align with changes in relevant federal or state law.

House Bill 277: Transfer Louisville Metro Public Defender employees to KERS

House Bill 277 transfers employees of the Louisville and Jefferson County Public Defender Corporation to the Department of Public Advocacy in the state personnel system, effective July 1, 2024. This transfer will provide employment and retirement benefits to Corporation employees based on their service with the Corporation.

House Bill 354: Retiree health insurance reimbursements for school district employees

House Bill 354 requires that health insurance reimbursements for retirees who participated in a hazardous position prior to July 1, 2003, and are reemployed by a local school board be paid by the Department of Education instead of the local school board. House Bill 635 (Rep. David Meade) implements additional reporting requirements for actuarial analyses and expands the required supporting documentation and explanations of findings for fiscal and corrections impact statements.

House Bill 635: Actuarial analysis assumptions and methods

House Bill 635 implements additional reporting requirements for actuarial analyses and expands the required supporting documentation and explanations of findings for fiscal and corrections impact statements.

Note K. Litigation

Mayberry

In December 2017, certain members and beneficiaries of the Kentucky Retirement Systems filed litigation (Mayberry et al v. KKR et al) against certain Hedge Fund Sellers, Investment, Actuarial and Fiduciary Advisors, Annual Report Certifiers, and certain (past and present) Kentucky Retirement Systems' Trustees and Officers in Franklin Circuit Court. The litigation alleges (in summary) that actuarial assumptions, fees, statements and disclosures harmed the financial status of the Retirement Systems. While Kentucky Retirement Systems is designated a "Defendant," that designation is a technical formality in so much as Kentucky Retirement Systems is a "nominal defendant." On April 20, 2018, the Kentucky Retirement Systems and the plaintiffs filed a joint notice with the Court advising that Kentucky Retirement Systems does not intend to challenge its status as a "nominal defendant." Since then, the Franklin Circuit Court ruled on various Defendants' Motions to Dismiss, denying nearly all of them. On January 10, 2019, KKR, Henry Kravis and George Roberts (collectively, "KKR Parties") amended their Answer to assert cross claims against Kentucky Retirement Systems. Certain Officer and Trustee Defendants appealed the denial of their Motion to Dismiss on immunity grounds to the Court of Appeals, and that appeal was transferred to the Kentucky Supreme Court. The hedge fund defendants filed a Petition for Writ of Prohibition in the Court of Appeals, arguing the Plaintiffs lacked standing to bring the action. That Petition was granted on April 23, 2019. Plaintiffs promptly appealed the Court of Appeals' decision to the Supreme Court of Kentucky. On July 9, 2020, the Supreme Court of Kentucky issued an Opinion stating that the plaintiffs, as beneficiaries of a defined-benefit plan who have received all of their vested benefits so far and are legally entitled to receive their benefits for the rest of their lives, do not have a concrete stake in this case and therefore lack standing to bring this claim. The case was remanded to the circuit court with directions to dismiss the complaint. Thereafter, plaintiffs filed a motion seeking to amend their complaint to add parties (Tier 3 members of the Retirement Systems) and claims that would purportedly correct the standing defect identified by the Supreme Court of Kentucky. Furthermore, the Attorney General of the Commonwealth of Kentucky sought leave to intervene in this action through a motion filed July 20, 2020, and an Intervening Complaint on July 22, 2020. The Defendants filed motions seeking to have the case dismissed. On December 28, 2020, Franklin Circuit Court issued an Order dismissing the Complaint filed by the Plaintiffs, denied Plaintiffs' Motion to file a Second Amended Complaint, and granted the Office of the Attorney General's Motion to Intervene. A variety of additional motions and pleadings were filed, including an original action by the Tier 3 Group. This original action is still in the initial stages and is pending with Franklin Circuit Court. (Tia Taylor, et al. v KKR & Co. L.P., et al.) On January 12, 2021, Franklin Circuit Court issued a scheduling Order granting the Attorney General until February 1, 2021 to file an Amended Intervening Complaint, granting the Tier 3 Group until February 11, 2021 to file a Motion to Intervene in this action. Additional extension orders were granted for the Attorney General intervention. The Attorney General filed an Amended Complaint on May 24, 2021. On June 14, 2021, the Tier 3 Group's Motion to Intervene in the Attorney General action was denied. In the spring of 2022, Franklin Circuit Judge Phillip Shepherd recused and this matter was assigned to Judge Thomas Wingate.

Following the Attorney General's intervention, the Defendants challenged the intervention as beyond the scope of the remand from the Supreme Court in July of 2020. Franklin Circuit Court denied that motion and the matter was on appeal when this case was assigned to Judge Thomas Wingate. Judge Wingate placed the matter in abeyance pending a decision on whether the Attorney General's intervention was proper. The Court of Appeals held that the Attorney General should not have been allowed to intervene and the Attorney General is currently seeking Discretionary Review by the Supreme Court.

Simultaneously with his intervention, the Attorney General filed a separate, stand-alone case with an identical complaint to protect against the possibility that his intervention would be deemed improper. The Defendants filed motions to dismiss the Attorney General's stand-alone case based on various legal theories. Franklin Circuit Court denied the majority of these motions but granted the motions to dismiss on behalf of R.V. Kuhns and Cavanaugh Macdonald, KRS' actuary and investment consultant during the relevant timeframe. This case is still proceeding.

A number of related cases have also developed based on issues raised in the above referenced Mayberry action. There has been an action filed by a number of the Trustees and Officers named in Mayberry seeking reimbursement by Kentucky Retirement Systems of legal fees. Kentucky Retirement Systems has also filed an action against Hallmark Specialty Insurance seeking a declaratory judgment that Hallmark has a duty to defend and indemnify Kentucky Retirement Systems in the Mayberry action. Two of the hedge fund Defendants in the Mayberry action have also filed an action in the United States District Court for the Eastern District of Kentucky naming individual members of the former KRS Board of Trustees as Defendants. This action is seeking a judgment declaring that the Trustees violated Plaintiffs' right to due process as well as an award of costs and attorneys' fees. Three actions have also been filed in Delaware regarding the Mayberry action. One filed by Prisma Capital Partners and one filed by Blackstone Alternative Asset Management alleged breaches of warranties, representations and more relating to the Subscription Agreements signed by the Kentucky Retirement Systems. The third was filed by Prisma Capital Partners against the Daniel Boone Fund, LLC. Additionally, an action has been filed by PAAMCO against Kentucky

Retirement Systems in California also alleging breaches of warranties, representations and more relating to the Subscription Agreements signed by the Kentucky Retirement Systems. Finally, on August 2, 2021, Blackstone Alternative Asset Management, L.P. (BAAM) filed an action against the Kentucky Public Pensions Authority, the Board of Trustees of the Kentucky Retirement Systems, the Board of Trustees of the County Employees Retirement System, the Kentucky Retirement Systems Insurance Fund, and the Kentucky Retirement Systems Pension Fund (collectively "Defendants") for breach of contract. The Defendants filed a Motion to Dismiss on September 8, 2021. The last of these additional actions, the suit filed by BAAM, was dismissed by Franklin Circuit Court. The Court of Appeals upheld the dismissal, and BAAM is seeking Discretionary Review by the Supreme Court. The rest of these cases remain active in various stages of litigation.

Bayhills

In 2018, Kentucky Retirement Systems sued Bayhills for breach of contract seeking to terminate Bayhills as investment managers. Kentucky Retirement Systems filed the suit in Franklin Circuit Court, but Bayhills removed it to federal district court. Kentucky Retirement Systems successfully had the case remanded back to state court. The case is now pending before Franklin Circuit Court. The Court entered an injunction preventing Bayhills from paying themselves management and other fees during the litigation. Bayhills has appealed this ruling to the Court of Appeals. The Court of Appeals and the Kentucky Supreme Court denied Bayhills their requested relief on appeal. Litigation is still ongoing.

Kentucky State Lodge & Linda Cook

In January and February 2022, two complaints were filed on behalf of specific named plaintiffs and others similarly situated based on the same facts that gave rise to the former River City Fraternal Order of Police (FOP) complaint. KPPA was aware that the River City FOP case impacted more individuals than the named plaintiffs and had been working on legislative and regulatory solutions. Legislation passed by the 2022 General Assembly allows individuals negatively impacted by the Medicare Secondary Payer Act to receive their health insurance through the Kentucky Employees Health Plan, and KPPA has promulgated a regulation to reimburse those individuals who had to pay for health insurance consistent with the Sixth Circuit Opinion. The two lawsuits from January and February are currently in the discovery phase concerning class certification. In addition to the MSPA issue, the two new suits allege that requiring Medicare eligible members to pay for Medicare Part B violates their right to "free" health insurance under their inviolable contract.

Franklin Circuit Court denied class certification for the purpose of monetary damages but granted for declaratory or injunctive relief. Both parties appealed various portions of the Circuit Court order. After filing the appeal, the plaintiffs filed a Motion to Alter, Amend, or Vacate with the Circuit Court. The Court of Appeals placed the appeals in abeyance pending the resolution of that motion.

Note L. Reciprocity Agreement

In accordance with Kentucky Revised Statutes 78.5536, CERS has reciprocity agreements with Teachers' Retirement System of Kentucky (TRS), and Judicial Form Retirement System (JFRS) for the payment of insurance benefits for those members who have creditable service in CERS, and TRS and/or JFRS systems.

Note M. Reimbursement of Retired Re-Employed Health Insurance, Active Member Health Insurance Contributions, and Retired Re-Employed Employer Contributions

Reimbursement of Retired Re-Employed Health Insurance

If a retiree is re-employed in a regular full-time position and has chosen health insurance coverage through CERS, the employer is required to reimburse CERS for the health insurance premium paid on the retiree's behalf, not to exceed the cost of the single premium rate. Exceptions for retired members who re-employ as a police officer, sheriff or school resource officer exist which may exempt employers from paying employer contributions and health insurance reimbursements if certain requirements are met. For the fiscal year ended June 30, 2024, the reimbursement totaled $9.5 million.

Active Member Health Insurance Contributions

For new plan participants after August 31, 2008, an active member contribution of 1% in addition to the member pension contribution is required. This 1% is applicable to all Nonhazardous and Hazardous funds, and reported in the Insurance Fund. For the fiscal year ended June 30, 2024, members paid into the Insurance Fund $25.6 million.

Retired Re-Employed Employer Contributions

Employers are required to report employer contributions on retired members who are employed in a regular full-time position. These members are referred to as retired re-employed members. These are reported within the employer contributions on the financial statements. Please see the chart below for the breakdown.

Retired Reemployed Healthcare Contributions As of June 30, 2024 ($ in Thousands)	CERS Nonhazardous	CERS Hazardous	Total
Amount	$7,378	$2,088	$9,466

Member Health Insurance Contributions As of June 30, 2024 ($ in Thousands)	CERS Nonhazardous	CERS Hazardous	Total
Amount	$20,650	$4,979	$25,629

Note N. Prisma Daniel Boone Fund

The funds invested with Prisma Daniel Boone Fund continue to be held in a contingency reserve to cover potential obligations arising from the Mayberry Action (see Note K for details of Mayberry Case). The total reported in reserve as of June 30, 2024, is $77.1 million for the Pension Plans and $29.9 million for the Insurance Plans. This is based on the May 31, 2024, report because Real Return managers are reported on a one month lag.

Note O. Subsequent Events

Management has evaluated the period June 30, 2024, to December 5, 2024, (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

CERS DRAFT RAN 11-13-2024

Schedule of Employers' NPL - CERS Nonhazardous Pension
As of June 30 ($ in Thousands)

Year	Total Pension Liability (TPL)	Plan Fiduciary Net Position	Net Pension Liability	Ratio of Plan Fiduciary Net Position to TPL	Covered Payroll [1]	Net Pension Liability as a Percentage of Covered Payroll
2024	$15,576,667	$9,596,244	$5,980,423	61.61%	$3,259,999	183.45%
2023	15,089,106	8,672,597	6,416,509	57.48%	2,966,567	216.29%
2022	15,192,599	7,963,586	7,229,013	52.42%	2,835,173	254.98%
2021	14,941,437	8,565,652	6,375,785	57.33%	2,446,612	260.60%
2020	14,697,244	7,027,327	7,669,917	47.81%	2,462,752	311.44%
2019	14,192,966	7,159,921	7,033,045	50.45%	2,424,796	290.05%
2018	13,109,268	7,018,963	6,090,305	53.54%	2,454,927	248.08%
2017	12,540,545	6,687,237	5,853,308	53.32%	2,376,290	246.32%
2016	11,065,013	6,141,395	4,923,618	55.50%	2,417,187	203.69%
2015	$10,740,325	$6,440,800	$4,299,525	59.97%	$2,296,716	187.20%

[1] Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.

Schedule of Employers' NPL - CERS Hazardous Pension
As of June 30 ($ in Thousands)

Year	Total Pension Liability (TPL)	Plan Fiduciary Net Position	Net Pension Liability	Ratio of Plan Fiduciary Net Position to TPL	Covered Payroll[1]	Net Pension Liability as a Percentage of Covered Payroll
2024	$5,988,903	$3,416,897	$2,572,006	57.05%	$775,638	331.60%
2023	5,731,148	3,035,192	2,695,956	52.96%	714,837	377.14%
2022	5,769,691	2,718,234	3,051,457	47.11%	666,346	457.94%
2021	5,576,567	2,914,408	2,662,159	52.26%	572,484	465.02%
2020	5,394,732	2,379,704	3,015,028	44.11%	559,551	538.83%
2019	5,176,003	2,413,708	2,762,295	46.63%	553,541	499.02%
2018	4,766,794	2,348,337	2,418,457	49.26%	562,853	429.68%
2017	4,455,275	2,217,996	2,237,279	49.78%	526,559	424.89%
2016	3,726,115	2,010,174	1,715,941	53.95%	526,334	326.02%
2015	$3,613,308	$2,078,202	$1,535,106	57.52%	$483,641	317.41%

[1] Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.

CERS DRAFT RAN 11-13-2024

Schedule of Changes in Employers' TPL - CERS Nonhazardous
As of June 30 ($ in Thousands)

Total Pension Liability (TPL)	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Service Cost	$283,140	$283,633	$272,250	$280,165	$280,092	$254,643	$254,169	$193,082	$209,101	$207,400
Interest	949,404	920,862	906,401	892,309	861,720	794,935	760,622	803,555	780,587	733,002
Benefit Changes	-	3,862	-	4,106	-	-	15,708	-	-	-
Difference between Expected and Actual Experience	220,798	511,721	(49,439)	(91,776)	173,345	87,377	279,401	(208,015)	-	49,966
Changes of Assumptions	-	(905,957)	-	-	-	727,351	-	1,388,800	-	606,293
Benefit Payments	(965,781)	(917,614)	(878,050)	(840,611)	(810,879)	(780,608)	(741,177)	(701,891)	(665,000)	(628,858)
Net Change in TPL	**487,561**	**(103,493)**	**251,162**	**244,193**	**504,278**	**1,083,698**	**568,723**	**1,475,532**	**324,687**	**967,803**
TPL – Beginning	**15,089,106**	**15,192,599**	**14,941,437**	**14,697,244**	**14,192,966**	**13,109,268**	**12,540,545**	**11,065,013**	**10,740,325**	**9,772,522**
TPL – Ending (a)	**$15,576,667**	**$15,089,106**	**$15,192,599**	**$14,941,437**	**$14,697,244**	**$14,192,966**	**$13,109,268**	**$12,540,545**	**$11,065,013**	**$10,740,325**
Plan Fiduciary Net Position [1]										
Contributions – Employer	$764,778	$697,681	$606,807	$472,228	$475,416	$393,453	$358,017	$333,554	$284,105	$298,565
Contributions – Member [2]	161,176	147,769	186,648	165,698	168,994	159,064	160,370	150,715	141,674	140,311
Refunds of Contributions	(25,267)	(23,263)	(19,789)	(13,862)	(14,918)	(14,387)	(14,608)	(14,430)	(13,753)	(13,523)
Retirement Benefit	(940,514)	(894,351)	(858,261)	(826,749)	(795,960)	(766,221)	(726,569)	(687,461)	(651,246)	(615,335)
Net Investment Income [2]	990,021	805,303	(494,801)	1,762,739	56,178	390,664	573,829	825,900	(40,800)	110,568
Administrative Expense	(26,547)	(24,128)	(22,670)	(21,729)	(22,304)	(21,659)	(19,592)	(19,609)	(19,385)	(18,212)
Other	-	-	-	-	-	44 [5]	361 [5]	(42,827) [4]	-	10,280
Net Change in Plan Fiduciary Net Position	**923,647**	**709,011**	**(602,066)**	**1,538,325**	**(132,594)**	**140,958**	**331,808**	**545,843**	**(299,405)**	**(87,346)**
Plan Fiduciary Net Position - Beginning	**8,672,597**	**7,963,586**	**8,565,652**	**7,027,327**	**7,159,921**	**7,018,963**	**6,687,237**	**6,141,395**	**6,440,800**	**6,528,146**
Prior Year Adjustment	**-**	**-**	**-**	**-**	**-**	**-**	**(82)**	**-**	**-**	**-**
Plan Fiduciary Net Position – Ending (b)	**9,596,244**	**8,672,597**	**7,963,586**	**8,565,652**	**7,027,327**	**7,159,921**	**7,018,963**	**6,687,237**	**6,141,395**	**6,440,800**
Net Pension Liability – Ending (a) – (b)	**$5,980,423**	**$6,416,509**	**$7,229,013**	**$6,375,785**	**$7,669,917**	**$7,033,045**	**$6,090,305**	**$5,853,308**	**$4,923,618**	**$4,299,525**
Plan Fiduciary Net Position as a Percentage	61.61%	57.48%	52.42%	57.33%	47.81%	50.45%	53.54%	53.32%	55.50%	59.97%
Covered Payroll [3]	$3,259,999	$2,966,567	$2,835,173	$2,446,612	$2,462,752	$2,424,796	$2,454,927	$2,376,290	$2,417,187	$2,296,716
Net Pension Liability as a Percentage of Covered Payroll	**183.45%**	**216.29%**	**254.98%**	**260.60%**	**311.44%**	**290.05%**	**248.08%**	**246.32%**	**203.69%**	**187.20%**

[1] Does not include 401(h) assets for fiscal years 2017 and later. Assets totaled $121,382,000 as of June 30, 2024.

[2] Does not include 401(h) contributions or associated investment income for fiscal years 2017 and later. For fiscal year 2024, 401(h) contributions equaled $(86,000); and associated investment return equaled $12,626,000.

[3] Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.

[4] Adjustment due to 401(h) plan asset balance being considered an OPEB asset under GASB 74 for fiscal years 2017 and later.

[5] Northern Trust Settlement.

CERS DRAFT RAN 11-13-2024

Schedule of Changes in Employers' TPL - CERS Hazardous
As of June 30 ($ in Thousands)

Total Pension Liability (TPL)	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Service Cost	$122,224	$115,389	$109,683	$109,350	$109,887	$77,426	$81,103	$58,343	$66,249	$71,934
Interest	361,081	350,413	338,799	327,963	314,762	289,741	270,694	270,860	262,886	247,008
Benefit Changes	-	-	-	333	-	-	2,172	-	-	-
Difference between Expected and Actual Experience	126,573	97,750	56,197	38,850	73,696	27,364	205,882	92,588	-	41,935
Changes of Assumptions	-	(275,934)	-	-	-	276,541	-	536,667	-	166,849
Benefit Payments	(352,123)	(326,161)	(311,555)	(294,661)	(279,616)	(261,863)	(248,332)	(229,299)	(216,327)	(203,244)
Net Change in TPL	**257,755**	**(38,543)**	**193,124**	**181,835**	**218,729**	**409,209**	**311,519**	**729,159**	**112,807**	**324,482**
TPL – Beginning	**5,731,148**	**5,769,691**	**5,576,567**	**5,394,732**	**5,176,003**	**4,766,794**	**4,455,275**	**3,726,115**	**3,613,308**	**3,288,826**
TPL – Ending (a)	**$5,988,903**	**$5,731,148**	**$5,769,691**	**$5,576,567**	**$5,394,732**	**$5,176,003**	**$4,766,794**	**$4,455,275**	**$3,726,115**	**$3,613,308**
Plan Fiduciary Net Position [1]										
Contributions – Employer	$321,293	$308,223	$222,028	$172,205	$168,443	$138,053	$127,660	$115,947	$105,713	$108,071
Contributions – Member [2]	61,438	56,987	69,565	62,367	63,236	58,661	61,089	60,101	52,972	47,692
Refunds of Contributions	(8,540)	(6,568)	(5,766)	(4,662)	(3,814)	(2,854)	(4,214)	(2,315)	(2,879)	(3,111)
Retirement Benefit	(343,583)	(319,593)	(305,789)	(289,999)	(275,802)	(259,009)	(244,118)	(226,984)	(213,448)	(200,134)
Net Investment Income [2]	353,435	280,033	(174,217)	596,641	15,914	132,232	191,324	270,473	(9,020)	37,104
Administrative Expense	(2,338)	(2,124)	(1,995)	(1,848)	(1,981)	(1,726)	(1,504)	(1,421)	(1,366)	(1,288)
Other	-	-	-	-	-	14 [5]	111 [5]	(7,979) [4]	-	2,865
Net Change in Plan Fiduciary Net Position	**381,705**	**316,958**	**(196,174)**	**534,704**	**(34,004)**	**65,371**	**130,348**	**207,822**	**(68,028)**	**(8,801)**
Plan Fiduciary Net Position – Beginning	**3,035,192**	**2,718,234**	**2,914,408**	**2,379,704**	**2,413,708**	**2,348,337**	**2,217,996**	**2,010,174**	**2,078,202**	**2,087,002**
Prior Year Adjustment	**-**	**-**	**-**	**-**	**-**	**-**	**(7)**	**-**	**-**	**-**
Plan Fiduciary Net Position – Ending (b)	**3,416,897**	**3,035,192**	**2,718,234**	**2,914,408**	**2,379,704**	**2,413,708**	**2,348,337**	**2,217,996**	**2,010,174**	**2,078,202**
Net Pension Liability – Ending (a) – (b)	**$2,572,006**	**$2,695,956**	**$3,051,457**	**$2,662,159**	**$3,015,028**	**$2,762,295**	**$2,418,457**	**$2,237,279**	**$1,715,941**	**$1,535,106**
Plan Fiduciary Net Position as a Percentage	57.05%	52.96%	47.11%	52.26%	44.11%	46.63%	49.26%	49.78%	53.95%	57.52%
Covered Payroll [3]	$775,638	$714,837	$666,346	$572,484	$559,551	$553,541	$562,853	$526,559	$526,334	$483,641
Net Pension Liability as a Percentage of Covered Payroll	**331.60%**	**377.14%**	**457.94%**	**465.02%**	**538.83%**	**499.02%**	**429.68%**	**424.89%**	**326.02%**	**317.41%**

[1] Does not include 401(h) assets for fiscal years 2017 and later. 401(h) assets totaled $22,963,000 as of June 30, 2024.

[2] Does not include 401(h) contributions or associated investment income for fiscal years 2017 and later. For fiscal year 2024, 401(h) contributions equaled $(59,000): and associated investment return equaled $2,417,000.

[3] Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.

[4] Adjustment due to 401(h) plan asset balance being considered an OPEB asset under GASB 74 for fiscal years 2017 and later.

[5] Northern Trust Settlement.

The actuarially determined contributions effective for fiscal year ending 2024 that are documented in the schedules on the following pages, were calculated as of June 30, 2022. Based on the June 30, 2022, actuarial valuation report, the actuarial methods and assumptions used to calculate these contribution rates are below:

Notes to Schedule of Employers' Contribution

Item	CERS Nonhazardous	CERS Hazardous
Determined by the Actuarial Valuation as of:	June 30, 2022	June 30, 2022
Actuarial Cost Method:	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
Amortization Method:	Level Percent of Pay	Level Percent of Pay
Amortization Period:	30-year closed period at June 30, 2019, Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases	30-year closed period at June 30, 2019, Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases
Payroll Growth	2.00%	2.00%
Investment Return:	6.25%	6.25%
Inflation:	2.30%	2.30%
Salary Increase:	3.30% to 10.30%, varies by service	3.55% to 19.05%, varies by service
Mortality:	System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019	System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019
Phase-In provision	Board certified rate is phased into the actuarially determined rate in accordance with HB 362 enacted in 2018.	Board certified rate is phased into the actuarially determined rate in accordance with HB 362 enacted in 2018.

Schedule of Employers' Contributions Pension - CERS Nonhazardous As of June 30 ($ in Thousands)

Fiscal Year Ending	Actuarially Determined Contribution [1]	Total Employer Contribution	Contribution Deficiency (Excess)	Covered Payroll [2]	Actual Contributions as a Percentage of Covered Payroll
2024	$764,747	$764,778	$(31)	$3,259,999	23.46%
2023	697,634	697,681	(47)	2,966,567	23.52%
2022	636,071	606,807	29,264	2,835,173	21.40%
2021	582,538	472,228	110,310	2,446,612	19.30%
2020	554,612	475,416	79,196	2,462,752	19.30%
2019	529,575	393,453	136,122	2,424,796	16.23%
2018	355,473	358,017	(2,544)	2,454,927	14.58%
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%

[1] Actuarially determined contribution for fiscal year ending 2024 is based on the contribution rate calculated with the June 30, 2022, actuarial valuation.

[2] Based on derived compensation using the provided employer contribution information for fiscal years 2017, and later.

Schedule of Employers' Contributions Pension - CERS Hazardous As of June 30 ($ in Thousands)

Fiscal Year Ending	Actuarially Determined Contribution [1]	Total Employer Contribution	Contribution Deficiency (Excess)	Covered Payroll [2]	Actual Contributions as a Percentage of Covered Payroll
2024	$321,224	$321,293	$(69)	$775,638	41.42%
2023	308,037	308,223	(186)	714,837	43.12%
2022	269,542	222,028	47,514	666,346	33.32%
2021	240,558	172,205	68,353	572,484	30.08%
2020	206,922	168,443	38,479	559,551	30.10%
2019	197,559	138,053	59,506	553,541	24.94%
2018	124,953	127,660	(2,707)	562,853	22.68%
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%

[1] Actuarially determined contribution for fiscal year ending 2024 is based on the contribution rate calculated with the June 30, 2022, actuarial valuation.

[2] Based on derived compensation using the provided employer contribution information for fiscal years 2017, and later.

Schedule of the Employers' Net OPEB Liability - CERS Nonhazardous
As of June 30 ($ in Thousands)

Year	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability/(Asset)	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	Covered Payroll [(1)]	Net OPEB Liability as a Percentage of Covered Payroll
2024	$3,534,297	$3,707,277	$(172,980)	104.89%	$3,259,999	(5.31)%
2023	3,260,308	3,398,375	(138,067)	104.23%	2,982,960	(4.63)%
2022	5,053,498	3,079,984	1,973,514	60.95%	2,843,218	69.41%
2021	5,161,251	3,246,801	1,914,450	62.91%	2,619,695	73.08%
2020	4,996,309	2,581,613	2,414,696	51.67%	2,620,585	92.14%
2019	4,251,466	2,569,511	1,681,955	60.44%	2,577,378	65.26%
2018	4,189,606	2,414,126	1,775,480	57.62%	2,570,156	69.08%
2017	$4,222,878	$2,212,536	$2,010,342	52.39%	$2,480,130	81.06%

[(1)] Based on derived compensation using the provided employer contribution information. For 2024, derived compensation based on pension contribution information, as there were no required employer contributions for the insurance fund for FYE2024.

This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of the Employers' Net OPEB Liability - CERS Hazardous
As of June 30 ($ in Thousands)

Year	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability/(Asset)	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	Covered Payroll [(1)]	Net OPEB Liability as a Percentage of Covered Payroll
2024	$1,873,669	$1,752,366	$121,303	93.53%	$796,792	15.22%
2023	1,771,015	1,634,192	136,823	92.27%	719,666	19.01%
2022	2,374,457	1,522,671	851,786	64.13%	668,667	127.39%
2021	2,436,383	1,627,824	808,559	66.81%	613,985	131.69%
2020	2,245,222	1,321,117	924,105	58.84%	596,001	155.05%
2019	2,080,574	1,340,714	739,860	64.44%	583,632	126.77%
2018	1,993,941	1,280,982	712,959	64.24%	588,526	121.14%
2017	$2,015,673	$1,189,001	$826,672	58.99%	$542,710	152.32%

[(1)] Based on derived compensation using the provided employer contribution information.

This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

CERS DRAFT RAN 11-13-2024

Schedule of Changes in Employers' Net OPEB Liability - CERS Nonhazardous
As of June 30 ($ in Thousands)

	2024	2023	2022	2021	2020	2019	2018	2017
Total OPEB Liability								
Service Cost	$96,276	$98,045	$138,225	$132,407	$131,289	$119,011	$122,244	$85,468
Interest on Total OPEB liability	188,558	283,330	263,390	262,128	236,126	240,352	242,048	240,854
Benefit Changes	-	5,153	74,108	3,359	-	-	4,306	-
Difference between Expected and Actual Experience	122,626	(2,134,260)	(68,111)	(340,831)	505,843	(404,301)	(240,568)	(6,641)
Assumption Changes	27,673	120,132	(323,247)	282,975	60,225	268,842	(4,876)	520,286
Benefit Payments [1] [2]	(161,144)	(165,590)	(192,118)	(175,096)	(188,640)	(162,044)	(156,426)	(140,120)
Net Change in Total OPEB Liability	**273,989**	**(1,793,190)**	**(107,753)**	**164,942**	**744,843**	**61,860**	**(33,272)**	**699,847**
Total OPEB Liability - Beginning	**3,260,308**	**5,053,498**	**5,161,251**	**4,996,309**	**4,251,466**	**4,189,606**	**4,222,878**	**3,523,031**
Total OPEB Liability - Ending (a)	**$3,534,297**	**$3,260,308**	**$5,053,498**	**$5,161,251**	**$4,996,309**	**$4,251,466**	**$4,189,606**	**$4,222,878**
Plan Fiduciary Net Position								
Contributions – Employer [2]	$57,187	$151,052	$187,204	$186,509	$179,521	$168,905	$145,809	$133,326
Contributions – Member	20,651	17,751	15,925	13,613	12,964	11,801	10,825	9,158
Benefit Payments [1] [2]	(161,144)	(165,590)	(192,118)	(175,096)	(188,640)	(162,044)	(156,426)	(140,120)
OPEB Plan Net Investment Income	393,138	316,115	(176,895)	641,084	9,160	137,591	202,068	264,782
OPEB Plan Administrative Expense	(930)	(937)	(933)	(922)	(903)	(877)	(761)	(789)
Other [4]	-	-	-	-	-	9	75	-
Net Change in Plan Fiduciary Net Position	**308,902**	**318,391**	**(166,817)**	**665,188**	**12,102**	**155,385**	**201,590**	**266,357**
Plan Fiduciary Net Position – Beginning	**3,398,375**	**3,079,984**	**3,246,801**	**2,581,613**	**2,569,511**	**2,414,126**	**2,212,536**	**1,946,179**
Plan Fiduciary Net Position – Ending (b)	**3,707,277**	**3,398,375**	**3,079,984**	**3,246,801**	**2,581,613**	**2,569,511**	**2,414,126**	**2,212,536**
Net OPEB Liability – Ending (a) – (b)	**$(172,980)**	**$(138,067)**	**$1,973,514**	**$1,914,450**	**$2,414,696**	**$1,681,955**	**$1,775,480**	**$2,010,342**
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	104.89%	104.23%	60.95%	62.91%	51.67%	60.44%	57.62%	52.39%
Covered Payroll [3]	$3,259,999	$2,982,960	$2,843,218	$2,619,695	$2,620,585	$2,577,378	$2,570,156	$2,480,130
Net OPEB Liability as a Percentage of Covered Payroll	**(5.31)%**	**(4.63)%**	**69.41%**	**73.08%**	**92.14%**	**65.26%**	**69.08%**	**81.06%**

(1) Benefit payments are offset by insurance premiums received from retirees, Medicare Drug Reimbursements, and Humana Gain Share Payments (in applicable years).

(2) Employer contributions and benefit payments include expected benefits due to the implicit subsidy for members under age 65, equal to $47,044,255 for fiscal year 2024.

(3) Based on derived compensation using the provided employer contribution information. For 2024, derived compensation based on pension contribution information, as there were no required employer contributions for the insurance fund for FYE2024

(4) Northern Trust Settlement.

This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of Changes in Employers' Net OPEB Liability - CERS Hazardous
As of June 30 ($ in Thousands)

	2024	2023	2022	2021	2020	2019	2018	2017
Total OPEB Liability								
Service Cost	$32,335	$36,330	$52,265	$48,413	$47,443	$32,623	$33,948	$20,493
Interest on Total OPEB liability	102,922	130,614	120,640	116,710	115,998	116,768	118,009	113,166
Benefit Changes	-	-	44,909	1,146	-	-	484	-
Difference between Expected and Actual Experience	32,646	(646,006)	(7,814)	(47,937)	38,156	(103,317)	(100,348)	(2,470)
Assumption Changes	28,802	(31,947)	(176,969)	159,106	46,925	116,618	(2,500)	391,061
Benefit Payments [1] [2]	(94,051)	(92,433)	(94,957)	(86,277)	(83,874)	(76,059)	(71,325)	(63,656)
Net Change in Total OPEB Liability	**102,654**	**(603,442)**	**(61,926)**	**191,161**	**164,648**	**86,633**	**(21,732)**	**458,594**
Total OPEB Liability - Beginning	**1,771,015**	**2,374,457**	**2,436,383**	**2,245,222**	**2,080,574**	**1,993,941**	**2,015,673**	**1,557,079**
Total OPEB Liability - Ending (a)	**$1,873,669**	**$1,771,015**	**$2,374,457**	**$2,436,383**	**$2,245,222**	**$2,080,574**	**$1,993,941**	**$2,015,673**
Plan Fiduciary Net Position								
Contributions – Employer [2]	$21,945	$49,547	$66,320	$63,509	$59,662	$60,445	$51,615	$44,325
Contributions – Member	4,979	4,258	3,654	3,098	2,762	2,458	2,173	1,708
Benefit Payments [1] [2]	(94,051)	(92,433)	(94,957)	(86,277)	(83,874)	(76,059)	(71,325)	(63,656)
OPEB Plan Net Investment Income	185,823	150,671	(79,668)	326,905	2,315	73,317	109,854	143,892
OPEB Plan Administrative Expense	(522)	(522)	(502)	(528)	(462)	(434)	(376)	(381)
Other [4]	-	-	-	-	-	5	40	-
Net Change in Plan Fiduciary Net Position	**118,174**	**111,521**	**(105,153)**	**306,707**	**(19,597)**	**59,732**	**91,981**	**125,888**
Plan Fiduciary Net Position – Beginning	**1,634,192**	**1,522,671**	**1,627,824**	**1,321,117**	**1,340,714**	**1,280,982**	**1,189,001**	**1,063,113**
Plan Fiduciary Net Position – Ending (b)	**1,752,366**	**1,634,192**	**1,522,671**	**1,627,824**	**1,321,117**	**1,340,714**	**1,280,982**	**1,189,001**
Net OPEB Liability – Ending (a) – (b)	**$121,303**	**$136,823**	**$851,786**	**$808,559**	**$924,105**	**$739,860**	**$712,959**	**$826,672**
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	93.53%	92.27%	64.13%	66.81%	58.84%	64.44%	64.24%	58.99%
Covered Payroll [3]	$796,792	$719,666	$668,667	$613,985	$596,001	$583,632	$588,526	$542,710
Net OPEB Liability as a Percentage of Covered Payroll	**15.22%**	**19.01%**	**127.39%**	**131.69%**	**155.05%**	**126.77%**	**121.14%**	**152.32%**

(1) Benefit payments are offset by insurance premiums received from retirees, Medicare Drug Reimbursements, and Humana Gain Share Payments (in applicable years).

(2) Employer contributions include expected benefits due to the implicit subsidy for members under age 65, equal to ($700,337) for fiscal year 2024.

(3) Based on derived compensation using the provided employer contribution information.

(4) Northern Trust Settlement.

This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

The actuarially determined contributions effective for fiscal year ending 2024 that are documented in the following schedules were calculated as of June 30, 2022. Based on the June 30, 2022, actuarial valuation report, the actuarial methods and assumptions used to calculate the required contributions follow.

Notes to Schedule of Employers' OPEB Contributions

Item	CERS Nonhazardous	CERS Hazardous
Determined by the Actuarial Valuation as of:	June 30, 2022	June 30, 2022
Actuarial Cost Method:	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.
Amortization Method:	Level Percent of Pay	Level Percent of Pay
Amortization Period:	30-year closed period at June 30, 2019 Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases.	30-year closed period at June 30, 2019 Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases.
Payroll Growth Rate:	2.00%	2.00%
Investment Return:	6.25%	6.25%
Inflation:	2.30%	2.30%
Salary Increase:	3.30% to 10.30%, varies by service.	3.55% to 19.05%, varies by service.
Mortality:	System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019.	System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019.
Healthcare Trend Rates:		
Pre-65	Initial trend starting at 6.20% at January 1, 2024 and gradually decreasing to an ultimate trend rate of 4.05% over a period of 12 years. The 2023 premiums were known at the time of the valuation and were incorporated into the liability measurement.	Initial trend starting at 6.20% at January 1, 2024 and gradually decreasing to an ultimate trend rate of 4.05% over a period of 12 years. The 2023 premiums were known at the time of the valuation and were incorporated into the liability measurement.
Post-65	Initial trend starting at 9.00% at January 1, 2024 and gradually decreasing to an ultimate trend rate of 4.05% over a period of 12 years. The 2023 premiums were known at the time of the valuation and were incorporated into the liability measurement.	Initial trend starting at 9.00% at January 1, 2024 and gradually decreasing to an ultimate trend rate of 4.05% over a period of 12 years. The 2023 premiums were known at the time of the valuation and were incorporated into the liability measurement.

Schedule of Employers' OPEB Contributions - CERS Nonhazardous
As of June 30 ($ in Thousands)

Fiscal Year Ending [1]	Actuarially Determined Contribution [2]	Total Employer Contribution [3]	Contribution Deficiency (Excess)	Covered Payroll [4]	Actual Contributions as a Percentage of Covered Payroll
2024	$-	$10,143	$(10,143)	$3,259,999	0.31%
2023	101,122	106,044	(4,922)	2,982,960	3.55%
2022	118,551	123,366	(4,815)	2,843,218	4.34%
2021	142,249	129,903	12,346	2,619,695	4.96%
2020	124,740	129,267	(4,527)	2,620,585	4.93%
2019	160,055	139,655	20,400	2,577,378	5.42%
2018	120,797	124,619	(3,822)	2,570,156	4.85%
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%

[1] Data for years prior to 2018 is based on contribution data provided in the 2017 ACFR, based on calculations provided by the prior actuary.

[2] Actuarially determined contribution for fiscal year ending 2024 is based on the contribution rate calculated with the June 30, 2022, actuarial valuation.

[3] Employer contributions do not include the expected implicit subsidy included in the Schedule of Changes in Employer's Net OPEB Liability - CERS Nonhazardous.

[4] Based on derived compensation using the provided employer contribution information. For 2024, derived compensation based on pension contribution, information as there were no required employer contributions for the insurance fund for FYE 2024.

Schedule of Employers' OPEB Contributions - CERS Hazardous
As of June 30 ($ in Thousands)

Fiscal Year Ending [1]	Actuarially Determined Contribution [2]	Total Employer Contribution [3]	Contribution Deficiency (Excess)	Covered Payroll [4]	Actual Contributions as a Percentage of Covered Payroll
2024	$20,557	$22,645	$(2,088)	$796,792	2.84%
2023	48,793	50,404	(1,611)	719,666	7.00%
2022	58,375	59,905	(1,530)	668,667	8.96%
2021	60,539	59,799	740	613,985	9.74%
2020	56,739	57,897	(1,158)	596,001	9.71%
2019	71,028	62,272	8,756	583,632	10.67%
2018	55,027	56,002	(975)	588,526	9.52%
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%

[1] Data for years prior to 2018 is based on contribution data provided in the 2017 ACFR, based on calculations provided by the prior actuary.

[2] Actuarially determined contribution for fiscal year ended 2024 is based on the contribution rate calculated with the June 30, 2022, actuarial valuation.

[3] Employer contributions do not include the expected implicit subsidy included in the Schedule of Changes in Employer's Net OPEB Liability - CERS Hazardous.

[4] Based on derived compensation using the provided employer contribution information.

Money-Weighted Rates of Return

In accordance with GASB 67 and GASB 74, CERS provides this additional disclosure regarding the money-weighted rate of return for the Pension and Insurance funds. The money-weighted rate of return is a method of calculating period-by-period returns on Pension Funds' and Insurance Fund's 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 Funds' and Insurance Fund's investments, net of Pension Funds' and Insurance Fund's investment expense, adjusted for the changing amounts actually invested.

See below for the money-weighted rates of return for multiple periods including fiscal year June 30, 2024, as calculated by the custodian bank, BNY Mellon:

Money - Weighted Rates of Return As of June 30

	Pension	
	CERS Nonhazardous	CERS Hazardous
Pension		
2024	11.59%	11.75%
2023	10.25%	10.35%
2022	(5.83)%	(6.02)%
2021	25.72%	25.58%
2020	0.84%	0.71%
2019	5.72%	5.76%
2018	8.82%	8.82%
2017	13.80%	13.72%
2016	(0.62)%	(0.46)%
2015	1.90%	1.95%

Note: This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

Additional Supporting Schedules

KPPA provides administrative support for the County Employees Retirement System as well as other Systems, and Kentucky Revised Statute 61.505 11(a) requires all expenses incurred by or on behalf of KPPA to be prorated, assigned, or allocated to each system. KPPA works closely with the boards of trustees of each system to develop an allocation method that takes into consideration membership, assets under management, system specific costs, and statutory requirements. Total KPPA administrative costs for the fiscal year ended June 30, 2024 were $47,297,000 and this schedule shows the allocation of $30,350,000 to CERS.

Schedule of Administrative Expenses
As of June 30 ($ in Thousands)

	2024
Salaries	$12,054
Benefits	11,065
Professional Services	2,193
Information Technology	2,132
Communications	509
Office & Equipment Rent	662
Travel/Conferences	77
Other Operating Expenses	193
Insurance Fund Administration	1,465
Total Administrative Expenses	**$30,350**

Pension Fund Schedule of Direct Investment Expenses
As of June 30, 2024 ($ in Thousands)

	Pension		Insurance	
	CERS Nonhazardous	CERS Hazardous	CERS Nonhazardous	CERS Hazardous
Security Lending Fees				
Securities Lending Fees, Expenses, and Rebates	$10,355	$3,718	$2,923	$1,317
Total Security Lending	**10,355**	**3,718**	**2,923**	**1,317**
Contractual Services				
Investment Management	60,335	20,408	22,399	11,632
Security Custody	913	323	504	243
Investment Consultant	562	197	212	103
Performance Fees	18,517	6,226	7,456	4,103
Total Contractual Services	**$80,327**	**$27,154**	**$30,571**	**$16,081**

Schedule of Professional Consultant Fees
As of June 30 ($ in Thousands)

	2024
Actuarial Services	$265
Medical Review Services	901
Audit Services	151
Legal Counsel	684
Human Resource Consulting	-
Miscellaneous	192
Total	**$2,193**

DATE

Board of Directors
County Employees Retirement System
Frankfort, Kentucky

We have audited the financial statements of County Employees Retirement System (CERS) for the year ended June 30, 2024. Professional standards require that we provide you with information about our responsibilities under generally accepted auditing standards and Government Auditing Standards, as well as certain information related to the planned scope and timing of our audit. We have communicated such information in our letter to you dated May 31, 2024. Professional standards also require that we communicate to you the following information related to our audit.

SIGNIFICANT AUDIT MATTERS

QUALITATIVE ASPECTS OF ACCOUNTING PRACTICES

Management is responsible for the selection and use of appropriate accounting policies. The significant accounting policies used by CERS are described in Note A to the financial statements. No new accounting policies were adopted and the application of existing policies was not changed during the year. We noted no transactions entered into by CERS during the year for which there is a lack of authoritative guidance or consensus. All significant transactions have been recognized in the financial statements in the proper period.

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected. The most sensitive estimates affecting the financial statements were:

- Management's estimates related to the fair value of its investments based on the net asset value (NAV) of units of the investee. The NAV, as provided by the investment manager, is used as a practical expedient. The NAV is based on the fair value of the underlying investments held by the investee less its liabilities. Due to the nature of the investments held by the investee, changes in market conditions and the economic environment may significantly impact the net asset value of the investee and, consequently, the fair value of CERS's interests in the investee. In performing our audit, we have considered the internal controls of CERS in selecting, monitoring, and valuing these investments. We have also confirmed the year end balances of alternative investments and have reviewed selected investments' underlying annual audited financial statements. We evaluated the key factors and assumptions used to develop NAV and believe that they are reasonable in relation to the financial statements taken as a whole.

- Management's disclosure of the net pension liability in Note I to the financial statements. The information presented therein was obtained from CERS's actuarial valuations and the methods and assumptions used in determining the amounts are disclosed in the footnote. We evaluated the key factors and assumptions used to develop the estimate in determining that it is reasonable in relation to the financial statements taken as a whole.
- Management's disclosure of the net OPEB liability of CERS in Note I the financial statements. The information presented therein was obtained from the CERS's actuarial valuations and the methods and assumptions used in determining the amounts are disclosed in the footnote. We evaluated the key factors and assumptions used to develop the estimate in determining that it is reasonable in relation to the financial statements taken as a whole.

The financial statement disclosures are neutral, consistent, and clear.

DIFFICULTIES ENCOUNTERED IN PERFORMING THE AUDIT

We encountered no significant difficulties in dealing with management in performing and completing our audit.

CORRECTED AND UNCORRECTED MISSTATEMENTS

Professional standards require us to accumulate all misstatements identified during the audit, other than those that are clearly trivial, and communicate them to the appropriate level of management. The below entry summarizes uncorrected misstatements of the financial statements. Management has determined that its effect is immaterial, both individually and in the aggregate, to the financial statements taken as a whole. This entry is a common uncorrected misstatement for entities that invest in alternative investments and represents a lag in reporting of the investment value as of June 30. The investment value reported by the custodian is reported as a few months prior to June 30 and thus a lag in valuation is created. The below entry represents the value of that lag for the current year to bring the investment value to June 30. Management has determined that their effect is immaterial, both individually and in the aggregate, to the financial statements taken as a whole.

Entry to adjust value of investments to June 30, 2024, net asset value:

DR. Net Depreciation in FV of Investments	$XXX	
CR. Investments		$XXX
CR. Fiduciary Net Position Restricted for Benefits		$XXX

DISAGREEMENTS WITH MANAGEMENT

For purposes of this letter, a disagreement with management is a disagreement on a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditor's report. We are pleased to report that no such disagreements arose during the course of our audit.

MANAGEMENT REPRESENTATIONS

We have requested certain representations from management that are included in the management representation letter dated as of the date of this letter.

MANAGEMENT CONSULTATIONS WITH OTHER INDEPENDENT ACCOUNTANTS

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a "second opinion" on certain situations. If a consultation involves application of an accounting principle to CERS's financial statements or a determination of the type of auditor's opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations.

OTHER AUDIT FINDINGS OR ISSUES

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, with management each year prior to retention as CERS's auditors. However, these discussions occurred in the normal course of our professional relationship and our responses were not a condition to our retention.

OTHER MATTERS

We applied certain limited procedures to the required supplementary information (RSI) that supplements the basic financial statements. Our procedures consisted of inquiries of management regarding the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We did not audit the RSI and do not express an opinion or provide any assurance on the RSI.

We were engaged to report on the additional supporting schedules of administrative expenses, direct investment expenses, and professional consultant fees which accompany the financial statements but are not RSI. With respect to this supplementary information, we made certain inquiries of management and evaluated the form, content, and methods of preparing the information to determine that the information complies with accounting principles generally accepted in the United States of America, the method of preparing it has not changed from the prior period, and the information is appropriate and complete in relation to our audit of the financial statements. We compared and reconciled the supplementary information to the underlying accounting records used to prepare the financial statements or to the financial statements themselves.

Board of Directors
County Employees Retirement System
DATE
Page 4 of 4

This information is intended solely for the use of management, the board of directors, and others within CERS and is not intended to be, and should not be, used by anyone other than these specified parties.

We appreciate this opportunity to be of service and extend our thanks to everyone at CERS for their cooperation and assistance. We would be pleased to discuss any of the above matters with you at your convenience.

Very truly yours,

Blue & Co., LLC

REPORT OF INDEPENDENT AUDITORS 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*

To the Members
County Employees Retirement System
Frankfort, Kentucky

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of County Employees Retirement System (CERS), as of and for the year ended June 30, 2024, and the related notes to the financial statements, which collectively comprise the CERS basic financial statements, and have issued our report thereon dated –DATE--.

Report on Internal Control Over Financial Reporting

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

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

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

Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether the CERS's 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 financial statements. 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

REPORT OF INDEPENDENT AUDITORS 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* (Continued)

results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

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 CERS's internal control or on compliance. This report is an integral part of an audit performed in accordance *with Government Auditing Standards* in considering CERS's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Blue & Co., LLC

Lexington, Kentucky
--DATE--

CERS

County Employees Retirement System (CERS)
A component unit and a pension trust fund of the Commonwealth of Kentucky.

Annual Comprehensive *Financial Report*

For the fiscal year ended *June 30* 2024

Prepared by Kentucky Public Pensions Authority's Division of Accounting.

Available online at kyret.ky.gov

Photo, front cover: Overview of Frankfort, KY, dry brush stylized.

TABLE OF CONTENTS

INTRODUCTION

FINANCIAL

REQUIRED SUPPLEMENTARY INFORMATION

TABLE OF CONTENTS

INVESTMENTS

ACTUARIAL

STATISTICAL

INTRODUCTION
TABLE OF CONTENTS

KENTUCKY PUBLIC PENSIONS AUTHORITY

Ryan Barrow, Executive Director

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

11.22.24 DRAFT

To our Members, Benefit Recipients, Employers and the Board of Trustees

December 5, 2024
On behalf of the Kentucky Public Pensions Authority (KPPA) we are honored to present the Annual Comprehensive Financial Report (ACFR) of the County Employees Retirement System (CERS), a component unit of the Commonwealth of Kentucky, for the Fiscal Year Ended (FYE) June 30, 2024.

Responsibility for the accuracy, completeness, and fairness of the information presented rests ultimately with KPPA management which, along with the Executive Director and staff, assist the KPPA Board in its responsibilities. Because the cost of internal control should not exceed anticipated benefits, KPPA relies on a comprehensive framework of internal controls to provide reasonable, rather than absolute, assurance that the financial statements are free of any material misstatements.

Blue & Co. LLC has issued an unmodified ("clean") opinion on the CERS financial statements for the FYE June 30, 2024. The Independent Auditors' report is located in the Financial Section of this report.

The Management's Discussion and Analysis (MD&A) is also located in the Financial Section of this report. The MD&A provides an analytical overview of the financial statements. MD&A complements this letter of transmittal and should be read in conjunction with it.

KPPA is the special-purpose government responsible for the day-to-day administration of the County Employees Retirement System (CERS) and the Kentucky Retirement Systems (KRS), comprising the Kentucky Employees Retirement System (KERS) and the State Police Retirement System (SPRS).

Prior to 2021 all three systems were governed by a single Board of Trustees. This Board, management, and staff were all referred to as the Kentucky Retirement Systems (KRS). Under this single Board of Trustees, KRS issued one ACFR, including all three systems and their related pension plans and the insurance trust plans.

Effective April 1, 2021, the KRS Board of Trustees was modified in statute to become three boards:

1. A new nine-member Board of Trustees to oversee CERS (the CERS Board).
2. A reconstituted nine-member Board of Trustees, retaining the KRS name, to oversee KERS and SPRS (the KRS Board).
3. A new eight-member Board to oversee the professional employees who provide administrative support, investment management, and conduct other activities on behalf of the CERS and KRS Boards. These employees are part of the Kentucky Public Pensions Authority (KPPA) and the board is referred to as the KPPA Board. The KPPA Board is composed of four CERS trustees and four KRS trustees, as defined by state statute.

For these past three fiscal years KPPA has continued to issue one ACFR including all three systems and their related pension and OPEB plans.

Beginning with FYE 2024, KPPA is producing separate ACFRs for CERS and KRS. Supported by research and recommendations from KPPA management, this aligns with guidance from the Government Accounting Standards Board (GASB) and authority under state law. After considering this information, the Boards of Trustees for CERS and KRS have chosen to present separate ACFRs.

KPPA will continue to produce a single Summary Annual Financial Report (SAFR) that provides an overview of information in the CERS and KRS ACFRs, as well as insights into the combined systems.

This approach aims to enhance transparency and reporting by providing information relevant to each system's members, the public and stakeholders. KPPA believes separating the financial reporting for CERS and KRS, while also providing a combined high-level summary best achieves that goal.

From the Desk of Ryan Barrow
KPPA Executive Director

KPPA Strategic Plan
The strategic planning process has entered an exciting new phase. Small groups of KPPA employees and management have begun meeting to discuss specific business areas, how those areas are working now, and how they could be enhanced.

In March 2023, KPPA selected Provaliant Retirement LLC to help develop the agency's first strategic plan since 2009. In June 2024, KPPA published a strategic plan summary that identified four key areas of focus: organizational excellence, customer service delivery, infrastructure and key resources, and governance. A summary of the plan is on our website, kyret.ky.gov.

Building on those four key focus areas, KPPA has established small committees examining specific business practices. To date, KPPA has committees addressing quality assurance, process documentation, member presentations and surveys. Each committee will work for several months to compare current practices with industry standards, make recommendations for enhancements and implement the approved changes.

The strategic planning and enhancement process are expected to be completed by 2028.

An Eye to the Future
By 2049, our actuarial target is to achieve a fully funded pension system, a crucial milestone that reflects our timeline to meeting the financial commitments. While we acknowledge that there is still much work ahead to reach this objective, we are making significant strides on our journey. Through diligent financial management and collaborative efforts among stakeholders, we are steadily improving our funding status. Each step we take brings us closer to ensuring the long-term stability and security of the pension system for current and future recipients.

Ratings Boost
Several factors directly influence credit ratings on state and local municipal debt, with the health of public pension systems being a significant consideration. This has improved in Kentucky in recent years due to the boards adopting actuarial assumptions that more accurately reflect the systems' conditions, a commitment on the part of employers to fully fund pension contributions, and strong investment returns.

All three major ratings agencies covering Kentucky, specifically Moody's, Standard & Poor's, and Fitch Ratings have taken note of the progress.

From the Desk of Ed Owens
CERS Chief Executive Officer

CERS this year made significant strides in improving its asset base, reducing its unfunded liability, and addressing unpaid invoices for employer contributions.

Pension investments returned 11.7% in FY 2024, net of fees, while insurance investments earned 11.8%. All four pension and insurance portfolios returned significantly more than their 6.5% actuarial assumed rate of return and also surpassed the median return of 10.5% reported by the Wilshire Trust Universe Comparison Service (TUCS) for public pension funds with more than $1 billion in assets. FY 2024 marked the second consecutive year that CERS pension and insurance portfolios achieved returns near or above 10%. This helped drive total assets in the plans overseen by the CERS Board of Trustees to a record $18.3 billion as of June 30, 2024.

A byproduct of asset growth is that the funded status for the CERS Nonhazardous pension plan improved to 58.4% from 56.1% the fiscal year prior. Similarly, the CERS Hazardous pension's funded status increased to 54.0% from 51.4%.

This improvement comes as CERS grows its member base. The number of employees participating in CERS increased by slightly more than 1,700 in FY 2024 to 92,401. Member contributions to CERS grew by 8.7% during the year, while employer contributions fell 4%.

CERS also made strides in FY 2024 toward past due employer contributions. A team of KPPA employees across various divisions, as well as legal staff, researched options for charging interest on delinquent employer contributions and past due invoices. Out of that work came several recommendations, including charging 7.5% interest on delinquent and past-due amounts and creating an administrative regulation that addresses charging interest.

Acknowledgments

The preparation of this report has been a collaborative effort of KPPA Executive Management and the Accounting Division, Communications Division, Office of Investments, and the CERS CEO. The contents have been reviewed by the Internal Audit Division. KPPA is responsible for all the information in the report and confidently presents it as a basis for understanding the stewardship of the system.

Respectfully submitted,

Ryan Barrow
KPPA Executive Director

M. Lamb

Michael B. Lamb, CPA
KPPA Chief Financial Officer

GOVERNANCE

As of December 5, 2024

The County Employees Retirement System (CERS) is governed by a nine member board of trustees consisting of three elected members and six gubernatorial appointees serving four-year terms. CERS has four representatives on the Kentucky Public Pensions Authority (KPPA) Board in addition to employing a Chief Executive Officer who serves as a legislative and executive advisor and a General Counsel who provides legal services.

CERS BOARD OF TRUSTEES

George Cheatham, Chair
J. Michael Foster, Vice Chair

General Counsel: Johnson Branco & Brennan, LLP
Three (3) Elected Trustees
Six (6) Appointed by Governor

LEADERSHIP:
Every April, the trustees elect a Chair and Vice Chair and affirm who will serve on the KPPA Board in compliance with state law.

KPPA Board Member

George Cheatham
Chair
Term ends March 31, 2025
Nominated by KSBA

J. Michael Foster
Vice Chair
Term ends July 1, 2021*
Nominated by KACo

Ed Owens III
Chief Executive Officer

CHIEF EXECUTIVE OFFICER (CEO):
The CEO works with the trustees and KPPA staff to carry out the statutory provisions of the system.

ELECTED BY MEMBERSHIP:
Every four years, three eligible CERS members are elected to serve on the Board of Trustees.

Dr. Patricia P. Carver
Term ends March 31, 2025
Elected by Membership

Betty Pendergrass
Term ends March 31, 2025
Elected by Membership

KPPA CHAIR

Jerry Wayne Powell
Term ends March 31, 2025
Elected by Membership

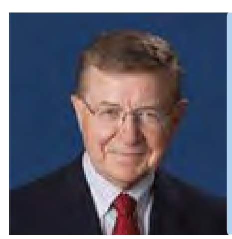
KPPA BOARD:
By law, the CERS Board Chair and Investment Committee Chair serve on this Board. The CERS Chair also appoints one elected trustee and one appointed trustee to the KPPA Board.

APPOINTED BY GOVERNOR:
The Governor selects appointees from lists of candidates provided by the:

- Kentucky Association of Counties (KACo),
- Kentucky League of Cities (KLC), and
- Kentucky School Boards Association (KSBA).

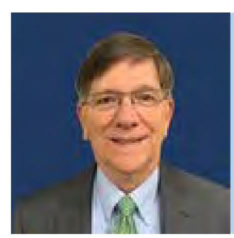
Dr. Martin Milkman
Term ends July 1, 2025
Nominated by KSBA

J.T. Fulkerson
Term ends July 1, 2021*
Nominated by KLC



KPPA Board Member

Dr. Merl Hackbart
Term ends March 31, 2025
Nominated by KACo



KPPA Board Member

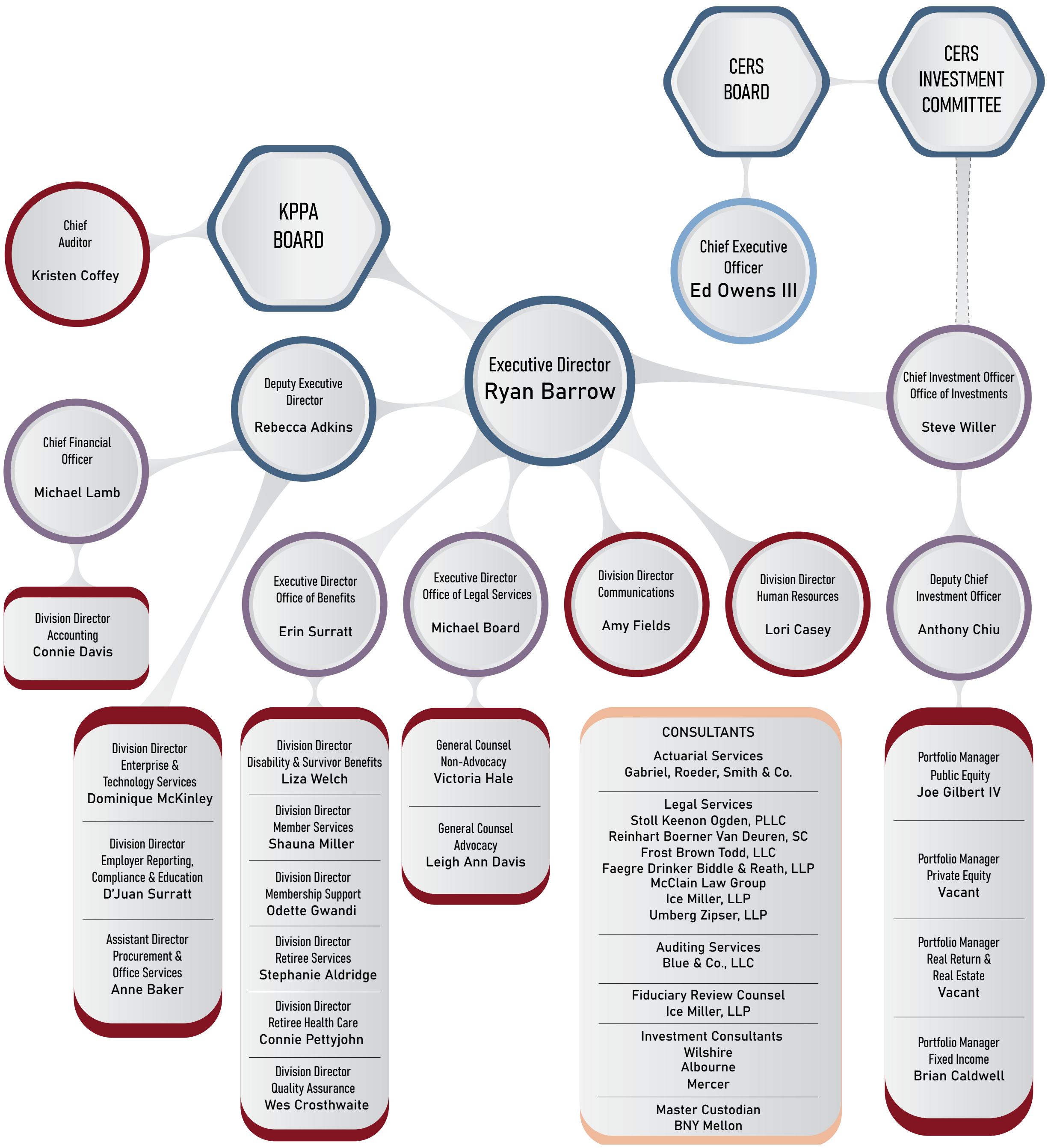
William O'Mara
Term ends March 31, 2025
Nominated by KLC

*Trustee continues to serve until the Governor makes an appointment to fill the trustee position.

AGENCY STRUCTURE

As of December 5, 2024

The Kentucky Public Pensions Authority (KPPA) oversees the operations of the County Employees Retirement System (CERS) by providing administrative support, investment management, and conducting daily activities on behalf of the CERS Board of Trustees and KPPA Board. KPPA is led by an Executive Director who is appointed by the KPPA Board to work with the CERS Chief Executive Officer to carry out the statutory provisions of the system.

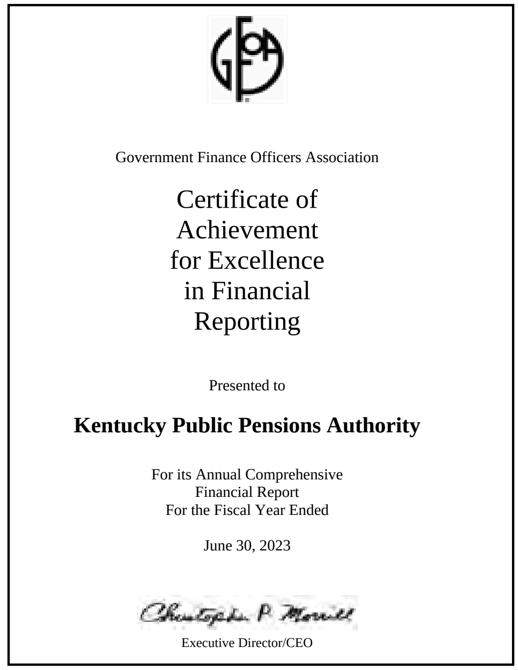


Refer to the Investments Section for additional information regarding Investment Advisors (pages 106-107) and Schedules of Fees and Expenses (pages 108-110).

Professional Awards

CERTIFICATE OF ACHIEVEMENT FOR EXCELLENCE IN FINANCIAL REPORTING

The Government Finance Officers Association (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Kentucky Public Pensions Authority* for its Annual Comprehensive Financial Report for the Fiscal Year ended June 30, 2023. 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 is the 25th award earned by Kentucky Public Pensions Authority (formerly the Kentucky Retirement Systems). 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 2024 report will continue to meet the Certificate of Achievement Program's requirements, and we will be submitting it to the GFOA for their consideration.



Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Kentucky Public Pensions Authority

For its Annual Comprehensive Financial Report For the Fiscal Year Ended

June 30, 2023

Christopher P. Morrill

Executive Director/CEO

PUBLIC PENSIONS STANDARDS AWARD FOR FUNDING AND ADMINISTRATION

The Public Pension Coordinating Council awarded the Public Pensions Standards Award for Funding and Administration to the County Employees Retirement System (CERS) for 2024. This is the second award earned by CERS.

The Public Pension Coordinating Council established the Public Pension Standards to reflect expectations for public retirement system management, administration, and funding. The Standards serve as a benchmark to measure public defined benefit plans. The Award for Funding and Administration is a distinguished national award recognizing pension programs meeting professional standards for plan design and administration as set forth in the Public Pension Standards. This award is valid for a period of one year. We believe CERS will continue to meet these standards, and we will be applying for the award next year.

PPC

Public Pension Coordinating Council

Public Pension Standards Award For Funding and Administration 2024

Presented to

County Employees Retirement System

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

Presented by the Public Pension Coordinating Council, a confederation of

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

Alan H. Winkle
Program Administrator

**Beginning with Fiscal Year 2024, two separate financial statement audits will be conducted for the County Employees Retirement System and Kentucky Retirement Systems. As a result, KPPA will issue two separate Annual Comprehensive Financial Reports on behalf of the respective Boards of Trustees. The GFOA Award is included in both ACFRs this Fiscal Year, however, the award will based on the individual reports prospectively.*

2024 Total Fiscal Year CERS Pension Benefits Paid by County (in whole $)								
County	Payees*	Total	County	Payees*	Total	County	Payees*	Total
Adair	355	$4,247,990	*Grant*	518	$8,166,391	*McLean*	228	$2,437,258
Allen	344	3,812,491	*Graves*	712	9,280,799	*Meade*	437	5,923,499
Anderson	536	7,110,736	*Grayson*	683	9,406,457	*Menifee*	137	1,188,222
Ballard	217	2,635,163	*Green*	261	2,474,792	*Mercer*	433	4,955,986
Barren	858	10,475,341	*Greenup*	578	6,806,412	*Metcalfe*	253	2,641,686
Bath	268	2,648,002	*Hancock*	203	2,531,805	*Monroe*	209	1,825,041
Bell	490	5,966,719	*Hardin*	1,893	27,400,532	*Montgomery*	518	6,426,003
Boone	1,795	35,849,974	*Harlan*	422	4,173,949	*Morgan*	299	3,057,456
Bourbon	431	5,665,755	*Harrison*	384	4,887,530	*Muhlenberg*	560	5,441,916
Boyd	894	12,644,970	*Hart*	281	3,115,739	*Nelson*	920	14,497,906
Boyle	533	7,047,238	*Henderson*	1,005	15,118,614	*Nicholas*	148	1,526,065
Bracken	173	1,942,005	*Henry*	438	6,457,214	*Ohio*	541	4,729,641
Breathitt	304	2,836,636	*Hickman*	65	856,414	*Oldham*	971	18,393,947
Breckinridge	395	4,850,964	*Hopkins*	923	11,275,713	*Owen*	252	3,381,219
Bullitt	1,582	28,300,972	*Jackson*	240	1,973,490	*Owsley*	146	1,515,342
Butler	245	2,878,486	*Jefferson*	13,375	277,482,971	*Pendleton*	312	4,535,929
Caldwell	316	3,205,923	*Jessamine*	837	12,217,811	*Perry*	592	5,403,369
Calloway	636	8,044,012	*Johnson*	400	4,453,318	*Pike*	1,006	10,518,941
Campbell	1,248	23,059,403	*Kenton*	2,036	41,221,891	*Powell*	274	2,834,095
Carlisle	90	977,859	*Knott*	294	2,529,270	*Pulaski*	1,320	14,900,581
Carroll	224	2,868,741	*Knox*	475	4,969,893	*Robertson*	51	692,981
Carter	554	5,016,387	*LaRue*	283	3,143,853	*Rockcastle*	268	2,394,989
Casey	280	2,359,691	*Laurel*	941	9,483,431	*Rowan*	478	5,429,138
Christian	992	14,957,963	*Lawrence*	279	2,305,370	*Russell*	429	4,753,508
Clark	662	10,023,770	*Lee*	157	1,502,789	*Scott*	942	13,814,305
Clay	410	3,788,008	*Leslie*	182	1,543,966	*Shelby*	844	14,590,731
Clinton	228	1,791,606	*Letcher*	472	4,784,098	*Simpson*	256	2,675,535
Crittenden	134	1,262,105	*Lewis*	272	3,010,424	*Spencer*	429	8,954,324
Cumberland	123	1,396,903	*Lincoln*	520	4,964,084	*Taylor*	557	5,996,174
Daviess	2,333	39,233,818	*Livingston*	186	2,139,505	*Todd*	210	2,292,896
Edmonson	190	2,433,860	*Logan*	543	5,968,242	*Trigg*	331	4,241,611
Elliott	110	895,931	*Lyon*	177	2,025,598	*Trimble*	163	1,974,647
Estill	308	2,930,264	*Madison*	1,498	18,792,076	*Union*	325	3,226,927
Fayette	3,320	51,653,671	*Magoffin*	263	2,301,047	*Warren*	2,033	30,563,654
Fleming	342	3,617,137	*Marion*	437	5,015,364	*Washington*	264	3,061,731
Floyd	592	6,426,252	*Marshall*	709	8,965,716	*Wayne*	384	3,734,714
Franklin	1,397	22,207,094	*Martin*	235	2,155,499	*Webster*	292	3,211,752
Fulton	148	1,451,094	*Mason*	328	4,397,162	*Whitley*	805	6,844,421
Gallatin	106	1,537,669	*McCracken*	1,240	19,626,846	*Wolfe*	214	1,695,524
Garrard	316	$3,405,985	*McCreary*	292	$2,202,100	*Woodford*	538	$8,043,603

Pension Benefits paid to retirees and beneficiaries of the County Employees Retirement System have a wide ranging impact on the state's economic health. In fiscal year 2024, CERS paid over $1.25 billion to its recipients. The majority, 92.92%, of these payments are issued to Kentucky residents. Each county in the Commonwealth receives at least $650,000 annually from CERS, providing a stabilizing element for all local economies.

Total Retirement Payments For the Period ending June 30, 2024 (in Whole $)			
	Payees	%	Payments
Kentucky	78,885	92.92%	1,158,914,030
Out of State	6,011	7.08%	91,386,863
Grand Total	**84,896**	**100.00%**	**$1,250,300,892**

**This table represents all payees receiving a monthly payment, retirement eligible refund, or actuarial refund during the fiscal year.*

Fiduciary Net Position Highlights

CERS - Fiduciary Net Position* ($ in Thousands)							
	CERS Nonhazardous			CERS Hazardous			CERS
Year	Pension	Insurance	Total	Pension	Insurance	Total	Total
2015	$6,440,800	$1,920,946	**$8,361,746**	$2,078,202	$1,056,480	**$3,134,682**	**$11,496,428**
2016	6,141,396	1,908,550	**8,049,946**	2,010,177	1,056,097	**3,066,274**	**11,116,220**
2017	6,739,142	2,160,553	**8,899,695**	2,227,679	1,179,313	**3,406,992**	**12,306,687**
2018	7,086,322	2,346,767	**9,433,089**	2,361,047	1,268,272	**3,629,319**	**13,062,408**
2019	7,242,975	2,486,458	**9,729,433**	2,429,613	1,324,809	**3,754,422**	**13,483,855**
2020	7,110,889	2,498,051	**9,608,940**	2,395,688	1,305,132	**3,700,820**	**13,309,760**
2021	8,670,667	3,141,786	**11,812,453**	2,934,421	1,607,811	**4,542,232**	**16,354,685**
2022	8,062,346	2,981,224	**11,043,570**	2,736,928	1,503,977	**4,240,905**	**15,284,475**
2023	8,781,440	3,289,533	**12,070,973**	3,055,797	1,613,586	**4,669,383**	**16,740,356**
2024	$9,717,626	$3,585,894	**$13,303,520**	$3,439,860	$1,729,403	**$5,169,263**	**$18,472,783**

**The Fiduciary Net Positions are the resources accumulated and held in trust to pay benefits*

FINANCIAL
TABLE OF CONTENTS

REPORT OF INDEPENDENT AUDITORS

To the Members
County Employees Retirement System
Frankfort, Kentucky

Report on the Audit of Financial Statements

Opinion

We have audited the accompanying financial statements of County Employees Retirement System (CERS), a component unit of the Commonwealth of Kentucky, as of and for the year ended June 30, 2024, and the related notes to the financial statements, which collectively comprise CERS's financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of CERS, as of June 30, 2024, and the changes in fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of CERS and to meet our other ethical responsibilities in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

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

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about CERS's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that

REPORT OF INDEPENDENT AUDITORS (Continued)

includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgement made by a reasonable user based on the financial statements.

In performing an audit in accordance with generally accepted auditing standards and *Government Auditing Standards*, we:

- Exercise professional judgement and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit 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 CERS's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgement, there are conditions or events, considered in the aggregate, that raise substantial doubt about CERS's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages XX through XX, and the defined benefit pension plan and other post-employment benefit plan supplemental schedules on pages XX through XX, be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic

REPORT OF INDEPENDENT AUDITORS (Continued)

financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming opinion on the financial statements that collectively comprise CERS's basic financial statements. The accompanying schedules of administrative expense, direct investment expenses, and professional consultant fees are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedules of administrative expense, direct investment expenses, and professional consultant fees are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

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

Other Reporting Required by *Government Auditing Standards*

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

Blue & Co., LLC

Lexington, Kentucky
DATE

Management's Discussion & Analysis (Unaudited)

INTRODUCTION

Management's Discussion and Analysis (MD&A) provides insight into the financial performance of CERS for the fiscal year ended June 30, 2024. It is meant to be read in the context of the accompanying Letter of Transmittal in the Introduction, the Basic Financial Statements and the Notes to those statements, the Required Supplementary Information (RSI), and additional material following this section. Together, this information provides a comprehensive picture of CERS' financial position.

CERS includes hazardous and nonhazardous defined benefit pension and OPEB (hospital and medical insurance benefits) plans for local government employees and nonteaching staff of local school boards and regional universities and is governed by the nine-member CERS board of Trustees (the CERS Board). Daily system activities, including investment management, benefits counseling, legal services, accounting, and payroll functions, are performed by a staff of professional employees of the Kentucky Public Pensions Authority (KPPA), which is the special-purpose government responsible for the administration of CERS.

FINANCIAL HIGHLIGHTS AND ANALYSIS

The following are the Condensed Comparative Statements of Fiduciary Net Position and Condensed Comparative Statements of Changes in Fiduciary Net Position of CERS for the fiscal years ended June 30, 2024, and 2023:

Condensed Summary of Fiduciary Net Position
As of June 30 ($ in Thousands)

	CERS TOTAL 2024	CERS TOTAL 2023	CHANGE	% CHANGE
ASSETS				
Cash, Short-term Investments, and Receivables	$765,872	$879,050	$(113,178)	(12.88)%
Investments, at fair value	18,308,660	16,337,102	1,971,558	12.07%
TOTAL ASSETS	**19,074,532**	**17,216,152**	**1,858,380**	**10.79%**
TOTAL LIABILITES	**601,749**	**475,796**	**125,953**	**26.47%**
FIDICUIARY NET POSITION	**$18,472,783**	**$16,740,356**	**$1,732,427**	**10.35%**

Management's Discussion & Analysis (Unaudited)

Condensed Summary of Changes in Fiduciary Net Position For the fiscal year ended June 30 ($ in Thousands)				
	CERS TOTAL 2024	CERS TOTAL 2023	CHANGE	% CHANGE
ADDITIONS				
Member Contributions	$248,354	$226,515	$21,839	9.64%
Employer Contributions	1,118,858	1,162,348	(43,490)	(3.74%)
Total Contributions	1,367,212	1,388,863	(21,651)	(1.56%)
Net Investment Income (Loss)	1,922,417	1,552,124	370,293	23.86%
Other Additions	12,082	6,865	5,217	75.99%
TOTAL ADDITIONS	**$3,301,711**	**$2,947,852**	**$353,859**	**12.00%**
DEDUCTIONS				
Benefits and Refunds	1,317,904	1,243,776	74,127	5.96%
Other Deductions	251,380	248,195	3,185	1.28%
TOTAL DEDUCTIONS	**$1,569,284**	**$1,491,971**	**$77,312**	**5.18%**
NET INCREASE (DECREASE)	**$1,732,427**	**$1,455,881**	**$276,546**	**19.00%**
FIDICUIARY NET POSITION				
Beginning of the Period	$16,740,356	$15,284,475	$1,455,881	9.53%
End of Period	$18,472,783	$16,740,356	$1,732,429	10.35%

Management's Discussion & Analysis (Unaudited)

Fiduciary Net Position

The Fiduciary Net Position of CERS was $16,740.4 million at the beginning of the fiscal year and increased by 10.35% to $18,472.8 million as of June 30, 2024. The $1,732.4 million increase is primarily attributable to the appreciation of the fair value of investments.

Contributions

Total contributions reported for fiscal year 2024 were $1,367.2 million compared to $1,388.9 million in fiscal year 2023, a decrease of 1.56% or $21.7 million. This decrease was driven by a reduction of the employer contribution rates, offset by an increase in covered payroll for both the nonhazardous and hazardous plans. The combined pension and insurance employer contribution rate for the nonhazardous plan decreased by 3.45%, and the combined rate for the hazardous plan decreased by 5.90%.

Investments

The CERS pension and insurance portfolios investment returns averaged 11.7% for the fiscal year ended June 30, 2024, compared to 10.3% for the fiscal year ended June 30, 2023. This was due to the Core Fixed Income, Specialty Credit, and Real Return portfolios significantly outpacing their benchmarks, and sizeable returns in the Public Equity portfolio. See investment results beginning on page 79 of the investment section.

The fair value of investments, as of June 30, 2024, were $18,309 million, an increase of $1,971 million from the prior year, and net investment income was $1,922 million for the current fiscal year, compared to $1,552 million for the prior fiscal year.

Investment returns are reported net of fees and investment expenses, including carried interest. Investment fees and expenses totaled $172 million for fiscal year 2024 compared to $133 million in the prior fiscal year.

($ in millions)	1-year return		Fair Value of Investments			Investment fees & expenses			Net Investment Income		
	2024	2023	2024	2023	change	2024	2023	change	2024	2023	change
PENSION											
CERS Nonhazardous	11.6%	10.2%	$9,640	$8,585	$1,055	$91	$71	$20	$1,003	$815	$188
CERS Hazardous	11.7%	10.3%	3,367	2,939	428	31	24	7	356	282	74
INSURANCE											
CERS Nonhazardous	11.8%	10.3%	3,574	3,208	366	33	25	8	380	306	74
CERS Hazardous	11.7%	10.1%	1,728	1,606	122	17	13	4	183	149	34
AVERAGE / TOTAL	11.7%	10.3%	$18,309	$16,338	$1,971	$172	$133	$39	$1,922	$1,552	$370

Asset allocation is the primary driver of long-term investment performance and is designed to achieve an optimal long-term asset mix. The investment policy statement (IPS) of the CERS Board has established the following asset allocation guidelines as of June 30, 2024. See also the investment overview beginning on page 76 of the investment section.

Management's Discussion & Analysis (Unaudited)

Asset Class	Target	Minimum	Maximum
Public Equity	50%	35%	65%
Private Equity	10%	7%	13%
Core Fixed Income	10%	8%	12%
Specialty Credit	10%	7%	13%
Cash	0%	0%	3%
Real Estate	7%	5%	9%
Real Return	13%	9%	17%
	100.00%		

Deductions

Benefits and refunds paid for fiscal year 2024 totaled $1,317.9 million compared to $1,243.8 million in fiscal year 2023, a 5.96% increase, due to the slight increase in retired membership of the system.

ACTUARIAL HIGHLIGHTS

The actuarial accrued liability (AAL) is the measure of the cost of benefits that have been earned to date, but not yet paid, and is calculated using the entry age normal cost method (EANC) as required by state statute. The difference in value between the AAL and the actuarial value of assets is defined as the unfunded actuarial accrued liability (UAAL).

The UAAL for CERS, from the June 30, 2024, actuarial valuation, is $8,699.2 million for fiscal year ended June 30, 2024, compared to $8,736.1 million for fiscal year ended June 30, 2023, a decrease of $36.9 million. The UAAL for the Pension Plans decreased by $197.8 due to in the increase in the fair value of the assets related to favorable market conditions, and an increase in covered payroll during fiscal year 2024. The UAAL for the Insurance Plans increased by $161 million, driven by the decrease in employer contribution rates for the fiscal year 2024.

Management's Discussion & Analysis (Unaudited)

Schedule of Unfunded Actuarial Accrued Liabily (UAAL) As of June 30 ($ in millions)								
	CERS Nonhazardous				CERS Hazardous			
	Pension		Insurance		Pension		Insurance	
	2024	2023	2024	2023	2024	2023	2024	2023
Actuarial Accrued Liability (AAL)	$15,776	$15,296	$2,901	$2,560	$6,070	$5,850	$1,668	$1,604
Actuarial Value of Assets	9,212	8,585	3,549	3,366	3,280	3,008	1,676	1,615
Unfunded Actuarial Accrued Lliability (UAAL)	$6,565	$6,711	($648)	($806)	$2,791	$2,842	($8)	($11)
Funded Ratio	58.39%	56.12%	122.34%	131.48%	54.03%	51.42%	100.48%	100.70%

Please refer to Note I and the RSI of the Financial Section, as well as the Actuarial Section for more analysis of the funding status, asset values, actuarial assumptions, and actuarially determined employer contributions.

INFORMATION REQUESTS

This financial report is designed to provide a general overview of CERS' financial position. Questions concerning any of the information provided in this report or requests for additional information should be directed to:

ATTN: Director of Accounting

Kentucky Public Pensions Authority

1260 Louisville Road

Frankfort, KY 40601

Basic Financial Statements

Combining Statement of Fiduciary Net Position
As of June 30, 2024 ($ in Thousands)

	Pension		Insurance		CERS
ASSETS	CERS Nonhazardous	CERS Hazardous	CERS Nonhazardous	CERS Hazardous	Total 2024
CASH AND SHORT-TERM INVESTMENTS					
Cash Deposits	$276	$26	$103	$22	$427
Short-term Investments	274,855	146,718	89,412	38,115	549,100
Total Cash and Short-term Investments	**275,131**	**146,744**	**89,515**	**38,137**	**549,527**
RECEIVABLES					
Accounts Receivable	96,651	28,808	4,948	2,287	132,694
Accounts Receivable - Investments	43,044	15,644	17,711	7,252	83,651
Total Receivables	**139,695**	**44,452**	**22,659**	**9,539**	**216,345**
INVESTMENTS, AT FAIR VALUE					
Core Fixed Income	956,091	336,202	356,789	160,988	1,810,070
Public Equities	4,994,488	1,760,119	1,862,408	897,774	9,514,789
Private Equities	614,731	219,397	246,964	138,211	1,219,303
Specialty Credit	1,923,638	662,597	720,433	331,860	3,638,528
Derivatives	121	49	37	12	219
Real Return	393,377	138,312	130,977	63,385	726,051
Real Estate	507,979	161,767	183,572	100,729	954,047
Securities Lending Collateral	249,969	88,298	72,492	34,894	445,653
Total Investments, at Fair Value	**9,640,394**	**3,366,741**	**3,573,672**	**1,727,853**	**18,308,660**
Total Assets	**10,055,220**	**3,557,937**	**3,685,846**	**1,775,529**	**19,074,532**
LIABILITIES					
Accounts Payable	7,296	1,074	229	5	8,604
Accounts Payable - Investments	80,329	28,705	27,231	11,227	147,492
Securities Lending Collateral	249,969	88,298	72,492	34,894	445,653
Total Liabilities	**337,594**	**118,077**	**99,952**	**46,126**	**601,749**
Total Fiduciary Net Position Restricted for Benefits	**$9,717,626**	**$3,439,860**	**$3,585,894**	**$1,729,403**	**$18,472,783**

See accompanying notes which are an integral part of these combining financial statements.

Note: The displayed fair values include investable assets held by each Plan and its associated contributions, payables, equipment and intangible assets; unlike those found in the Investment Section, which include only those investable assets held by each Plan.

Combining Statement of Changes In Fiduciary Net Position

For the fiscal year ended June 30, 2024 ($ in Thousands)

	Pension		Insurance		CERS
	CERS Nonhazardous	CERS Hazardous	CERS Nonhazardous	CERS Hazardous	Total 2024
ADDITIONS					
Member Contributions	$161,090	$61,379	$20,998	$4,887	$248,354
Employer Contributions	764,778	321,293	10,143	22,644	1,118,858
Other	-	-	10,445	1,637	12,082
Total Contributions	**925,868**	**382,672**	**41,586**	**29,168**	**1,379,294**
INVESTMENT INCOME					
Net Appreciation (Depreciation) in FV of Investments	785,266	277,925	298,813	145,631	1,507,635
Interest/Dividends	296,682	104,715	111,897	53,690	566,984
Securities Lending Income	11,380	4,084	3,296	1,484	20,244
Less: Investment Expense	61,810	20,928	23,115	11,978	117,831
Less: Performance Fees	18,517	6,226	7,456	4,103	36,302
Less: Securities Lending Fees, Expenses and Rebates	10,355	3,718	2,923	1,317	18,313
Net Investment Income (loss)	**1,002,646**	**355,852**	**380,512**	**183,407**	**1,922,417**
Total Additions	**1,928,514**	**738,524**	**422,098**	**212,575**	**3,301,711**
DEDUCTIONS					
Benefit Payments	940,514	343,583	-	-	1,284,097
Refunds	25,267	8,540	-	-	33,807
Administrative Expenses	26,547	2,338	943	522	30,350
Healthcare Expenses	-	-	124,794	96,236	221,030
Total Deductions	**992,328**	**354,461**	**125,737**	**96,758**	**1,569,284**
Net Increase (Decrease) in Fiduciary Net Position Restricted for Pension Benefits	936,186	384,063	296,361	115,817	1,732,427
Total Fiduciary Net Position Restricted for Benefits					
Beginning of Period	**8,781,440**	**3,055,797**	**3,289,533**	**1,613,586**	**16,740,356**
End of Period	**$9,717,626**	**$3,439,860**	**$3,585,894**	**$1,729,403**	**$18,472,783**

See accompanying notes, which are an integral part of these combining financial statements.

NOTE A. Summary of Significant Accounting Policies

Basis of Accounting

CERS' combining financial statements are prepared using the accrual basis of accounting. Member contributions are recognized in the period in which contributions are due. Employer contributions are recognized when due and the employer has made a formal commitment to provide the contributions. Premium payments are recognized when due and payable in accordance with the insurance terms of the plan. Administrative and investment expenses are recognized when incurred. The net position represents the assets of the system available to pay pension benefits for retirees, active and inactive members, and health care premiums for current and future retirees..

Method Used to Value Investments

Investments are reported at fair value. Fair value is the price that would be received upon selling an asset or the amount 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 Investments 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 gains and losses on investments bought and sold as well as held during the fiscal year. Investment returns are recorded in all plans net of investment fees.

Investment Unitization

Within the plan accounting structure there are two primary types of accounts: Plan Accounts and Pool Accounts. Plan Accounts are the owners of the investment pool. An account is established for each plan and these accounts hold Units of Participation that represent the plan's invested value of the investment pool. Pool Accounts are accounts that hold the assets of the investment pool where all investment related activity and earnings occur. The pooled accounts are the investment strategies of the pool. Units of Participation are bought and sold as each plan contributes or withdraws cash or assets from the investment pool. The investment pool earnings are then allocated to plans utilizing a cost distribution method that allows for fluctuating prices experienced in capital markets. This involves earnings allocated to the plan accounts with an increase or decrease in cost on the Unit of Participation Holdings of the Plan Accounts. Correspondingly, the price of the Unit of Participation Holdings is updated to reflect change in fair value in the investment pool. Earnings are allocated based on the daily weighted average of Master Trust Units held by each plan/fund account during each monthly earnings period. This method is commonly used when plans make multiple contributions or withdrawals from the investment pool throughout the month as it eliminates allocation distortion due to large end of month cash flows.

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.

Capital/Intangible Assets

Office equipment and computer software costing more than $3,000 are valued at historical cost, capitalized when put into service, and depreciated or amortized using the straight-line method over the estimated useful life of the assets, ranging from three to ten years. Improvements, which increase the useful life of the asset, are capitalized. Maintenance and repairs are charged as an expense when incurred. As of June 30, 2023, all capital/intangible assets were fully depreciated and or amortized. No additional capital/intangible assets have been capitalized since that date.

Accounts Receivable

Accounts Receivable consist of amounts due from employers. Management considers accounts 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.

The Investment Accounts Receivable and Investment Accounts Payable consist of investment management earnings and fee accruals, as well as all buys and sells of securities which have not closed as of the reporting date.

Benefits

Benefits are recognized when due and payable in accordance with the terms of the plan.

Expense Allocation

Administrative expenses are allocated to the system based on a hybrid allocation developed by management in conjunction with the CERS Board. The hybrid allocation is based on a combination of plan membership and direct plan expenses. All investment related expenses are allocated in proportion to the percentage of investment assets held by each plan.

Component Unit

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

CERS was created by the Kentucky General Assembly on July 1, 1958, pursuant to Kentucky Revised Statutes 78.520, and the separate governing board of trustees was created in 2021. Six of the nine trustees are appointed by the Governor. The administrative budget of KPPA, which incorporates CERS administrative costs, is subject to approval by the Kentucky General Assembly. CERS employee contribution rates are set by statute and may be changed only by the Kentucky General Assembly. Employer contribution rates are determined by the CERS Board without further legislative review, and the methods used to determine the employer rates are specified in Kentucky Revised Statutes 78.635.

Recent Accounting Pronouncements

GASB Statement Number 100, Accounting Changes and Error Corrections - an amendment of *GASB Statement No. 62.* The requirements of this Statement will take effect for financial statements starting with the fiscal year that ends June 30, 2024. CERS had no Accounting Changes or Error Corrections for fiscal year June 30, 2024.

GASB Statement Number 101, Compensated Absences. The requirements of the Statement will take effect for financial statements starting with the fiscal year that ends December 31, 2024. Management is evaluating the impact of the Statement to the financial report.

GASB Statement Number 102, Certain Risk Disclosures. The requirements of the Statement will take effect for financial statements for fiscal years beginning after June 15, 2024. Management is evaluating the impact of the Statement to the financial report.

Note B. Descriptions & Contribution Information

CERS - County Employees Retirement System

CERS, for financial reporting purposes, is composed of four plans - two defined benefit pension plans, and two OPEB plans: CERS Nonhazardous pension plan, CERS Hazardous pension plan, CERS Nonhazardous insurance plan, and CERS Hazardous insurance plan. Each of the Pension and OPEB plans are legally separated with benefits only eligible to be paid for each of the respective membership groups.

The pension plans were established by Kentucky Revised Statutes 78.520, to be known as the "County Employees Retirement System" to provide retirement, disability, and death benefits to system members. The CERS Nonhazardous plan was established to provide retirement benefits to all regular full-time employees employed in positions of each participating county, city, school board, and any additional eligible local agencies electing to participate in CERS. The membership of the CERS Hazardous plan includes employees whose position is considered hazardous with principal job duties including, but are not limited to, active law enforcement, probation and parole officers, detectives, pilots, paramedics, and emergency medical technicians, with duties that require frequent exposure to a high degree of danger and also require a high degree of physical condition. Retirement benefits may be extended to beneficiaries of members under certain circumstances.

The OPEB plans are part of the Kentucky Retirement Systems Insurance Trust Fund (Insurance Fund), established by Kentucky Revised Statutes 61.701 for eligible members receiving benefits from CERS Nonhazardous and CERS Hazardous. The Insurance Fund was created for the purpose of providing a trust separate from the retirement trusts, and for the purpose of providing hospital and medical insurance benefits.

The responsibility of the plans within CERS is vested in the CERS Board of Trustees. The CERS Board of Trustees consists of nine members. Six trustees are appointed by the governor and three are elected by CERS members (active, inactive, and/or retired). The six gubernatorial appointees are chosen from lists compiled and submitted to the governor by the Kentucky League of Cities (KLC), the Kentucky Association of Counties (KACo), and the Kentucky School Boards Association (KSBA). Each of the three entities must submit three applicants with retirement experience and three applicants with investment experience as defined by statute. The governor appoints one person with retirement experience and one person with investment experience from KLC, KACo, and KSBA. All appointments by the governor are subject to Senate confirmation.

Employer Contributions

For the fiscal year ended June 30, 2024, there were 1,120 participating employers of CERS. Participating employers are required to contribute actuarially determined rates for pension and insurance benefit contributions. The rates are established by the CERS Board based on Kentucky Revised Statute 78.635. The rates are set each year following the annual actuarial valuation as of July 1 and prior to July 1 of the succeeding fiscal year and are a percentage of each employee's creditable compensation. Administrative costs are financed through employer contributions and investment earnings.

Contribution Rate Breakdown by Fund
As of June 30, 2024

	Pension		Insurance		Combined Total	
Plan	Employer Contribution Rates	Actuarially Recommended Rates	Employer Contribution Rates	Actuarially Recommended Rates	Employer Contribution Rates	Actuarially Recommended Rates
CERS Nonhazardous**	23.34%	23.34%	0.00%	0.00%	23.34%	23.34%
CERS Hazardous**	41.11%	41.11%	2.58%	2.58%	43.69%	43.69%

***House Bill 362 passed during the 2018 legislative session caps CERS employer contribution rate increases up to 12% per year over the prior fiscal year for the period of July 1, 2018, to June 30, 2028.*

Benefit Tiers:

As of June 30, 2024, the date of the most recent actuarial valuation, membership consisted of:

Membership as of June 30, 2024 (in Whole $)			
Item	CERS Nonhazardous	CERS Hazardous	CERS Total 2024
Members	280,996	27,522	308,518
Active Membership	83,956	10,548	94,504
Tier 1	21,377	2,850	24,227
Tier 2	10,755	1,866	12,621
Tier 3	51,824	5,832	57,656
Average Annual Salary	$39,008	$76,786	$43,065
Average Age	47.0	37.7	46.0
Retired Membership	78,976	12,141	91,117
Tier 1	76,821	12,055	88,876
Tier 2	1,909	58	1,967
Tier 3	246	28	274
Average Annual Benefit	$12,435	$30,078	$14,831
Average Age	71.6	63.3	70.5
Inactive Members	118,064	4,833	122,897
Tier 1	50,545	1,803	52,348
Tier 2	18,945	755	19,700
Tier 3	48,574	2,275	50,849

TIER 1:

Tier 1 plan members who began participating prior to September 1, 2008, are required to contribute 5% (Nonhazardous) or 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 balance as of June 30 of the previous year 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 5% (Nonhazardous) or 8% (Hazardous) of their annual creditable compensation. Further, members also contribute an additional 1% which is deposited to an account created for payment of health insurance benefits under 26 USC Section 401(h) in the Insurance Fund (see Kentucky Administrative Regulation (KAR) 105 KAR 1:420). These members are classified in the Tier 2 structure of benefits. Interest is paid each June 30 on members' accounts as of June 30 of the previous year 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% Health Insurance Contribution (HIC) 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 contribute 5% (Nonhazardous) or 8% (Hazardous) of their monthly creditable compensation which is deposited into their account, and an additional 1% which is deposited to an account created for payment of health insurance benefits under 26 USC Section 401(h) in the Insurance Fund (see 105 KAR1:420), which is not refundable. Tier 3 member accounts are also credited with an employer pay credit in the amount of 4% (Non-Hazardous) or 7.5% (Hazardous) of the member's monthly creditable compensation. The employer pay credit amount is deducted from the total employer contribution rate paid on the member's monthly creditable compensation. If a vested (60 months of service) member terminates employment and applies to take a refund, the member is entitled to the members contributions (less HIC) plus employer pay credit plus interest (for both employee contributions and employer pay). If a non-vested (less than 60 months) member terminates employment and applies to take a refund, the member is entitled to receive employee contributions (less HIC) plus interest (on employee contributions only).

Interest is also paid into the Tier 3 member's account. The account currently earns 4% interest credit on the member's accumulated account balance as of June 30 of the previous year. The member's account may be credited with additional interest if the fund'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 CERS's 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 plan in CERS may get an Upside Sharing Interest, while another 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 plan basis.

The chart below shows the interest calculated on the members' balances as of June 30, 2023, and credited to each member's account on June 30, 2024.

(A-B) = C x 75% = D then B + D = Interest ($ in Thousands)						
	A	B	C	D		
Plan	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
CERS Nonhazardous	7.67%	4.00%	3.67%	2.75%	6.75%	$35,689
CERS Hazardous	7.85%	4.00%	3.85%	2.89%	6.89%	$13,115

Insurance Fund Description

Eligible non-Medicare retirees are covered by the Department of Employee Insurance (DEI) plans, eligible Medicare retirees are covered through contracts with Humana 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, 2024, insurance premiums withheld from benefit payments for CERS's members were $18.9 million and $4.3 million for CERS Nonhazardous and Hazardous, respectively.

Retiree Medical Insurance Coverage
As of June 30, 2024

	Single	Couple/ Family	Parent	Medicare Without Prescription	Medicare With Prescription
CERS Nonhazardous	8,562	506	241	1,826	30,026
CERS Hazardous	1,899	3,050	477	144	4,565
CERS Total	**10,461**	**3,556**	**718**	**1,970**	**34,591**

Note: 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. The counts are the number of medical plans contracted with the Department of Employee Insurance or Medicare vendor and are not representative of the number of persons.

The amount of benefit paid by the Insurance Fund is based on years of service. For members who began participating prior to July 1, 2003, a percentage of the contribution rate is paid based on years of service with 100% of the contribution rate being paid with 20 years of service.

For members participating prior to July 1, 2003, years of service and respective percentages of the maximum benefit are as follows:

Portion Paid by Insurance Fund
As of June 30, 2024

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%

Since the passage of House Bill 290 (2004 Kentucky General Assembly), medical insurance benefits have been calculated differently for members who began participating on or after July 1, 2003. Once members reach a minimum vesting period of 10 years, Nonhazardous 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. 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.

House Bill 1 (2008 Kentucky General Assembly) changed the minimum vesting requirement for participation in the health insurance plan to 15 years for members whose participation began on or after September 1, 2008. This benefit is not protected under the inviolable contract provisions of Kentucky Revised Statutes 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 benefit paid by the Insurance Fund is based on years of service. For members participating on or after July 1, 2003, the dollar amounts of the benefit per year of service are as follows:

Dollar Contribution for Fiscal Year 2024 For Member participation date on or after July 1, 2003	
	(in Whole $)
CERS Nonhazardous	$14.41
CERS Hazardous	$21.62

The Insurance Fund pays 100% of the contribution rate for hospital and medical insurance premiums for the spouse and dependents of members who die as a direct result of an act in the line of duty or from a duty-related injury.

Cost of Living Adjustment (COLA)

Prior to July 1, 2009, COLAs were provided to retirees annually equal to the percentage increase in the annual average of the consumer price index (CPI) 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 to be limited to 1.50%.

In 2013 the General Assembly created a new law to govern how COLAs will be granted. Language included in Senate Bill 2 during the 2013 Regular Session states COLAs will only be granted in the future if the CERS Board determines that assets of the System are greater than 100% of the actuarial liabilities and legislation authorizes the use of surplus funds for the COLA; or the General Assembly fully prefunds the COLA through employer contributions. Kentucky Revised Statutes 78.5518 governs how COLAs may be granted for members of CERS. No COLA has been granted since July 1, 2011.

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 must be reported as assets on the financial statements. The non-cash collateral is not reported because the securities received as collateral are unable to be pledged or sold unless the borrower defaults. In accordance with GASB *No. 28*, CERS classifies certain other investments, not related to the securities lending program, as short-term. Cash and short-term investments consist of the following:

Cash, Short-Term Investments, & Securities Lending Collateral
As of June 30, 2024 ($ in Thousands)

CERS Nonhazardous	Pension	Insurance
Cash	$276	$103
Short-Term Investments	274,855	89,412
Securities Lending Collateral Invested	249,969	72,492
Total	**$525,100**	**$162,007**
CERS Hazardous	**Pension**	**Insurance**
Cash	$26	$22
Short-Term Investments	146,718	38,115
Securities Lending Collateral Invested	88,298	34,894
Total	**$235,042**	**$73,031**

Note D. Investments

Kentucky Revised Statutes 78.790 specifically states that the CERS Board shall have the full and exclusive power to invest and reinvest the funds of the Plan(s) they govern. In addition, Kentucky Revised Statutes 78.782 require three (3) members of the CERS Board to have at least ten (10) years of investment experience as defined by the statutes. The CERS Board is required to establish the Investment Committee who is specifically charged with implementing the investment policies adopted by the CERS Board and to act on behalf of the CERS Board on all investment-related matters. The CERS Board and the Investment Committee members are required to discharge their duty to invest the funds of the Plans in accordance with the “Prudent Person Rule” as set forth in Kentucky Revised Statutes 78.790 and to manage those funds consistent with the long-term nature of the trusts and solely in the interest of the members and beneficiaries. All internal investment staff, and investment consultants must adhere to the Code of Ethics and Standards of Professional Conduct of the CFA Institute and all board trustees must adhere to the Code of Conduct for Members of a Pension Scheme Governing Body of the CFA Institute. The CERS Board is authorized to adopt policies. The CERS Board has adopted an Investment Policy Statement (IPS) which defines the framework for investing the assets of the Plans. The IPS is intended to provide general principles for establishing the investment goals of the Plans, the allocation of assets, employment of outside asset management, and monitoring the results of the respective Plans. A copy of the CERS Board’s IPS can be found at kyret.ky.gov. By statutes, the Board, through adopted written policies, shall maintain ownership and control over its assets held in its unitized managed custodial account. Additionally, the Investment Committee establishes specific investment guidelines that are summarized below and are included in the Investment Management Agreement (IMA) for each investment management firm.

Equity

Public Equity

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 (ETFs); or any other type of security contained in a manager’s benchmark. Each individual equity account has a comprehensive set of investment guidelines, which contains a listing of permissible investments, portfolio restrictions, and standards of performance.

Private Equity

Subject to the specific approval of the Investment Committee, Private Equity investments may be made for the purpose of creating a diversified portfolio of alternative investments under the Equity umbrella. Private Equity investments are expected to achieve attractive risk-adjusted returns and, by definition, possess a higher degree of risk with a higher return potential than traditional investments. Accordingly, total rates of return from private equity investments are expected to be greater than those that might be obtained from conventional public equity or debt investments. Certain investments in this category are public market securities (ETFs) with the most similar risk/return characteristics as a short-term proxy for private asset classes.

Fixed Income

Core Fixed Income

The Core Fixed Income accounts may include, but are not limited to, the following securities: U.S. government and agency bonds; investment grade U.S. corporate credit; investment grade non-U.S. corporate credit; mortgages, including residential mortgage-backed securities; commercial mortgage-backed securities and whole loans; asset-backed securities; and, asset class relevant ETFs.

Specialty Credit

The Specialty Credit accounts may include, but are not limited to, the following types of securities and investments: 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; private debt; 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 ETFs. Each individual Specialty Credit account shall have a comprehensive set of investment guidelines which contains a listing of permissible investments, portfolio restrictions, risk parameters, and standards of performance for the account.

Cash and 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, and collective short-term investment funds (STIFs), money market funds or instruments (including, but not limited to certificates of deposit, bank notes, deposit notes, bankers' acceptance 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 shall prevail. All instruments shall have a maturity at the time of purchase that does not exceed 397 days.

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.

Inflation Protected

Real Estate and Real Return

Subject to the specific approval of the corresponding Investment Committee, investments may be made to create a diversified portfolio of alternative investments. Investments are made in equity and debt real estate for the purpose of achieving the highest total rate of return possible consistent with a prudent level of risk. There may also be investments in this category that are public markets securities, such as ETFs, with similar risk/return characteristics as a short-term proxy. The purpose of the Real Return investments are to identify strategies that provide both favorable stand-alone risk-adjusted returns as well as the benefit of hedging inflation for the broader plans.

Investment Expenses

In accordance with GASB *Statement No. 67 and No. 74*, *Financial Reporting for Pension Plans and Other Postemployment Benefit Plans other than Pension Plans*, management 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, management changed Private Equity investment fees from a gross basis to a net basis. The CERS Board made the decision to enhance transparency reporting. Prior to 2015, the majority of the trusts' Private Equity investment fees were netted against investment activity which is the standard used within the Private Equity sector. Trusts' net investment income has always included these fees regardless of the reporting method used. During the 2017 Regular Session of the Kentucky General Assembly, legislators passed SB 2 which requires the reporting of all investment fees and expenses. Management continues to work with managers to enhance fee and expense 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. External managers and Investment Staff are permitted to invest in derivative securities, or strategies which make use of derivative investments, for exposure, cost efficiency and risk management purposes, if such investments do not cause the portfolio to be leveraged beyond a 100% invested position. Any derivative security shall be sufficiently liquid that it can be expected to be sold at, or near, its most recently quoted market price. Examples of such derivatives include, but are not limited to the following securities: foreign currency forward contracts; 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 Fiduciary Net Position for all the Pension and Insurance Plans.

In accordance with GASB *Statement No. 53, Accounting and Financial Reporting for Derivative Instruments*, CERS provides additional disclosure regarding its derivatives. The charts included represent the derivatives by types as of June 30, 2024. The chart shows the change in fair value of derivative types as well as the current fair value and notional value. The notional value is the reference amount of the underlying asset times its current spot price. The Plans hold investments in options, commitments, futures, and forward foreign exchange contracts.

CERS Pension and Insurance Derivative Instruments - GASB 53
As of June 30, 2024 ($ in Thousands)

Derivatives (by Type)	Net Appreciation (Depreciation) in Fair Value	Classification	Fair Value	Notional
CERS Nonhazardous - Pension				
FX Spots and Forwards	$233	Investment	$212	-
Futures	2,366	Investment	(91)	22,012
Commits and Options	1	Investment	-	-
Swaps	-	Investment	-	-
CERS Nonhazardous - Insurance				
FX Spots and Forwards	$72	Investment	$66	-
Futures	873	Investment	(29)	9,745
Commits and Options	1	Investment	-	-
Swaps	-	Investment	-	-
CERS Hazardous - Pension				
FX Spots and Forwards	$92	Investment	$83	-
Futures	819	Investment	(34)	7,289
Commits and Options	1	Investment	-	-
Swaps	-	Investment	-	-
CERS Hazardous - Insurance				
FX Spots and Forwards	$23	Investment	$21	-
Futures	401	Investment	(9)	5,179
Commits and Options	-	Investment	-	-
Swaps	-	Investment	-	-

Derivative Instruments Subject to Counterparty Credit Risk - GASB 53
As of June 30, 2024

		Pension		Insurance	
Counterparty	S & P Ratings	CERS Percentage of Net Exposure	CERS Hazardous Percentage of Net Exposure	CERS Percentage of Net Exposure	CERS Hazardous Percentage of Net Exposure
Australia & New Zealand Banking Group Ltd	AA-	3.16%	1.23%	2.92%	0.92%
The Bank of America	A-	0.38%	0.13%	0.30%	0.14%
The Bank of New York Mellon Corp	A	1.38%	0.53%	1.44%	0.50%
Barclays PLC	BBB+	4.91%	1.91%	4.60%	1.47%
Brown Brothers Harriman & Co	NR	0.31%	0.11%	0.32%	0.15%
Canadian Imperial Bank of Commerce	A+	6.92%	2.70%	6.41%	2.01%
Citigroup Inc	BBB+	4.93%	1.92%	4.57%	1.43%
The Goldman Sachs Group Inc	BBB+	3.58%	1.40%	3.34%	1.06%
HSBS Holding PLC	A-	7.19%	2.81%	8.22%	2.60%
JPMorgan Chase & Co	A-	2.45%	0.94%	2.43%	0.83%
Morgan Stanley	A-	4.42%	1.73%	4.10%	1.29%
Royal Bank of Canada	AA-	4.78%	1.87%	4.73%	1.49%
State Street Corp	A	5.29%	2.06%	4.96%	1.58%
The Toronto-Dominion Bank	AA-	0.14%	0.05%	0.20%	0.09%
UBS Group AG	A-	3.99%	1.54%	5.25%	1.74%
Westpac Banking Corp	AA-	0.09%	0.03%	0.10%	0.05%
TOTAL		**53.92%**	**20.96%**	**53.89%**	**17.35%**

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 CERS 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). None of these balances were exposed to custodial credit risk as they were either insured or collateralized at required levels.

Custodial Credit Risk for Deposits - GASB 40 As of June 30, 2024 ($ in Thousands)	
CERS Nonhazardous Pension	$1,835
CERS Hazardous Pension	25
CERS Nonhazardous Insurance	105
CERS Hazardous Insurance	22
Clearing	602
Excess Benefit	$-
Note: All the above balances are held at JPM Chase.	

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, the plans would 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, 2024, 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 CERS's name. Below are total cash and securities held by Global Managers and consist of various currencies.

Custodial Credit Risk for Investments - GASB 40 As of June 30, 2024 ($ in Thousands)	
CERS	
Nonhazardous Pension Foreign Currency	$1,277,569
Hazardous Pension Foreign Currency	445,111
Nonhazardous Insurance Foreign Currency	479,212
Hazardous Insurance Foreign Currency	225,064

Investment Summary

Investment Summary - GASB 40	Pension		Insurance	
As of June 30, 2024 ($ in Thousands)	Nonhazardous	Hazardous	Nonhazardous	Hazardous
Type	**Fair Value**		**Fair Value**	
Core Fixed Income	$956,091	$336,202	$356,789	$160,988
Public Equities	4,994,488	1,760,119	1,862,408	897,774
Private Equities	614,731	219,397	246,964	138,211
Specialty Credit	1,923,638	662,597	720,433	331,860
Derivatives	121	49	37	12
Real Return	393,377	138,312	130,977	63,385
Real Estate	507,979	161,767	183,572	100,729
Short-Term Investments	274,855	146,718	89,412	38,115
Accounts Receivable (Payable), Net	(37,285)	(13,061)	(9,520)	(3,975)
Total	**$9,627,995**	**$3,412,100**	**$3,581,072**	**$1,727,099**

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 Staff and by external investment management firms. All portfolio managers are required by the CERS IPS 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 Plans' debt securities portfolios are managed using the following guidelines adopted by the CERS 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.
- The duration of the core fixed income portfolios combined shall not vary from that of the system's Fixed Income Index by more than +/- 25% duration as measured by effective duration, modified duration or dollar duration except when the system's Investment Committee has determined a target duration to be used for an interim basis.
- The amount invested in the debt of a single corporation shall not exceed 5% of the total fair value of CERS' assets.
- No public Fixed Income manager shall invest more than 5% of the fair value of assets held in any single issue Short-Term instrument with the exception of U.S. Government issued, guaranteed or agency obligations.

As of June 30, 2024, the portfolio had $670.0 million in debt securities rated below BBB- which does not include not rated (NR) or withdrawn (WR) securities.

CERS Debt Securities - GASB 40
As of June 30, 2024 ($ in Thousands)

	Pension		Insurance	
Rating	**Nonhazardous**	**Hazardous**	**Nonhazardous**	**Hazardous**
AAA	$62,091	$22,293	$23,536	$10,095
AA+	4,529	1,686	1,387	527
AA	6,706	2,520	2,389	892
AA-	6,415	2,353	2,300	928
A+	15,660	5,512	5,970	2,671
A	18,253	6,496	6,817	2,984
A-	37,119	13,088	13,593	6,088
BBB+	50,311	17,886	18,432	8,100
BBB	43,050	15,561	16,257	6,748
BBB-	74,276	27,579	26,404	9,432
BB+	53,465	20,475	21,543	5,624
BB	64,426	24,517	27,257	6,409
BB-	63,292	24,029	27,292	6,411
B+	45,345	16,946	19,535	5,046
B	56,098	20,460	24,126	6,622
B-	42,167	15,534	18,646	4,746
CCC+	18,825	7,249	8,688	1,788
CCC	5,768	2,236	2,608	557
CCC-	993	388	494	93
D	162	55	74	27
NR	1,758,056	591,102	641,194	332,763
WR	1	(0)	0	0
Total Credit Risk Debt Securities	**2,427,008**	**837,965**	**908,542**	**418,551**
Government Agencies	11,179	4,074	4,557	1,882
Government Mortgage-Backed Securities	175,995	62,108	66,866	29,931
Government Issued Commercial Mortgage Backed	2,020	710	940	424
Government Collateralized Mortgage Obligations	8,445	3,154	2,974	1,138
Government Bonds	255,082	90,788	93,343	40,922
Total	**$2,879,729**	**$998,799**	**$1,077,222**	**$492,848**

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

Differences due to rounding.

Government Agencies, Government Mortgage-Backed Securities, Government Issued Commercial Mortgage Backed and Government Bonds are highly rated securities since they are backed by the US Government.

The NR reported indicate a rating has not been assigned.

The WR reported are ratings which have been withdrawn.

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 CERS 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. The amount invested in the debt of a single issuer shall not exceed 5% of the total fair value of the Plans' fixed income assets.

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 and can be measured using two methodologies: effective or 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.

Below are the fair values and modified durations for the combined fixed income securities.

Interest Rate Risk - Modified Duration - GASB 40
As of June 30, 2024 ($ in Thousands)

	Pension				Insurance			
	Nonhardous		Hazardous		Nonhardous		Hazardous	
TYPE	Fair Value	Weighted Avg Modified Duration	Fair Value	Weighted Avg Modified Duration	Fair Value	Weighted Avg Modified Duration	Fair Value	Weighted Avg Modified Duration
Asset Backed Securities	$55,663	2.73	$19,578	2.74	$21,434	2.60	$9,249	2.62
Financial Institutions	130,345	3.60	46,877	3.63	50,183	3.68	17,811	3.84
Collateralized Mortgage Obligations	17,676	3.08	6,543	2.96	6,051	3.06	2,366	3.43
Commercial Mortgage Backed Securities	12,129	3.82	4,475	3.79	4,553	3.85	1,822	3.93
Corporate Bonds - Industrial	402,267	4.07	150,532	4.09	164,755	4.05	46,823	4.24
Corporate Bonds - Utilities	53,291	4.95	19,254	4.93	21,630	4.87	8,385	5.01
Agencies	11,179	4.58	4,074	4.55	4,557	4.51	1,882	4.58
Government Bonds - Sovereign Debt	3,634	8.75	1,341	8.59	1,387	9.65	554	10.09
Mortgage Back Securities Pass-through - Not CMO's	175,995	6.11	62,108	6.11	66,866	6.08	29,931	6.08
Local Authorities - Municipal Bonds	20,085	8.60	7,508	8.68	7,006	8.51	2,679	8.22
Supranational - Multi-National Bonds	2,808	2.51	1,096	2.51	913	2.60	287	2.60
Treasuries	255,082	6.79	90,788	6.77	93,343	6.89	40,922	6.94
Unclassified	1,739,575	0.06	584,625	0.07	634,544	0.06	330,137	0.04
Total	**$2,879,729**	**2.02**	**$998,799**	**2.11**	**$1,077,222**	**2.12**	**$492,848**	**1.79**

Foreign Currency Risk

Foreign currency risk is the risk that occurs if exchange rates adversely affect the value of a non-U.S. dollar based investment or deposit within the portfolios. Currency risk exposure, or exchange rate risk, primarily resides with the portfolios Non-U.S. equity holdings, but also affects other asset classes. CERS doesn't 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 Fair Value of Investments on the combining financial statements.

Foreign Currency Risk - GASB 40
As of June 30, 2024 ($ in Thousands)

	Pension		Insurance	
	Nonhazardous	Hazardous	Nonhazardous	Hazardous
Australian Dollar	$42,546	$15,025	$15,774	$7,163
Brazilian Real	22,152	7,842	8,316	3,761
Canadian Dollar	50,075	17,572	18,286	8,438
Czech Koruna	18	6	10	5
Danish Krone	49,345	17,246	18,509	8,625
Egyptian Pound	496	173	142	66
Euro	402,942	138,570	152,038	73,743
Hong Kong Dollar	86,139	30,105	32,043	14,931
Hungarian Forint	6,125	2,140	2,185	1,018
Indian Rupee	40,975	14,395	14,604	6,719
Indonesian Rupiah	22,884	8,190	8,071	3,536
Israeli Shekel	4,344	1,518	1,625	757
Japanese Yen	158,500	55,524	59,496	27,572
Malaysian Ringgit	1,822	712	570	179
Mexican Peso	5,830	2,070	2,177	978
New Taiwan Dollar	60,225	21,048	21,985	10,244
New Zealand Dollar	(3,369)	(1,315)	(1,095)	(345)
Norwegian Krone	5,238	2,016	1,687	571
Philippine Peso	2,564	1,001	832	262
Pound Sterling	135,119	47,226	51,017	23,767
Singapore Dollar	2,954	895	1,435	829
South African Rand	7,215	2,522	2,729	1,272
South Korean Won	44,358	15,625	17,350	7,943
Swedish Krona	20,897	7,303	8,163	3,803
Swiss Franc	89,269	31,199	34,314	15,989
Thai Baht	11,702	4,090	4,298	2,003
Turkish Lira	5,067	1,771	1,915	892
UAE Dirham	1,837	642	736	343
Total Foreign Investment Securities	**1,277,269**	**445,111**	**479,212**	**225,064**
U.S. Dollar	8,350,726	2,966,989	3,101,860	1,502,035
Total Investment Securities	**$9,627,995**	**$3,412,100**	**$3,581,072**	**$1,727,099**

Fair Value Measurement and Applications (GASB 72)

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

CERS defined the Fair Value Hierarchy and Levels as follows:

Level 1

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

Level 2

Inputs (other than quoted prices included within Level 1) that are observable for an asset or liability, either directly or indirectly. These inputs can include matrix pricing, market corroborated pricing and inputs such as yield curves and indices.

Level 3

Unobservable inputs for an asset or liability, which generally results in using the best information available for the valuation of the assets or liabilities being reported.

Net Asset Value (NAV)

The remaining investments not categorized under the fair value hierarchy are shown at net asset value (NAV). These are investments in non-governmental entities for which a readily determinable fair value is not available, such as member units or an ownership interest in partners' capital to which a proportionate share of net assets is attributed.

Fair Value Measurements and Application (GASB 72) Pension
As of June 30, 2024 ($ in Thousands)

Asset Type	CERS Nonhazardous Level 1	CERS Nonhazardous Level 2	CERS Nonhazardous Level 3	Total Fair Value	CERS Hazardous Level 1	CERS Hazardous Level 2	CERS Hazardous Level 3	Total Fair Value
Public Equity								
Emerging Markets	$196,538	$-	$-	**$196,538**	$68,689	$-	$-	**$68,689**
US Equity	3,057,219	-	-	**3,057,219**	1,082,730	-	-	**1,082,730**
Non-US Equity	1,184,771	-	-	**1,184,771**	414,069	-	-	**414,069**
Total Public Equity	**4,438,528**	**-**	**-**	**4,438,528**	**1,565,488**	**-**	**-**	**1,565,488**
Fixed Income								
Agencies	374	2,231	-	**2,605**	131	784	-	**915**
Asset-Backed	-	47,724	-	**47,724**	-	16,779	-	**16,779**
Bank & Finance	-	60,029	120,661	**180,690**	-	21,707	42,028	**63,735**
Cash & Cash Equivalent	4,074	(158)		**3,916**	1,437	(57)		**1,380**
Corporate	313,214	455,704	543	**769,461**	110,191	171,056	200	**281,447**
Healthcare	-	20,799	-	**20,799**	-	7,599	-	**7,599**
Insurance	-	4,672	-	**4,672**	-	1,695	-	**1,695**
Municipals	-	14,370	-	**14,370**	-	5,303	-	**5,303**
Sovereign Debt	-	39,973	-	**39,973**	-	15,413	-	**15,413**
US Government	234,946	181,891	-	**416,837**	82,783	64,183	-	**146,966**
Total Fixed Income	**552,608**	**827,235**	**121,204**	**1,501,047**	**194,542**	**304,462**	**42,228**	**541,232**
Derivatives								
Futures	(91)	-	-	**(91)**	(34)	-	-	**(34)**
Foreign Exchange	212	-	-	**212**	83	-	-	**83**
Total Derivatives	**121**	**-**	**-**	**121**	**49**	**-**	**-**	**49**
Real Return	**143,174**	**-**	**-**	**143,174**	**49,305**	**-**	**-**	**49,305**
Private Equity - ETF	**1,636**	**-**	**-**	**1,636**	**13,903**	**-**	**-**	**13,903**
Total Investments at Fair Value	**5,136,067**	**827,235**	**121,204**	**6,084,506**	**1,823,287**	**304,462**	**42,228**	**2,169,977**
Investments Measured at NAV								
Specialty Credit	-	-	-	**1,410,235**	-	-	-	**469,077**
Private Equity	-	-	-	**614,176**	-	-	-	**205,952**
Real Estate	-	-	-	**506,913**	-	-	-	**161,435**
Real Return	-	-	-	**251,561**	-	-	-	**89,474**
Fixed Income	-	-	-	**35,952**	-	-	-	**12,642**
Non US Equity	-	-	-	**582,010**	-	-	-	**203,741**
Emerging Markets	-	-	-	**3,162**	-	-	-	**1,105**
US Equity	-	-	-	**29,709**	-	-	-	**10,627**
Total Investments Measured at NAV	**-**	**-**	**-**	**3,433,718**	**-**	**-**	**-**	**1,154,053**
Cash and Accruals	**-**	**-**	**-**	**109,771**	**-**	**-**	**-**	**88,070**
Total Investments	**$5,136,067**	**$827,235**	**$121,204**	**$9,627,995**	**$1,823,287**	**$304,462**	**$42,228**	**$3,412,100**

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

Note: Cash Equivalents include 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.

The investments measured at net asset value (NAV) are presented in the chart below:

Fair Value Measurements and Application (GASB 72) Pension
As of June 30, 2024 ($ in Thousands)

	CERS Nonhazardous				CERS Hazardous			
Asset Type	**Fair Value**	**Unfunded Commitments**	**Redemption Frequency**	**Redemption Notice Period**	**Fair Value**	**Unfunded Commitments**	**Redemption Frequency**	**Redemption Notice Period**
Specialty Credit [1]	$1,410,235	$303,756	Daily - Quarterly	90 Days	$469,077	$107,116	Daily - Quarterly	90 Days
Real Estate [2]	506,913	112,865			161,435	35,705		
Real Return [3]	251,561	109,417	Daily	30 - 60 Days	89,474	43,903	Daily	30 - 60 Days
Private Equity [4]	614,176	155,484			205,952	50,500		
Fixed Income [5]	35,952	-	Daily		12,642	-	Daily	
Non US Equity [5]	582,010	-	Daily		203,741	-	Daily	
US Equity [5]	29,709	-	Daily		10,627	-	Daily	
Emerging Markets [5]	3,162	-	Daily		1,105	-	Daily	
Total Investments Measured at NAV	**$3,433,718**	**$681,522**			**$1,154,053**	**$237,224**		

[1] This type includes 12 high yield specialty credit managers with multiple strategies. These managers may invest in U.S. or non-U.S. investment grade corporate credit, U.S. or non U.S. non-investment grade corporate credit, including both 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.

[2] This type includes 11 real estate funds that invest primarily in U.S. commercial real estate; however, there is one manager who invests solely in non-U.S. commercial real estate. The fair value of the investments have been determined using the NAV per share of the Plan's ownership interest and in the partners' capital. Distributions from each fund will be received as the underlying investments of the funds are liquidated. It is expected that the funds will be liquidated over the next 7 to 10 years. Because it is not probable that any individual investment will be sold, the fair value of each individual investment has been determined using the NAV per share of the Plan's ownership interest in the partners' capital. Due to restrictions in the contract, redemptions are not likely until the assets of the fund are liquidated.

[3] This type includes 15 real return managers that invest in multiple strategies such as infrastructure, agriculture, royalties, commodities, and natural resources. These investments are intended to provide both favorable risk-djusted returns and correlation with inflation to help with the hedging of inflation for the broader plan. This group of managers also includes any hedge fund managers remaining in the portfolio which have all been terminated and are only awaiting payouts.

[4] This type includes 32 managers with multiple strategies. These investments cannot be redeemed. Instead, the investments are redeemed throughout the life of the investment. Distributions are received through the liquidation of the underlying assets of the fund. It is expected that each fund will remain invested for a period of 5 to 10 years. It is probable that all of the investments in this type will be sold at an amount different from the NAV per share of the Plan's ownership interest in partners' capital. Therefore, the fair values of the investment in this asset class have been determined using recent observable transaction information.

[5] This type includes short-term commingled investment instruments issued by the US Government, Federal agencies, sponsored agencies or sponsored corporations.

Fair Value Measurements and Application (GASB 72) Insurance As of June 30, 2024 ($ in Thousands)

	CERS Nonhazardous			Total	CERS Hazardous			Total
	Level				Level			
Asset Type	**1**	**2**	**3**	**Fair Value**	**1**	**2**	**3**	**Fair Value**
Public Equity								
Emerging Markets	$73,587	$-	$-	**$73,587**	$34,289	$-	$-	**$34,289**
US Equity	1,116,474	-	-	**1,116,474**	543,066	-	-	**543,066**
Non-US Equity	444,664	-	-	**444,664**	207,194		-	**207,194**
Total Public Equity	**1,634,725**	**-**	**-**	**1,634,725**	**784,549**	**-**	**-**	**784,549**
Fixed Income								
Agencies	296	975	-	**1,271**	134	440	-	**574**
Asset-Backed	-	18,287	-	**18,287**	-	7,835	-	**7,835**
Bank & Finance	-	21,732	45,805	**67,537**	-	8,760	16,414	**25,174**
Cash & Cash Equivalent	1,677	87	-	**1,764**	771	27		**798**
Corporate	112,607	187,585	163	**300,355**	50,752	54,658	55	**105,465**
Healthcare	-	7,890	-	**7,890**	-	2,931	-	**2,931**
Insurance	-	1,733	-	**1,733**	-	698	-	**698**
Municipals	-	5,204	-	**5,204**	-	2,071	-	**2,071**
Sovereign Debt	-	13,017	-	**13,017**	-	4,375	-	**4,375**
US Government	87,043	69,507	-	**156,550**	39,031	31,122	-	**70,153**
Total Fixed Income	**201,623**	**326,017**	**45,968**	**573,608**	**90,688**	**112,917**	**16,469**	**220,074**
Derivatives								
Futures	(29)	-	-	**(29)**	(9)	-	-	**(9)**
Foreign Exchange	66	-	-	**66**	21	-	-	**21**
Total Derivatives	**37**	**-**	**-**	**37**	**12**	**-**	**-**	**12**
Real Return	**38,048**	**-**	**-**	**38,048**	**19,608**	**-**	**-**	**19,608**
Total Investments at Fair Value	**1,874,433**	**326,017**	**45,968**	**2,246,418**	**894,857**	**112,917**	**16,469**	**1,024,243**
Investments Measured at NAV								
Specialty Credit	-	-	-	**516,185**	-	-	-	**276,864**
Private Equity	-	-	-	**247,274**	-	-	-	**138,379**
Real Estate	-	-	-	**183,264**	-	-	-	**100,562**
Real Return	-	-	-	**93,409**	-	-	-	**44,024**
Fixed Income	-	-	-	**10,899**	-	-	-	**4,918**
Non US Equity	-	-	-	**236,625**	-	-	-	**117,401**
Emerging Markets	-	-	-	**1,142**	-	-	-	**532**
US Equity	-	-	-	**11,261**	-	-	-	**5,732**
Total Investments Measured at NAV	**-**	**-**	**-**	**1,300,059**	**-**	**-**	**-**	**688,412**
Cash and Accruals	**-**	**-**	**-**	**34,595**	**-**	**-**	**-**	**14,444**
Total Investments	**$1,874,433**	**$326,017**	**$45,968**	**$3,581,072**	**$894,857**	**$112,917**	**$16,469**	**$1,727,099**

Note: Cash Equivalents include 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.

The investments measured at net asset value (NAV) are presented in the chart below:

Fair Value Measurements and Application (GASB 72) Insurance
As of June 30, 2024 ($ in Thousands)

	CERS Nonhazardous				CERS Hazardous			
Asset Type	**Fair Value**	**Unfunded Commitments**	**Redemption Frequency**	**Redemption Notice Period**	**Fair Value**	**Unfunded Commitments**	**Redemption Frequency**	**Redemption Notice Period**
Specialty Credit [1]	$516,185	$116,016	Daily - Quarterly	90 Days	$276,864	$60,373	Daily - Quarterly	90 Days
Real Estate [2]	183,264	38,344			100,562	21,030		
Real Return [3]	93,409	47,770	Daily	30 - 60 Days	44,024	18,173	Daily	30 - 60 Days
Private Equity [4]	247,274	62,113			138,379	33,829		
Fixed Income [5]	10,899	-	Daily		4,918	-	Daily	
Non US Equity [5]	236,625	-	Daily		117,401	-	Daily	
Emerging Markets [5]	1,142		Daily		532		Daily	
US Equity [5]	11,261	-	Daily		5,732	-	Daily	
Total Investments Measured at NAV	**$1,300,059**	**$264,243**			**$688,412**	**$133,405**		

[1] This type includes 12 high yield specialty credit managers with multiple strategies. These managers may invest in U.S. or non-U.S. investment grade corporate credit, U.S. or non U.S. non-investment grade corporate credit, including both 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.

[2] This type includes 11 real estate funds that invest primarily in U.S. commercial real estate; however, there is one manager who invests solely in non-U.S. commercial real estate. The fair value of the investments have been determined using the NAV per share of the Plan's ownership interest and in the partners' capital. Distributions from each fund will be received as the underlying investments of the funds are liquidated. It is expected that the funds will be liquidated over the next 7 to 10 years. Because it is not probable that any individual investment will be sold, the fair value of each individual investment has been determined using the NAV per share of the Plan's ownership interest in the partners' capital. Due to restrictions in the contract, redemptions are not likely until the assets of the fund are liquidated.

[3] This type includes 15 real return managers that invest in multiple strategies such as infrastructure, agriculture, royalties, commodities, and natural resources. These investments are intended to provide both favorable risk-adjusted returns and correlation with inflation to help with the hedging of inflation for the broader plan. This group of managers also includes any hedge fund managers remaining in the portfolio which have all been terminated and are only awaiting payouts.

[4] This type includes 34 managers with multiple strategies. These investments cannot be redeemed. Instead, the investments are redeemed throughout the life of the investment. Distributions are received through the liquidation of the underlying assets of the fund. It is expected that each fund will remain invested for a period of 5 to 10 years. It is probable that all of the investments in this type will be sold at an amount different from the NAV per share of the Plan's ownership interest in partners' capital. Therefore, the fair values of the investment in this asset class have been determined using recent observable transaction information.

[5] This type includes short-term commingled investment instruments issued by the US Government, Federal agencies, sponsored agencies or sponsored corporations.

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 Plans*, CERS provides this additional disclosure regarding its money-weighted rate of return for the period of June 30, 2024. The money-weighted rate of return is a method of calculating period-by-period returns on the investments that adjusts for the changing amounts actually invested. For the purposes of this statement, money-weighted rate of return is calculated as the internal rate of return on investments, net of investment expenses, then adjusted for the changing amounts actually invested.

Money-Weighted Rates of Return As of June 30, 2024				
	Pension		Insurance	
	CERS Nonhazardous	CERS Hazardous	CERS Nonhazardous	CERS Hazardous
2024	11.59%	11.75%	11.75%	11.67%

Note E. Securities Lending Transactions

Kentucky Revised Statutes 61.650 and 386.020(2) permit the System to lend their securities to broker-dealers and other entities. CERS utilizes a securities lending program to temporarily lend securities to qualified agents in exchange for 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. 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. Securities Lending transactions are accounted for in accordance with GASB 28. The net earnings for CERS was $1.9M.

The IPS does not address any restrictions on the amount of loans that can be made. As of June 30, 2024, CERS had no credit risk exposure to borrowers because the collateral amounts received exceeded the amounts out on loan. The contracts with the custodial bank require them to indemnify CERS 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. BNY Mellon invests cash collateral as permitted by state statute and CERS Board policy. The agent, BNY Mellon, of the Funds cannot pledge or sell collateral securities received unless the borrower defaults. CERS maintains a conservative approach to investing the cash collateral with BNY Mellon, emphasizing capital preservation, liquidity, and credit quality.

Cash collateral is invested in guaranteed, short-term obligations of the U.S. government, select government agencies and repurchase agreements with qualified agents.CERS cannot pledge or sell collateral securities received unless the borrower defaults. BNY Mellon as the lending agent also indemnifies CERS from any financial loss associated with a borrower's default and collateral inadequacy.

As of June 30, 2024, the average days to maturity for loans was one day, and the weighted average investment maturity of cash collateral investments was one day. CERS had no credit risk exposure to borrowers because the amounts owed to borrowers exceeded the amounts the borrowers owed the System and no losses resulted during the period.

Security lending programs can entail interest rate risk and credit risk. CERS minimizes interest rate risk by limiting the term of cash collateral investments to several days. The credit risk is controlled by investing cash collateral in securities with qualities similar to the credit worthiness of lent securities.

As of June 30, 2024, the cash collateral received for the securities on loan for CERS was $445.7 million. The securities non-cash collateral received a total of $190.4 million. The collateral volume of the total underlying securities was $636.1 million for CERS.

Securities Lending Cash Collateral
As of June 30, 2024, ($ in Thousands)

CERS Nonhazardous		CERS Hazardous		CERS
Pension	Insurance	Pension	Insurance	Total
$249,969	$72,492	$88,298	$34,894	$445,653

Note F. Risk of Loss

CERS and KPPA are 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 Office of Claims and Appeals 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 $250,000 for a single claim and $400,000 in aggregate per occurrence. Awards and a pro rata share of the operating cost of the Office of Claims and Appeals are paid from the fund of the agency having a claim or claims before the Office of Claims and Appeals.

Claims against the CERS Board and the KPPA Board, or any of its staff as a result of an actual or alleged breach of fiduciary duty, are self-insured effective May 26, 2019.

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. All medical expenses related to a work injury or illness are paid based upon appropriate statutory and regulatory reductions, 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, CERS is involved in litigation concerning the right of participants, or their beneficiaries, to receive benefits. CERS does not anticipate any material losses for the System as a result of the contingent liabilities. CERS is involved in other litigation; therefore, please see Note K. Litigation, for further information.

Note H. Income Tax Status

The Internal Revenue Service (IRS) has ruled that CERS qualifies under Section 401(a) of the Internal Revenue Code are, generally, not subject to tax. CERS is subject to income tax on any unrelated business income (UBI).

Note I. Financial Report for (GASB 67) Pension Plans and (GASB 74) Postemployment Benefit Plans

The following details actuarial information and assumptions utilized in determining the unfunded (overfunded) actuarial accrued liabilities for CERS. Please note that calculations for Total Pension Liability (TPL), net fiduciary position, Net Pension Liability (NPL), total OPEB liability, net OPEB fiduciary position, and net OPEB liability (NOL) are reported in the Plans' Required Supplementary Information (RSI) on pages 52-67 are based on June 30, 2023, actuarial valuations, rolled forward to June 30, 2024. The prior year valuations are used as the basis for the roll forward method and are applied to complete the current year pension and OPEB valuations as of the measurement date, June 30, 2024, in accordance with GASB *Statement No.67*, paragraph 37, and GASB *Statement No. 74*, paragraph 41.

Financial Report for Pension Plan (GASB 67)

Basis of Calculations

The System Actuary, Gabriel, Roeder, Smith & Co. (GRS), completed reports by plan in compliance with GASB *Statement No. 67 Financial Reporting for Pension Plans.* The TPL, NPL, and sensitivity information are based on an actuarial valuation date of June 30, 2023. The TPL was rolled forward from the valuation date to the Plans' fiscal year ended June 30, 2024, using generally accepted actuarial principles. Information disclosed for years prior to June 30, 2017, were prepared by the prior actuary. GRS will provide separate reports at a later date with additional accounting information determined in accordance with GASB *Statement No. 68, Accounting and Financial Reporting for Pensions.*

Assumptions

Below is a summary of the principal assumptions used for the June 30, 2023, actuarial valuation:

- Investment Return - 6.50% for all plans,
- Inflation - 2.50% for all plans,
- Salary Increases - 3.30% to 10.30% for CERS Nonhazardous, 3.55% to 19.05% for CERS Hazardous, varies by service.
- Payroll Growth - 2% for all plans,
- Mortality - System-specific mortality table based on mortality experience from 2013 -2022, projected with the ultimate rates from MP-2020 mortality improvement scale using a base year of 2023.

Plan Provisions

There have been no assumption, method or plan provision changes that would materially impact the total pension liability since June 30, 2023. It is our opinion that these procedures for determining the information contained in these reports are reasonable, appropriate, and comply with applicable requirements under GASB No. 67.

Discount Rate

A single discount rate of 6.50% for the nonhazardous and hazardous plans was used to measure the total pension liability for the fiscal year ended June 30, 2024. 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 plan's 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 plan.

The projection of cash flows used to determine the single discount rate must include an assumption regarding actual employer contributions made each future year. Future contributions are projected assuming that the entire actuarially determined employer contribution is received by each plan each future year, calculated in accordance with the current funding policy.

The provisions of House Bill 362 (passed during the 2018 legislative session) are still in effect and limit the increases to the employer contribution rates to 12% over the prior fiscal year through June 30, 2028. However, contribution rates are not currently projected to increase by more than 12% in any given future year. Therefore, for the purposes of this calculation, the provisions of House Bill 362 do not impact the projected employer contributions.

Additional health care contributions (IRC 401(h) Subaccount)

Based on guidance issued by GASB in connection with GASB *Statement No. 74*, the 1% of pay member contributions for Tier 2 and Tier 3 members to a 401(h) subaccount is considered as an Other Post Employment Benefit (OPEB) asset. As a result, the reported pension fiduciary net positions as of June 30, 2017, and later are net of the 401(h) asset balance.

Additional Disclosures

This report is based upon information furnished to us by the Kentucky Public Pensions Authority (KPPA), which includes benefit provisions, membership information, and financial data. GRS did not audit this data and information, but GRS did apply a number of tests and concluded that it was reasonable and consistent. GRS is not responsible for the accuracy or completeness of the information provided by KPPA. Please see the "Actuarial Valuation Report as of June 30, 2023" for additional discussion of the nature of the actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions. These reports should be considered together as a complete report for the fiscal year ended June 30, 2024.

Financial Reporting for Postemployment Benefit Plans (GASB 74)

GRS completed reports by plan in compliance with GASB S*tatement No. 74*, *Financial Reporting for Postemployment Benefit Plans Other than Pension Plans* for the fiscal year ended June 30, 2024. GRS will provide separate reports at a later date with additional accounting information determined in accordance with GASB *Statement No. 75*, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions.*

Basis of Calculations

The total OPEB liability, net OPEB liability (NOL), and sensitivity information are based on an actuarial valuation date of June 30, 2023. The total OPEB liability was rolled forward from the valuation date to the plan's fiscal year ended June 30, 2024, using generally accepted actuarial principles.

Assumptions

Below is a summary of the principal assumptions used for the June 30, 2023 actuarial valuation:

- Investment Return - 6.50%
- Inflation - 2.50%
- Salary Increases - 3.30% to 10.30% for CERS Nonhazardous, 3.55% to 19.05% for CERS Hazardous
- Payroll Growth - 2.00%
- Mortality - System-specific mortality table based on mortality experience from 2013-2022, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2023.
- Healthcare Trend Rates
  - Pre-65 - Initial trend starting at 6.80% on January 1, 2025, gradually decreasing to an ultimate trend rate of 4.05% over a period of 13 years. The 2024 premiums were known at the time of the valuation and were incorporated into the liability measurement.
  - Post-65 – Initial trend starting at 8.50% on January 1, 2025, and gradually decreasing to an ultimate trend rate of 4.05% over a period of 11 years. The 2024 premiums were known at the time of the valuation and were incorporated into the liability measurement.

The discount rate used to calculate the total OPEB liability increased from 5.93% to 5.99% for the nonhazardous plan and from 5.97% to 6.02% for the hazardous plan (see further discussion on the calculation of the single discount rate later in this document). The assumed increase in future health care costs, or trend assumption, was reviewed during the June 30, 2023, valuation process and was updated to better reflect the plan's anticipated long-term healthcare cost increases. In general, the updated assumption is assuming higher future increases in pre-Medicare healthcare costs.

The Total OPEB Liability as of June 30, 2024, is determined using these updated assumptions. It is GRS' opinion that these procedures for determining the information contained in these reports are reasonable, appropriate, and comply with applicable requirements under GASB 74.

Plan Provisions

There have been no plan provision changes that would materially impact the total OPEB liability since June 30, 2023.

Implicit Employer Subsidy for non-Medicare retirees

The fully-insured premiums paid for the Kentucky Employees' Health Plan 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 No. 74 requires that the liability associated with this implicit subsidy be included in the calculation of the Total OPEB Liability.

Discount Rates

The following single discount rates were used to measure the total OPEB liability for the fiscal year ended June 30, 2024,and June 30, 2023.

PLAN	FISCAL YEAR 2024	FISCAL YEAR 2023	CHANGE IN RATE
CERS Nonhazardous	5.99%	5.93%	0.06%
CERS Hazardous	6.02%	5.97%	0.05%

Single discount rates of 5.99% for the non-hazardous plan and 6.02% for the hazardous plan were used to measure the total OPEB liability for the fiscal year ended June 30, 2024. They are based on the expected rate of return on OPEB plan investments of 6.50% and a municipal bond rate of 3.97%, as reported in Fidelity Index's "20-Year Municipal GO AA Index" as of June 30, 2024.

Based on the stated assumptions and the projection of cash flows as of each fiscal year ending, the plan's fiduciary net position and future contributions were projected to be sufficient to finance the future benefit payments of the current plan members. Therefore, the long-term expected rate of return on insurance plan investments was applied to all periods of the projected benefit payments paid from the retirement system. However, the cost associated with the implicit employer subsidy is not currently being included in the calculation of the plan's actuarial determined contributions, and it is our understanding that any cost associated with the implicit subsidy will not be paid out of the plan's trust. Therefore, the municipal bond rate was applied to future expected benefit payments associated with the implicit subsidy.

The projection of cash flows used to determine the single discount rate must include an assumption regarding actual employer contributions made each future year. Future contributions are projected assuming that the entire actuarially determined employer contribution is received by each plan each future year, calculated in accordance with the current funding policy.

Additional health care contributions (IRC 401(h) Subaccount)

Based on guidance issued by GASB in connection with GASB Statement No. 74, the 1% of pay member contributions for Tier 2 and Tier 3 members to a 401(h) subaccount is considered an OPEB asset. As a result, the reported fiduciary net position includes these 401(h) assets. Additionally, these member contributions and associated investment income and administrative expenses are included in the reconciliation of the fiduciary net position.

Additional Disclosures[1]

This report is based upon information furnished to us by KPPA, which includes benefit provisions, membership information, and financial data. GRS did not audit this data and information, but we did apply a number of tests and concluded that it was reasonable and consistent. GRS is not responsible for the accuracy or completeness of the information provided by KPPA. Please see the "Actuarial Valuation Report as of June 30, 2023," for additional discussion of the nature of the actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions. These reports should be considered together as a complete report for the fiscal year ended June 30, 2024.

1 Note: Data and information regarding GASB 67 and GASB 74 reporting was provided by GRS Retirement Consulting.

Target Asset Allocation

The long-term (10-year) expected rates of return were determined by using a building block method in which best estimated ranges of expected future real rates of return were developed for each asset class. The ranges were combined by weighting the expected future real rate of return by the target asset allocation percentage. The target allocation and best estimates of arithmetic real rate of return for each major asset class are summarized in the tables on the following page.

Target Asset Allocation - CERS Pension and Insurance
As of June 30, 2024

Allocations apply to CERS Pension and Insurance Plans

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Equity		
Public Equity	50.00%	4.15%
Private Equity	10.00%	9.10%
Fixed Income		
Core Fixed Income	10.00%	2.85%
Specialty Credit	10.00%	3.82%
Cash	0.00%	1.70%
Inflation Protected		
Real Estate	7.00%	4.90%
Real Return	13.00%	5.35%
Total	**100.00%**	

NOTE: Minor deviations are expected between the actuarial assumed rate of return and the expected rate of return reported in the above charts. The actuarial assumed rates of return are based on a review of economic assumptions completed periodically as warranted but not longer than every 2 years; whereas, the expected rate of return is calculated annually for GASB purposes by taking the current asset allocation and applying the most relevant long term market expectations (March 2024) for each asset class.

Sensitivity of the NPL to Changes in the Discount Rate Fiscal Year 2024
As of June 30, 2024 ($ in Thousands)

	CERS Nonhazardous	CERS Hazardous
	Current 6.50%	**Current 6.50%**
1% Decrease	$7,709,743	$3,311,189
Current Discount Rate	5,980,423	2,572,006
1% Increase	$4,545,544	$1,968,503

Sensitivity of the Net OPEB Liability to Changes in the Discount Rate and Healthcare Trend Rate
As of June 30, 2024 ($ in Thousands)

	CERS Nonhazardous	CERS Hazardous
	Single 5.99%	**Single 6.02%**
Sensitivity of the Net OPEB Liability to Changes in the Discount Rate		
1% Decrease	$233,889	$335,224
Single Discount Rate	(172,980)	121,303
1% Increase	$(515,076)	$(57,470)
Sensitivity of the Net OPEB Liability to Changes in the Current Healthcare Cost Trend Rate		
1% Decrease	$(416,169)	$(18,804)
Current Healthcare Cost Trend Rate	$(172,980)	121,303
1% Increase	$110,318	$285,057

Development of Single Discount Rate for OPEB
As of June 30, 2024

	CERS Nonhazardous	CERS Hazardous
Single Discount Rate	5.99%	6.02%
Long-Term Expected Rate of Return	6.50%	6.50%
Long-Term Municipal Bond Rate [1]	3.97%	3.97%

Note: 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, 2024.

Schedule of Employers' NPL - CERS Nonhazardous
As of June 30, 2024 ($ in Thousands)

Total Pension Liability (TPL)	$15,576,667
Plan Fiduciary Net Position	9,596,244
Net Pension Liability	$5,980,423
Ratio of Plan Fiduciary Net Position to TPL	61.61%
Covered Payroll [1]	$3,259,999
Net Pension Liability as a Percentage of Covered Payroll	183.45%

[1] Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.

Schedule of Employers' NPL - CERS Hazardous
As of June 30, 2024 ($ in Thousands)

Total Pension Liability (TPL)	$5,988,903
Plan Fiduciary Net Position	3,416,897
Net Pension Liability	$2,572,006
Ratio of Plan Fiduciary Net Position to TPL	57.05%
Covered Payroll [1]	$775,638
Net Pension Liability as a Percentage of Covered Payroll	331.60%

[1] Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.

Schedule of the Employers' Net OPEB Liability - CERS Nonhazardous
As of June 30, 2024 ($ in Thousands)

Year	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability/(Asset)	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	Covered Payroll [1]	Net OPEB Liability as a Percentage of Covered Payroll
2024	$3,534,297	$3,707,277	$(172,980)	104.89%	$3,259,999	(5.31)%

[1] Based on derived compensation using the provided employer contribution information. For 2024, derived compensation based on pension contribution information, as there were no required employer contributions for the insurance fund for FYE 2024.

Schedule of the Employers' Net OPEB Liability - CERS Hazardous
As of June 30, 2024 ($ in Thousands)

Year	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability/(Asset)	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	Covered Payroll [1]	Net OPEB Liability as a Percentage of Covered Payroll
2024	$1,873,669	$1,752,366	$121,303	93.53%	$796,792	15.22%

[1] Based on derived compensation using the provided employer contribution information.

Note J. Legislation

2024 Regular Session

The 2024 Regular Session of the Kentucky General Assembly adjourned on Monday, April 15, 2024. Highlights of the Session include the following:

BILLS OF DIRECT INTEREST TO CERS MEMBERS AND RETIREES

House Bill 99: The KPPA Housekeeping bill

House Bill 99 amends various sections of Kentucky Revised Statutes Chapters 16, 61, and 78 to make technical and housekeeping changes relating to administration of the system, including renaming the position of internal auditor to Chief Auditor, providing that the death benefit of $5,000 payable to a beneficiary of the member is not subject to garnishment, unless the beneficiary is the member's estate or there is an overpayment of benefits or outstanding balance owed to the system, makes modifications to the initial disability application review process, and other technical changes. "Housekeeping bill" is a slang term for typically noncontroversial legislation that "cleans up" statutes by clarifying their language or otherwise updating their content to align with changes in relevant federal or state law.

House Bill 354: Retiree health insurance reimbursements for school district employees

House Bill 354 requires that health insurance reimbursements for retirees who participated in a hazardous position prior to July 1, 2003, and are reemployed by a local school board be paid by the Department of Education instead of the local school board.

House Bill 635: Actuarial analysis assumptions and methods

House Bill 635 implements additional reporting requirements for actuarial analyses and expands the required supporting documentation and explanations of findings for fiscal and corrections impact statements.

Note K. Litigation

Many cases below were filed prior to 2021 when the KRS Board of Trustees was separated into a CERS Board, and a reconstituted KRS Board as described in the Transmittal Letter. The use of the Kentucky Retirement Systems in these cases apply to both CERS and KRS.

Mayberry

In December 2017, certain members and beneficiaries of the Kentucky Retirement Systems filed litigation (Mayberry et al v. KKR et al) against certain Hedge Fund Sellers, Investment, Actuarial and Fiduciary Advisors, Annual Report Certifiers, and certain (past and present) Kentucky Retirement Systems' Trustees and Officers in Franklin Circuit Court. The litigation alleges (in summary) that actuarial assumptions, fees, statements and disclosures harmed the financial status of the Retirement Systems. While Kentucky Retirement Systems is designated a "Defendant," that designation is a technical formality in so much as Kentucky Retirement Systems is a "nominal defendant." On April 20, 2018, the Kentucky Retirement Systems and the plaintiffs filed a joint notice with the Court advising that Kentucky Retirement Systems does not intend to challenge its status as a "nominal defendant." Since then, the Franklin Circuit Court ruled on various Defendants' Motions to Dismiss, denying nearly all of them. On January 10, 2019, KKR, Henry Kravis and George Roberts (collectively, "KKR Parties") amended their Answer to assert cross claims against Kentucky Retirement Systems. Certain Officer and Trustee Defendants appealed the denial of their Motion to Dismiss on immunity grounds to the Court of Appeals, and that appeal was transferred to the Kentucky Supreme Court. The hedge fund defendants filed a Petition for Writ of Prohibition in the Court of Appeals, arguing the Plaintiffs lacked standing to bring the action. That Petition was granted on April 23, 2019. Plaintiffs promptly appealed the Court of Appeals' decision to the Supreme Court of Kentucky. On July 9, 2020, the Supreme Court of Kentucky issued an Opinion stating that the plaintiffs, as beneficiaries of a defined-benefit plan who have received all of their vested benefits so far and are legally entitled to receive their benefits for the rest of their lives, do not have a concrete stake in this case and therefore lack standing to bring this claim. The case was remanded to the circuit court with directions to dismiss the complaint. Thereafter, plaintiffs filed a motion seeking to amend their complaint to add parties (Tier 3 members of the Retirement Systems) and claims that would purportedly correct the standing defect identified by the Supreme Court of Kentucky. Furthermore, the Attorney General of the Commonwealth of Kentucky sought leave to intervene in this action through a motion filed July 20, 2020, and an Intervening Complaint on July 22, 2020. The Defendants filed motions seeking to have the case dismissed. On December 28, 2020, Franklin Circuit Court issued an Order dismissing the Complaint filed by the Plaintiffs, denied Plaintiffs' Motion to file a Second Amended Complaint, and granted the Office of the Attorney General's Motion to Intervene. A variety of additional motions and pleadings were filed, including an original action by the Tier 3 Group. This original action is still in the initial stages and is pending with Franklin Circuit Court. (Tia Taylor, et al. v KKR & Co. L.P., et al.) On January 12, 2021, Franklin Circuit Court issued a scheduling Order granting the Attorney General until February 1, 2021 to file an Amended Intervening Complaint, granting the Tier 3 Group until February 11, 2021 to file a Motion to Intervene in this action. Additional extension orders were granted for the Attorney General intervention. The Attorney General filed an Amended Complaint on May 24, 2021. On June 14, 2021, the Tier 3 Group's Motion to Intervene in the Attorney General action was denied. In the spring of 2022, Franklin Circuit Judge Phillip Shepherd recused and this matter was assigned to Judge Thomas Wingate.

Following the Attorney General's intervention, the Defendants challenged the intervention as beyond the scope of the remand from the Supreme Court in July of 2020. Franklin Circuit Court denied that motion and the matter was on appeal when this case was assigned to Judge Thomas Wingate. Judge Wingate placed the matter in abeyance pending a decision on whether the Attorney General's intervention was proper. The Court of Appeals held that the Attorney General should not have been allowed to intervene and the Attorney General is currently seeking Discretionary Review by the Supreme Court.

Simultaneously with his intervention, the Attorney General filed a separate, stand-alone case with an identical complaint to protect against the possibility that his intervention would be deemed improper. The Defendants filed motions to dismiss the Attorney General's stand-alone case based on various legal theories. Franklin Circuit Court denied the majority of these motions but granted the motions to dismiss on behalf of R.V. Kuhns and Cavanaugh Macdonald, KRS' actuary and investment consultant during the relevant timeframe. This case is still proceeding.

A number of related cases have also developed based on issues raised in the above referenced Mayberry action. There has been an action filed by a number of the Trustees and Officers named in Mayberry seeking reimbursement by Kentucky Retirement Systems of legal fees. Kentucky Retirement Systems has also filed an action against Hallmark Specialty Insurance seeking a declaratory judgment that Hallmark has a duty to defend and indemnify Kentucky Retirement Systems in the Mayberry action. Two of the hedge fund Defendants in the Mayberry action have also filed an action in the United States District Court for the Eastern District of Kentucky naming individual members of the former KRS Board of Trustees as Defendants. This action is seeking a judgment declaring that the Trustees violated Plaintiffs' right to due process as well as an award of costs and attorneys' fees. Three actions have also been filed in Delaware regarding the Mayberry action. One filed by Prisma Capital Partners and one filed by Blackstone Alternative Asset Management alleged breaches of warranties, representations and more relating to the Subscription Agreements signed by the Kentucky Retirement Systems. The third was filed by Prisma Capital Partners against the Daniel Boone Fund, LLC. Additionally, an action has been filed by PAAMCO against Kentucky Retirement Systems in California also alleging breaches of warranties, representations and more relating to the Subscription Agreements signed by the Kentucky Retirement Systems. Finally, on August 2, 2021, Blackstone Alternative Asset Management, L.P. (BAAM) filed an action against the Kentucky Public Pensions Authority, the Board of Trustees of the Kentucky Retirement Systems, the Board of Trustees of the County Employees Retirement System, the Kentucky Retirement Systems Insurance Fund, and the Kentucky Retirement Systems Pension Fund (collectively “Defendants”) for breach of contract. The Defendants filed a Motion to Dismiss on September 8, 2021. The last of these additional actions, the suit filed by BAAM, was dismissed by Franklin Circuit Court. The Court of Appeals upheld the dismissal, and BAAM is seeking Discretionary Review by the Supreme Court. The rest of these cases remain active in various stages of litigation.

Bayhills

In 2018, Kentucky Retirement Systems sued Bayhills for breach of contract seeking to terminate Bayhills as investment managers. Kentucky Retirement Systems filed the suit in Franklin Circuit Court, but Bayhills removed it to federal district court. Kentucky Retirement Systems successfully had the case remanded back to state court. The case is now pending before Franklin Circuit Court. The Court entered an injunction preventing Bayhills from paying themselves management and other fees during the litigation. Bayhills has appealed this ruling to the Court of Appeals. The Court of Appeals and the Kentucky Supreme Court denied Bayhills their requested relief on appeal. Litigation is still ongoing.

Kentucky State Lodge & Linda Cook

In January and February 2022, two complaints were filed on behalf of specific named plaintiffs and others similarly situated based on the same facts that gave rise to the former River City Fraternal Order of Police (FOP) complaint. KPPA was aware that the River City FOP case impacted more individuals than the named plaintiffs and had been working on legislative and regulatory solutions. Legislation passed by the 2022 General Assembly allows individuals negatively impacted by the Medicare Secondary Payer Act to receive their health insurance through the Kentucky Employees Health Plan, and KPPA has promulgated a regulation to reimburse those individuals who had to pay for health insurance consistent with the Sixth Circuit Opinion. The two lawsuits from January and February are currently in the discovery phase concerning class certification. In addition to the MSPA issue, the two new suits allege that requiring Medicare eligible members to pay for Medicare Part B violates their right to “free” health insurance under their inviolable contract.

Franklin Circuit Court denied class certification for the purpose of monetary damages but granted for declaratory or injunctive relief. Both parties appealed various portions of the Circuit Court order. After filing the appeal, the plaintiffs filed a Motion to Alter, Amend, or Vacate with the Circuit Court. The Court of Appeals placed the appeals in abeyance pending the resolution of that motion.

Note L. Reciprocity Agreement

In accordance with Kentucky Revised Statutes 78.5536, CERS has reciprocity agreements with Kentucky Employees Retirement System (KERS), State Police Retirement System (SPRS), Teachers’ Retirement System of Kentucky (TRS), and Judicial Form Retirement System (JFRS) for the payment of insurance benefits for those members who have creditable service in CERS, KERS, SPRS, TRS and/or JFRS systems.

Note M. Reimbursement of Retired Re-Employed Health Insurance, Active Member Health Insurance Contributions, and Retired Re-Employed Employer Contributions

Reimbursement of Retired Re-Employed Health Insurance

If a retiree is re-employed in a regular full-time position and has chosen health insurance coverage through CERS, the employer is required to reimburse CERS for the health insurance premium paid on the retiree's behalf, not to exceed the cost of the single premium rate. Exceptions for retired members who re-employ as a police officer, sheriff or school resource officer exist which may exempt employers from paying employer contributions and health insurance reimbursements if certain requirements are met. For the fiscal year ended June 30, 2024, the reimbursement totaled $9.5 million.

Active Member Health Insurance Contributions

For new plan participants after August 31, 2008, an active member contribution of 1% in addition to the member pension contribution is required. This 1% is applicable to all Nonhazardous and Hazardous plans, and reported in the Insurance Fund. For the fiscal year ended June 30, 2024, members paid into the Insurance Fund $25.6 million.

Retired Re-Employed Employer Contributions

Employers are required to report employer contributions on retired members who are employed in a regular full-time position. These members are referred to as retired re-employed members. These are reported within the employer contributions on the financial statements. Exceptions for retired members who re-employ as a police officer, sheriff or school resource officer exist which may exempt employers from paying employer contributions and health insurance reimbursements if certain requirements are met.

Retired Reemployed Healthcare Contributions As of June 30, 2024 ($ in Thousands)	CERS Nonhazardous	CERS Hazardous	Total
Amount	$7,378	$2,088	$9,466

Member Health Insurance Contributions As of June 30, 2024 ($ in Thousands)	CERS Nonhazardous	CERS Hazardous	Total
Amount	$20,650	$4,979	$25,629

Note N. Prisma Daniel Boone Fund

The funds invested with Prisma Daniel Boone Fund continue to be held in a contingency reserve to cover potential obligations arising from the Mayberry Action (see Note K for details of Mayberry Case). The total reported in reserve as of June 30, 2024, is $77.1 million for the Pension Plans and $29.9 million for the Insurance Plans. This is based on the May 31, 2024, report because Real Return managers are reported on a one month lag.

Note O. Subsequent Events

Management has evaluated the period June 30, 2024, to December 5, 2024, (the date the combining financial statements were available to be issued) for items requiring recognition or disclosure in the combining financial statements.

Note P. Related Party

KPPA is the special-purpose government responsible for the day-to-day administration of CERS, and the Kentucky Retirement Systems (KRS), comprising the Kentucky Employees Retirement System (KERS) and the State Police Retirement System (SPRS).

Kentucky Revised Statute 61.505 11(a) requires all expenses incurred by or on behalf of KPPA to be prorated, assigned, or allocated to the systems that KPPA administers. KPPA works closely with the CERS Board and KRS Boards of Trustees to develop an allocation method that takes into consideration membership, assets under management, system specific costs, and statutory requirements.

The expenses incurred by KPPA on behalf of the systems are administrative costs which include salaries and benefits of professional employees providing investment management, benefits counseling, legal services, information technology services, accounting, and payroll functions. In addition, administrative costs include operational payments for hardware, software, utilities, rent, as well as contract and consulting costs with legal, audit and actuarial service providers. The administrative budget of KPPA is funded with restricted funds of CERS and KRS and is subject to approval by the Kentucky General Assembly through the biennial budget process.

Total administrative costs incurred by KPPA for the fiscal year ended June 30, 2024, were $47.3 million, of which $30.4 million was allocated to CERS based on the hybrid allocation developed by the KPPA Board, the CERS Board, and the KRS Board.

REQUIRED SUPPLEMENTARY INFORMATION

INCLUDING GASB 67 AND 74

Schedule of Employers' NPL - CERS Nonhazardous Pension
As of June 30 ($ in Thousands)

Year	Total Pension Liability (TPL)	Plan Fiduciary Net Position	Net Pension Liability	Ratio of Plan Fiduciary Net Position to TPL	Covered Payroll [1]	Net Pension Liability as a Percentage of Covered Payroll
2024	$15,576,667	$9,596,244	$5,980,423	61.61%	$3,259,999	183.45%
2023	15,089,106	8,672,597	6,416,509	57.48%	2,966,567	216.29%
2022	15,192,599	7,963,586	7,229,013	52.42%	2,835,173	254.98%
2021	14,941,437	8,565,652	6,375,785	57.33%	2,446,612	260.60%
2020	14,697,244	7,027,327	7,669,917	47.81%	2,462,752	311.44%
2019	14,192,966	7,159,921	7,033,045	50.45%	2,424,796	290.05%
2018	13,109,268	7,018,963	6,090,305	53.54%	2,454,927	248.08%
2017	12,540,545	6,687,237	5,853,308	53.32%	2,376,290	246.32%
2016	11,065,013	6,141,395	4,923,618	55.50%	2,417,187	203.69%
2015	$10,740,325	$6,440,800	$4,299,525	59.97%	$2,296,716	187.20%

[1] Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.

Schedule of Employers' NPL - CERS Hazardous Pension
As of June 30 ($ in Thousands)

Year	Total Pension Liability (TPL)	Plan Fiduciary Net Position	Net Pension Liability	Ratio of Plan Fiduciary Net Position to TPL	Covered Payroll[1]	Net Pension Liability as a Percentage of Covered Payroll
2024	$5,988,903	$3,416,897	$2,572,006	57.05%	$775,638	331.60%
2023	5,731,148	3,035,192	2,695,956	52.96%	714,837	377.14%
2022	5,769,691	2,718,234	3,051,457	47.11%	666,346	457.94%
2021	5,576,567	2,914,408	2,662,159	52.26%	572,484	465.02%
2020	5,394,732	2,379,704	3,015,028	44.11%	559,551	538.83%
2019	5,176,003	2,413,708	2,762,295	46.63%	553,541	499.02%
2018	4,766,794	2,348,337	2,418,457	49.26%	562,853	429.68%
2017	4,455,275	2,217,996	2,237,279	49.78%	526,559	424.89%
2016	3,726,115	2,010,174	1,715,941	53.95%	526,334	326.02%
2015	$3,613,308	$2,078,202	$1,535,106	57.52%	$483,641	317.41%

[1] Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.

Schedule of Changes in Employers' TPL - CERS Nonhazardous
As of June 30 ($ in Thousands)

Total Pension Liability (TPL)	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Service Cost	$283,140	$283,633	$272,250	$280,165	$280,092	$254,643	$254,169	$193,082	$209,101	$207,400
Interest	949,404	920,862	906,401	892,309	861,720	794,935	760,622	803,555	780,587	733,002
Benefit Changes	-	3,862	-	4,106	-	-	15,708	-	-	-
Difference between Expected and Actual Experience	220,798	511,721	(49,439)	(91,776)	173,345	87,377	279,401	(208,015)	-	49,966
Changes of Assumptions	-	(905,957)	-	-	-	727,351	-	1,388,800	-	606,293
Benefit Payments	(965,781)	(917,614)	(878,050)	(840,611)	(810,879)	(780,608)	(741,177)	(701,891)	(665,000)	(628,858)
Net Change in TPL	**487,561**	**(103,493)**	**251,162**	**244,193**	**504,278**	**1,083,698**	**568,723**	**1,475,532**	**324,687**	**967,803**
TPL – Beginning	**15,089,106**	**15,192,599**	**14,941,437**	**14,697,244**	**14,192,966**	**13,109,268**	**12,540,545**	**11,065,013**	**10,740,325**	**9,772,522**
TPL – Ending (a)	**$15,576,667**	**$15,089,106**	**$15,192,599**	**$14,941,437**	**$14,697,244**	**$14,192,966**	**$13,109,268**	**$12,540,545**	**$11,065,013**	**$10,740,325**
Plan Fiduciary Net Position [1]										
Contributions – Employer	$764,778	$697,681	$606,807	$472,228	$475,416	$393,453	$358,017	$333,554	$284,105	$298,565
Contributions – Member [2]	161,176	147,769	186,648	165,698	168,994	159,064	160,370	150,715	141,674	140,311
Refunds of Contributions	(25,267)	(23,263)	(19,789)	(13,862)	(14,918)	(14,387)	(14,608)	(14,430)	(13,753)	(13,523)
Retirement Benefit	(940,514)	(894,351)	(858,261)	(826,749)	(795,960)	(766,221)	(726,569)	(687,461)	(651,246)	(615,335)
Net Investment Income [2]	990,021	805,303	(494,801)	1,762,739	56,178	390,664	573,829	825,900	(40,800)	110,568
Administrative Expense	(26,547)	(24,128)	(22,670)	(21,729)	(22,304)	(21,659)	(19,592)	(19,609)	(19,385)	(18,212)
Other	-	-	-	-	-	44 [5]	361 [5]	(42,827) [4]	-	10,280
Net Change in Plan Fiduciary Net Position	**923,647**	**709,011**	**(602,066)**	**1,538,325**	**(132,594)**	**140,958**	**331,808**	**545,843**	**(299,405)**	**(87,346)**
Plan Fiduciary Net Position - Beginning	**8,672,597**	**7,963,586**	**8,565,652**	**7,027,327**	**7,159,921**	**7,018,963**	**6,687,237**	**6,141,395**	**6,440,800**	**6,528,146**
Prior Year Adjustment	**-**	**-**	**-**	**-**	**-**	**-**	**(82)**	**-**	**-**	**-**
Plan Fiduciary Net Position – Ending (b)	**9,596,244**	**8,672,597**	**7,963,586**	**8,565,652**	**7,027,327**	**7,159,921**	**7,018,963**	**6,687,237**	**6,141,395**	**6,440,800**
Net Pension Liability – Ending (a) – (b)	**$5,980,423**	**$6,416,509**	**$7,229,013**	**$6,375,785**	**$7,669,917**	**$7,033,045**	**$6,090,305**	**$5,853,308**	**$4,923,618**	**$4,299,525**
Plan Fiduciary Net Position as a Percentage	61.61%	57.48%	52.42%	57.33%	47.81%	50.45%	53.54%	53.32%	55.50%	59.97%
Covered Payroll [3]	$3,259,999	$2,966,567	$2,835,173	$2,446,612	$2,462,752	$2,424,796	$2,454,927	$2,376,290	$2,417,187	$2,296,716
Net Pension Liability as a Percentage of Covered Payroll	**183.45%**	**216.29%**	**254.98%**	**260.60%**	**311.44%**	**290.05%**	**248.08%**	**246.32%**	**203.69%**	**187.20%**

[1] Does not include 401(h) assets for fiscal years 2017 and later. Assets totaled $121,382,000 as of June 30, 2024.

[2] Does not include 401(h) contributions or associated investment income for fiscal years 2017 and later. For fiscal year 2024, 401(h) contributions equaled $(86,000); and associated investment return equaled $12,626,000.

[3] Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.

[4] Adjustment due to 401(h) plan asset balance being considered an OPEB asset under GASB 74 for fiscal years 2017 and later.

[5] Northern Trust Settlement.

Schedule of Changes in Employers' TPL - CERS Hazardous
As of June 30 ($ in Thousands)

Total Pension Liability (TPL)	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Service Cost	$122,224	$115,389	$109,683	$109,350	$109,887	$77,426	$81,103	$58,343	$66,249	$71,934
Interest	361,081	350,413	338,799	327,963	314,762	289,741	270,694	270,860	262,886	247,008
Benefit Changes	-	-	-	333	-	-	2,172	-	-	-
Difference between Expected and Actual Experience	126,573	97,750	56,197	38,850	73,696	27,364	205,882	92,588	-	41,935
Changes of Assumptions	-	(275,934)	-	-	-	276,541	-	536,667	-	166,849
Benefit Payments	(352,123)	(326,161)	(311,555)	(294,661)	(279,616)	(261,863)	(248,332)	(229,299)	(216,327)	(203,244)
Net Change in TPL	**257,755**	**(38,543)**	**193,124**	**181,835**	**218,729**	**409,209**	**311,519**	**729,159**	**112,807**	**324,482**
TPL – Beginning	**5,731,148**	**5,769,691**	**5,576,567**	**5,394,732**	**5,176,003**	**4,766,794**	**4,455,275**	**3,726,115**	**3,613,308**	**3,288,826**
TPL – Ending (a)	**$5,988,903**	**$5,731,148**	**$5,769,691**	**$5,576,567**	**$5,394,732**	**$5,176,003**	**$4,766,794**	**$4,455,275**	**$3,726,115**	**$3,613,308**
Plan Fiduciary Net Position [1]										
Contributions – Employer	$321,293	$308,223	$222,028	$172,205	$168,443	$138,053	$127,660	$115,947	$105,713	$108,071
Contributions – Member [2]	61,438	56,987	69,565	62,367	63,236	58,661	61,089	60,101	52,972	47,692
Refunds of Contributions	(8,540)	(6,568)	(5,766)	(4,662)	(3,814)	(2,854)	(4,214)	(2,315)	(2,879)	(3,111)
Retirement Benefit	(343,583)	(319,593)	(305,789)	(289,999)	(275,802)	(259,009)	(244,118)	(226,984)	(213,448)	(200,134)
Net Investment Income [2]	353,435	280,033	(174,217)	596,641	15,914	132,232	191,324	270,473	(9,020)	37,104
Administrative Expense	(2,338)	(2,124)	(1,995)	(1,848)	(1,981)	(1,726)	(1,504)	(1,421)	(1,366)	(1,288)
Other	-	-	-	-	-	14 [5]	111 [5]	(7,979) [4]	-	2,865
Net Change in Plan Fiduciary Net Position	**381,705**	**316,958**	**(196,174)**	**534,704**	**(34,004)**	**65,371**	**130,348**	**207,822**	**(68,028)**	**(8,801)**
Plan Fiduciary Net Position – Beginning	**3,035,192**	**2,718,234**	**2,914,408**	**2,379,704**	**2,413,708**	**2,348,337**	**2,217,996**	**2,010,174**	**2,078,202**	**2,087,002**
Prior Year Adjustment	**-**	**-**	**-**	**-**	**-**	**-**	**(7)**	**-**	**-**	**-**
Plan Fiduciary Net Position – Ending (b)	**3,416,897**	**3,035,192**	**2,718,234**	**2,914,408**	**2,379,704**	**2,413,708**	**2,348,337**	**2,217,996**	**2,010,174**	**2,078,202**
Net Pension Liability – Ending (a) – (b)	**$2,572,006**	**$2,695,956**	**$3,051,457**	**$2,662,159**	**$3,015,028**	**$2,762,295**	**$2,418,457**	**$2,237,279**	**$1,715,941**	**$1,535,106**
Plan Fiduciary Net Position as a Percentage	57.05%	52.96%	47.11%	52.26%	44.11%	46.63%	49.26%	49.78%	53.95%	57.52%
Covered Payroll [3]	$775,638	$714,837	$666,346	$572,484	$559,551	$553,541	$562,853	$526,559	$526,334	$483,641
Net Pension Liability as a Percentage of Covered Payroll	**331.60%**	**377.14%**	**457.94%**	**465.02%**	**538.83%**	**499.02%**	**429.68%**	**424.89%**	**326.02%**	**317.41%**

[1] Does not include 401(h) assets for fiscal years 2017 and later. 401(h) assets totaled $22,963,000 as of June 30, 2024.

[2] Does not include 401(h) contributions or associated investment income for fiscal years 2017 and later. For fiscal year 2024, 401(h) contributions equaled $(59,000): and associated investment return equaled $2,417,000.

[3] Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.

[4] Adjustment due to 401(h) plan asset balance being considered an OPEB asset under GASB 74 for fiscal years 2017 and later.

[5] Northern Trust Settlement.

The actuarially determined contributions effective for fiscal year ended June 30, 2024 that are documented in the schedules on the following pages, were calculated as of June 30, 2022. Based on the June 30, 2022, actuarial valuation report, the actuarial methods and assumptions used to calculate these contribution rates are below:

Notes to Schedule of Employers' Contribution

Item	CERS Nonhazardous	CERS Hazardous
Determined by the Actuarial Valuation as of:	June 30, 2022	June 30, 2022
Actuarial Cost Method:	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
Amortization Method:	Level Percent of Pay	Level Percent of Pay
Amortization Period:	30-year closed period at June 30, 2019, Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases	30-year closed period at June 30, 2019, Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases
Payroll Growth	2.00%	2.00%
Investment Return:	6.25%	6.25%
Inflation:	2.30%	2.30%
Salary Increase:	3.30% to 10.30%, varies by service	3.55% to 19.05%, varies by service
Mortality:	System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019	System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019
Phase-In provision	Board certified rate is phased into the actuarially determined rate in accordance with HB 362 enacted in 2018.	Board certified rate is phased into the actuarially determined rate in accordance with HB 362 enacted in 2018.

Schedule of Employers' Contributions Pension - CERS Nonhazardous
As of June 30 ($ in Thousands)

Fiscal Year Ending	Actuarially Determined Contribution [1]	Total Employer Contribution	Contribution Deficiency (Excess)	Covered Payroll [2]	Actual Contributions as a Percentage of Covered Payroll
2024	$764,747	$764,778	$(31)	$3,259,999	23.46%
2023	697,634	697,681	(47)	2,966,567	23.52%
2022	636,071	606,807	29,264	2,835,173	21.40%
2021	582,538	472,228	110,310	2,446,612	19.30%
2020	554,612	475,416	79,196	2,462,752	19.30%
2019	529,575	393,453	136,122	2,424,796	16.23%
2018	355,473	358,017	(2,544)	2,454,927	14.58%
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%

[1] Actuarially determined contribution for fiscal year ended 2024 is based on the contribution rate calculated with the June 30, 2022, actuarial valuation.

[2] Based on derived compensation using the provided employer contribution information for fiscal years 2017, and later.

Schedule of Employers' Contributions Pension - CERS Hazardous
As of June 30 ($ in Thousands)

Fiscal Year Ending	Actuarially Determined Contribution [1]	Total Employer Contribution	Contribution Deficiency (Excess)	Covered Payroll [2]	Actual Contributions as a Percentage of Covered Payroll
2024	$321,224	$321,293	$(69)	$775,638	41.42%
2023	308,037	308,223	(186)	714,837	43.12%
2022	269,542	222,028	47,514	666,346	33.32%
2021	240,558	172,205	68,353	572,484	30.08%
2020	206,922	168,443	38,479	559,551	30.10%
2019	197,559	138,053	59,506	553,541	24.94%
2018	124,953	127,660	(2,707)	562,853	22.68%
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%

[1] Actuarially determined contribution for fiscal year ended 2024 is based on the contribution rate calculated with the June 30, 2022, actuarial valuation.

[2] Based on derived compensation using the provided employer contribution information for fiscal years 2017, and later.

Schedule of the Employers' Net OPEB Liability - CERS Nonhazardous
As of June 30 ($ in Thousands)

Year	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability/(Asset)	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	Covered Payroll [1]	Net OPEB Liability as a Percentage of Covered Payroll
2024	$3,534,297	$3,707,277	$(172,980)	104.89%	$3,259,999	(5.31)%
2023	3,260,308	3,398,375	(138,067)	104.23%	2,982,960	(4.63)%
2022	5,053,498	3,079,984	1,973,514	60.95%	2,843,218	69.41%
2021	5,161,251	3,246,801	1,914,450	62.91%	2,619,695	73.08%
2020	4,996,309	2,581,613	2,414,696	51.67%	2,620,585	92.14%
2019	4,251,466	2,569,511	1,681,955	60.44%	2,577,378	65.26%
2018	4,189,606	2,414,126	1,775,480	57.62%	2,570,156	69.08%
2017	$4,222,878	$2,212,536	$2,010,342	52.39%	$2,480,130	81.06%

[1] Based on derived compensation using the provided employer contribution information. For 2024, derived compensation based on pension contribution information, as there were no required employer contributions for the insurance Plan for FYE2024.

This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of the Employers' Net OPEB Liability - CERS Hazardous
As of June 30 ($ in Thousands)

Year	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability/(Asset)	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	Covered Payroll [1]	Net OPEB Liability as a Percentage of Covered Payroll
2024	$1,873,669	$1,752,366	$121,303	93.53%	$796,792	15.22%
2023	1,771,015	1,634,192	136,823	92.27%	719,666	19.01%
2022	2,374,457	1,522,671	851,786	64.13%	668,667	127.39%
2021	2,436,383	1,627,824	808,559	66.81%	613,985	131.69%
2020	2,245,222	1,321,117	924,105	58.84%	596,001	155.05%
2019	2,080,574	1,340,714	739,860	64.44%	583,632	126.77%
2018	1,993,941	1,280,982	712,959	64.24%	588,526	121.14%
2017	$2,015,673	$1,189,001	$826,672	58.99%	$542,710	152.32%

[1] Based on derived compensation using the provided employer contribution information.

This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of Changes in Employers' Net OPEB Liability - CERS Nonhazardous As of June 30 ($ in Thousands)

	2024	2023	2022	2021	2020	2019	2018	2017
Total OPEB Liability								
Service Cost	$96,276	$98,045	$138,225	$132,407	$131,289	$119,011	$122,244	$85,468
Interest on Total OPEB liability	188,558	283,330	263,390	262,128	236,126	240,352	242,048	240,854
Benefit Changes	-	5,153	74,108	3,359	-	-	4,306	-
Difference between Expected and Actual Experience	122,626	(2,134,260)	(68,111)	(340,831)	505,843	(404,301)	(240,568)	(6,641)
Assumption Changes	27,673	120,132	(323,247)	282,975	60,225	268,842	(4,876)	520,286
Benefit Payments [1] [2]	(161,144)	(165,590)	(192,118)	(175,096)	(188,640)	(162,044)	(156,426)	(140,120)
Net Change in Total OPEB Liability	**273,989**	**(1,793,190)**	**(107,753)**	**164,942**	**744,843**	**61,860**	**(33,272)**	**699,847**
Total OPEB Liability - Beginning	**3,260,308**	**5,053,498**	**5,161,251**	**4,996,309**	**4,251,466**	**4,189,606**	**4,222,878**	**3,523,031**
Total OPEB Liability - Ending (a)	**$3,534,297**	**$3,260,308**	**$5,053,498**	**$5,161,251**	**$4,996,309**	**$4,251,466**	**$4,189,606**	**$4,222,878**
Plan Fiduciary Net Position								
Contributions – Employer [2]	$57,187	$151,052	$187,204	$186,509	$179,521	$168,905	$145,809	$133,326
Contributions – Member	20,651	17,751	15,925	13,613	12,964	11,801	10,825	9,158
Benefit Payments [1] [2]	(161,144)	(165,590)	(192,118)	(175,096)	(188,640)	(162,044)	(156,426)	(140,120)
OPEB Plan Net Investment Income	393,138	316,115	(176,895)	641,084	9,160	137,591	202,068	264,782
OPEB Plan Administrative Expense	(930)	(937)	(933)	(922)	(903)	(877)	(761)	(789)
Other [4]	-	-	-	-	-	9	75	-
Net Change in Plan Fiduciary Net Position	**308,902**	**318,391**	**(166,817)**	**665,188**	**12,102**	**155,385**	**201,590**	**266,357**
Plan Fiduciary Net Position – Beginning	**3,398,375**	**3,079,984**	**3,246,801**	**2,581,613**	**2,569,511**	**2,414,126**	**2,212,536**	**1,946,179**
Plan Fiduciary Net Position – Ending (b)	**3,707,277**	**3,398,375**	**3,079,984**	**3,246,801**	**2,581,613**	**2,569,511**	**2,414,126**	**2,212,536**
Net OPEB Liability – Ending (a) – (b)	**$(172,980)**	**$(138,067)**	**$1,973,514**	**$1,914,450**	**$2,414,696**	**$1,681,955**	**$1,775,480**	**$2,010,342**
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	104.89%	104.23%	60.95%	62.91%	51.67%	60.44%	57.62%	52.39%
Covered Payroll [3]	$3,259,999	$2,982,960	$2,843,218	$2,619,695	$2,620,585	$2,577,378	$2,570,156	$2,480,130
Net OPEB Liability as a Percentage of Covered Payroll	**(5.31)%**	**(4.63)%**	**69.41%**	**73.08%**	**92.14%**	**65.26%**	**69.08%**	**81.06%**

[1] Benefit payments are offset by insurance premiums received from retirees, Medicare Drug Reimbursements, and Humana Gain Share Payments (in applicable years).

[2] Employer contributions and benefit payments include expected benefits due to the implicit subsidy for members under age 65, equal to $47,044,255 for fiscal year 2024.

[3] Based on derived compensation using the provided employer contribution information. For 2024, derived compensation based on pension contribution information, as there were no required employer contributions for the insurance fund for FYE2024

[4] Northern Trust Settlement.

This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of Changes in Employers' Net OPEB Liability - CERS Hazardous
As of June 30 ($ in Thousands)

	2024	2023	2022	2021	2020	2019	2018	2017
Total OPEB Liability								
Service Cost	$32,335	$36,330	$52,265	$48,413	$47,443	$32,623	$33,948	$20,493
Interest on Total OPEB liability	102,922	130,614	120,640	116,710	115,998	116,768	118,009	113,166
Benefit Changes	-	-	44,909	1,146	-	-	484	-
Difference between Expected and Actual Experience	32,646	(646,006)	(7,814)	(47,937)	38,156	(103,317)	(100,348)	(2,470)
Assumption Changes	28,802	(31,947)	(176,969)	159,106	46,925	116,618	(2,500)	391,061
Benefit Payments [(1)] [(2)]	(94,051)	(92,433)	(94,957)	(86,277)	(83,874)	(76,059)	(71,325)	(63,656)
Net Change in Total OPEB Liability	**102,654**	**(603,442)**	**(61,926)**	**191,161**	**164,648**	**86,633**	**(21,732)**	**458,594**
Total OPEB Liability - Beginning	**1,771,015**	**2,374,457**	**2,436,383**	**2,245,222**	**2,080,574**	**1,993,941**	**2,015,673**	**1,557,079**
Total OPEB Liability - Ending (a)	**$1,873,669**	**$1,771,015**	**$2,374,457**	**$2,436,383**	**$2,245,222**	**$2,080,574**	**$1,993,941**	**$2,015,673**
Plan Fiduciary Net Position								
Contributions – Employer [(2)]	$21,945	$49,547	$66,320	$63,509	$59,662	$60,445	$51,615	$44,325
Contributions – Member	4,979	4,258	3,654	3,098	2,762	2,458	2,173	1,708
Benefit Payments [(1)] [(2)]	(94,051)	(92,433)	(94,957)	(86,277)	(83,874)	(76,059)	(71,325)	(63,656)
OPEB Plan Net Investment Income	185,823	150,671	(79,668)	326,905	2,315	73,317	109,854	143,892
OPEB Plan Administrative Expense	(522)	(522)	(502)	(528)	(462)	(434)	(376)	(381)
Other [(4)]	-	-	-	-	-	5	40	-
Net Change in Plan Fiduciary Net Position	**118,174**	**111,521**	**(105,153)**	**306,707**	**(19,597)**	**59,732**	**91,981**	**125,888**
Plan Fiduciary Net Position – Beginning	**1,634,192**	**1,522,671**	**1,627,824**	**1,321,117**	**1,340,714**	**1,280,982**	**1,189,001**	**1,063,113**
Plan Fiduciary Net Position – Ending (b)	**1,752,366**	**1,634,192**	**1,522,671**	**1,627,824**	**1,321,117**	**1,340,714**	**1,280,982**	**1,189,001**
Net OPEB Liability – Ending (a) – (b)	**$121,303**	**$136,823**	**$851,786**	**$808,559**	**$924,105**	**$739,860**	**$712,959**	**$826,672**
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	93.53%	92.27%	64.13%	66.81%	58.84%	64.44%	64.24%	58.99%
Covered Payroll [(3)]	$796,792	$719,666	$668,667	$613,985	$596,001	$583,632	$588,526	$542,710
Net OPEB Liability as a Percentage of Covered Payroll	**15.22%**	**19.01%**	**127.39%**	**131.69%**	**155.05%**	**126.77%**	**121.14%**	**152.32%**

[(1)] Benefit payments are offset by insurance premiums received from retirees, Medicare Drug Reimbursements, and Humana Gain Share Payments (in applicable years).

[(2)] Employer contributions include expected benefits due to the implicit subsidy for members under age 65, equal to ($700,337) for fiscal year 2024.

[(3)] Based on derived compensation using the provided employer contribution information.

[(4)] Northern Trust Settlement.

This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

The actuarially determined contributions effective for fiscal year ended June 30, 2024 that are documented in the following schedules were calculated as of June 30, 2022. Based on the June 30, 2022, actuarial valuation report, the actuarial methods and assumptions used to calculate the required contributions follow.

Notes to Schedule of Employers' OPEB Contributions

Item	CERS Nonhazardous	CERS Hazardous
Determined by the Actuarial Valuation as of:	June 30, 2022	June 30, 2022
Actuarial Cost Method:	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.
Amortization Method:	Level Percent of Pay	Level Percent of Pay
Amortization Period:	30-year closed period at June 30, 2019 Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases.	30-year closed period at June 30, 2019 Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases.
Payroll Growth Rate:	2.00%	2.00%
Investment Return:	6.25%	6.25%
Inflation:	2.30%	2.30%
Salary Increase:	3.30% to 10.30%, varies by service.	3.55% to 19.05%, varies by service.
Mortality:	System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019.	System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019.
Healthcare Trend Rates:		
Pre-65	Initial trend starting at 6.20% at January 1, 2024 and gradually decreasing to an ultimate trend rate of 4.05% over a period of 12 years. The 2023 premiums were known at the time of the valuation and were incorporated into the liability measurement.	Initial trend starting at 6.20% at January 1, 2024 and gradually decreasing to an ultimate trend rate of 4.05% over a period of 12 years. The 2023 premiums were known at the time of the valuation and were incorporated into the liability measurement.
Post-65	Initial trend starting at 9.00% at January 1, 2024 and gradually decreasing to an ultimate trend rate of 4.05% over a period of 12 years. The 2023 premiums were known at the time of the valuation and were incorporated into the liability measurement.	Initial trend starting at 9.00% at January 1, 2024 and gradually decreasing to an ultimate trend rate of 4.05% over a period of 12 years. The 2023 premiums were known at the time of the valuation and were incorporated into the liability measurement.

Schedule of Employers' OPEB Contributions - CERS Nonhazardous
As of June 30 ($ in Thousands)

Fiscal Year Ending [1]	Actuarially Determined Contribution [2]	Total Employer Contribution [3]	Contribution Deficiency (Excess)	Covered Payroll [4]	Actual Contributions as a Percentage of Covered Payroll
2024	$-	$10,143	$(10,143)	$3,259,999	0.31%
2023	101,122	106,044	(4,922)	2,982,960	3.55%
2022	118,551	123,366	(4,815)	2,843,218	4.34%
2021	142,249	129,903	12,346	2,619,695	4.96%
2020	124,740	129,267	(4,527)	2,620,585	4.93%
2019	160,055	139,655	20,400	2,577,378	5.42%
2018	120,797	124,619	(3,822)	2,570,156	4.85%
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%

[1] Data for years prior to 2018 is based on contribution data provided in the 2017 ACFR, based on calculations provided by the prior actuary.

[2] Actuarially determined contribution for fiscal year ended 2024 is based on the contribution rate calculated with the June 30, 2022, actuarial valuation.

[3] Employer contributions do not include the expected implicit subsidy included in the Schedule of Changes in Employer's Net OPEB Liability - CERS Nonhazardous.

[4] Based on derived compensation using the provided employer contribution information. For 2024, derived compensation based on pension contribution, information as there were no required employer contributions for the insurance fund for FYE 2024.

Schedule of Employers' OPEB Contributions - CERS Hazardous
As of June 30 ($ in Thousands)

Fiscal Year Ending [1]	Actuarially Determined Contribution [2]	Total Employer Contribution [3]	Contribution Deficiency (Excess)	Covered Payroll [4]	Actual Contributions as a Percentage of Covered Payroll
2024	$20,557	$22,645	$(2,088)	$796,792	2.84%
2023	48,793	50,404	(1,611)	719,666	7.00%
2022	58,375	59,905	(1,530)	668,667	8.96%
2021	60,539	59,799	740	613,985	9.74%
2020	56,739	57,897	(1,158)	596,001	9.71%
2019	71,028	62,272	8,756	583,632	10.67%
2018	55,027	56,002	(975)	588,526	9.52%
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%

[1] Data for years prior to 2018 is based on contribution data provided in the 2017 ACFR, based on calculations provided by the prior actuary.

[2] Actuarially determined contribution for fiscal year ended 2024 is based on the contribution rate calculated with the June 30, 2022, actuarial valuation.

[3] Employer contributions do not include the expected implicit subsidy included in the Schedule of Changes in Employer's Net OPEB Liability - CERS Hazardous.

[4] Based on derived compensation using the provided employer contribution information.

Money-Weighted Rates of Return

In accordance with GASB 67 and GASB 74, CERS provides this additional disclosure regarding the money-weighted rate of return for the Pension and Insurance Plans. The money-weighted rate of return is a method of calculating period-by-period returns on 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, net of investment expenses, adjusted for the changing amounts actually invested.

See below for the money-weighted rates of return for multiple periods including fiscal year June 30, 2024, as calculated by the custodian bank, BNY Mellon:

Money - Weighted Rates of Return As of June 30

	Pension		Insurance	
	CERS Nonhazardous	CERS Hazardous	CERS Nonhazardous	CERS Hazardous
2024	11.59%	11.75%	11.75%	11.67%
2023	10.25%	10.35%	10.32%	10.06%
2022	(5.83)%	(6.02)%	(5.49)%	(4.95)%
2021	25.72%	25.58%	24.81%	24.99%
2020	0.84%	0.71%	0.36%	0.27%
2019	5.72%	5.76%	5.73%	5.78%
2018	8.82%	8.82%	9.22%	9.35%
2017	13.80%	13.72%	13.67%	13.69%
2016	(0.62)%	(0.46)%		
2015	1.90%	1.95%		

Note: This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

Additional Supporting Schedules

Schedule of Administrative Expenses

KPPA provides administrative support for CERS, and the Kentucky Retirement Systems (KRS), comprising the Kentucky Employees Retirement System (KERS) and the State Police Retirement System (SPRS). Kentucky Revised Statute 61.505 11(a) requires all expenses incurred by KPPA on behalf of the systems be prorated, assigned, or allocated to the systems. KPPA works closely with the CERS and KRS Boards of Trustees to develop an allocation method that takes into consideration membership, assets under management, system specific costs, and statutory requirements. Total administrative costs incurred by KPPA for the fiscal year ended June 30, 2024, were $47.3 million, of which $30.4 million was allocated to CERS based on the hybrid allocation developed by the KPPA Board, the CERS Board, and the KRS Board.

Schedule of Administrative Expenses
As of June 30 ($ in Thousands)

	2024
Salaries	$12,054
Benefits	11,065
Professional Services	2,193
Information Technology	2,132
Communications	509
Office & Equipment Rent	662
Travel/Conferences	77
Other Operating Expenses	193
Insurance Fund Administration	1,465
Total Administrative Expenses	**$30,350**

Schedule of Direct Investment Expenses
As of June 30, 2024 ($ in Thousands)

	Pension		Insurance	
	CERS Nonhazardous	CERS Hazardous	CERS Nonhazardous	CERS Hazardous
Security Lending Fees				
Securities Lending Fees, Expenses, and Rebates	$10,355	$3,718	$2,923	$1,317
Total Security Lending	**10,355**	**3,718**	**2,923**	**1,317**
Contractual Services				
Investment Management	60,335	20,408	22,399	11,632
Security Custody	913	323	504	243
Investment Consultant	562	197	212	103
Performance Fees	18,517	6,226	7,456	4,103
Total Contractual Services	**$80,327**	**$27,154**	**$30,571**	**$16,081**

Schedule of Professional Consultant Fees
As of June 30 ($ in Thousands)

	2024
Actuarial Services	$265
Medical Review Services	901
Audit Services	151
Legal Counsel	684
Miscellaneous	192
Total	**$2,193**

REPORT OF INDEPENDENT AUDITORS 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*

To the Members
County Employees Retirement System
Frankfort, Kentucky

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of County Employees Retirement System (CERS), as of and for the year ended June 30, 2024, and the related notes to the financial statements, which collectively comprise the CERS basic financial statements, and have issued our report thereon dated –DATE--.

Report on Internal Control Over Financial Reporting

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

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

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

Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether the CERS's 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 financial statements. 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

REPORT OF INDEPENDENT AUDITORS 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*
(Continued)

results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

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 CERS's internal control or on compliance. This report is an integral part of an audit performed in accordance *with Government Auditing Standards* in considering CERS's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Blue & Co., LLC

Lexington, Kentucky
--DATE--

INVESTMENTS

TABLE OF CONTENTS

Investment Overview

This section of the report was compiled by Investment Staff using information provided by Wilshire Associates and the Bank of New York Mellon. Except otherwise noted, investment returns are based on investment asset fair value and calculated using time-weighted return calculation methodologies.

Investment returns play an important role in terms of funding status of the Plans and continued funding of operations. The Investment Committee and the Board of Trustees are committed to maximizing the long-term total rate of return on investments, given the appropriate level of risk, for the sole benefit of the members in the Plans. The overall investment performance goal is to achieve an annualized rate of return which, when combined with employee and employer contributions, will meet or exceed the benefits and administrative funding requirements (see Investment Objectives later in this section).

Investments are managed by professional investment management firms and the Investment Staff based upon statutory investment authority and the investment policies adopted by the CERS Investment Committee and ratified by the CERS Board of Trustees. The Investment Staff is responsible for the administration of the investment assets of CERS and assists the Investment Committee in the formulation and implementation of investment policies and long-term investment strategy.

Asset Allocation and Diversification

The Trustees recognize that asset allocation is the primary driver of long-term investment performance and therefore review asset allocation on a regular basis. Asset allocation is a process designed to construct an optimal long-term asset mix that achieves a specific set of investment objectives. The Investment Policy Statement (IPS) establishes the Plans' asset allocation policies which are designed to meet those objectives.

The asset allocation policies are adopted to provide for diversification of assets in an effort to maximize the long-term returns on investments consistent with prudent levels of market and economic risks. Of all the components of investment strategy formulation, the determination of asset allocation policies are the most important decision.

Risk is further diversified through active and passive management using multiple investment management firms and Investment Staff with a variety of investment styles. The total investment performance is not dependent upon the outcome of just one particular investment style or manager.

Investment Staff develops specific contractual investment guidelines for each external manager and each internally managed account that control the risk of high concentrations in a particular sector, industry, or security.

Diversification of the assets among various asset classes, investment management styles, and individual securities mitigates risks and enhances the potential of the investment portfolios to achieve their respective long-term objectives.

The following tables show each Plans' asset allocation targets as specified in their Investment Policy Statement and the actual asset allocation of the Plans as of June 30, 2024.

IPS Target Allocation vs. Actual Asset Allocation
As of June 30, 2024

	Public Equity	Private Equity	Core Fixed Income	Specialty Credit	Cash	Real Estate	Real Return	Total Plan
IPS Target Asset Allocation	**50.00%**	**10.00%**	**10.00%**	**10.00%**	**0.00%**	**7.00%**	**13.00%**	**100.00%**
Pension								
CERS Nonhazardous Actual Asset Allocation	52.57%	6.38%	10.04%	20.04%	1.58%	5.28%	4.11%	100.00%
CERS Hazardous Actual Asset Allocation	52.28%	6.44%	9.96%	19.48%	3.03%	4.74%	4.07%	100.00%
Insurance								
CERS Nonhazardous Actual Asset Allocation	52.71%	6.90%	10.11%	20.21%	1.27%	5.12%	3.68%	100.00%
CERS Hazardous Actual Asset Allocation	52.69%	8.00%	9.46%	19.25%	1.08%	5.83%	3.69%	100.00%

NOTE: The actual asset allocations are calculated by taking the fair value of each asset class as a percentage of total portfolio for the plans combined.

Investment Strategies

Diversification

The Pension and Insurance portfolios are diversified on several levels, including by asset class. Asset allocations are evaluated on a periodic basis and represent an efficient allocation to maximize returns and minimize risks at a level appropriate for each Plan. The individual asset classes are diversified through the use of multiple portfolios that are managed by both the Investment Staff and external Investment Managers. Each Investment Manager is afforded discretion to diversify its portfolio(s) within the parameters established by their contractual guidelines and in accordance with the CERS IPS.

Rebalancing

Proper implementation of the investment policy requires that a periodic adjustment, or rebalancing, of assets be made to ensure conformance with the IPS target levels. Such rebalancing is necessary to reflect sizable cash flows and performance imbalances among asset classes and individual investment portfolios. Should the actual portfolio rate fall outside of the IPS indicated range for a particular asset class, Investment Staff will direct rebalancing transactions to reallocate assets from the over-allocated asset class to the under-allocated asset class.

Performance Review

At least quarterly, the Investment Committee, reviews the performance of the portfolios to determine compliance with the IPS. The Investment Committee also reviews a report created and presented by the Compliance Officer. The Compliance Officer performs tests daily, monthly, and quarterly to assure compliance with the restrictions imposed by the IPS.

Investment Consulting

The Board employs qualified independent industry leading external consultants to assist in asset allocation studies, asset allocation recommendations, manager searches and other investment related consulting functions. Consultants also provide performance reports covering both the internally and externally managed assets.

Investment Objectives

The Trustees recognize that as long-term investors, the primary aim is that the portfolios meet their performance objectives in the long-term while understanding that this may not necessarily occur in the short-term. The overall investment performance goal is to achieve an annualized rate of return which, when combined with employee and employer contributions, will meet or exceed the benefits and administrative funding requirements. The following descriptions represent general standards of measurement that will be used as guidelines for the various classes of investments and managers of the Plans.

Public Asset Class Allocations

Short-term: For periods less than five years or a full market cycle, the Asset Class Allocation should exceed the returns of the appropriate Index.

Intermediate & Long-term: For periods greater than five years or a full market cycle, the Asset Class Allocation should exceed the appropriate Index, compare favorably on a risk-adjusted basis, and generate returns that rank above the median return of a relevant peer group. Volatility, as measured by the standard deviation of monthly returns, should be comparable to the Index.

Individual Public Security Portfolios

Short-term: For periods less than five years or a full market cycle, individual portfolios should exceed the returns of their market goal or benchmark.

Intermediate & Long-term: For periods greater than five years or a full market cycle, individual portfolios should exceed the return of their market goal or benchmark, compare favorably on a risk-adjusted basis, and generate returns that rank above the median return of a relevant peer group. Volatility, as measured by the standard deviation of monthly returns, should be comparable to the benchmark.

Alternative Assets

Private Equity

The Private Equity portfolio seeks long-term annualized net returns that exceed public equity investments (as represented by the Russell 3000 Index lagged 1 calendar quarter) by three percent.

Real Estate

The Real Estate portfolio seeks long-term annualized net returns that exceed the National Council of Real Estate Investment Fiduciaries Open End Diversified Core Equity Index lagged 1 calendar quarter.

Real Return

The Real Return portfolio seeks long term annualized net returns that exceed CPI + 300 basis points.

Investment Results

For this report, total return information has been reported net of fees and expenses with audited data. All rates of return are calculated using time-weighted rates of return.

Fiscal Year 2024 Results

Please see the tables below for the net returns reported for the fiscal year ended June 30, 2024.

Net Returns As of June 30, 2024 ($ in Thousands)

			1 Year		3 Years		5 Years		10 Years	
Pension Funds	**Fair Value**	**% of Total**	**Plan**	**Index**	**Plan**	**Index**	**Plan**	**Index**	**Plan**	**Index**
CERS Nonhazardous	$9,627,995	73.83%	11.60%	14.10%	5.00%	5.37%	7.98%	8.06%	6.90%	6.80%
CERS Hazardous	3,412,100	26.17%	11.73%	14.10%	5.01%	5.37%	7.93%	8.06%	6.89%	6.80%
Total	**$13,040,095**	**100.00%**	**11.63%**	**14.10%**	**5.01%**	**5.37%**	**7.96%**	**8.06%**	**6.89%**	**6.80%**
Insurance Funds										
CERS Nonhazardous	$3,581,072	67.46%	11.78%	14.10%	5.26%	5.44%	7.87%	7.81%	6.93%	6.78%
CERS Hazardous	1,727,099	32.54%	11.73%	14.10%	5.34%	5.44%	7.93%	7.81%	6.99%	6.78%
Total	**$5,308,171**	**100.00%**	**11.76%**	**14.10%**	**5.29%**	**5.44%**	**7.89%**	**7.81%**	**6.95%**	**6.78%**

Benchmarks

CERS overall performance is measured relative to asset class benchmarks. The benchmark is calculated by means of a weighted average methodology. This method is consistent with the CFA Institute Global Investment Performance Standards (GIPS®), a set of standardized, industry-wide ethical principles that guide investment managers and asset owners on how to fairly calculate and present their investment results, with the goal of promoting performance transparency and comparability. It is the product of the various component weights (i.e., asset classes' percentages) by their respective performance (returns). The various asset class benchmarks are shown below:

Benchmarks and Allocation Guidelines
As of June 30, 2024

Index	Asset Class	Asset Allocation by Plans
Equity		
MSCI ACWI ($N)	Public Equity	50.00%
Russell 3000 + 300 bps (lagged one quarter)	Private Equity	10.00%
Fixed Income		
Bloomberg US Aggregate	Core Fixed Income	10.00%
50% Bloomberg US Corporate High Yield/50% Morningstar LSTA Leveraged Loan	Specialty Credit	10.00%
FTSE 3-mos Treasury Bill	Cash	0.00%
Inflation Protected		
NCREIF ODCE (one quarter lagged)	Real Estate	7.00%
US CPI + 3%	Real Return	13.00%

Note: 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 Investment Staff as the neutral position consistent with the investment mandate and status. Investment Staff and our Consultant recommend the indices and benchmarks, which are reviewed and approved by the Investment Committee and ratified by the CERS Board.

Long-Term Results

The chart below displays the growth of $1,000 over the course of 10 years given the performance of the portfolios compared to the benchmark and the actuarial assumed rate of return. As of June 30, 2024, the actuarial assumed rate of return for the CERS pension plans was 6.50%; however, it was updated by the CERS Board in February 2024 from the previous rate of 6.25%, making the prorated rate 6.35%.

Since June 30, 2015, Fiscal Year returns have ranged from a minimum of (5.90)% and (6.07%) in 2022 to a maximum of 25.72% and 25.58% in 2021 for CERS and CERS Hazardous, respectively. For fiscal year 2024, the annualized total net returns of each Plan exceeded their respective actuarially assumed rates of return.

Pension Plan Growth
As of June 30 (in Whole $)

		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
CERS Nonhazardous Plan		1.92%	(0.53)%	13.81%	8.75%	5.78%	0.84%	25.72%	(5.90)%	10.24%	11.60%
Performance BM		2.30%	(0.66)%	13.64%	7.04%	6.37%	0.16%	25.74%	(6.41)%	9.54%	14.10%
Actuarial Assumed ROR		7.75%	7.50%	7.50%	6.25%	6.25%	6.25%	6.25%	6.25%	6.25%	6.35%
Actual Performance	$ 1,000	$ 1,019	$ 1,014	$ 1,154	$ 1,255	$ 1,327	$ 1,338	$ 1,683	$ 1,583	$ 1,746	$ 1,948
Performance Benchmark	1,000	1,023	1,016	1,155	1,236	1,315	1,317	1,656	1,550	1,698	1,937
Actuarial Assumed ROR	$ 1,000	$ 1,078	$ 1,158	$ 1,245	$ 1,323	$ 1,406	$ 1,494	$ 1,587	$ 1,686	$ 1,791	$ 1,905
CERS Hazardous Plan		1.96%	(0.38)%	13.73%	8.77%	5.80%	0.71%	25.58%	(6.07)%	10.33%	11.73%
Performance BM		2.32%	(0.66)%	13.61%	7.04%	6.37%	0.16%	25.74%	(6.41)%	9.54%	14.10%
Actuarial Assumed ROR		7.75%	7.50%	7.50%	6.25%	6.25%	6.25%	6.25%	6.25%	6.25%	6.35%
Actual Performance	$ 1,000	$ 1,020	$ 1,016	$ 1,155	$ 1,256	$ 1,329	$ 1,339	$ 1,681	$ 1,579	$ 1,742	$ 1,947
Performance Benchmark	1,000	1,023	1,016	1,155	1,236	1,315	1,317	1,656	1,550	1,698	1,937
Actuarial Assumed ROR	$ 1,000	$ 1,078	$ 1,158	$ 1,245	$ 1,323	$ 1,406	$ 1,494	$ 1,587	$ 1,686	$ 1,791	$ 1,905

The chart below shows theoretical annual returns for the Insurance portfolio since June 30, 2015, where returns range from a minimum of (5.43%) and (4.99%) in 2022 to a maximum of 24.78% and 24.98% in 2021 for CERS and CERS Hazardous, respectively. As of June 30, 2024, the CERS Insurance portfolio earned 11.78% and the CERS Hazardous plan earned 11.73% versus the annualized benchmark return of 14.10%.

Insurance Plan Growth
As of June 30 (in Whole $)

		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
CERS Nonhazardous Plan		1.96%	(0.04)%	13.67%	9.21%	5.73%	0.36%	24.78%	(5.43)%	10.33%	11.78%
Performance BM		2.69%	(0.25)%	13.62%	7.04%	6.25%	(0.40)%	24.76%	(6.22)%	9.54%	14.10%
Actuarial Assumed ROR		7.75%	7.50%	7.50%	6.25%	6.25%	6.25%	6.25%	6.25%	6.25%	6.35%
Actual Performance	$ 1,000	$ 1,020	$ 1,019	$ 1,159	$ 1,265	$ 1,338	$ 1,343	$ 1,675	$ 1,584	$ 1,748	$ 1,954
Performance Benchmark	1,000	1,027	1,024	1,164	1,246	1,324	1,318	1,645	1,542	1,690	1,928
Actuarial Assumed ROR	$ 1,000	$ 1,078	$ 1,158	$ 1,245	$ 1,323	$ 1,406	$ 1,494	$ 1,587	$ 1,686	$ 1,791	$ 1,905
CERS Hazardous Plan		1.96%	0.09%	13.70%	9.32%	5.81%	0.26%	24.98%	(4.99)%	10.11%	11.73%
Performance BM		2.70%	(0.24)%	13.62%	7.04%	6.25%	(0.40)%	24.76%	(6.22)%	9.54%	14.10%
Actuarial Assumed ROR		7.75%	7.50%	7.50%	6.25%	6.25%	6.25%	6.25%	6.25%	6.25%	6.35%
Actual Performance	$ 1,000	$ 1,020	$ 1,021	$ 1,160	$ 1,268	$ 1,342	$ 1,346	$ 1,682	$ 1,598	$ 1,759	$ 1,966
Performance Benchmark	1,000	1,027	1,025	1,164	1,246	1,324	1,319	1,645	1,543	1,690	1,928
Actuarial Assumed ROR	$ 1,000	$ 1,078	$ 1,158	$ 1,245	$ 1,323	$ 1,406	$ 1,494	$ 1,587	$ 1,686	$ 1,791	$ 1,905

Public Equity

For the fiscal year, the CERS Pension Nonhazardous Public Equity portfolio returned 16.97%, underperforming its benchmark return of 19.38% by 241 basis points (bps) (Insurance CERS Nonhazardous 16.98%). For the same period the CERS Pension Hazardous plan returned 17.06%, trailing the benchmark by 232 bps (Insurance CERS Hazardous 16.97%). Relative underperformance was primarily a result of positioning. Given the market fundamentals, the portfolios were allocated more heavily towards international markets during the beginning of the fiscal year than the benchmark. Further, during the period, markets were exceptionally narrow, especially within the domestic marketplace, creating a headwind for diversified investors.

During the 12 months ended June 30, 2024, the CERS Pension Nonhazardous U.S. equity portion of the portfolio returned 21.64% underperforming the Russell 3000 return of 23.12%. The CERS Pension Hazardous, and both CERS Insurance plans earned 21.77% for the fiscal year. Most individual investment mandates provided both solid absolute and relative performance. However, positioning slightly smaller in terms of market cap and anchoring more core in nature created headwinds for the portfolios, as both large caps and growth outperformed.

For the fiscal year, the CERS Pension Nonhazardous Non-U.S. equity mandates combined to underperform the MSCI ACWI Ex-US Index by 147bps (10.10% versus 11.57%), while the CERS Hazardous Non-U.S. equity portion of the portfolio returned 10.11%. The aggregate CERS Insurance international mandates returned 10.11% and 10.12% for the Nonhazardous and Hazardous plans, respectively. Within the international book, individual strategies struggled in relative terms. The correlation breakdown between earnings and stock prices made it difficult for active managers to distinguish themselves from the benchmark. Also, allocation created difficulties as growth style biased strategies faced a headwind, the opposite of their domestic counterparts.

Return on Public Equity
As of June 30, 2024

	Inception Date	1 Year		3 Years		5 Years		10 Years	
Pension	**4/1/1984**	**Plan**	**Index**	**Plan**	**Index**	**Plan**	**Index**	**Plan**	**Index**
CERS Nonhazardous		16.97%	19.38%	4.21%	4.91%	10.24%	10.39%	8.12%	8.14%
CERS Hazardous		17.06%	19.38%	4.25%	4.91%	10.26%	10.39%	8.13%	8.14%
Insurance	**7/1/1992**								
CERS Nonhazardous		16.98%	19.38%	4.26%	4.90%	10.23%	10.36%	8.19%	8.14%
CERS Hazardous		16.97%	19.38%	4.20%	4.90%	10.24%	10.36%	8.20%	8.14%

Note:
Current Pension and Insurance benchmarks are Global Equity: MSCI ACWI; US Equity: Russell 3000; Non-US Equity: MSCI ACWI Ex-US.
Plan returns are reported gross of fees.

Top 10 Public Equity Holdings
As of June 30, 2024 ($ in Thousands)
CERS Nonhazardous Pension

Company	Shares	Fair Value
ISHARES CORE S&P MIDCAP ETF	2,507,240	$146,724
MICROSOFT CORP	316,295	141,368
NVIDIA CORP	1,046,826	129,325
APPLE INC	613,415	129,197
AMAZON.COM INC	389,728	75,315
LAZARD EMERG MKT EQY-INST	4,015,542	74,649
META PLATFORMS INC	93,261	47,024
ALPHABET INC	249,979	45,534
ALPHABET INC	207,966	38,145
BERKSHIRE HATHAWAY INC	77,043	31,341
Total	**9,517,295**	**$858,622**

Top 10 Public Equity Holdings
As of June 30, 2024 ($ in Thousands)
CERS Nonhazardous Insurance

Company	Shares	Fair Value
ISHARES CORE S&P MIDCAP ETF	902,264	$52,801
MICROSOFT CORP	115,270	51,520
NVIDIA CORP	381,504	47,131
APPLE INC	223,552	47,085
LAZARD EMERG MKT EQY-INST	1,502,253	27,927
AMAZON.COM INC	142,032	27,448
META PLATFORMS INC	33,988	17,137
ALPHABET INC	91,102	16,594
ALPHABET INC	75,791	13,902
BERKSHIRE HATHAWAY INC	28,078	11,422
Total	**3,495,834**	**$312,967**

Top 10 Public Equity Holdings
As of June 30, 2024 ($ in Thousands)
CERS Hazardous Pension

Company	Shares	Fair Value
ISHARES CORE S&P MIDCAP ETF	899,515	$52,640
MICROSOFT CORP	111,407	49,793
NVIDIA CORP	368,718	45,551
APPLE INC	216,060	45,506
AMAZON.COM INC	137,272	26,528
LAZARD EMERG MKT EQY-INST	1,403,403	26,089
META PLATFORMS INC	32,849	16,563
ALPHABET INC	88,048	16,038
ALPHABET INC	73,251	13,436
BERKSHIRE HATHAWAY INC	27,136	11,039
Total	**3,357,659**	**$303,183**

Top 10 Public Equity Holdings
As of June 30, 2024 ($ in Thousands)
CERS Hazardous Insurance

Company	Shares	Fair Value
ISHARES CORE S&P MIDCAP ETF	465,139	$27,220
MICROSOFT CORP	54,641	24,422
NVIDIA CORP	180,842	22,341
APPLE INC	105,969	22,319
LAZARD EMERG MKT EQY-INST	699,984	13,013
AMAZON.COM INC	67,327	13,011
META PLATFORMS INC	16,111	8,124
ALPHABET INC	43,184	7,866
ALPHABET INC	35,927	6,590
BERKSHIRE HATHAWAY INC	13,310	5,414
Total	**1,682,434**	**$150,320**

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

Core Fixed Income

For the fiscal year, the Pension Core Fixed Income CERS Nonhazardous portfolio outperformed the benchmark by 2.40%, with a return of 5.03% compared to the Bloomberg U.S. Aggregate which returned 2.63%. The CERS Hazardous portfolio also outperformed the benchmark by 2.39%, returning 5.02%. For the Insurance Core Fixed Income, CERS Nonhazardous portfolio outperformed the benchmark by 2.25%, with a return of 4.88% and CERS Hazardous portfolio outperformed the benchmark by 2.31%, returning 4.94%. Relative outperformance was driven by the shorter duration profile and tactical allocation to front end investment grade credit as rates rose and credit spreads tightened during the first six months of the fiscal year.

Return on Core Fixed Income
As of June 30, 2024

	Inception Date	1 Year		3 Years		5 Years		10 Years	
Pension	**7/1/2013**	**Plan**	**Index**	**Plan**	**Index**	**Plan**	**Index**	**Plan**	**Index**
CERS Nonhazardous		5.03%	2.63%	0.23%	-3.02%	1.94%	-0.23%	2.44%	1.35%
CERS Hazardous		5.02%	2.63%	0.22%	-3.02%	1.93%	-0.23%	2.44%	1.35%
Insurance	**7/1/2013**								
CERS Nonhazardous		4.88%	2.63%	0.07%	-3.02%	1.75%	-0.23%	2.33%	1.35%
CERS Hazardous		4.94%	2.63%	0.10%	-3.02%	1.77%	-0.23%	2.34%	1.35%

Note:
Current Pension and Insurance benchmark is Bloomberg US Aggregate.
Plan returns are reported gross of fees.

2023 Top 10 Core Fixed Income Holdings As of June 30, 2024 ($ in Thousands)

CERS Nonhazardous Pension

Issuer	Shares	Fair Value
ISHARES CORE U.S. AGGREGATE	3,212,923	$311,878
U S TREASURY BOND	7,727,887	7,792
U S TREASURY NOTE	7,456,086	7,502
U S TREASURY NOTE	6,954,741	7,103
U S TREASURY BOND	6,993,416	6,812
U S TREASURY NOTE	6,123,581	6,192
U S TREASURY NOTE	6,079,534	6,069
U S TREASURY NOTE	5,692,423	5,721
U S TREASURY NOTE	5,803,078	5,233
U S TREASURY NOTE	5,554,195	5,122
Total	**61,597,864**	**$369,424**

Top 10 Core Fixed Income Holdings As of June 30, 2024 ($ in Thousands)

CERS Nonhazardous Insurance

Issuer	Shares	Fair Value
ISHARES CORE U.S. AGGREGATE	1,155,716	$112,185
U S TREASURY NOTE	4,139,682	3,663
U S TREASURY NOTE	2,560,673	2,615
U S TREASURY BOND	2,406,506	2,426
U S TREASURY NOTE	2,425,831	2,422
U S TREASURY NOTE	2,657,302	2,396
U S TREASURY BOND	2,323,932	2,264
U S TREASURY NOTE	2,178,988	2,192
U S TREASURY NOTE	2,121,010	2,136
U S TREASURY NOTE	2,251,020	2,076
Total	**24,220,660**	**$134,375**

2023 Top 10 Core Fixed Income Holdings As of June 30, 2024 ($ in Thousands)

CERS Hazardous Pension

Issuer	Shares	Fair Value
ISHARES CORE U.S. AGGREGATE	1,129,800	$109,670
U S TREASURY BOND	2,717,453	2,740
U S TREASURY NOTE	2,621,876	2,638
U S TREASURY NOTE	2,445,582	2,498
U S TREASURY BOND	2,459,182	2,396
U S TREASURY NOTE	2,153,311	2,177
U S TREASURY NOTE	2,137,822	2,134
U S TREASURY NOTE	2,001,698	2,012
U S TREASURY NOTE	2,040,608	1,840
U S TREASURY NOTE	1,953,091	1,801
Total	**21,660,423**	**$129,906**

Top 10 Core Fixed Income Holdings As of June 30, 2024 ($ in Thousands)

CERS Hazardous Insurance

Issuer	Shares	Fair Value
ISHARES CORE U.S. AGGREGATE	521,473	$50,619
U S TREASURY NOTE	1,867,873	1,653
U S TREASURY NOTE	1,155,406	1,180
U S TREASURY BOND	1,085,843	1,095
U S TREASURY NOTE	1,094,563	1,093
U S TREASURY NOTE	1,199,006	1,081
U S TREASURY BOND	1,048,585	1,021
U S TREASURY NOTE	983,185	989
U S TREASURY NOTE	957,025	964
U S TREASURY NOTE	1,015,687	937
Total	**10,928,646**	**$60,632**

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

Specialty Credit

For the fiscal year, the Pension Specialty Credit CERS Nonhazardous portfolio outperformed the benchmark by 2.93%, with a return of 13.74% compared to the custom benchmark which returned 10.81%. The CERS Hazardous portfolio also outperformed the benchmark by 2.76%, returning 13.57%. For the Insurance Specialty Credit, CERS Nonhazardous portfolio outperformed the benchmark by 2.98%, with a return of 13.79% and CERS Hazardous portfolio outperformed the benchmark by 3.43%, returning 14.24%. Outperformance was a result of credit spreads continuing to tighten as well as an increase in interest rates as the majority of holdings in the private sector is floating rate.

Return on Specialty Credit
As of June 30, 2024

	Inception Date	1 Year		3 Years		5 Years		10 Years	
Pension	**7/1/2017**	**Plan**	**Index**	**Plan**	**Index**	**Plan**	**Index**	**Plan**	**Index**
CERS Nonhazardous		13.74%	10.81%	8.28%	3.92%	8.06%	4.76%	6.55%	N/A
CERS Hazardous		13.57%	10.81%	8.12%	3.92%	7.95%	4.76%	6.49%	N/A
Insurance	**7/1/2017**								
CERS Nonhazardous		13.79%	10.81%	8.16%	3.92%	7.94%	4.76%	6.45%	N/A
CERS Hazardous		14.24%	10.81%	8.57%	3.92%	8.26%	4.76%	6.61%	N/A

Note: Current Pension and Insurance benchmarks are 50% Bloomberg Barclays US High Yield/50% S&P LSTA Leveraged Loan

Top 10 Specialty Credit Holdings
As of June 30, 2024 ($ in Thousands)
CERS Nonhazardous Pension

Issuer	Fair Value
ARAMARK 3/24 B8 TL	$2,814
AECOM 4/24 TLB	2,398
HERTZ 6/21 TLB	1,856
MEDLINE INDUSTRIES/MOZART 6/24	1,832
SPDR BLOOMBERG SHORT TERM HI	1,736
BURGER KING/RESTAURANT 6/24 TL	1,698
HCA INC	1,665
U S TREASURY NOTE	1,644
CULLEN/FROST CAPITAL TRUST II	1,505
CLOUD SOFTWARE GROUP INC 144A	1,464
Total	**$18,612**

Top 10 Specialty Credit Holdings
As of June 30, 2024 ($ in Thousands)
CERS Nonhazardous Insurance

Issuer	Fair Value
ARAMARK 3/24 B8 TL	$891
AECOM 4/24 TLB	715
BURGER KING/RESTAURANT BRANDS	703
CLOUD SOFTWARE GROUP INC 144A	703
MEDLINE BORROWER LP 144A	601
HERTZ 6/21 TLB	587
MEDLINE INDUSTRIES/MOZART 6/24	576
TRANSDIGM INC 144A	543
ARDAGH METAL PACKAGING FI 144A	538
CLEARWAY ENERGY OPERATING 144A	538
Total	**$6,395**

Top 10 Specialty Credit Holdings
As of June 30, 2024 ($ in Thousands)
CERS Hazardous Pension

Issuer	Fair Value
ARAMARK 3/24 B8 TL	$1,099
AECOM 4/24 TLB	936
HERTZ 6/21 TLB	725
MEDLINE INDUSTRIES/MOZART 6/24	715
BURGER KING/RESTAURANT 6/24 TL	663
HCA INC	650
U S TREASURY NOTE	641
CULLEN/FROST CAPITAL TRUST II	587
SPDR BLOOMBERG SHORT TERM HI	585
CLOUD SOFTWARE GROUP INC 144A	575
Total	**$7,176**

Top 10 Specialty Credit Holdings
As of June 30, 2024 ($ in Thousands)
CERS Hazardous Insurance

Issuer	Fair Value
ARAMARK 3/24 B8 TL	$280
AECOM 4/24 TLB	225
BURGER KING/RESTAURANT BRANDS	221
HERTZ 6/21 TLB	185
MEDLINE INDUSTRIES/MOZART 6/24	181
HCA INC	169
U S TREASURY NOTE	161
SPDR BLOOMBERG SHORT TERM HI	161
CULLEN/FROST CAPITAL TRUST II	159
ASURION 12/20 B8 COV-LITE TL	146
Total	**$1,888**

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 ended June 30, 2024, the Pension Private Equity portfolio posted gross returns of 4.60% by CERS Nonhazardous and 5.35% by CERS Hazardous, exceeding the benchmark of 3.77%. The CERS Nonhazardous and CERS Hazardous Insurance Private Equity portfolio posted gross returns of 7.28% and 7.38%, respectively. The Investment Committee acknowledges the difficulty in assessing short-term performance for Private Equity. Performance is typically based on quarterly estimates of each underlying business's value and managers are often slow to mark valuations up or down. This can distort relative performance against a public market benchmark during periods when that index moves dramatically. A better indication of program performance would be the mid- to longer-term time periods because more underlying company holdings have likely transacted at a specific (rather than estimated) valuation. The longer term returns can be found in the chart below.

Return on Private Equity
As of June 30, 2024

	Inception Date	1 Year		3 Years		5 Years		10 Years	
Pension	**7/1/2002**	**Plan**	**Index**	**Plan**	**Index**	**Plan**	**Index**	**Plan**	**Index**
CERS Nonhazardous		4.60%	3.77%	11.36%	7.82%	14.83%	12.28%	13.03%	15.46%
CERS Hazardous		5.35%	3.77%	11.44%	7.82%	14.47%	12.28%	13.11%	15.46%
Insurance	**7/1/2002**								
CERS Nonhazardous		7.28%	6.61%	14.15%	12.30%	14.80%	12.36%	14.37%	15.46%
CERS Hazardous		7.38%	6.61%	14.23%	12.30%	14.66%	12.36%	14.33%	15.46%

Note: Current Pension and Insurance benchmarks are Global Equity: MSCI ACWI; US Equity: Russell 3000; Non-US Equity: MSCI ACWI Ex-US

Real Estate

For the fiscal year ended June 30, 2024, the Pension Real Estate portfolio saw gross returns of (10.21)% for CERS Nonhazardous and (10.19)% CERS Hazardous, exceeding its benchmark return of (12.00)%. The Insurance Real Estate portfolio also surpassed the benchmark, returning (9.79)% for CERS Nonhazardous and (9.78)% for CERS Hazardous compared to (12.00)%.

Return on Real Estate
As of June 30, 2024

	Inception Date	1 Year		3 Years		5 Years		10 Years	
Pension	**7/1/1984**	**Plan**	**Index**	**Plan**	**Index**	**Plan**	**Index**	**Plan**	**Index**
CERS Nonhazardous		(10.21)%	(12.00)%	4.39%	2.47%	6.36%	2.56%	7.64%	5.82%
CERS Hazardous		(10.19)%	(12.00)%	4.42%	2.47%	6.38%	2.56%	7.64%	5.82%
Insurance	**5/1/2009**								
CERS Nonhazardous		(9.79)%	(12.00)%	4.03%	2.47%	6.22%	2.56%	7.56%	5.82%
CERS Hazardous		(9.78)%	(12.00)%	4.03%	2.47%	6.22%	2.56%	7.55%	5.82%

Note: Current Pension and Insurance benchmarks are Global Equity: MSCI ACWI; US Equity: Russell 3000; Non-US Equity: MSCI ACWI Ex-US.

Real Return

For the fiscal year ended June 30, 2024, the Pension Real Return portfolio returned 16.46% (gross) for CERS Nonhazardous and 16.43% (gross) for CERS Hazardous, outperforming its benchmark of 6.27%. The Insurance Real Return portfolio posted a gross return of 14.58% for CERS Nonhazardous and 14.60% for CERS Hazardous, also outperforming its benchmark return of 6.27% for the period.

Return on Real Return
As of June 30, 2024

	Inception Date	1 Year		3 Years		5 Years		10 Years	
Pension	**7/1/2011**	**Plan**	**Index**	**Plan**	**Index**	**Plan**	**Index**	**Plan**	**Index**
CERS Nonhazardous		16.46%	6.27%	10.83%	7.11%	9.14%	6.70%	5.63%	4.12%
CERS Hazardous		16.63%	6.27%	11.09%	7.11%	9.33%	6.70%	5.74%	4.12%
Insurance	**7/1/2011**								
CERS Nonhazardous		14.58%	6.27%	9.81%	6.77%	8.80%	6.72%	5.33%	4.18%
CERS Hazardous		14.60%	6.27%	9.52%	6.77%	8.58%	6.72%	5.30%	4.18%

Note:
Current Pension and Insurance benchmarks are Global Equity: MSCI ACWI; US Equity: Russell 3000; Non-US Equity: MSCI ACWI Ex-US.
Plan returns are reported gross of fees.

Cash

For the fiscal year, the Pension Cash CERS Nonhazardous and Hazardous portfolios underperformed the benchmark by 0.31%, with a return of 5.33% compared to the FTSE 3-Month US Treasury Bill which returned 5.64%. For the Insurance Cash, both CERS Nonhazardous and Hazardous portfolios underperformed the benchmark by 0.29%, with a return of 5.35%.

Return on Cash
As of June 30, 2024

	Inception Date	1 Year		3 Years		5 Years		10 Years	
Pension	**1/1/1988**	**Plan**	**Index**	**Plan**	**Index**	**Plan**	**Index**	**Plan**	**Index**
CERS Nonhazardous		5.33%	5.64%	2.96%	3.17%	2.18%	2.22%	1.67%	1.53%
CERS Hazardous		5.33%	5.64%	2.96%	3.17%	2.18%	2.22%	1.67%	1.53%
Insurance	**7/1/1992**								
CERS Nonhazardous		5.35%	5.64%	2.96%	3.17%	2.08%	2.22%	1.54%	1.53%
CERS Hazardous		5.35%	5.64%	2.96%	3.17%	2.08%	2.22%	1.54%	1.53%

Note:
Current Pension and Insurance benchmarks are FTSE treasury Bill-3 Month.
Plan returns are reported gross of fees.

Additional Schedules

The following schedules contain information on the assets under management for each firm CERS employs and assets managed by Investment Staff, external investment-related expenses, commissions paid, and portfolio summaries for each of the Pension and Insurance Plans for the fiscal year ended June 30, 2024.

Investment Managers & Assets Under Management by Fund and Asset Class
As of June 30, 2024 ($ in Thousands)

	Pension		Insurance		
Advisor/Asset Class	**CERS Non-Hazardous**	**CERS Hazardous**	**CERS Non-Hazardous**	**CERS Hazardous**	**CERS Total**
Core Fixed Income	**$1,118,828**	**$443,220**	**$407,437**	**$182,033**	**$2,151,518**
Lord Abbett & Co.	480	169	225	102	976
Loomis, Sayles & Company Core	312,069	109,737	113,908	51,396	587,110
NISA Investment Advisors	342,088	120,292	135,635	61,200	659,215
Internally Managed by KPPA	464,191	213,022	157,669	69,335	904,217
Private Equity	**$580,092**	**$209,002**	**$230,617**	**$129,433**	**$1,149,144**
Ares	13,538	4,621	5,939	3,212	27,310
Bay Hills	99,104	31,849	30,491	16,454	177,898
Black Diamond	39,886	13,614	22,779	12,321	88,600
Blackstone	9,791	4,732	5,612	3,359	23,494
Crestview	31,168	10,308	10,180	5,500	57,156
CVC	15,022	5,127	6,477	3,504	30,130
DAG Ventures	10,877	3,388	1,133	607	16,005
Harvest Partners	21,536	6,606	11,650	6,973	46,765
H.I.G.	10,113	4,030	5,303	3,050	22,496
Horsley Bridge	33,972	10,575	3,512	1,880	49,939
Kayne Anderson	20,206	6,293	11,684	7,055	45,238
Keyhaven	13,583	4,528	6,068	3,280	27,459
Leonard Green	34,508	14,307	23,391	14,040	86,246
Levine Leichtman	32,207	10,069	18,439	11,100	71,815
Middle Ground	82,814	27,181	23,882	12,354	146,231
New State	4,296	1,457	1,519	782	8,054
Strategic Value Partners	62,696	20,370	17,694	9,314	110,074
Triton	11,265	3,845	4,941	2,672	22,723
Vista	31,860	12,074	19,923	11,976	75,833
Internally Managed by KPPA	1,650	14,028	0	0	15,678
Public Equity	**$5,062,043**	**$1,783,957**	**$1,887,510**	**$909,938**	**$9,643,448**
American Century Investments	273,362	95,538	101,792	47,431	518,123
Axiom	65,532	22,903	24,801	11,556	124,792
BlackRock ACWI Ex-US	560,032	196,059	229,193	113,937	1,099,221
Franklin Templeton	216,894	75,803	81,741	38,088	412,526
JP Morgan Emerging Markets	88,285	30,855	33,148	15,445	167,733
Lazard Asset Management	323,075	112,913	120,928	56,347	613,263
LSV Asset Management	337,067	117,802	126,423	58,908	640,200
Next Century	83,055	29,798	29,634	15,277	157,764
Northern Trust	210,498	75,520	74,526	38,420	398,964
Pzena Emerging Markets	111,250	38,881	41,519	19,346	210,996
River Road Asset Management	211,941	76,037	80,136	41,312	409,426
Westfield Capital	271,564	97,428	104,796	54,025	527,813
Internally Managed by KPPA	2,309,488	814,420	838,873	399,846	4,362,627
Real Estate	**$506,224**	**$161,221**	**$183,063**	**$100,453**	**$950,961**
Barings Real Estate	42,768	13,524	14,960	8,210	79,462
Fundamental Partners	29,374	9,288	10,275	5,639	54,576
Harrison Street	135,541	42,395	50,801	27,787	256,524
Lubert-Adler	13,817	4,329	4,289	2,339	24,774
Patron	8,354	2,642	21,563	11,902	44,461
Mesa West	42,600	13,437	2,652	1,455	60,144
Prologis	160,876	50,871	51,931	28,499	292,177
Rubenstein	3,786	1,180	1,103	599	6,668

Stockbridge	56,722	18,087	23,747	13,082	111,638
Walton Street	10,704	3,636	1,742	941	17,023
Internally Managed by KPPA	1,682	1,832			3,514
Real Return	**$386,995**	**$136,292**	**$129,485**	**$62,558**	**$715,330**
AMERRA	33,071	10,442	10,952	6,046	60,511
Arctos	28,176	12,076	13,753	4,696	58,701
BTG Pactual	16,520	5,294	4,861	2,671	29,346
IFM	41,443	14,272	14,511	7,477	77,703
Maritime Partners	64,834	25,933	27,786	11,114	129,667
Prisma	58,540	18,544	19,133	10,719	106,936
Tortoise	144,336	49,705	38,356	19,766	252,163
Internally Managed by KPPA	75	26	133	69	303
Specialty Credit	**$1,929,104**	**$664,682**	**$723,854**	**$332,402**	**$3,650,042**
Adams Street	164,161	55,619	58,041	30,595	308,416
Arrowmark	347,828	114,986	140,445	76,513	679,772
Blue Torch	86,990	29,372	30,434	15,997	162,793
Benefit Street Partners	74,410	24,645	27,520	15,009	141,584
CapitalSpring	63,823	21,138	20,739	11,311	117,011
Cerberus	117,271	38,840	38,106	20,783	215,000
Columbia Threadneedle Investments	204,320	80,177	98,123	17,680	400,300
Manulife Investment Management	184,715	72,111	58,049	18,258	333,133
Marathon Asset Management	264,886	87,033	92,977	50,823	495,719
Shenkman Capital Management	146,415	49,351	57,809	21,419	274,994
Waterfall Asset Management	182,841	61,123	68,981	36,218	349,163
White Oak Global Advisors	91,444	30,287	32,630	17,796	172,157
Other	**$44,709**	**$13,727**	**$19,106**	**$10,282**	**$87,824**
Total Assets Under Management	**$9,627,995**	**$3,412,101**	**$3,581,072**	**$1,727,099**	**$18,348,267**

External Investment Expenses - Pension Asset Class/Type Breakdown

For the fiscal year ended June 30, 2024 ($ in Thousands)

CERS Nonhazardous	Public Equity	Private Equity	Fixed Income	Specialty Credit	Cash	Real Return	Real Estate	Total
Investment Advisory Fees	$8,019	$3,445	$678	$10,758	$-	$2,999	$4,243	$30,142
Performance/Incentive Fees	-	1,946	36	19,816	-	(317)	(2,964)	$18,517
Securities Lending Fees	107	-	27	32	-	15	-	$181
Securities Lending Fee Rebate	7,284	-	961	1,448	-	481	-	$10,174
Miscellaneous Fees & Expenses	136	2,585	49	22,461	-	1,069	2,619	$28,919
Administration Fees	-	-	-	-	1,274	-	-	$1,274
Consulting	-	-	-	-	562	-	-	$562
Custodial Fees	-	-	-	-	913	-	-	$913
	$15,546	**$7,976**	**$1,751**	**$54,515**	**$2,749**	**$4,247**	**$3,898**	**$90,682**

CERS Hazardous	Public Equity	Private Equity	Fixed Income	Specialty Credit	Cash	Real Return	Real Estate	Total
Investment Advisory Fees	$2,821	$1,139	$236	$3,643	$-	$1,095	$1,338	$10,272
Performance/Incentive Fees	-	704	13	6,570	-	(124)	(937)	$6,226
Securities Lending Fees	38	-	10	12	-	5	-	$65
Securities Lending Fee Rebate	2,593	-	337	558	-	165	-	$3,653
Miscellaneous Fees & Expenses	47	859	17	7,602	-	407	828	$9,760
Administration Fees	-	-	-	-	376	-	-	$376
Consulting	-	-	-	-	197	-	-	$197
Custodial Fees	-	-	-	-	323	-	-	$323
	$5,499	**$2,702**	**$613**	**$18,385**	**$895**	**$1,548**	**$1,229**	**$30,872**

NOTE: Miscellaneous expenses include Partnership Expenses,Commissions on Future Contracts, Fee for Long balance, and etc.

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. KPPA has displayed all investment related fees and expenses identifiable and captured by our custodial bank, BNY Mellon and KPPA staff.

External Investment Expenses - Insurance Asset Class/Type Breakdown

For the fiscal year ended June 30, 2024 ($ in Thousands)

CERS Nonhazardous	Public Equity	Private Equity	Fixed Income	Specialty Credit	Cash	Real Return	Real Estate	Total
Investment Advisory Fees	$2,987	$1,558	$252	$3,818	$-	$1,124	$1,542	$11,281
Performance/Incentive Fees	-	1,267	15	7,269	-	(139)	(956)	$7,456
Securities Lending Fees	37	-	11	14	-	4	-	$66
Securities Lending Fee Rebates	1,705	-	361	650	-	141	-	$2,857
Miscellaneous Fees & Expenses	51	1,180	21	8,111	-	437	913	$10,713
Administration Fees	-	-	-	-	405	-	-	$405
Consutling	-	-	-	-	212	-	-	$212
Custodial Fees	-	-	-	-	504	-	-	$504
	$4,780	**$4,005**	**$660**	**$19,862**	**$1,121**	**$1,567**	**$1,499**	**$33,494**

CERS Hazardous	Public Equity	Private Equity	Fixed Income	Specialty Credit	Cash	Real Return	Real Estate	Total
Investment Advisory Fees	$1,468	$872	$110	$1,921	$-	$505	$846	$5,722
Performance/Incentive Fees	-	734	7	3,940	-	(53)	(525)	$4,103
Securities Lending Fees	18	-	5	5	-	2	-	$30
Securities Lending Fee Rebates	853	-	158	203	-	73	-	$1,287
Miscellaneous Fees & Expenses	24	655	9	4,299	-	189	501	$5,677
Administration Fees	-	-	-	-	233	-	-	$233
Consulting	-	-	-	-	103	-	-	$103
Custodial Fees	-	-	-	-	243	-	-	$243
	$2,363	**$2,261**	**$289**	**$10,368**	**$579**	**$716**	**$822**	**$17,398**

NOTE: Miscellaneous expenses include Partnership Expenses,Commissions on Future Contracts, Fee for Long balance, and etc.

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. KPPA has displayed all investment related fees and expenses identifiable and captured by our custodial bank, BNY Mellon and KPPA staff.

Commissions

External Expenses

For the fiscal year ended June 30, 2024 ($ in Thousands)

Expense	CERS Nonhazardous		CERS Hazardous	
	Fees Paid	Share of Total	Fees Paid	Share of Total
Portfolio Management				
Pension Funds	$78,852	63.50%	$26,634	55.18%
Insurance Fund	29,855	24.04%	15,735	32.60%
Securities Lending				
Pension Funds	10,355	8.34%	3,718	7.70%
Insurance Fund	2,923	2.35%	1,317	2.73%
Custody				
Pension Funds	913	0.74%	323	0.67%
Insurance Fund	504	0.41%	243	0.50%
Consultant				
Pension Funds	562	0.45%	197	0.41%
Insurance Fund	212	0.17%	103	0.21%
Total Pension Funds	**90,682**	**73.03%**	**30,872**	**63.96%**
Total Insurance Fund	**33,494**	**26.97%**	**17,398**	**36.04%**
Total Expenses	**$124,176**	**100.00%**	**$48,270**	**100.00%**

Schedule of Commissions Paid (in whole $)

For the fiscal year ended June 30, 2024

CERS Nonhazardous

Assets	Total Shares	Commissions Paid	Price per Share
U.S. Equities	26,965,210	$502,666	0.0186
Non U.S. Equities	197,950,940	$947,524	0.0048
Total	**224,916,150**	**$1,450,190**	**0.0064**

CERS Hazardous

Assets	Total Shares	Commissions Paid	Price per Share
U.S. Equities	1,335,111	$25,991	0.0195
Non U.S. Equities	10,672,576	$51,151	0.0048
Total	**12,007,687**	**$77,142**	**0.0064**

Fair Values by Plan

Fair Values (FV)
As of June 30, 2024 ($ in Thousands)

	PENSION				INSURANCE					
	CERS Nonhazardous		CERS Hazardous		CERS Nonhazardous		CERS Hazardous		Total	
	Fair Value	% of Total FV	Fair Value	% of Total FV	Fair Value	% of Total FV	Fair Value	% of Total FV	Fair Value	% of Total FV
Equity										
Public Equity	$5,062,043	52.57%	$1,783,957	52.28%	$1,887,510	52.71%	$909,938	52.69%	$9,643,448	52.56%
Private Equity	614,763	6.38%	219,528	6.44%	246,966	6.90%	138,212	8.00%	$1,219,470	6.65%
Fixed Income										
Core Fixed Income	966,551	10.04%	339,881	9.96%	361,986	10.11%	163,332	9.46%	$1,831,751	9.98%
Specialty Credit	1,929,106	20.04%	664,683	19.48%	723,854	20.21%	332,402	19.25%	$3,650,044	19.89%
Cash	152,040	1.58%	103,256	3.03%	45,451	1.27%	18,701	1.08%	$319,447	1.74%
Inflation Protected										
Real Estate	507,979	5.28%	161,768	4.74%	183,572	5.12%	100,729	5.83%	$954,049	5.20%
Real Return	395,513	4.11%	139,027	4.07%	131,733	3.68%	63,785	3.69%	$730,059	3.98%
TOTAL PORTFOLIO	**$9,627,995**		**$3,412,100**		**$3,581,072**		**$1,727,099**		**$18,348,266**	

ACTUARIAL

TABLE OF CONTENTS

GRS Retirement Consulting

Certification of Actuarial Results

Re: Certification for the Actuarial Results as of June 30, 2024.

Dear Board of Trustees:

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

The Board of Trustees of the County Employees Retirement System must certify the employer contribution rates for CERS for the fiscal year beginning July 1, 2025 and ended June 30, 2026. The contribution requirements determined by June 30, 2024 actuarial valuations are intended to become effective twelve months after the valuation date and, as such, are intended to be used by the Board for recommending these required contributions effective July 1, 2025.

These contributions are calculated based on the membership data and plan assets as of June 30, 2024. These calculations are also based on the benefit provisions in effect as of June 30, 2024.

FINANCING OBJECTIVES AND FUNDING POLICY

The Kentucky Public Pensions Authority (KPPA) administers pension and health insurance funds to provide for monthly retirement income and retiree health insurance benefits. The total employer contribution requirement is comprised of a contribution to each respective fund.

The employer contribution for CERS is determined in accordance with Section 78.635 of Kentucky Statute. As specified by the Statute, the employer contribution is comprised of a normal cost contribution and an actuarial accrued liability contribution. The actuarial accrued liability contribution is calculated by amortizing the unfunded accrued liability as of June 30, 2019 over a closed 30-year amortization period (25 years remaining as of June 30, 2024). Gains and losses incurring in years after June 30, 2019 are amortized as separate, closed 20-year amortization bases.

If the contributions made are equal to the Actuarially Determined Contribution (ADC), and if all actuarial assumptions are met, there will not be an unfunded accrued liability at the end of the 25-year period remaining from the original closed 30-year amortization base. Accordingly, the ADC under the funding policy can be considered a “Reasonable Actuarially Determined Contribution” as required by the Actuarial Standards of Practice.

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, 2024, the funded ratios for the pension and health insurance funds are as follows:

Funding Level
As of June 30

System	2024		2023		2022		2021		2020		2019	
	Pension	Insurance	Pension	Insurance	Pension	Insurance	Pension	Insurance	Pension	Insurance	Pension	Insurance
CERS Nonhazardous	58.4%	122.3%	56.1%	131.5%	52.0%	132.1%	51.8%	85.4%	49.4%	78.5%	49.1%	70.7%
CERS Hazardous	54.0%	100.5%	51.4%	100.7%	47.6%	101.0%	46.7%	84.3%	45.1%	78.2%	45.3%	75.8%

ASSUMPTIONS AND METHODS

The Boards of Trustees, in consultation with the actuary, set the actuarial assumptions and methods used in the actuarial valuation. In general, the assumptions used in the June 30, 2024 actuarial valuations were adopted for first use in the June 30, 2023 actuarial valuations and are based on the experience study conducted through June 30, 2022.

In our opinion, all the assumptions and methods used for funding purposes adopted by the Board's Trustees satisfy the requirements in the Actuarial Standards of Practice that are applicable for actuarial valuations of public retirement systems.

It is our opinion that the actuarial assumptions used to perform these valuations are internally consistent and reasonably reflect the anticipated future experience of the Systems. 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 requirements, and funding periods. The actuarial calculations are intended to provide information for rational decision making.

ADDITIONAL DISCLOSURES

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, the Solvency Test, the Summary of Active Member Valuation Data, the Summary of Retired Member Valuation Data, 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 June 30, 2024, by KPPA staff. The staff also supplied asset information as of June 30, 2024. 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 KPPA.

CERTIFICATION

We certify that the information presented herein is accurate and fairly portrays the actuarial position of the Retirement Systems as of June 30, 2024. 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.

To the best of our knowledge, this report is complete and accurate and is in accordance with generally recognized actuarial practices and methods. Mr. White and Ms. Shaw are Enrolled Actuaries. All three 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 herein. In addition, all three are independent of KPPA and are experienced in performing valuations for large public retirement systems. This communication shall not be construed to provide tax advice, legal advice or investment advice.

Sincerely,

Gabriel, Roeder, Smith & Co.

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

Janie Shaw, ASA, EA, MAAA
Consultant

Krysti Kiesel, ASA, MAAA
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, 2024 valuation are based on the most recent actuarial experience study performed as of June 30, 2022, submitted, and adopted by the Board in May 2023.

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 has been established to pay for both the normal cost and the amount needed to amortize the unfunded actuarial accrued liability (UAAL).

2. UAAL Amortization Method: Effective for the June 30, 2019 valuation, the actuarial accrued liability contribution is calculated by amortizing the unfunded accrued liability as of June 30, 2019 over a closed 30-year amortization period. Gains and losses incurring in future years are amortized as separated closed 20-year amortization bases. This amortization cost is calculated using a 2.00% payroll growth assumption for the CERS Funds.

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, 2019 valuation, the actuarial accrued liability contribution is calculated by amortizing the unfunded accrued liability as of June 30, 2019, over a closed 30-year amortization period. Gains and losses incurring in future years are amortized as separated closed 20-year amortization bases. This amortization cost is calculated using a 2.00% payroll growth assumption for the CERS Funds.

5. Investment Return Assumption: The future investment earnings of plan assets are assumed to accumulate at a rate of 6.50% per annum. This rate consists of a 2.50% price inflation component and a 4.00% real rate of return component. This assumption was adopted in 2023.

6. Salary Increase Assumptions: Active member salaries are assumed to increase at the rates provided in Table 1. The rates include a price inflation and productivity component, and an additional increase due to promotion based upon plan experience. The price inflation component is 2.50% for all plans and the productivity component is 0.80% for the nonhazardous systems and 1.05% for the hazardous systems. This assumption was adopted in 2023.

Table 1. Salary Increase Assumptions

Service	CERS Nonhazardous	CERS Hazardous
0	10.30%	19.05%
1	7.30%	9.05%
2	6.30%	7.05%
3	5.30%	6.05%
4	5.05%	5.80%
5	4.80%	5.55%
6	4.55%	5.55%
7	4.30%	5.05%
8	4.05%	5.05%
9	4.05%	4.55%
10	3.80%	4.55%
11	3.80%	4.05%
12	3.55%	4.05%
13	3.55%	4.05%
14	3.55%	3.80%
15	3.30%	3.80%
16+	3.30%	3.55%

7. Payroll Growth Assumption: For purposes of determining the amortization cost to finance the unfunded actuarial accrued liability, the active member payroll in CERS (Non-hazardous and Hazardous) is assumed to increase at the rate of 2.00% per annum. This assumption was adopted in 2017.

8. Retiree Cost of Living Adjustments (COLA): SB2 only allows the Cost of Living Adjustments (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 directs payment of employer contributions to fully prefund the increased liability for the COLA.

9. Health Care Cost Trend Rate:

The costs for retiree medical premiums are assumed to increase according to the assumptions provided in Table 2.

Table 2: Health Care Cost Trend Rate (See footnotes 1-2)

Year	Non-Medicare Plans [1]	Medicare Plans [1]	Dollar Contribution [2]
2026	7.10%	8.00%	1.50%
2027	7.00%	8.00%	1.50%
2028	6.80%	8.00%	1.50%
2029	6.60%	7.50%	1.50%
2030	6.40%	7.00%	1.50%
2031	6.20%	6.50%	1.50%
2032	6.00%	6.00%	1.50%
2033	5.80%	5.50%	1.50%
2034	5.60%	5.00%	1.50%
2035	5.40%	4.50%	1.50%
2036	5.20%	4.25%	1.50%
2037	5.00%	4.25%	1.50%
2038	4.75%	4.25%	1.50%
2039	4.50%	4.25%	1.50%
2040+	4.25%	4.25%	1.50%

(1) All increases are assumed to occur on January 1. The 2025 premiums were known at the time of the June 30, 2024, valuation and were incorporated into the liability measurement.

(2) Applies to members participating on or after July 1, 2003. All increases are assumed to occur on July 1.

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 2023.

Table 3a: Retirement Rate Assumptions CERS (See footnotes 1 - 3)

Nonhazardous					Hazardous			
	Normal Retirement		Early Retirement[1]			Members Participating before 9/1/2008[2]	Members Participating between 9/1/2008 and 1/1/2014[3]	Members Participating after 1/1/2014[3]
	Male	Female	Male	Female				
Under 45	35.00%	27.00%			5	17.00%		
45	35.00%	27.00%			6	17.00%		
46	35.00%	27.00%			7	17.00%		
47	35.00%	27.00%			8	17.00%		
48	35.00%	27.00%			9	17.00%		
49	35.00%	27.00%			10	17.00%		
50	30.00%	27.00%			11	17.00%		
51	30.00%	27.00%			12	17.00%		
52	30.00%	27.00%			13	17.00%		
53	30.00%	27.00%			14	17.00%		
54	30.00%	27.00%			15	17.00%		
55	30.00%	27.00%	4.00%	5.00%	16	17.00%		
56	30.00%	27.00%	4.00%	5.00%	17	17.00%		
57	30.00%	27.00%	4.00%	5.00%	18	17.00%		
58	30.00%	27.00%	4.00%	5.00%	19	17.00%		
59	30.00%	27.00%	4.00%	5.00%	20	30.00%		
60	30.00%	27.00%	4.00%	8.00%	21	22.50%		
61	30.00%	27.00%	4.00%	9.00%	22	18.00%		
62	30.00%	40.00%	15.00%	20.00%	23	21.00%		
63	30.00%	35.00%	15.00%	18.00%	24	24.00%		
64	30.00%	30.00%	15.00%	16.00%	25	27.00%	21.60%	16.00%
65	30.00%	30.00%			26	30.00%	24.00%	16.00%
66	30.00%	27.00%			27	33.00%	26.40%	16.00%
67	30.00%	27.00%			28	36.00%	28.80%	16.00%
68	30.00%	27.00%			29	39.00%	31.20%	16.00%
69	30.00%	27.00%			30+	39.00%	31.20%	100.00%
70	30.00%	27.00%						
71	30.00%	27.00%						
72	30.00%	27.00%						
73	30.00%	27.00%						
74	30.00%	27.00%						
75	100.00%	100.00%						

(1) The annual rate of retirement is 11% for male members and 12% for female members with 25-26 years of service.

(2) The annual rate of retirement is 100% at age 62.

(3) The annual rate of retirement is 100% at age 60.

Nonhazardous System: There is a 1% increase in the first two years a member becomes eligible under the age if 65. For members hired after 7/1/2003, the rates shown above are multiplied by 80% if the member is under age 65 to reflect the different retiree health insurance benefit.

Hazardous System: For members hired after 7/1/2003 and prior to 9/1/2008, the rates shown above are multiplied by 80% if the member is under age 62 to reflect the different retiree health insurance benefit.

11. Mortality Assumptions: Pre-retirement mortality: PUB-2010 General Mortality table, for the Nonhazardous Systems, and the PUB-2010 Public Safety Mortality table for the Hazardous Systems, projected with the ultimate rates from the MP-2020 mortality improvement scale using a base year of 2010.

Post-retirement mortality (non-disabled): System-specific mortality table based on mortality experience from 2013-2022, projected with the ultimate rates from MP-2020 mortality improvement scale using a base year of 2023.

Table 4a provides the life expectancy for a non-disabled retiree in future years based on the assumption with full generational projection.

Post-retirement mortality (disabled): PUB-2010 Disabled Mortality table, with rates multiplied by 150% for both male and female rates, projected with the ultimate rates from the MP-2020 mortality improvement scale using a base year of 2010.

These mortality assumptions were adopted in 2023. Table 4b provides sample annual rates of mortality in the base year of each table (2023 for the retired member mortality rates and 2010 for the active member and disabled member mortality rates).

Table 4a: Life Expectancy for an Age 65 Retiree in Years

	Year of Retirement				
Gender	**2025**	**2030**	**2035**	**2040**	**2045**
Male	19.8	20.2	20.6	21.0	21.3
Female	22.4	22.7	23.1	23.4	23.7

Table 4b: Sample Annual Rate of Mortality

	Active Member Mortality Nonhazardous		Active Member Mortality Hazardous		Retired Member Mortality		Disabled Member Mortality	
Age	**Males**	**Females**	**Males**	**Females**	**Males**	**Females**	**Males**	**Females**
20	0.04%	0.01%	0.04%	0.02%	0.03%	0.01%	0.62%	0.35%
22	0.03%	0.01%	0.04%	0.02%	0.03%	0.01%	0.53%	0.29%
32	0.04%	0.02%	0.04%	0.03%	0.04%	0.02%	0.59%	0.46%
42	0.08%	0.04%	0.07%	0.06%	0.07%	0.04%	1.14%	1.13%
52	0.18%	0.10%	0.14%	0.10%	0.32%	0.21%	2.73%	2.38%
62	0.37%	0.22%	0.32%	0.19%	0.94%	0.55%	4.02%	3.08%
72	0.84%	0.60%	0.98%	0.60%	2.38%	1.48%	6.52%	4.86%

12. Withdrawal Rates: The probability, or likelihood, of active members terminating employment prior to retirement is provided in Table 5. The rates below include the pre-retirement mortality rates described in item #11. These assumptions were adopted in 2023.

Table 5: Selected Rates of Termination Prior to Retirement

Years of Service	CERS Nonhazardous	CERS Hazardous
1	20.00%	20.00%
2	17.92%	10.48%
3	14.35%	8.33%
4	12.26%	7.06%
5	10.78%	6.18%
6	9.63%	5.47%
7	8.69%	4.91%
8	7.90%	4.43%
9	7.21%	4.01%
10	6.60%	3.66%
11	6.06%	3.32%
12	5.57%	3.02%
13	5.12%	2.76%
14	4.70%	2.51%
15	4.32%	2.28%
16	3.97%	2.07%
17	3.63%	1.86%
18	3.32%	1.68%
19	3.04%	1.50%
20	2.75%	1.33%
21	2.48%	0.00%
22	2.23%	0.00%
23	2.00%	0.00%
24	1.77%	0.00%
25	1.55%	0.00%
26+	0.00%	0.00%

13. Rates of Disablement: CERS 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 2023.

Table 6: Sample Rates of Disablement

	CERS Nonhazardous	CERS Hazardous
Nearest Age	Probability	Probability
20	0.04%	0.06%
30	0.06%	0.11%
40	0.13%	0.24%
50	0.37%	0.67%
60	0.97%	1.75%

14. Assumption Changes Since Prior Valuation: In conjunction with the review of the healthcare per capita claims cost, the assumed increase in future healthcare costs, or trend assumption, is reviewed on an annual basis. The trend assumption for the non-Medicare Plans was increased during the select period and the ultimate trend assumption was increased for all plans as a result of this review.

Summary of Actuarial Valuation Results		
	CERS Nonhazardous	CERS Hazardous
Recommended Contribution Rate (FY 2025)[1]		
Pension Fund Contribution	18.62%	34.00%
Insurance Fund Contribution	0.00%	1.73%
Actuarially Determined Employer Contributions Rate, payable as a percentage of payroll	18.62%	35.73%
Amortization Cost to be Allocated, if applicable	N/A	N/A
Funded Status as of Valuation Date As of June 30, 2024 (in Whole $)		
Pension Fund		
Actuarial Liability	$15,776,491,221	$6,070,200,056
Actuarial Value of Assets	9,211,734,622	3,279,622,763
Unfunded Liability on Actuarial Value of Assets	6,564,756,599	2,790,577,293
Funding Ratio on Actuarial Value of Assets	58.39%	54.03%
Market Value of Assets	9,596,243,603	3,416,897,041
Unfunded Liability on Market Value of Assets	$6,180,247,618	$2,653,303,015
Funding Ratio on Market Value of Assets	60.83%	56.29%
Insurance Fund		
Actuarial Liability	$2,901,345,161	$1,668,056,127
Actuarial Value of Assets	3,549,422,213	1,676,141,224
Unfunded Liability on Actuarial Value of Assets	(648,077,052)	(8,085,097)
Funding Ratio on Actuarial Value of Assets	122.34%	100.48%
Market Value of Assets	3,707,276,758	1,752,366,226
Unfunded Liability on Market Value of Assets	$(805,931,597)	$(84,310,099)
Funding Ratio on Market Value of Assets	127.78%	105.05%
Member Data (See Footnotes)		
Number of Active Members	80,440	9,678
Total Annual Payroll (Active Members)	$3,137,813,810	$743,132,767
Average Annual Pay (Active Members)	$39,008	$76,786
Number of Retired Members & Beneficiaries	72,385	11,853
Average Annual Retirement Allowance	$12,201	$27,764
Number of Vested Inactive Members	50,532	1,795
Number of Inactive Members Due a Refund	65,257	2,623

[1] Rates do reflect the CERS phase-in provisions, which limit the increases to the employer contribution rates to 12% over the prior fiscal year through June 30, 2028. However, the actuarially determined employer contribution rates are below this threshold for FYE2026, and therefore, the rates shown above are equal to the actuarially determined rates.

Recommended Employer Contribution Rates
As of June 30

CERS Nonhazardous 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
2015	2016-2017	3.80%	10.15%	13.95%	4.93%	18.88%
2016	2017-2018	3.70%	10.78%	14.48%	4.70%	19.18%
2017	2018-2019	5.85%	15.99%	21.84%	6.21%	28.05%
2018	2019-2020	5.80%	16.72%	22.52%	4.76%	27.28%
2019	2020-2021	6.63%	17.18%	23.81%	5.43%	29.24%
2020	2021-2022	6.46%	17.42%	23.88%	4.17%	28.05%
2021	2022-2023	6.30%	17.10%	23.40%	3.39%	26.79%
2022	2023-2024	6.06%	17.28%	23.34%	0.00%	23.34%
2023	2024-2025	5.29%	14.42%	19.71%	0.00%	19.71%
2024	2025-2026	5.22%	13.40%	18.62%	0.00%	18.62%

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
2015	2016-2017	4.52%	17.19%	21.71%	9.79%	31.50%
2016	2017-2018	4.40%	17.80%	22.20%	9.35%	31.55%
2017	2018-2019	6.78%	28.91%	35.69%	12.17%	47.86%
2018	2019-2020	6.35%	30.63%	36.98%	9.52%	46.50%
2019	2020-2021	11.36%	30.66%	42.02%	9.86%	51.88%
2020	2021-2022	11.00%	32.23%	43.23%	8.73%	51.96%
2021	2022-2023	10.71%	32.10%	42.81%	6.78%	49.59%
2022	2023-2024	10.34%	30.77%	41.11%	2.58%	43.69%
2023	2024-2025	9.77%	26.72%	36.49%	2.12%	38.61%
2024	2025-2026	9.48%	24.52%	34.00%	1.73%	35.73%

The insurance fund contribution rates and the employer contribution rates for CERS Nonhazardous and CERS Hazardous shown in the above tables are the full funding rates presented by the actuary in the 2015 through 2024 annual valuations. However, 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. This phase-in was complete and the full actuarial rates were paid in FYE 2018. HB 362 (passed during the 2018 legislative session) limited the employer contribution rate increases to 12% per year over the prior fiscal year for the period of July 1, 2018 to June 30, 2028. SB 249 (passed during the 2020 legislative session) froze the contribution rates for one year so that the rates for FYE 2021 were equal to FYE 2020. As of FYE 2023, the CERS contributions rates were fully phased-in and the actual employer contribution rates equaled the actuarially determined rates shown above.

Summary of Actuarial Unfunded Liabilities
As of June 30 ($ in Thousands)

CERS Nonhazardous Pension Plan

Valuation Date	Actuarial Liability	Value of Assets		Unfunded Actuarial Liability		Funding Level	
		Actuarial	Market	Actuarial	Market	Actuarial	Market
2015	$10,740,325	$6,474,849	$6,416,854	$4,265,477	$4,323,472	60.29%	59.75%
2016	11,076,457	6,535,372	6,106,187	4,541,084	4,970,270	59.00%	55.13%
2017	12,803,509	6,764,873	6,687,237	6,038,636	6,116,272	52.84%	52.23%
2018	13,191,505	6,950,225	7,018,963	6,241,280	6,172,542	52.69%	53.21%
2019	14,356,114	7,049,527	7,159,921	7,306,587	7,196,192	49.10%	49.87%
2020	14,610,867	7,220,607	7,027,327	7,390,260	7,583,540	49.42%	48.10%
2021	14,894,907	7,715,884	8,565,652	7,179,023	6,329,254	51.80%	57.51%
2022	15,674,220	8,148,912	7,963,586	7,525,308	7,710,634	51.99%	50.81%
2023	15,296,428	8,585,072	8,672,597	6,711,356	6,623,831	56.12%	56.70%
2024	$15,776,491	$9,211,735	$9,596,244	$6,564,757	$6,180,248	58.39%	60.83%

CERS Nonhazardous Insurance Plan

Valuation Date	Actuarial Liability	Value of Assets		Unfunded Actuarial Liability		Funding Level	
		Actuarial	Market	Actuarial	Market	Actuarial	Market
2015	$2,907,827	$1,997,456	$1,948,454	$910,371	$959,373	68.69%	67.01%
2016	2,988,121	2,079,811	1,943,757	908,310	1,044,364	69.60%	65.05%
2017	3,355,151	2,227,401	2,212,536	1,127,750	1,142,616	66.39%	65.94%
2018	3,092,623	2,371,430	2,414,126	721,193	678,497	76.68%	78.06%
2019	3,567,947	2,523,249	2,569,511	1,044,698	998,435	70.72%	72.02%
2020	3,392,086	2,661,351	2,581,613	730,735	810,473	78.46%	76.11%
2021	3,450,485	2,947,312	3,246,801	503,172	203,683	85.42%	94.10%
2022	2,391,990	3,160,084	3,079,984	(768,094)	(687,994)	132.11%	128.76%
2023	2,560,387	3,366,332	3,398,375	(805,945)	(837,988)	131.48%	132.73%
2024	$2,901,345	$3,549,422	$3,707,277	$(648,077)	$(805,932)	122.34%	127.78%

CERS Hazardous Pension Plan

Valuation Date	Actuarial Liability	Value of Assets		Unfunded Actuarial Liability		Funding Level	
		Actuarial	Market	Actuarial	Market	Actuarial	Market
2015	$3,613,308	$2,096,783	$2,073,397	$1,516,525	$1,539,911	58.03%	57.38%
2016	3,704,456	2,139,119	2,003,669	1,565,337	1,700,787	57.74%	54.09%
2017	4,649,047	2,238,320	2,217,996	2,410,726	2,431,051	48.15%	47.71%
2018	4,792,548	2,321,721	2,348,337	2,470,827	2,444,211	48.44%	49.00%
2019	5,245,365	2,375,106	2,413,708	2,870,258	2,831,657	45.28%	46.02%
2020	5,431,298	2,447,885	2,379,704	2,983,413	3,051,595	45.07%	43.81%
2021	5,629,458	2,628,621	2,914,408	3,000,837	2,715,050	46.69%	51.77%
2022	5,861,691	2,788,714	2,718,234	3,072,977	3,143,457	47.58%	46.37%
2023	5,849,996	3,008,147	3,035,192	2,841,849	2,814,804	51.42%	51.88%
2024	$6,070,200	$3,279,623	$3,416,897	$2,790,577	$2,653,303	54.03%	56.29%

CERS Hazardous Insurance Plan

Valuation Date	Actuarial Liability	Value of Assets		Unfunded Actuarial Liability		Funding Level	
		Actuarial	Market	Actuarial	Market	Actuarial	Market
2015	$1,504,015	$1,087,707	$1,061,561	$416,308	$442,454	72.32%	70.58%
2016	1,558,818	1,135,784	1,062,602	423,034	496,216	72.86%	68.17%
2017	1,788,433	1,196,780	1,189,001	591,653	599,431	66.92%	66.48%
2018	1,684,028	1,256,306	1,280,982	427,722	403,046	74.60%	76.07%
2019	1,732,879	1,313,659	1,340,714	419,221	392,165	75.81%	77.37%
2020	1,740,971	1,362,028	1,321,117	378,943	419,854	78.23%	75.88%
2021	1,751,203	1,475,635	1,627,824	275,568	123,379	84.26%	92.95%
2022	1,538,131	1,553,761	1,522,671	(15,630)	15,460	101.02%	98.99%
2023	1,604,147	1,615,349	1,634,192	(11,202)	(30,045)	100.70%	101.87%
2024	$1,668,056	$1,676,141	$1,752,366	$(8,085)	$(84,310)	100.48%	105.05%

Solvency Test
As of June 30 ($ in Thousands)

CERS Nonhazardous Pension Plan

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)
2015	$1,216,585	$6,489,863	$3,033,878	$6,474,849	100.00%	81.00%	0.00%
2016	1,231,027	6,785,530	3,059,900	6,535,372	100.00%	78.20%	0.00%
2017	1,277,432	7,731,682	3,794,396	6,764,873	100.00%	71.00%	0.00%
2018	1,269,287	8,196,719	3,725,500	6,950,225	100.00%	69.30%	0.00%
2019	1,280,679	8,905,545	4,169,890	7,049,527	100.00%	64.80%	0.00%
2020	1,312,554	9,088,237	4,210,077	7,220,607	100.00%	65.00%	0.00%
2021	1,324,826	9,397,968	4,172,112	7,715,883	100.00%	68.00%	0.00%
2022	1,335,758	10,021,345	4,317,117	8,148,912	100.00%	68.00%	0.00%
2023	1,341,594	9,791,605	4,163,230	8,585,073	100.00%	74.00%	0.00%
2024	$1,384,947	$10,056,035	$4,335,509	$9,211,735	100.00%	77.80%	0.00%

CERS Nonhazardous Insurance Plan

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)
2015	$-	$1,372,597	$1,535,231	$1,997,456	100.00%	100.00%	40.70%
2016	-	1,484,937	1,503,184	2,079,811	100.00%	100.00%	39.60%
2017	-	1,603,438	1,751,713	2,227,401	100.00%	100.00%	35.60%
2018	-	1,525,322	1,567,301	2,371,430	100.00%	100.00%	54.00%
2019	-	1,830,692	1,737,255	2,523,249	100.00%	100.00%	39.90%
2020	-	1,746,160	1,645,926	2,661,351	100.00%	100.00%	55.60%
2021	-	1,835,734	1,614,751	2,947,312	100.00%	100.00%	68.80%
2022	-	1,055,375	1,336,615	3,160,084	100.00%	100.00%	100.00%
2023	-	1,256,529	1,303,858	3,366,332	100.00%	100.00%	100.00%
2024	$-	$1,510,962	$1,390,383	$3,549,422	100.00%	100.00%	100.00%

CERS Hazardous Pension Plan

	Actuarial Liabilities						
Valuation Date	(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)
2015	$422,359	$2,297,703	$893,246	$2,096,783	100.00%	72.90%	0.00%
2016	428,713	2,388,712	887,031	2,139,119	100.00%	71.60%	0.00%
2017	458,808	2,910,601	1,279,638	2,238,320	100.00%	61.10%	0.00%
2018	442,637	3,151,057	1,198,853	2,321,721	100.00%	59.60%	0.00%
2019	458,559	3,399,954	1,386,852	2,375,106	100.00%	56.40%	0.00%
2020	454,801	3,606,091	1,370,407	2,447,885	100.00%	55.30%	0.00%
2021	457,391	3,777,313	1,394,754	2,628,621	100.00%	57.50%	0.00%
2022	468,325	3,915,964	1,477,402	2,788,714	100.00%	59.30%	0.00%
2023	476,005	3,905,983	1,468,008	3,008,147	100.00%	64.80%	0.00%
2024	$509,070	$4,019,097	$1,542,033	$3,279,623	100.00%	68.90%	0.00%

CERS Hazardous Insurance Plan

	Actuarial Liabilities						
Valuation Date	(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)
2015	$-	$790,714	$713,301	$1,087,707	100.00%	100.00%	41.60%
2016	-	879,360	679,458	1,135,784	100.00%	100.00%	37.70%
2017	-	994,764	793,669	1,196,780	100.00%	100.00%	25.50%
2018	-	1,001,717	682,311	1,256,306	100.00%	100.00%	37.30%
2019	-	1,072,861	660,018	1,313,659	100.00%	100.00%	36.50%
2020	-	1,154,389	586,582	1,362,028	100.00%	100.00%	35.40%
2021	-	1,217,527	533,676	1,475,635	100.00%	100.00%	48.40%
2022	-	1,045,022	493,109	1,553,761	100.00%	100.00%	100.00%
2023	-	1,163,315	440,832	1,615,349	100.00%	100.00%	100.00%
2024	$-	$1,237,542	$430,514	$1,676,141	100.00%	100.00%	100.00%

Active Member Valuation

Summary of Active Member Valuation Data
As of June 30 ($ in Thousands)

CERS Nonhazardous Schedule of Active Member Valuation Data

Valuation Date	Number of Employers	Total Active Members	Annual Covered Payroll [1]	Annual Average Pay	% Increase In Average Pay	Average Age	Average Years of Service Credit
2015	1,092	80,852	$2,296,716	$28	1.40%	48.0	9.5
2016	1,095	80,664	2,352,762	29	2.70%	47.9	9.4
2017	1,096	82,198	2,452,407	30	2.29%	47.9	9.4
2018	1,092	81,818	2,466,801	30	1.06%	47.7	9.2
2019	1,094	81,506	2,521,860	31	2.62%	47.7	9.1
2020	1,087	81,250	2,565,391	32	2.05%	47.8	9.1
2021	1,084	77,367	2,528,735	33	3.52%	48.0	9.4
2022	1,084	77,849	2,691,171	35	5.76%	47.6	9.1
2023	1,086	78,810	2,898,813	37	6.40%	47.3	8.8
2024	1,078	80,440	$3,137,814	$39	6.05%	47.0	8.6

CERS Hazardous Schedule of Active Member Valuation Data

Valuation Date	Number of Employers	Total Active Members	Annual Covered Payroll [1]	Annual Average Pay	% Increase In Average Pay	Average Age	Average Years of Service Credit
2015	246	9,172	483,641	53	1.20%	39.1	10.6
2016	246	9,084	492,851	54	2.90%	39.1	10.6
2017	250	9,495	541,633	57	5.14%	39.2	10.5
2018	247	9,263	533,618	58	0.99%	38.5	10.2
2019	243	9,474	559,353	59	2.49%	38.6	10.1
2020	243	9,419	568,558	60	2.24%	38.4	10.0
2021	241	9,173	578,355	63	4.45%	38.4	10.0
2022	240	9,184	620,934	68	7.23%	38.3	10.0
2023	239	9,205	677,988	74	8.94%	38.1	9.8
2024	239	9,678	743,133	77	4.25%	37.7	9.6

[1] Annual payroll included in the Schedule of Active Member Valuation Data is based upon the annualized monthly payroll for active members as of the valuation date. The annual payroll recorded in the financial section is based upon the sum of the monthly payroll for active members recorded for each month of fiscal year ended June 30, 2024.

Summary of Retired Member Valuation Data
As of June 30 ($ in Thousands)

CERS Nonhazardous

Valuation Date	Number Added	Number Removed	Total Retirees & Beneficiaries	Annualized Retirement Allowances Added	Annualized Retirement Allowances Removed	Annualized Retirement Allowances [1]	% Increase In Allowances	Average Annual Allowance
2015	4,020	1,304	52,651	$44,962	$10,369	$617,551	5.93%	$12
2016	4,409	721	56,339	49,487	5,822	661,217	7.07%	12
2017	4,141	1,467	59,013	47,074	40,823	667,468	0.95%	11
2018	4,650	1,725	61,938	57,343	14,436	710,374	6.43%	11
2019	4,472	1,871	64,539	53,392	16,649	747,117	5.17%	12
2020	3,550	2,675	65,414	40,409	24,066	763,459	2.19%	12
2021	4,350	2,558	67,206	51,859	23,756	791,562	3.68%	12
2022	4,693	3,010	68,889	58,456	29,341	820,678	3.68%	12
2023	4,753	2,710	70,932	62,416	27,922	855,173	4.20%	12
2024	4,203	2,750	72,385	$55,348	$27,329	$883,192	3.28%	$12

CERS Hazardous

Valuation Date	Number Added	Number Removed	Total Retirees & Beneficiaries	Annualized Retirement Allowances Added	Annualized Retirement Allowances Removed	Annualized Retirement Allowances [1]	% Increase In Allowances	Average Annual Allowance
2015	526	138	8,034	$13,430	$2,284	$202,153	5.84%	$25
2016	604	75	8,563	14,642	1,494	215,302	6.50%	25
2017	576	141	8,998	15,102	3,724	226,680	5.28%	25
2018	779	190	9,587	22,292	3,297	245,675	8.38%	26
2019	608	172	10,023	16,096	2,957	258,813	5.35%	26
2020	621	192	10,452	19,621	3,643	274,791	6.17%	26
2021	651	245	10,858	18,939	4,855	288,876	5.13%	27
2022	674	301	11,231	19,629	6,539	301,966	4.53%	27
2023	672	300	11,603	21,528	5,964	317,529	5.15%	27
2024	548	298	11,853	$17,709	$6,150	$329,089	3.64%	$28

[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. Headcounts and hazardous benefits for members receiving benefits in both the nonhazardous and hazardous fund have been included in the hazardous funds' summaries above. Additional $30,693,000 in CERS Nonhazardous annual benefits not included in June 30, 2024 summary above.

Summary of Benefit Provisions CERS Plans

Plan Funding

State statute requires active members to contribute 5% of creditable compensation for nonhazardous members and 8% of creditable compensation for hazardous members. 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 78.635.

Membership Eligibility

For all regular full-time non-school board employees to be eligible for membership, they must average 100 or more hours of work per month over a fiscal or calendar year. For all regular full-time school board employees to be eligible for membership, they must average 80 hours of work per month over the actual days worked during the school year.

Retirement Eligibility for Nonhazardous Employees		
Age	**Years of Service**	**Allowance Reduction**
Tier 1 Members Whose Participation Began Before 9/1/2008		
65	1 month	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

Retirement Eligibility for Hazardous		
Age	**Years of Service**	**Allowance Reduction**
Tier 1 Members Whose Participation Began Before 9/1/2008		
55	1 month	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.
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 Nonhazardous
Tier 1: Members whose participation began before 9/1/2008

Final Compensation	Benefit Factor		Years of Service
Average of the five highest years of compensation	CERS 2.20% if:	Member begins participating prior to 8/1/2004.	Includes earned service, purchased service, prior service, and sick leave service (if the member's employer participates in an approved sick leave program).
	CERS 2.00% if:	Member begins participating on or after 8/1/2004 but before 9/1/2008.	

If a member retires with less than four years of service credit, the member's benefit is equal to the actuarially equivalent of two times their member contribution balance with interest.

Benefit Formula Nonhazardous
Tier 2: Members whose participation began on or after 9/1/2008 but before 1/1/2014

Final Compensation	Benefit Factor		Years of Service
Average of the last five years of compensation	CERS increasing percent based on service at retirement up to 30 years* plus 2.00% for each year of service over 30 years		Includes earned service, purchased service, prior service, and sick leave service (if the member's employer participates in an approved sick leave program).
	*Service	Multiplier	
	10 years or less	1.10%	
	10-20 years	1.30%	
	20-26 years	1.50%	
	26-30 years	1.75%	

Benefit Formula for Hazardous for Tier 1: Members whose participation began before 9/1/2008		
Final Compensation	**Benefit Factor**	**Years of Service**
Average of the three highest years of compensation	CERS 2.50% if:	Includes earned service, purchased service, prior service, and sick leave service (if the member's employer participates in an approved sick leave program).
If a member retires with less than four years of service, the member's benefit is equal to the actuarially equivalent of two times their member contribution balance with interest.		

Benefit Formula for Hazardous for Tier 2: Members whose participation began on or after 9/1/2008 but before 1/1/2014			
Final Compensation	**Benefit Factor**		**Years of Service**
Average of the three highest complete years of compensation	CERS increasing percent based on service at retirement*		Includes earned service, purchased service, prior service, and sick leave service (if the member's employer participates in an approved sick leave program).
	*Service	Multiplier	
	10 years or less	1.30%	
	10-20 years	1.50%	
	20-25 years	2.25%	
	25+ years	2.50%	

Benefit Formula for Hazardous for Tier 3: Members whose participation began on or after 1/1/2014

Each year that the member is active, a 7.50% employer pay credit and the employee's 8.00% contribution will be credited to each member's hypothetical cash balance account. The hypothetical account will earn interest at a minimum rate of 4%, annually. If the geometric average net investment return for the previous five years exceeds 4%, then the hypothetical account will be credited with an additional amount of interest in that year equal to 75% of the amount of the return which exceeds 4%. All interest credits will be applied to the hypothetical account balance on June 30 based on the account balance as of June 30 of the previous year. At retirement, the member's hypothetical account balance may be converted into an annuity based on an actuarial factor.

Benefit Formula
Tier 3: Members whose participation began on or after 1/1/2014
Accumulated Account Balance / Actuarial Factor = Monthly Life Annuity

	Accumulated Account Balance				
	Member Contributions	**Employer Contributions**	**Base Annual Interest**	**Upside Sharing Interest (FY 2024)**	**Actuarial Factor**
CERS Nonhazardous	5.00%	4.00%	4.00%	6.75%	See www.kyret.ky.gov for most recent Actuarial Factors
CERS Hazardous	8.00%	7.50%	4.00%	6.89%	

Note: Accumulated Account Balance is comprised of member contributions, employer contributions, annual interest and annual upside sharing interest. For additional information on the calculation of the annual interest for Tier 3 see Upside Sharing Interest in Note B.

Note: Please see Plan Provisions for additional details.

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 qualify for disability retirement 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 qualify for disability retirement provided the member has at least 60 months of service credit*. Nonhazardous benefits are computed as the higher of 20% of the member's monthly final rate of pay or the amount calculated under the Benefit Formula based upon actual service. Hazardous benefits are computed as the higher of 25% of the member's monthly 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 benefit to the member is the higher of 20% or 25% of the member's monthly final rate of pay for nonhazardous and hazardous, respectively or the Annuity amount using the factor at the member's normal retirement age.

Members disabled as a result of a single duty-related injury, act of violence related to their job or in the line of duty may be eligible for additional benefits.

*Service requirements may be waived if line of duty or duty related.

Pre-Retirement Death Benefits

The beneficiary of a deceased member is eligible for a monthly benefit if the member died while in the line of duty or duty related death. The beneficiary of a deceased member who did not die in the line of duty is 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 member is not eligible for a monthly benefit, the beneficiary will receive a lump-sum payment of the member's accumulated account balance.

Cost of Living Adjustment (COLA)

SB2 of 2013 eliminated all future COLAs unless the State Legislature so authorizes on a biennial basis and either (i) the system is over 100% funded or (ii) the Legislature directs payment of employer contributions to fully prefund the increased liability for the COLA.

Insurance Benefits

For members participating prior to July 1, 2003, the system pays a percentage of the monthly premium for single coverage based on the service credit accrued at retirement. Hazardous members also receive a percentage paid for eligible spouse or dependent coverage based on the accrued hazardous service at retirement.

For members participating on or after July 1, 2003, a dollar contribution amount is paid toward insurance coverage. Any portion paid toward eligible spouse and dependent coverage is based on the member's hazardous service credit. The member must have a minimum of 10 years of service to be eligible for insurance benefits if the participation date is between July 1, 2003 and August 31, 2008, and a 15 years of service if the participation date is on or after September 1, 2008. A nonhazardous member will receive $10 for each year of service and hazardous members receive $15 for each year of service. Since July 2004, the dollar amount increases annually on July 1 by 1.5%. Members can earn an additional dollar contribution amount if they surpass the career threshold defined in Kentucky Revised Statute 78.5536.

Refunds

Upon termination of employment, a refund of member contributions and accumulated interest is available to the member.

Interest on Accounts

For employees participating prior to September 1, 2008, the interest paid is set by the Board of Trustees and will not be less than 2.0%, for employees participating on or after September 1, 2008 but before January 1, 2014, interest will be credited at a rate of 2.5%. For employees participating on or after January 1, 2014, interest will be credited at a minimum rate of 4.0%.

Benefit Changes since the Prior Valuation

There have been no benefit changes since the prior valuation.

STATISTICAL

TABLE OF CONTENTS

Plan Statistics

Definitions

Active members are those members who are currently employed by a participating agency and contributing to CERS 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 CERS.

A single member may have multiple accounts. For these tables, persons who participate in both hazardous and nonhazardous plans will appear in each plan in which they have service credit.

These tables do not include individuals receiving payments under dependent child accounts, Qualified Domestic Relations Orders (QDRO), or multiple beneficiary accounts.

CERS Nonhazardous Membership As of June 30

Fiscal Year	Active	Inactive	Retired	Total
2015	85,782	78,054	55,510	219,346
2016	85,912	81,427	59,466	226,805
2017	86,873	84,410	62,262	233,545
2018	86,536	87,167	65,415	239,118
2019	86,334	90,990	68,146	245,470
2020	84,932	96,610	70,126	251,668
2021	81,600	101,418	73,501	256,519
2022	81,548	107,279	75,517	264,344
2023	82,471	112,935	77,341	272,747
2024	83,956	118,064	78,976	280,996

CERS Hazardous Membership As of June 30

Fiscal Year	Active	Inactive	Retired	Total
2015	10,225	3,290	8,051	21,566
2016	10,044	3,084	8,639	21,767
2017	10,188	3,267	9,100	22,555
2018	10,135	3,404	9,698	23,237
2019	10,291	3,526	10,133	23,950
2020	10,174	3,804	10,618	24,596
2021	9,933	4,151	11,138	25,222
2022	9,987	4,422	11,513	25,922
2023	10,031	4,665	11,886	26,582
2024	10,548	4,833	12,141	27,522

County Employees Retirement System Membership Totals As of June 30

Fiscal Year	Active	Inactive	Retired	Total
2015	96,007	81,344	63,561	240,912
2016	95,956	84,511	68,105	248,572
2017	97,061	87,677	71,362	256,100
2018	96,671	90,571	75,113	262,355
2019	96,625	94,516	78,279	269,420
2020	95,106	100,414	80,744	276,264
2021	91,533	105,569	84,639	281,741
2022	91,535	111,701	87,030	290,266
2023	92,502	117,600	89,227	299,329
2024	94,504	122,897	91,117	308,518

Principal Participating Employers in CERS As of June 30, 2024

Participating Employer	Rank	Covered Employees	% of Total System
JEFFERSON COUNTY BOARD OF EDUCATION	1	5,023	5.43%
LOUISVILLE JEFFERSON COUNTY METRO GOVERNMENT	2	4,690	5.07%
FAYETTE COUNTY BOARD OF EDUCATION	3	2,041	2.21%
LEXINGTON FAYETTE URBAN COUNTY GOVERNMENT	4	1,713	1.85%
JUDICIAL DEPARTMENT ADMINISTRATIVE OFFICE OF THE COURTS	5	1,496	1.62%
HARDIN COUNTY BOARD OF EDUCATION	6	1,137	1.23%
BOONE COUNTY BOARD OF EDUCATION	7	1,130	1.22%
SCOTT COUNTY BOARD OF EDUCATION	8	978	1.06%
WARREN COUNTY BOARD OF EDUCATION	9	931	1.01%
BULLITT COUNTY BOARD OF EDUCATION	10	912	0.99%
ALL OTHERS		72,350	78.31%
Total		**92,401**	**100.00%**

Schedule of Participating Employers in CERS As of June 30, 2024

Agency Classification	Number of Agencies	Covered Employees
Airport Boards	5	551
Ambulance Services	19	429
Area Development Districts	14	717
Boards of Education	171	46,122
Cities	222	10,642
Community Action Agencies	21	2,938
Conservation Districts	48	57
County Attorneys	73	531
County Clerks	16	585
Development Authorities	7	11
Fire Departments	29	1,183
Fiscal Courts	118	11,348
Hospitals & Clinics (incl. Dental)	1	318
Housing Authorities	39	404
Jailers	2	69
Libraries	86	1,336
Other Retirement Systems	2	2
P1 State Agencies	4	1,497
Parks and Recreation	7	64
Planning Commissions	16	195
Police Departments	2	15
Riverport Authorities	5	68
Sanitation Districts	8	325
Sheriff Departments	12	772
Special Districts & Boards	46	1,425
Tourist Commissions	25	205
Urban Government Agencies	2	6,403
Utility Boards	120	4,189
Total	**1,120**	**92,401**

Total Employees By Tier Levels

Tier 1	**23,241**
Tier 2	**11,888**
Tier 3	**57,272**

Average Monthly Benefit by Length of Service in CERS As of June 30, 2024 (in Whole $)

	CERS Nonhazardous		CERS Hazardous	
Service Credit Range	**Number of Accounts**	**Average Monthly Benefit**	**Number of Accounts**	**Average Monthly Benefit**
Under 5 years	11,858	$188	1,388	$519
5 or more but less than 10	11,748	348	1,166	716
10 or more but less than 15	12,140	548	1,154	1,291
15 or more but less than 20	10,483	842	1,336	1,922
20 or more but less than 25	13,475	1,051	4,947	2,754
25 or more but less than 30	15,090	1,972	1,645	3,779
30 or more but less than 35	3,298	2,731	420	4,548
35 or more	884	3,843	85	5,696
Total	**78,976**	**$989**	**12,141**	**$2,294**

Note: These tables reflect 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.

Fiduciary Net Position - CERS

As of June 30 ($ in Thousands)

	Nonhazardous			Hazardous		
Fiscal Year	**Pension**	**Insurance**	**Total**	**Pension**	**Insurance**	**Total**
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
2018	7,086,322	2,346,767	9,433,089	2,361,047	1,268,272	3,629,319
2019	7,242,975	2,486,458	9,729,433	2,429,613	1,324,809	3,754,422
2020	7,110,889	2,498,051	9,608,940	2,395,688	1,305,132	3,700,820
2021	8,670,667	3,141,786	11,812,453	2,934,421	1,607,811	4,542,232
2022	8,062,346	2,981,224	11,043,570	2,736,928	1,503,977	4,240,905
2023	8,781,440	3,289,533	12,070,973	3,055,797	1,613,586	4,669,383
2024	$9,717,626	$3,585,894	$13,303,520	$3,439,860	$1,729,403	$5,169,263

Note: For additional historical data for all charts presented, please visit our website for previous annual reports at https://kyret.ky.gov/Publications/Pages/Annual-Reports.aspx

Changes in Fiduciary Net Position - CERS Nonhazardous Pension Plan

As of June 30 ($ in Thousands)

Additions	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Members' Contributions	$133,637	$133,987	$150,714	$160,370	$159,064	$168,994	$165,698	$186,648	$147,769	$161,176
Employers' Contributions	297,714	282,767	331,493	355,473	393,302	475,311	472,196	606,772	697,634	764,747
Health Insurance Contributions (HB1)	6,674	7,687	9,158	10,826	11,801	5	(1)	(60)	(30)	(86)
Net Investment Income (Loss)	110,569	(40,799)	825,901	578,377	394,558	56,682	1,784,231	(500,996)	815,417	1,002,646
Bank of America Settlement	10,280	-	-	-	-	-	-	-	-	-
Northern Trust Settlement	-	-	-	361	44	-	-	-	-	-
Pension Spiking	850	1,339	2,061	2,544	151	105	32	35	46	31
Total Additions	**559,724**	**384,981**	**1,319,327**	**1,107,951**	**958,920**	**701,097**	**2,422,156**	**292,399**	**1,660,836**	**1,928,514**
Deductions										
Benefit Payments	615,335	651,247	687,460	726,568	766,221	795,960	826,749	858,260	894,351	940,514
Refunds	13,524	13,754	14,430	14,608	14,387	14,918	13,862	19,789	23,263	25,267
Administrative Expenses	18,212	19,078	19,614	19,592	21,659	22,304	21,767	22,670	24,128	26,547
Capital Project Expenses	-	307	77	-	-	-	-	-	-	-
Total Deductions	**647,071**	**684,385**	**721,581**	**760,768**	**802,267**	**833,182**	**862,378**	**900,719**	**941,742**	**992,328**
Net Increase (Decrease) in Fiduciary Net Position	**$(87,347)**	**$(299,404)**	**$597,746**	**$347,183**	**$156,653**	**$(132,085)**	**$1,559,778**	**$(608,321)**	**$719,094**	**$936,186**

Changes in Fiduciary Net Position - CERS Nonhazardous Insurance Plan

As of June 30 ($ in Thousands)

Additions	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Employers' Contributions	$115,836	$108,269	$117,310	$120,798	$135,570	$124,740	$124,697	$118,550	$101,121	$2,765
Net Investment Income (Loss)	36,731	(1,422)	259,586	197,520	133,697	8,656	619,593	(170,699)	306,003	380,512
Retired Re-employed (HB1)	3,608	3,567	3,402	3,821	4,085	4,528	5,206	4,816	4,922	7,378
Member Drug Reimbursement	-	-	1	11	6	4	3	1	-	-
Premiums Received from Retirees	582	629	707	637	616	596	555	534	294	262
Humana Gain Share	-	-	-	-	3,574	-	20,676	8,912	5,951	10,445
Northern Trust Settlement	-	-	-	75	9	-	-	-	-	-
Health Insurance Contributions (HB1)	-	-	-	-	-	12,959	13,614	15,985	17,782	20,736
Total Additions	**156,757**	**111,043**	**381,006**	**322,862**	**277,557**	**151,483**	**784,344**	**(21,901)**	**436,073**	**422,098**
Deductions										
Health Insurance Premiums	113,734	122,713	124,573	131,631	133,005	135,094	136,263	134,428	123,587	122,209
Administrative Expenses	782	726	789	761	877	903	884	933	937	930
Self-Funded Healthcare Costs	-	-	3,635	4,248	3,979	3,887	3,462	3,288	3,240	2,585
Excise Tax Insurance	6	-	6	6	6	6	-	12	-	13
Total Deductions	**114,522**	**123,439**	**129,003**	**136,646**	**137,867**	**139,890**	**140,609**	**138,661**	**127,764**	**125,737**
Net Increase (Decrease) in Fiduciary Net Position	**$42,235**	**$(12,396)**	**$252,003**	**$186,216**	**$139,690**	**$11,593**	**$643,735**	**$(160,562)**	**$308,309**	**$296,361**

Changes in Fiduciary Net Position - CERS Hazardous Pension Plan

As of June 30 ($ in Thousands)

Additions	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Members' Contributions	$46,609	$51,554	$60,102	$61,089	$58,661	$63,236	$62,367	$69,565	$56,988	$61,438
Employers' Contributions	107,515	104,952	114,315	124,953	137,664	168,201	172,089	221,968	308,036	321,225
Health Insurance Contributions (HB1)	1,084	1,418	1,708	2,173	2,458	1	2	(104)	(20)	(59)
Net Investment Income (Loss)	37,104	(9,021)	270,473	192,174	132,970	15,992	600,730	(175,431)	281,965	355,852
Bank of America Settlement	2,865	-	-	-	-	-	-	-	-	-
Northern Trust Settlement	-	-	-	111	14	-	-	-	-	-
Pension Spiking	557	762	1,632	2,707	387	242	116	60	186	68
Total Additions	**195,734**	**149,665**	**448,230**	**383,207**	**332,154**	**247,672**	**835,304**	**116,058**	**647,155**	**738,524**
Deductions										
Benefit Payments	200,134	213,448	226,985	244,119	259,008	275,802	290,000	305,790	319,594	343,583
Refunds	3,111	2,879	2,315	4,214	2,854	3,814	4,662	5,766	6,568	8,540
Administrative Expenses	1,289	1,337	1,421	1,504	1,726	1,981	1,910	1,995	2,124	2,338
Capital Project Expenses	-	26	7	-	-	-	-	-	-	-
Total Deductions	**204,534**	**217,690**	**230,728**	**249,837**	**263,588**	**281,597**	**296,572**	**313,551**	**328,286**	**354,461**
Net Increase (Decrease) in Fiduciary Net Position	**$(8,800)**	**$(68,025)**	**$217,502**	**$133,370**	**$68,566**	**$(33,925)**	**$538,732**	**$(197,493)**	**$318,869**	**$384,063**

Changes in Fiduciary Net Position - CERS Hazardous Insurance Plan

As of June 30 ($ in Thousands)

Additions	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Employers' Contributions	$71,008	$66,757	$50,743	$55,027	$61,106	$56,739	$58,451	$58,374	$48,792	$20,556
Net Investment Income (Loss)	20,283	1,102	142,929	109,004	72,580	2,237	322,817	(78,453)	148,739	183,407
Retired Re-employed (HB1)	770	862	794	975	1,166	1,158	1,348	1,530	1,611	2,088
Member Drug Reimbursement	-	-	-	-	-	-	-	-	-	-
Premiums Received from Retirees	10	(106)	(301)	(265)	(53)	(32)	(149)	(271)	(546)	(151)
Humana Gain Share	-	-	-	-	506	-	2,990	1,259	914	1,637
Northern Trust Settlement	-	-	-	40	5	-	-	-	-	-
Health Insurance Contributions (HB1)	-	-	-	-	-	2,760	3,096	3,758	4,278	5,038
Total Additions	**92,071**	**68,615**	**194,165**	**164,781**	**135,310**	**62,862**	**388,553**	**(13,803)**	**203,788**	**212,575**
Deductions										
Health Insurance Premiums	65,553	68,518	70,407	74,844	78,190	81,849	85,151	89,319	93,485	96,052
Administrative Expenses	339	480	381	376	434	462	466	502	522	522
Self-Funded Healthcare Costs	-	-	160	603	149	228	257	210	172	184
Total Deductions	**65,894**	**68,998**	**70,948**	**75,823**	**78,773**	**82,539**	**85,874**	**90,031**	**94,179**	**96,758**
Net Increase (Decrease) in Fiduciary Net Position	**$26,177**	**$(383)**	**$123,216**	**$88,958**	**$56,537**	**$(19,677)**	**$302,679**	**$(103,834)**	**$109,609**	**$115,817**

The following 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 Nonhazardous

As of June 30 (in Whole $)

	Normal Retirement	Early Retirement	Disability Retirement	Beneficiary Payments
Fiscal Year 2015				
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%
Fiscal Year 2016				
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%
Fiscal Year 2017				
Average Benefit	$634	$1,050	$883	$616
Number of Accounts	14,792	40,873	5,280	1,318
Total Monthly Benefits	$9,374,583	$42,912,604	$4,661,375	$811,542
% of Total Monthly Benefits	16.23%	74.29%	8.07%	1.41%
Fiscal Year 2018				
Average Benefit	$647	$1,062	$892	$645
Number of Accounts	15,713	42,918	5,425	1,359
Total Monthly Benefits	$10,169,605	$45,560,863	$4,838,284	$875,980
% of Total Monthly Benefits	16.55%	74.15%	7.87%	1.43%
Fiscal Year 2019				
Average Benefit	$668	$1,067	$901	$657
Number of Accounts	16,710	44,594	5,479	1,363
Total Monthly Benefits	$11,167,300	$47,580,052	$4,934,518	$895,303
% of Total Monthly Benefits	17.29%	73.68%	7.64%	1.39%
Fiscal Year 2020				
Average Benefit	$673	$1,070	$904	$667
Number of Accounts	17,378	45,973	5,405	1,370
Total Monthly Benefits	$11,693,581	$49,186,433	$4,888,554	$913,574
% of Total Monthly Benefits	17.54%	73.76%	7.33%	1.37%
Fiscal Year 2021				
Average Benefit	$684	$1,074	$909	$688
Number of Accounts	18,581	47,970	5,518	1,432
Total Monthly Benefits	$12,717,667	$51,532,707	$5,016,308	$984,964
% of Total Monthly Benefits	18.10%	73.35%	7.14%	1.40%
Fiscal Year 2022				
Average Benefit	$701	$1,082	$914	$723
Number of Accounts	19,172	49,431	5,444	1,470
Total Monthly Benefits	$13,435,298	$53,468,946	$4,977,131	$1,062,739
% of Total Monthly Benefits	18.42%	73.30%	6.82%	1.46%
Fiscal Year 2023				
Average Benefit	$717	$1,095	$920	$753
Number of Accounts	19,864	50,658	5,303	1,516
Total Monthly Benefits	$14,247,555	$55,453,257	$4,876,441	$1,141,532
% of Total Monthly Benefits	18.82%	73.23%	6.44%	1.51%
Fiscal Year 2024				
Average Benefit	$731	$1,105	$920	$772
Number of Accounts	20,511	51,693	5,255	1,517
Total Monthly Benefits	$14,984,125	$57,136,784	$4,836,003	$1,170,758
% of Total Monthly Benefits	19.18%	73.13%	6.19%	1.50%

Schedule of Benefit Expenses - CERS Hazardous

As of June 30 (in Whole $)

	Normal Retirement	Early Retirement	Disability Retirement	Beneficiary Payments
Fiscal Year 2015				
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%
Fiscal Year 2016				
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%
Fiscal Year 2017				
Average Benefit	$1,509	$2,473	$1,138	$997
Number of Accounts	2,394	5,764	794	149
Total Monthly Benefits	$3,612,099	$14,255,349	$903,238	$148,515
% of Total Monthly Benefits	19.09%	75.35%	4.77%	0.78%
Fiscal Year 2018				
Average Benefit	$1,542	$2,505	$1,141	$1,110
Number of Accounts	2,540	6,189	811	158
Total Monthly Benefits	$3,917,668	$15,503,185	$925,221	$175,316
% of Total Monthly Benefits	19.09%	75.55%	4.51%	0.85%
Fiscal Year 2019				
Average Benefit	$1,546	$2,522	$1,163	$1,166
Number of Accounts	2,655	6,488	822	168
Total Monthly Benefits	$4,104,061	$16,365,945	$956,017	$195,932
% of Total Monthly Benefits	18.98%	75.69%	4.42%	0.91%
Fiscal Year 2020				
Average Benefit	$1,590	$2,554	$1,174	$1,205
Number of Accounts	2,771	6,864	814	169
Total Monthly Benefits	$4,406,958	$17,527,561	$955,266	$203,646
% of Total Monthly Benefits	19.08%	75.90%	4.14%	0.88%
Fiscal Year 2021				
Average Benefit	$1,615	$2,569	$1,169	$1,253
Number of Accounts	2,908	7,211	846	173
Total Monthly Benefits	$4,698,033	$18,522,964	$988,745	$216,818
% of Total Monthly Benefits	19.23%	75.83%	4.05%	0.89%
Fiscal Year 2022				
Average Benefit	$1,649	$2,586	$1,173	$1,329
Number of Accounts	2,979	7,494	858	182
Total Monthly Benefits	$4,910,951	$19,377,298	$1,006,030	$241,826
% of Total Monthly Benefits	19.23%	75.88%	3.94%	0.95%
Fiscal Year 2023				
Average Benefit	$1,690	$2,616	$1,196	$1,437
Number of Accounts	3,061	7,784	853	188
Total Monthly Benefits	$5,171,930	$20,360,195	$1,020,135	$270,089
% of Total Monthly Benefits	19.28%	75.91%	3.80%	1.01%
Fiscal Year 2024				
Average Benefit	$1,714	$2,658	$1,190	$1,480
Number of Accounts	3,106	7,982	860	193
Total Monthly Benefits	$5,324,806	$21,215,847	$1,023,549	$285,623
% of Total Monthly Benefits	19.12%	76.18%	3.68%	1.03%

Active Refunds Report For the Period ended June 30, 2024 (in Whole $)							
		Active Termination Refunds		Active Death Refunds		Totals	
		Number of Refunds	Amount of Refunds	Number of Refunds	Amount of Refunds	Number of Refunds	Amount of Refunds
System	Tier						
CERS Nonhazardous	1	231	$3,136,965	142	$269,186	373	$3,406,151
	2	172	1,169,049	41	202,989	213	1,372,038
	3	2,177	20,379,391	95	397,925	2,272	20,777,316
	Total	**2,580**	**24,685,405**	**278**	**870,100**	**2,858**	**25,555,505**
CERS Hazardous	1	14	510,180	-	-	14	510,180
	2	7	217,188	1	796	8	217,984
	3	205	7,248,191	3	63,432	208	7,311,623
	Total	**226**	**7,975,559**	**4**	**64,228**	**230**	**8,039,787**
TOTALS		**2,806**	**$32,660,964**	**282**	**$934,328**	**$3,088**	**$33,595,292**

Analysis of Initial Retirees As of June 30 (in Whole $)	CERS Nonhazardous	CERS Hazardous
Fiscal Year 2015		
Number of Accounts	4,084	496
Average Service Credit (months)	188	204
Average Final Compensation	$34,561	$59,589
Average Monthly Benefit	$913	$2,178
Average System Payment for Health Insurance	$489	$1,254
Fiscal Year 2016		
Number of Accounts	4,151	522
Average Service Credit (months)	190	212
Average Final Compensation	$34,632	$58,977
Average Monthly Benefit	$932	$2,303
Average System Payment for Health Insurance	$501	$1,277
Fiscal Year 2017		
Number of Accounts	4,151	544
Average Service Credit (months)	191	203
Average Final Compensation	$34,779	$58,384
Average Monthly Benefit	$940	$2,236
Average System Payment for Health Insurance	$510	$1,247
Fiscal Year 2018		
Number of Accounts	4,570	696
Average Service Credit (months)	195	211
Average Final Compensation	$37,683	$65,407
Average Monthly Benefit	$1,027	$2,528
Average System Payment for Health Insurance	$531	$1,300
Fiscal Year 2019		
Number of Accounts	4,283	541
Average Service Credit (months)	193	198
Average Final Compensation	$37,412	$64,646
Average Monthly Benefit	$997	$2,366
Average System Payment for Health Insurance	$513	$1,231
Fiscal Year 2020		
Number of Accounts	3,584	580
Average Service Credit (months)	189	221
Average Final Compensation	$36,968	$67,994
Average Monthly Benefit	$935	$2,715
Average System Payment for Health Insurance	$539	$1,361
Fiscal Year 2021		
Number of Accounts	3,967	531
Average Service Credit (months)	194	209
Average Final Compensation	$38,245	$68,216
Average Monthly Benefit	$987	$2,589
Average System Payment for Health Insurance	$543	$1,326
Fiscal Year 2022		
Number of Accounts	3,975	496
Average Service Credit (months)	198	205
Average Final Compensation	$39,244	$70,218
Average Monthly Benefit	$1,048	$2,691
Average System Payment for Health Insurance	$576	$1,336

Analysis of Initial Retirees As of June 30 (in Whole $) Continued	CERS Nonhazardous	CERS Hazardous
Fiscal Year 2023		
Number of Accounts	4,003	498
Average Service Credit (months)	194	216
Average Final Compensation	$41,262	$77,761
Average Monthly Benefit	$1,101	$3,029
Average System Payment for Health Insurance	$625	$1,503
Fiscal Year 2024		
Number of Accounts	3,553	387
Average Service Credit (months)	197	213
Average Final Compensation	$42,017	$80,498
Average Monthly Benefit	$1,111	$3,096
Average System Payment for Health Insurance	$676	$1,601

Note: This table represents all individuals who had an initial retirement date within the fiscal year.

Payment Options Selected by Retired Members As of June 30, 2024 (in Whole $)	Basic	Other	Period Certain	Pop Up	Social Security Adjustment	Survivorship	Annuity
CERS Nonhazardous							
Number of Accounts	33,865	27	11,569	12,159	2,294	18,964	98
Monthly Benefits	$28,663,508	$40,777	$10,770,967	$15,357,360	$3,225,347	$20,056,732	$12,977
CERS Hazardous							
Number of Accounts	2,001	39	1,142	4,738	591	3,630	-
Monthly Benefits	$4,024,213	$67,869	$2,510,085	$12,326,281	$1,013,399	$7,907,979	$-
CERS Total							
Number of Accounts	35,866	66	12,711	16,897	2,885	22,594	98
Monthly Benefits	$32,687,721	$108,646	$13,281,052	$27,683,641	$4,238,746	$27,964,711	$12,977

The information in this table represents accounts administered by KPPA. A single member may have multiple accounts, which contribute to one pension.

Employer Contribution Rates

In CERS both the employee and the employer contribute a percentage of creditable compensation to CERS.

The employee contribution rate is set by state statute. Nonhazardous employees contribute 5% while Hazardous duty members contribute 8%. Employees hired on or after September 1, 2008, contribute an additional 1% to health insurance.

CERS employer contribution rates are set by the CERS Board under Kentucky Revised Statutes 78.635 based on an annual actuarial valuation. During the 2018 Regular Session of the Kentucky General Assembly, HB 362 capped CERS employer contribution rate increases to no more than 12% per year over the prior fiscal year for the period of July 1, 2018 to June 30, 2028, or until the actuarial recommended contribution was met. Fiscal year 2022 was the last year for the 12% cap for CERS. The actual pension and insurance employer contribution rates that were paid are shown below.

Employer Contribution Rates (%) As of June 30

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
CERS Nonhazardous										
Actual Rate	17.67%	17.06%	18.68%	19.18%	21.48%	24.06%	24.06%	26.95%	26.79%	23.34%
CERS Hazardous										
Actual Rate	34.31%	32.95%	31.06%	31.55%	35.34%	39.58%	39.58%	44.33%	49.59%	43.69%

Insurance Contracts

CERS 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. CERS provides access to health insurance coverage through the Kentucky Employees' 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 CERS. A retired member's spouse and/or dependents may also be covered on health insurance through CERS.

Insurance Benefits Paid to Retirees & Beneficiaries Participating in a CERS Health Insurance Plan As of June 30, 2024 (in Whole $)

	CERS Nonhazardous	CERS Hazardous
Number	41,161	10,135
Average Service Credit (Months)	268	276
Average Monthly System Payment for Health Insurance	$280	$1,070
Average Monthly Member Payment for Health Insurance	$34	$44
Total Monthly Payment for Health Insurance	$12,291,675	$9,207,115

Insurance Contracts by Type As of June 30

CERS Nonhazardous	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
KEHP Parent Plus	242	235	222	231	214	210	218	225	234	241
KEHP Couple/Family	473	465	462	510	530	519	508	543	524	506
KEHP Single	8,098	8,164	8,313	8,802	8,912	8,751	8,685	8,692	8,721	8,562
Medicare without Prescription	2,531	2,499	2,462	2,389	2,278	2,183	2,081	1,958	1,921	1,826
Medicare with Prescription	21,520	23,007	24,247	25,476	26,848	27,786	28,472	29,001	29,542	30,026
CERS Hazardous	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
KEHP Parent Plus	456	378	395	422	430	425	473	468	491	477
KEHP Couple/Family	2,255	2,321	2,387	2,571	2,648	2,816	2,894	2,961	3,047	3,050
KEHP Single	1,500	1,595	1,645	1,712	1,746	1,731	1,768	1,810	1,893	1,899
Medicare without Prescription	107	114	125	119	121	116	120	134	138	144
Medicare with Prescription	2,697	2,969	3,205	3,388	3,658	3,911	4,103	4,284	4,455	4,565
CERS Total	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
KEHP Parent Plus	698	613	617	653	644	635	691	693	725	718
KEHP Couple/Family	2,728	2,786	2,849	3,081	3,178	3,335	3,402	3,504	3,571	3,556
KEHP Single	9,598	9,759	9,958	10,514	10,658	10,482	10,453	10,502	10,614	10,461
Medicare without Prescription	2,638	2,613	2,587	2,508	2,399	2,299	2,201	2,092	2,059	1,970
Medicare with Prescription	24,217	25,976	27,452	28,864	30,506	31,697	32,575	33,285	33,997	34,591

Acronym Glossary for Kentucky Retirement Systems
As of December 6, 2023

Phrase	Acronym
Actuarially Determined Contribution	ADC
Annual Required Contribution	ARC
Annual Comprehensive Financial Report	ACFR
Board of Trustees	Board
Collateralized Mortgage Obligations	CMO
Commonwealth of Kentucky	Commonwealth
Consumer Price Index	CPI
Department of Employee Insurance	DEI
Emerging Market Debt	EMD
Executive Order	EO
Exchange Traded Funds	ETFs
Fiscal Year	FY
Generally Accepted Accounting Principles	GAAP
Governmental Accounting Standards Board	GASB
Gabriel, Roeder, Smith & Co.	GRS
House Bill	HB
Investment Management Agreement	IMA
Investment Policy Statement	IPS
Internal Revenue Service	IRS
Information Technology	IT
Kentucky Administrative Regulations	KAR
Kentucky Employees' Health Plan	KEHP
Kentucky Public Pensions Authority	KPPA
Kohlberg, Kravis, Roberts	KKR
Kentucky Retirement Systems	KRS
Net Asset Value	NAV
Net OPEB Liability	NOL
Net Pension Liability	NPL
Not Rated	NR
Other post-employment benefits	OPEB
Pacific Alternative Asset Management Company	PAAMCO
Perimeter Park West Incorporated	PPW
Qualified Domestic Relations Order	QDRO
Required Supplementary Information	RSI
Senate Bill	SB
Senate Resolution	SR
Strategic Technology Advancements for the Retirement of Tomorrow	START
Short Term Investment Funds	STIFs
Total Pension Liability	TPL
Teachers' Retirement System	TRS
Unfunded Actuarial Accrued Liability	UAAL
Unfunded Accrued Liability	UAL
Unrelated Business Income	UBI

COUNTY EMPLOYEES RETIREMENT SYSTEM
1260 LOUISVILLE ROAD, FRANKFORT, KY 40601

CERS members are current and former employees of county and city local governments, eligible local agencies and nonteaching school board staff.

Photo, back cover: Louisville, KY downtown skyline on the river, dry brush stylized.

KENTUCKY PUBLIC PENSIONS AUTHORITY
Ryan Barrow, Executive Director
1260 Louisville Road • Frankfort, Kentucky 40601
kyret.ky.gov • Phone: 502-696-8800 • Fax: 502-696-8822

Kentucky Public Pensions Authority

December 5, 2024

Government Finance Officers Association
203 North LaSalle Street, Suite 2700
Chicago, IL 60601-1210

RE: Certificate of Achievement for Excellence in Financial Reporting
Report #COA-2023-00415

Pursuant to the instructions included in the report referenced above, responses to the comments and suggestions for improvement of Kentucky Public Pensions Authority's (KPPA) Annual Comprehensive Financial Report (ACFR) for the Fiscal Year Ended June 30, 2023, follow:

Comment 101: ***Cover, table of contents, and formatting***

Information should be more specific than "team members". The title page should indicate the individual or department responsible for preparing the annual comprehensive financial report.

Management concurs with the recommendation.For 2024 the KPPA has issued two separate ACFRs for the systems we administer, and we have indicated on the cover page that the Division of Accounting is responsible for preparing the annual comprehensive financial report.

Comments 102: ***Introductory section***

Consider incorporating the "management responsibility letter" in the letter of transmittal, since topics like management responsibility, internal control, and references to the independent auditor's report are all important elements of a letter of transmittal.

It is recommended that the letter of transmittal acknowledge that management is responsible for the contents of the annual comprehensive financial report.

Management concurs with the recommendation. For the 2024 ACFRs, the content of the management responsibility letter is included in the letter of transmittal.

Also, the letter of transmittal acknowledges that management is responsible for the contents of the annual comprehensive financial report.

It is recommended that the letter of transmittal specifically direct readers to Management's Discussion and Analysis.

Management concurs with the recommendation. For the 2024 ACFRs, the letter of transmittal specifically directs the readers to Management's Discussion and Analysis.

The schedule of fees and commissions is presented on pages 141 -142 rather than pages 143-144.

The organization chart(or other discussion of the administrative organization) should inform readers of the specific location within the investment section where information can be found regarding investment professionals who provide services to the postemployment benefit system (i.e., the Schedule of Fees and Commissions).

Management concurs with the recommendation. For the 2024 ACFRs, the page numbers for the schedule of fees and commissions have been corrected.

Comment 116 ***Investment section***

The Core Fixed Income table indicates that the five-year return of the performance benchmark is 77.00%, which appears incorrect. Please clarify.

Management concurs with the statement. The Core Fixed Income table's five-year performance benchmark of 77.00% was a typo. It should have been 0.77%. The typo has been corrected on the KPPA ACFR on the KPPA website.

Comment 117 ***Actuarial section***

Expressly state that the assumptions and methods used for "funding purposes" meet the parameters set by Actuarial Standards of Practice.

[redacted]

The actuary's certification letter should expressly state that the assumptions and methods used for funding purposes meet the parameters set by Actuarial Standards of Practice. If they do not, a description of how they depart form those parameters should be included.

Management concurs with the recommendation. For the 2024 ACFRs, the actuary's certification letter expressly states that the assumptions and methods used for funding purposes meet the parameters set by Actuarial Standards of Practice.

Should you have any questions regarding our responses, or our ACFRs for FYE 2024, please do not hesitate to telephone me directly at (502) 696-8733.

Sincerely,

M. Lamb

Michael B. Lamb, CPA
Chief Financial Officer

Enclosure

cc: Ryan P. Barrow
Executive Director

Rebecca H. Adkins
Deputy Executive Director

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

/ACFR Submission Letter - 2024

[redacted]

Kentucky Public Pensions Authority

Division of Internal Audit

Kentucky Public Pensions Authority

To: County Employees Retirement System Board of Trustees

Ed Owens, III
CEO, CERS

From: Kristen N. Coffey, CICA
KPPA Chief Auditor

Date: December 2, 2024

Subject: Summary of KPPA Audit Committee Meeting

The KPPA Audit Committee held a regularly scheduled meeting on November 19, 2024.

The following items were also discussed during the Audit Committee meeting.

1. June 30, 2024 Annual Comprehensive Financial Report. *External Auditor will present this item for acceptance by the CERS Board.*
2. External Audit Management Letter Comments. *This item will be presented by the External Auditor.*
3. Auditor Communications with those Charged with Governance. *This item will be presented by the External Auditor.*
4. KPPA management's response to the fiscal year ended 2023 GFOA ACFR Letter.
5. Results of the fiscal year 2024 Infrastructure and Application Security Assessment – 19 findings: 1 High Risk, 9 Moderate Risk, and 8 Low Risk.
6. Approval of the purchase of an Infrastructure and Application Security Assessment to be conducted for fiscal year 2025.
7. Information disclosures – *10 disclosures identified, effecting 8 members*.
8. Anonymous Tips – *6 open cases*.
9. Introduction of Internal Audit Staff – Zachary Curtis (Auditor II) and James Westbay (Interim - Internal Auditor) joined on November 1, 2024.
10. Internal Audit Budget – *82% of budget remaining*.
11. Status of current internal audits – *33 projects for fiscal year 2025, 7 have been completed. Through October 31, 2024, staff have worked 38 hours of overtime.*
12. Review of issued internal audits.
    a. Review of 1099-R Process – no findings were noted during the review.

Kentucky Public Pensions Authority

Division of Internal Audit

Kentucky Public Pensions Authority

Overall Opinion

Process generally complies with relevant statutes, regulations, policies, and procedures. Internal controls are established and working effectively and efficiently.

Issue Date

October 14, 2024

Summary of Findings

No reportable findings were noted as a part of this audit.

Commendations

The Division of Retiree Services-Payroll was helpful and accommodating throughout this audit. Staff were willing to meet with us and walk us through their processes. They quickly answered questions and provided the information we needed to complete our audit. We found that all items tested were in compliance with federal and state regulations as well as agency procedures. We also found that internal controls were established, and the processes were operating effectively and efficiently.

Report Contents

Acronyms

The following acronyms will be used throughout the report:

1. KPPA **-** Kentucky Public Pensions Authority
2. CERS **-** County Employees Retirement System
3. KRS **-** Kentucky Retirement Systems
4. CEO **-** Chief Executive Officer
5. CFO **-** Chief Financial Officer
6. KPPA Executive Management Team **-** KPPA Executive Director, KPPA Deputy Executive Director, KPPA Executive Director – Office of Benefits, and KPPA CFO
7. IT – KPPA Division of Enterprise and Technology Services
8. IRS – Internal Revenue Service
9. LOB – Line of Business

Objectives

The 1099-R Process audit was conducted from June 17, 2024 to October 1, 2024. The scope of the audit was tax year 2023.

The objectives of the 1099-R Process audit were to ensure internal controls have been designed and are operating effectively and efficiently. We also ensured compliance with applicable state and federal statutes and regulations as well as policies established by the KPPA, CERS, and KRS Boards and procedures developed by KPPA staff.

Recommendations for Future Audits

No recommendations for future audit were noted during this audit.

Use of Report

This report is intended solely for use by the KPPA Audit Committee; the KPPA, CERS, and KRS Boards; the CERS CEO; the KRS CEO; the KPPA Executive Management Team; and the Division of Retiree Services-Payroll. This report is not intended to be, and should not be, used by anyone other than the specified parties. All final reports are subject to Open Records Requests.

Appendix A – Control Matrix

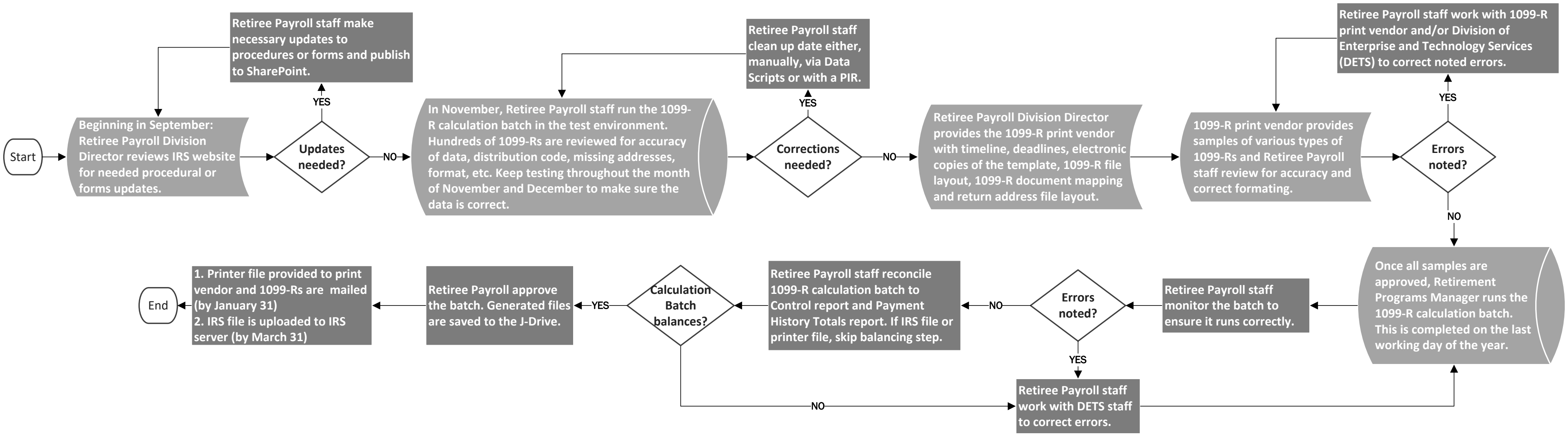
Risk	Control Objective	COSO Element	COSO Principle	How Does Division of Retiree Services Payroll Meet Objective	Audit Procedure and Test Results
Procedures/Internal Controls Are Not Established, Documented, Effective Or Efficient	To ensure 1099-R procedures are up-to-date and available to staff as required by 200 KAR Chapter 38:070.	Control Environment	Oversight body and management establishes an organizational structure, assigns responsibility, and delegates authority to achieve the entity's objectives.	Division Director has been established as the authority to oversee the Division of Retiree Services Payroll and develop procedures needed to fulfill the duties of the division.	Testing Procedure Reviewed 1099-R procedures to ensure they were established, documented, up-to-date, effective, efficient, and available to staff. Testing Result Procedures are up-to-date.
		Risk Assessment	Management identifies, analyzes, and responds to significant changes that could impact the internal control system.	Division Director reviews procedures and ensures they are documented and up-to-date. Division Director makes updates as necessary.	
		Control Activities	Management implements control activities through policies.	A senior Retiree Payroll staff member is dedicated to reviewing procedures and ensuring they are up to date. If there is a change to a process, the procedures are updated immediately. 1099-R process does not change much. Changes would typically be legislative or federally mandated. If Retiree Payroll staff see a pattern of exceptions, the procedures are updated to reflect how to address that exception.	
		Information and Communication	Management communicates necessary information internally.	Division Director ensures procedures are on SharePoint and available to staff.	
		Monitoring	Management establishes and operates monitoring activities to monitor the internal control system and evaluate the results.	A senior Retiree Payroll staff member is dedicated to reviewing procedures and ensuring they are up to date.	
IT batches fail to run as scheduled	To ensure IT batches related to Retiree Payroll run as scheduled.	Control Activities	Management designs control activities to achieve objectives and respond to risks.	1099-R Calc Batch is run at the close of business on the last working day of the calendar year. 1. Retiree Payroll staff selection to run this batch in LOB a. Retiree Year-End Process 1099-R b. 1099-R Kick-off tab c. Select to run either Regular or Corrected. d. Select the year. e. Pick file type - Calculate 1099-R, Generate for printer, or Generate for IRS 2. Retiree Payroll staff monitor the file, via the batch log, to ensure it runs correctly. Contact DETS if there are any errors. 3. Retiree Payroll staff balance the 1099-R calculation file to the Control Report to the Payment History Totals Report. *Note: the Payment History Totals report is not static and updates with each payroll run.*	Testing Procedures During walkthrough, reviewed LOB and ensured the following: 1. 1099-R Calculation Batch was run on the last working day of the calendar year. 2. Critical errors were corrected. 3. Approval step was completed. Testing Results 1. 1099-R Calculation Batch was run on December 28, 2023. 2. 1099-R Calculation Batch was run with 152,831 files processed with zero errors. 3. 1099-R Calculation Batch was approved on December 28, 2023
		Monitoring	Management establishes and operates monitoring activities to monitor the internal control system and evaluate the results.	Once the batch is successfully run and the report is reconciled, staff select the 1099-R Review tab and click the "Approve" button." *Note: this button does not appear on screen after the batch has been approved.*	
System generated files altered after creation	To ensure files generated from IT batches are not altered after they are generated, in compliance with the KPPA Data Protection Policy.	Control Activities	Management designs control activities to achieve objectives and respond to risks.	1. Only the Division Director and Payroll Services Retirement Programs Manager have access to the 1099-R process in LOB. Proper LOB access is confirmed twice a year during the Security Access Review. 2. Generated files are saved on the J-Drive. Only the Division Director and Payroll Services Retirement Programs Manager have access to the files on the J-Drive. They do not have access once the files are submitted to the printer or IRS. *Note: this access is controlled by IT.*	Testing is not required in this audit. Proper access is reviewed as a part of the Security Access Review completed twice a year.
		Monitoring	Management establishes and operates monitoring activities to monitor the internal control system and evaluate the results.	Once the batch is successfully run and the report is reconciled, staff select the 1099-R Review tab and click the "Approve" button." *Note: this button does not appear on screen after the batch has been approved.*	Testing Procedures During walkthrough, reviewed LOB and ensured the approval step was completed. Testing Results 1099-R Calculation Batch was approved on December 28, 2023.
KPPA Procedures Do Not Comply With IRS Guidelines	To ensure KPPA procedures comply with IRS requirements.	Control Activities	Management designs control activities to achieve objectives and respond to risks.	1. Division Director reviews IRS website for publications 1220, 1099-R, and I1099-R. Additionally, reviews Notice 1036 and Publication 15, which are the tax rates for the next calendar year. This typically begins in September. 2. Division Director reviews 1099-R related forms to determine if updates are needed. If changes are needed, Division Director updates the procedures on SharePoint and shares updates with staff.	Test Procedures 1. For 1099-R year 2023, compared current procedures to IRS guidelines and ensured procedures complied with federal requirements. 2. Reviewed SharePoint revision date and ensured updates were made prior to the start of the 1099-R process. 3. Reviewed SharePoint and ensured updates were posted. Test Results 1. Procedures in place for 1099-R year 2023 complied IRS guidelines. 2. Procedures were last updated in July 2024. 3. Updated procedures are on SharePoint.
		Monitoring	Management establishes and operates monitoring activities to monitor the internal control system and evaluate the results.	Payroll Services staff review changes to IRS file and/or Form 1099-R to ensure updates are accurate.	
1099-R Batch File Does Not Comply With IRS Requirements	To ensure 1099-R batch file complies with IRS requirements.	Control Activities	Management designs control activities to achieve objectives and respond to risks.	1. In November Retiree Payroll staff ask for a refresh with the latest Production code in a test environment. Staff run the 1099-R calculation batch. There are established query reports on the Payroll Reports SQL Server that provides a large variety of scenarios to test. 2. Once the batch is run, IT points the reports to the particular environment the batch that was run. 3. Hundreds of 1099-Rs are reviewed for accuracy of data, distribution code, missing addresses, format, etc. 4. Any data that needs to be cleaned up is corrected by manual process or Data Scripts. If a defect in the calculation batch is detected, a critical PIR is written to get it fixed before the 1099-R calculation batch is run. 5. At a minimum, a Web Help Desk ticket is created to update the year on the 1099-R file.	Test Procedures 1. Reviewed Web Help Desk ticket and ensured required updates were requested to 1099-R file. 2. Reviewed fiscal year 2024 PIR related to 1099-R file and ensured noted issues were reported prior to the start of the 1099-R process. Test Results All updates were requested as a part of Web Help Desk ticket 35127, which was requested on September 22, 2023. Corrections were made as a part of the productions build that occurred on November 29, 2023.
		Monitoring	Management establishes and operates monitoring activities to monitor the internal control system and evaluate the results.	Retiree Payroll staff keep running batches and testing throughout the month of November and December to make sure the data is correct, and any defects are fixed.	

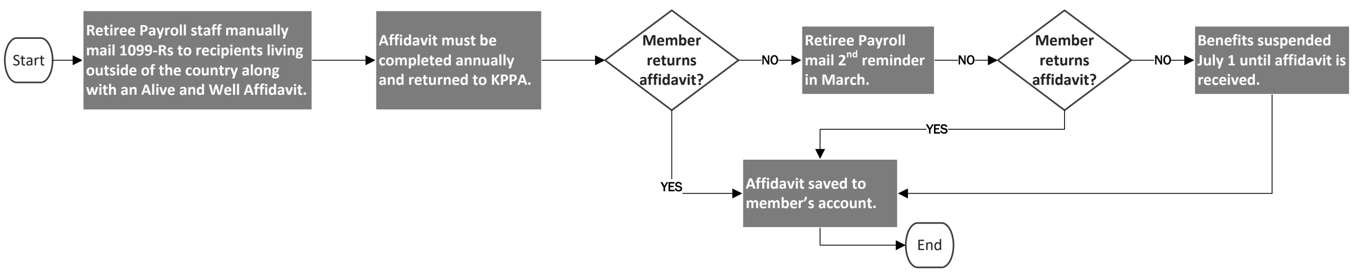
Risk	Control Objective	COSO Element	COSO Principle	How Does Division of Retiree Services Payroll Meet Objective	Audit Procedure and Test Results
1099-R Data Not Submitted To IRS Timely	To ensure 1099-R data is submitted to the IRS timely.	Control Activities	Management designs control activities to achieve objectives and respond to risks.	Procedures for uploading a test file are contained in Publication 1220. The IRS requires the original 1099R Fire Site File to be uploaded by March 31. 1. Retirement Programs Manager typically generates the file in the middle of February. 2. Payroll Services Retirement Programs Manager creates a Web Help Desk ticket requesting the generated 1099R IRS file be uploaded to the IRS Fire Site.	Test Procedures Reviewed submission confirmation from IRS and ensured 1099-R information was originally submitted by the March 31 deadline. Test Results The 1099-R information was submitted and accepted by the IRS prior to the March 31 deadline. The initial IRS file that was uploaded failed because of a spacing change that was not made in the initial file. The format was updated, and a replacement file was uploaded on March 1, 2024. IRS confirmed receipt of the valid file on March 3, 2024.
		Monitoring	Management establishes and operates monitoring activities to monitor the internal control system and evaluate the results.	1. IRS provides an email with the status of the file - failed or success. This email is received by DETS and a copy is either attached to the Web Help Desk ticket or emailed to the ticket requestor. 2. Once the status is good, Payroll Services Retirement Programs Manager will document the file name and batch # in the 1099R History Tab in Line of Business. If there are formatting changes, Retiree Payroll staff upload a test file to the IRS Fire Site.	
1099-R Not Submitted To Members Timely	To ensure 1099-R data is submitted to members timely.	Control Activities	Management designs control activities to achieve objectives and respond to risks.	Division Director creates a vendor timeline/checklist of items that must be completed, along with the required due date.	Test Procedures 1. Reviewed vendor timeline/checklist and ensured it contains deadlines. 2. Reviewed communications with vendor to ensure deadlines were met. 3. Reviewed communications with vendor to ensure 1099-Rs were mailed by January 31, 2024. Test Results 1. Vendor timeline outlined all required deadlines to ensure 1099-Rs were provided to members timely. 2. KPPA staff frequently communicated with vendor, ensuring that deadlines were met. 3. Email from vendor confirmed that initial 1099-R batch was mailed on January 25, 2024.
		Monitoring	Management establishes and operates monitoring activities to monitor the internal control system and evaluate the results.	Retiree Payroll staff meet with the vendor to discuss expectations.	
1099-R Not Provided To All Required Individuals	To ensure 1099-R is provided to all required members required members.	Control Activities	Management designs control activities to achieve objectives and respond to risks.	Retirement Programs Manager runs 1099-R Calc Batch at the close of business on the last working day of the calendar year. Retiree Payroll staff selection to run this batch in LOB: 1. Retiree Year-End Process 1099-R 2. 1099-R Kick-off tab 3. Select to run either Regular or Corrected. 4. Select the year. 5. Pick file type - Calculate 1099-R, Generate for printer, or Generate for IRS *Note: Federal law requires that the original 1099-R be physically mailed. Duplicates or corrected 1099-R can be sent via email.*	Test Procedures Compared the number of records processed on the 1099-R Calculation Batch to the number of records processed on the Controls Report, IRS File, and Printer File. Ensured the numbers agreed, with the exception of those individuals living abroad. Test Results The number of records processed on the 1099-R Calculation Batch, the Controls Report, IRS File, and Printer File matched with the exception of individuals who received a W-2 rather than a 1099-R and those individuals living abroad.
		Monitoring	Management establishes and operates monitoring activities to monitor the internal control system and evaluate the results.	The number of records on the IRS file should match to the number on the printer file, with the exception of those individuals living abroad since those are mailed manually.	
1099-R Amounts are Inaccurate or Negative	To ensure 1099-R amounts are accurate or not negative.	Control Activities	Management designs control activities to achieve objectives and respond to risks.	1. Payroll Services Division Director provides the vendor with electronic copies of the template, 1099-R file layout, 1099-R document mapping and return address file layout. 2. The vendor provides a sample of 25 1099-Rs that are a variety of the types that will be printed (i.e. long addresses, short addresses, large and small numeric values, ones with values in different sections of the 1099R document). This sample can be provided electronically. 3. Once the initial sample is approved, a sample of 25 is extracted from the full test file with the full intelligent bar code. This sample can be provided electronically. 4. Once that sample is approved, the full printer file is run in the Production environment. A sample of 50 1099R-s is chosen by the vendor, placed in envelopes, and delivered to KPPA. This sample must be printed on the proper 1099-R paper and in the correct type of envelop so that KPPA staff can verify all aspects of the 1099-R.	Test Procedures 1. Selected a sample of 1099-Rs: a. Ensured amount on 1099-R matched member profile. b. Ensured 1099-R was not negative. 2. Reviewed communications with vendor to ensure any issues noted were addressed prior to 1099-R batch being generated. Test Results 1. Results of testing showed the following: a. 40 of 40 1099-Rs listed a gross distribution and federal tax amount that matched the information in the member's profile. b. 40 of 40 1099-Rs did not list negative amounts. 2. On December 27, 2023, KPPA staff confirmed with vendor that samples were acceptable and calculation batch would be run the next day.
		Monitoring	Management establishes and operates monitoring activities to monitor the internal control system and evaluate the results.	1. Payroll Retiree staff review the initial sample provided by the vendor to make sure the template is correct, the font is readable and the field values are what is expected. If there are any errors, vendor is asked to make corrections in the template and the mapping and send new samples immediately. Continue working with vendor until everything is correct. 2. For the sample provided from the full file, Payroll Retiree staff inspect the samples for anomalies that could cause incorrect figures or delivery issues. Work with the vendor to resolve any issues. 3. For the file run in the Production environment, Retiree Payroll staff inspect the samples for abnormalities that could cause incorrect figures or delivery issues. Work with the vendor to resolve any issues.	

Risk	Control Objective	COSO Element	COSO Principle	How Does Division of Retiree Services Payroll Meet Objective	Audit Procedure and Test Results
1099-R Information Is Inaccurate	To ensure 1099-R information is accurate.	Control Activities	Management designs control activities to achieve objectives and respond to risks.	1. Payroll Services Division Director provides the vendor with electronic copies of the template, 1099-R file layout, 1099-R document mapping and return address file layout. 2. The vendor provides a sample of 25 1099-Rs that are a variety of the types that will be printed (i.e. long addresses, short addresses, large and small numeric values, ones with values in different sections of the 1099R document). This sample can be provided electronically. 3. Once the initial sample is approved, a sample of 25 is extracted from the full test file with the full intelligent bar code. This sample can be provided electronically. 4. Once that sample is approved, the full printer file is run in the Production environment. A sample of 50 1099R-s is chosen by the vendor, placed in envelopes, and delivered to KPPA. This sample must be printed on the proper 1099-R paper and in the correct type of envelop so that KPPA staff can verify all aspects of the 1099-R.	<u>Test Procedures</u> 1. Selected a sample of 1099-Rs: a. Ensured the name on 1099-R matched name in system. b. Ensured the address on 1099-R matched address in system. 2. Reviewed communications with vendor to ensure any issues noted were addressed prior to 1099-R batch being generated. <u>Test Results</u> 1. Results of testing showed the following: a. 40 of 40 1099-Rs contained a name that matched the name in the member's profile. b. 40 of 40 1099-Rs were mailed to the address listed in the member's profile. 2. On December 27, 2023, KPPA staff confirmed with vendor that samples were acceptable and calculation batch would be run the next day.
		Monitoring	Management establishes and operates monitoring activities to monitor the internal control system and evaluate the results.	1. Payroll Retiree staff review the initial sample provided by the vendor to make sure the template is correct, the font is readable and the field values are what is expected. If there are any errors, vendor is asked to make corrections in the template and the mapping and send new samples immediately. Continue working with vendor until everything is correct. 2. For the sample provided from the full file, Payroll Retiree staff inspect the samples for anomalies that could cause incorrect figures or delivery issues. Work with the vendor to resolve any issues. 3. For the file run in the Production environment, Retiree Payroll staff inspect the samples for abnormalities that could cause incorrect figures or delivery issues. Work with the vendor to resolve any issues.	
1099-R Does Not Provide All Required Information	To ensure 1099-R includes all required information.	Control Activities	Management designs control activities to achieve objectives and respond to risks.	1. Payroll Services Division Director provides the vendor with electronic copies of the template, 1099-R file layout, 1099-R document mapping and return address file layout. 2. The vendor provides a sample of 25 1099-Rs that are a variety of the types that will be printed (i.e. long addresses, short addresses, large and small numeric values, ones with values in different sections of the 1099R document). This sample can be provided electronically. 3. Once the initial sample is approved, a sample of 25 is extracted from the full test file with the full intelligent bar code. This sample can be provided electronically. 4. Once that sample is approved, the full printer file is run in the Production environment. A sample of 50 1099R-s is chosen by the vendor, placed in envelopes, and delivered to KPPA. This sample must be printed on the proper 1099-R paper and in the correct type of envelop so that KPPA staff can verify all aspects of the 1099-R.	<u>Test Procedures</u> 1. Selected a sample of 1099Rs and ensured none of the required boxes were blank (boxes 1, 2a, 4 and 7. Most also have box 5) 2. Reviewed communications with vendor to ensure any issues noted were addressed prior to 1099-R batch being generated. <u>Test Results</u> 1. Required information was reported on 40 of 40 sampled 1099-Rs. 2. On December 27, 2023, KPPA staff confirmed with vendor that samples were acceptable and calculation batch would be run the next day.
		Monitoring	Management establishes and operates monitoring activities to monitor the internal control system and evaluate the results.	1. Payroll Retiree staff review the initial sample provided by the vendor to make sure the template is correct, the font is readable and the field values are what is expected. If there are any errors, vendor is asked to make corrections in the template and the mapping and send new samples immediately. Continue working with vendor until everything is correct. 2. For the sample provided from the full file, Payroll Retiree staff inspect the samples for anomalies that could cause incorrect figures or delivery issues. Work with the vendor to resolve any issues. 3. For the file run in the Production environment, Retiree Payroll staff inspect the samples for abnormalities that could cause incorrect figures or delivery issues. Work with the vendor to resolve any issues.	
1099-R Mailed To The Wrong Address	To ensure 1099-R is mailed to the proper address.	Control Activities	Management designs control activities to achieve objectives and respond to risks.	When a 1099-R is returned to KPPA, a counselor or administrative assistant checks the system to determine if the address on file is different from the address on the 1099-R. If the address in the system is different, the 1099-R is mailed to the address on file. *Note: In the past, staff was able to correct addressed in LOB if the Post Office provided a new address. However, in recent years, the information from the Post Office has become unreliable and these updates can no longer be made.*	<u>Test Procedures</u> Selected a sample of 1099-Rs and ensured the address on 1099-R matched address in system. <u>Test Results</u> 40 of 40 1099-Rs were mailed to the address listed in the member's profile.
		Monitoring	Management establishes and operates monitoring activities to monitor the internal control system and evaluate the results.	Staff track the number of 1099-Rs that are returned and maintain the returned items until April. In April, the returned 1099-Rs are shredded. *Note: These items are not tracked by member ID so a sample of returned 1099-Rs cannot be selected. However, testing on mailing items to the correct address is being conducted. If a member does not receive a 1099-R, it is up to them to call and request a duplicate 1099-R.*	

Risk	Control Objective	COSO Element	COSO Principle	How Does Division of Retiree Services Payroll Meet Objective	Audit Procedure and Test Results
Corrected 1099-R not Provided When Required	To ensure corrected 1099-R is provided, when required.	Control Activities	Management designs control activities to achieve objectives and respond to risks.	There are two main ways it would be discovered that a corrected 1099-R is needed: 1. Member calls and requests a correction. a. Before creating the request for a corrected 1099-R, Retiree Services Payroll staff check the file to make sure they agree that the original 1099-R was in error. If they do not agree, they explain to them member why a correction is not needed. 2. Reports of deceased members are received and it is discovered that payments were made to members after they passed and the 10999-R amount has to be adjusted to reflect those payments.	Test Procedures 1. Reviewed report of corrected 1099-Rs to ensure corrected 1099-Rs were generated. 2. Selected a sample of corrected 1099-Rs and test for the following: a. Ensured the original 1099-R contained an error. b. Ensured error was corrected on the new 1099-R and that no other information was changed. Test Results 1.Corrected 1099-Rs were generated for tax year 2023. 2. No exceptions were noted during testing: 2 of 35 selected items did not require a corrected 1099-R. a. 33 of 35 selected members did receive an original 1099-R that contained an error, and a corrected 1099-R was received. b. 33 of 35 selected members received a corrected 1099-R that had the initial error corrected, and no other information was changed.
		Monitoring	Management establishes and operates monitoring activities to monitor the internal control system and evaluate the results.	Beginning in April, the 1099-R Corrected batches are generated and the updated 1099-Rs are mailed to the member. Retirement Programs Manager runs the batch and Division Director reviews LOB to ensure this was completed.	
Duplicate 1099-R Provided without Proper Member Verification	To ensure duplicate 1099-R is not sent without proper authorization.	Control Activities	Management designs control activities to achieve objectives and respond to risks.	1. Members may call in and request a duplicate 1099-R. These calls are received by the Call Center. The Call Center staff instruct members how to log into Member Self-Service and print a duplicate 1099-R. Call Center staff may also generate a duplicate 1099-R, which will be sent via email. 2. If a member who did not receive his/her 1099-R, staff verify the member's address and check the journal entries to see if there is a note pertaining to action taken related to the 1099-R. a. If the 1099-R was returned as temporarily away, a Payroll High Priority request ticket is created requesting a duplicate 1099-R to be mailed to the member. b. If the address on file is incorrect, the member is advised that he/she must send a written change of address to the KPPA office or provide a valid PIN before staff can update the address and mail the 1099-R. i. Staff may send the member a Form 2040 (Change of Address Form) or the member may write a note requesting the address change. ii. If the member writes a note, it must include the file number and the member's signature. It must also clearly indicate that the member wishes to change his/her address and what the new address is.	Testing not required in this audit.
		Monitoring	Management establishes and operates monitoring activities to monitor the internal control system and evaluate the results.	If a member needs a duplicate 1099-R, it is up to them to call and request it or sign into Member Self-Service and generate a duplicate. Duplicate 1099-Rs are not tracked as these are typically handled via the Call Center. Controls related to updating member information has been tested in various audits with no issues noted.	
Members Or Beneficiaries Living Abroad May Be Deceased	To ensure members/beneficiaries living abroad did not pass away during the year, per division procedures.	Control Activities	Management designs control activities to achieve objectives and respond to risks.	1099-Rs are not automatically mailed to recipients living outside of the country. For these individuals, Retirement Programs Manager manually mail the 1099-R along with an Alive and Well Affidavit. 1. The affidavit must be completed annually. 2. A second notice is sent in March if the original affidavit is not received. 3. A third and final notice is sent out in June letting recipients know benefits will be suspended July 1 if an affidavit is not returned. 4. If the affidavit is not received by June 30, the member's benefits are suspended, effective July 1, until a valid affidavit is received.	Test Procedures 1. Reviewed 100% of retirees/beneficiaries living out of the country and test for the following: a. Current Alive and Well Affidavit is on file. b. If affidavit is not one file, follow-up notices were sent. c. If affidavit is not received by June 30, benefits were suspended as of July 1. 2. Reviewed Members Living Abroad spreadsheet and ensured actions were properly tracked. Test Results 1. For all individuals tested, affidavits were received by the deadline or benefits were suspended. a. 18 of 20 affidavits were received by June 30, 2024. b. Two of 20 affidavits were not received June 30, 2024. Benefits were suspended for both individuals. c. Suspended Benefits: i. One affidavit was received on July 24, 2024. Benefit payments were suspended in July and resumed in August. ii. One affidavit had still not been received as of the date of testing (September 10, 2024). Benefits were suspended July 2024. 2. Retiree Payroll properly tracked receipt of Alive and Well Affidavits from members living abroad.
		Monitoring	Management establishes and operates monitoring activities to monitor the internal control system and evaluate the results.	Retirement Programs Managers runs a report showing members who live abroad. Communications about Alive and Well Affidavit is tracked on the report. Division Director reviews to ensure proper action taken.	

Appendix B – 1099-R Flowchart





Returned 1099-Rs

- When a 1099-R is returned to KPPA, a counselor or administrative assistant checks the system to determine if the address on file is different from the address on the 1099-R. If the address in the system is different, the 1099-R is mailed to the address on file.
- Staff track the number of 1099-Rs that are returned and maintain the returned items until April. In April, the returned 1099-Rs are shredded.

Corrected 1099-Rs

The need for a corrected 1099-R is discovered if a member calls in requesting a correction or if Retiree Payroll staff receive notification of a member death.

- Before creating the request for a corrected 1099-R, Retiree Services Payroll staff check the file to make sure they agree that the original 1099-R was in error. If they do not agree, they explain to them member why a correction is not needed.
- Beginning in April, the 1099-R Corrected batches are generated and the updated 1099-Rs are mailed to the member. Retirement Programs Manager runs the batch and Division Director reviews LOB to ensure this was completed.

Duplicate 1099-Rs

Members may call in and request a duplicate 1099-R. These calls are received by the Call Center. The Call Center staff instruct members how to log into Member Self-Service and print a duplicate 1099-R. Call Center staff may also generate a duplicate 1099-R, which will be sent to the address on file (an email can be sent if a member requests an email rather than a hard copy).

- If a member who did not receive his/her 1099-R, staff verify the member's address and check the journal entries to see if the 1099-R was returned.
- If the 1099-R was returned as temporarily away, a Payroll High Priority request ticket is created requesting a duplicate 1099-R to be mailed to the member.
- If the address on file is incorrect, the member is advised that he/she must send a written change of address to the KPPA office or provide a valid PIN before staff can update the address and mail the 1099-R.

MEMORANDUM

TO: County Employees Retirement System Board of Trustees

From: Dr. Merl Hackbart, Chair
Investment Committee

Date: December 2, 2024

Subject: Summary of Investment Committee Meetings

The County Employees Retirement System Investment Committee held a special meeting on November 18, 2024, to discuss the CERS Investment Policy Statement (IPS). The Committee also conducted its regular meeting on November 26, 2024.

1. **The following items were approved by the Investment Committee and are being forwarded to the County Employees Retirement System Board of Trustees for ratification.***

    a. **Investment Policy Statement Recommendation -- The Investment Committee approved by unanimous vote and is submitting for ratification by the Board of Trustees, the proposed Investment Policy Statement—with minor modification—agreed to at the special meeting on November 18, 2024.**

RECOMMENDATION: The Investment Committee requests the County Employees Retirement System Board of Trustees ratify the actions taken by the Investment Committee.

2. **During the special meeting on November 18, 2024, the Committee considered the following information concerning the IPS.**

    a. The committee acknowledged they had worked diligently for the past eight (8) months to craft the new IPS. The committee stated the goal of the new IPS was to increase the governance over investment policy while providing the investment staff the needed flexibility to manage the portfolio.

    The committee worked closely with the investment consultant, Wilshire, and the investment staff to craft a policy that highlights transparency while giving clear guidance to investment staff. To accomplish this objective, the new IPS requires additional reporting and committee notification points designed for transparency and clarity. It should be noted Wilshire believes the new IPS better incorporates industry best practice for committee/boards looking to increase governance.

The committee approved the new IPS with five (5) minor modifications. All the modifications have been incorporated into the final IPS document that is before the CERS Board for ratification. Those items include: 1) Introduction under Purpose. Should add the word "administratively" manages the assets; 2) Consistent Terminology. Ensure the consistent use of the terms "Funds" versus "Plans" throughout the IPS; 3) Contract Signatories. Change from CEO to Board Chair; 4) CERS Counsel Review. Include language indicating IPS must be reviewed by CERS Counsel before ratification; and 5) Definition of Risk. In Section II, C vi, specify a definition of risk.

3. **During the regular meeting held on November 26, 2024 the Committee engaged in the following discussion.**

   a. Wilshire provided the committee with a capital market overview that revealed a significant of volatility in the marketplace. As interest rates trend down, the market now seems to be moving in the opposite direction. The Wilshire 10-year capital market assumption (revised every quarter), for the third quarter in a row showed a negative equity risk premium based on valuation levels.

      The committee engaged in a robust discussion around proposed tariffs and how that might affect the overall investment landscape. There was also discission focused on the top 2 or 3 risk exposures for our portfolio. Wilshire indicated that drawdown risk and the duration of private credit vehicles could result in unforeseen risk.

      On a positive note, Wilshire indicated that public equities had seen a broadening in returns away from the magnificent seven. Small caps outperformed large caps and growth stocks outperformed value stocks for the quarter. Wilshire indicated that volatility, driven by the still hot equity market and the recent election, would be the operative word for the near future.

   b. The Investment Office reported very solid results for the first quarter of the new fiscal year. The composite pension plans returned approximately 4.90% for the quarter, while the composite insurance plans had quarterly returns of approximately 4.78% against a benchmark of 4.77%. Despite volatility, public equities continued to drive our returns. The S&P 500 Index is up 22% calendar YTD which is its best 9-month start since 1997.
      The Core Fixed Income portfolio produced a return of 5.13% for the quarter, slightly underperforming the benchmarks return of 5.20%. The Internal Core Portfolio produced a return of 5.28% for the quarter.

The Specialty Credit portfolio returned 3.09% for the quarter, underperforming the custom benchmark which returned 3.66%. Underweight allocations to distress issuers , especially in the communications related sectors, hampered relative performance as these issuers significantly outperformed the non-distressed portion of the market.

The Real Return portfolio continued to perform well during the quarter posting a 6.70% return which outpaced the 0.97% return of the benchmark. Performance benefitted from strong performance of recently approved and funded Real Return mandates, all of which outperformed their benchmark during the quarter.

County Employees Retirement Systems
Investment Policy Statement
Adopted DATE 2024

This Investment Policy Statement (IPS) is issued by the CERS Board of Trustees (CERS Board or CERS Trustees) of the County Employees Retirement System (CERS) in connection with investing in the pension and insurance trust funds (Funds) of CERS.

I. Introduction

A. Purpose

The purpose of this IPS is to define the framework for investing the assets of CERS. This IPS is intended to provide general principles for establishing the goals, risk tolerance, asset allocation, implementation, employment of outside service providers, monitoring, as well as general governance of the Funds.

The pension plans administered by the County Employees Retirement System (CERS) are Qualified Pension Plans under Section 401(a) of the Internal Revenue Code. Additionally, KRS 61.701 establishes the Kentucky Retirement System insurance trust fund, the assets of which are used to pay health insurance benefits to CERS beneficiaries. KRS 78.5536 provides that all amounts necessary to provide for insurance benefits shall be paid to the insurance fund. The CERS Board shall manage the assets of the insurance fund in the same manner in which it administers its retirement fund.

B. Philosophy

The CERS Trustees recognize their fiduciary duty not only to invest CERS funds in formal compliance with the Uniform Prudent Investor Act, but also to manage those assets in continued recognition of the basic long-term nature of CERS. The CERS Trustees interpret this to mean, in addition to the specific guidelines and restrictions set forth in the law and this document, that the assets of CERS shall be proactively managed—that is, investment decisions regarding the particular asset classes, strategies, and securities to be purchased or sold shall be the result of a long-term investment strategy. Being a long-term investor means that CERS Trustees are willing to accept a certain amount of risk in pursuit of potentially higher reward and that the Trustees can afford to be patient for a longer period of time.

The CERS Trustees recognize that asset allocation is the primary driver of long-term investment performance and will therefore review asset allocation and asset-liability studies on a regular basis as outlined in Section III of this document. The Asset Allocation Guidelines represent a strategic decision, with the primary aim that each fund of the CERS plan outperform its asset-class-weighted benchmark as outlined in section IV while assuming a commensurate level of risk. The appropriate level of risk is determined as part of the asset allocation or asset-liability study process and reflected in the target allocations and allowable ranges established in Section III.

The CERS Trustees recognize that there is a generally accepted principle that an inverse relationship exists between market efficiency and the ability for active management to produce excess returns. Therefore, KPPA Office of Investments staff (KPPA Investment Staff) will focus on investing in index or index-like investments with the goal of replicating, or exceeding, index returns with low management fees and low tracking errors in markets they deem to be more efficient. In markets KPPA Investment Staff deem to be less efficient, active management may be pursued, accepting higher tracking error and paying higher management fees with the expectation of producing excess returns over the long term. This allows the KPPA Investment Staff and consultant(s) to focus their efforts on identifying, selecting, and monitoring managers, as well as the overall management of fees paid, in the areas of the market most likely to produce excess returns.

The CERS Trustees recognize that, commensurate with their overall objective of maximizing long-term return given the appropriate level of risk, it is necessary that proper diversification of assets be maintained both across and within the classes of securities held to minimize/mitigate overall portfolio risk. Consistent with carrying out their fiduciary responsibilities and the concept of Modern Portfolio Theory, the CERS Trustees will not systematically exclude any investments in companies, industries, countries, or geographic areas unless required to do so by statute. Within this context of proactive management and the necessity for adherence to proper diversification, the CERS Trustees rely upon appropriate professional advice from staff and service providers.

II. Responsibilities

The CERS Trustees and other fiduciaries shall discharge their duties with respect to CERS: (1) solely in the interest of the participants and beneficiaries; (2) for the exclusive purpose of providing benefits to participants and beneficiaries; (3) with the care, skill and caution under the circumstances then prevailing which a prudent investor acting in a like capacity and familiar with those matters would use in the conduct of an activity of like character and purpose; (4) impartially; (5) incurring and paying appropriate and reasonable expenses of administration which may not necessarily be the lowest and (6) in accordance with a good faith interpretation of the laws, regulations, and other instruments governing CERS.

Additionally, the Trustees and other fiduciaries shall not engage in any transaction which results in a substantial diversion of CERS income or assets. Adequate security and a reasonable rate of return shall be provided to a disqualified person or in any other prohibited transaction described in Internal Revenue Code Section 503(b).

A. CERS Board of Trustees

The CERS Investment Committee is created by KRS 78.790(1)(b) and the CERS Board as set forth in the CERS Board's Statement of Bylaws and Committee Organization (Section 2.2(e)). Per KRS 78.790(1)(b)(2), the CERS Investment Committee shall have the authority to implement the investment policies adopted by the CERS Board and act on behalf of the CERS Board on all investment-related matters. The CERS Investment Committee has the power to act on behalf of the CERS Board on all CERS Board approved investment related matters, including the acquisition, sale, safeguarding, monitoring and management of the assets, securities and funds of CERS. The CERS Board shall require a vote of six (6) Trustees to approve the recommendations of the CERS Investment Committee at the CERS Board meeting following the CERS Investment Committee meeting where such recommendation was made.

B. CERS Investment Committee

The CERS Board shall establish an investment committee as required by KRS 78.790(1)(b). The CERS Investment Committee shall consist of five members of the CERS Board and shall be specifically composed as follows: The three (3) members with investment experience appointed by the Governor under KRS 78.782(1)(b); one (1) elected member to be appointed by the CERS Board Chair; and one (1) member appointed by the Governor under KRS 78.782(1)(b) with retirement experience, to be appointed by the CERS Board Chair. The CERS Investment Committee has the authority to implement the investment policies adopted by the CERS Board and to act on behalf of the CERS Board on all approved investment related matters.

The CERS Investment Committee has the following oversight responsibilities:

1. Monitor compliance with this IPS and all applicable laws and regulations. Non-compliance shall be communicated by the Committee Chair to the Board along with suggestions for remediation and appropriate timing.
2. Recommend the selection and termination of service providers to be approved by the Board. Notwithstanding the previous sentence, if the need arises to terminate a manager between CERS Board meetings, the KPPA Executive Director, Office of Investments (CIO) will have discretion to do so after receiving approval from either the CERS Board Chair or the CERS Investment Committee Chair, with concurrence by the CERS CEO. Upon termination, the CIO will notify all CERS Board members via a memo that contains the rationale for the decision. The CERS Investment Committee and the CERS Board must be notified of the manager termination at the next scheduled CERS Investment Committee and CERS Board meetings.
3. Meet no less than quarterly to evaluate whether this IPS, the investment activities and management controls and processes continue to be consistent in meeting CERS goals. Mandate actions necessary to maintain the overall effectiveness of the investment program.
4. Review assessment of investment program management processes and procedures, and this IPS relative to meeting stated goals.

C. KPPA Investment Staff

The CIO is responsible for the administration of investment assets of CERS consistent with the policies, guidelines and limits established by the federal and state laws, the CERS Board, and the CERS Investment Committee.

The CIO receives direction from and reports to the KPPA Executive Director. The CIO shall provide information to the CERS Investment Committee on all investment matters, including but not limited to the following:

i. Maintaining the diversification and risk exposure of the Funds consistent with policies and guidelines.
ii. Assessing and reporting on the performance and risk exposure of the overall investment program relative to goals, objectives, policies and guidelines on at least a quarterly basis.
iii. Monitoring and assessing service providers to assure that they meet expectations and conform to policies and guidelines.
iv. Recommending changes to service providers, statutes, policies or guidelines as needed to maintain a productive relationship between the investment program and its goals; providing an annual review the suitability of asset class benchmarks; and acting as liaison

on all investment related matters.

v. Identifying issues for consideration by the CERS Investment Committee and preparing recommendations or reports regarding such matters.

vi. On an annual basis, staff will provide a comprehensive overview of each asset class composite, including actual exposure versus structure targets, performance versus appropriate benchmark(s) and peer group(s), and risk assessment. For private markets the analysis will also include an overview of existing commitments and an investment pacing plan. For all asset classes the overview should include an outlook and investment plan for the coming year.

vii. Preparing a memo for the CERS Investment Committee for each proposed investment which shall cover pertinent details of the investment, including: (1) Recommendation by staff and the opinion of an investment consultant; (2) Location of investment within the strategic asset allocation, along with rationale; (3) Sizing of the investment, along with rationale, and additionally for private investments how it fits into the existing pacing plan; (4) For public markets, a summary of the search process which details the criteria used to arrive at a list of finalist candidates and rationalization for recommending the proposed investment; (5) Key risks, fees, and liquidity terms; (6) Investment vehicle to be used; and if applicable, (7) Specific reasons why a CERS fund may be excluded from the investment.

viii. Engaging in a monthly meeting with the CERS Investment Committee Chair and the CERS CEO to discuss market trends and all things relevant to the CERS plans positioning.

The CIO or designee is authorized to execute trades on fixed income and equity securities, including exchange-traded funds (ETFs), for approved mandates, meeting the internal investments (section D) guidelines, and to execute proxies for the CERS Board consistent with this IPS.

To carry out this IPS and any investment related decisions of the CERS Board, the CERS Chief Executive Officer (CEO), and the CIO or designee are authorized to execute agreements and other necessary or proper documents pertaining to investment managers, consultants, investment related transactions, or other investment functions. All investment decisions of the CEO and/or the CIO not addressed in this IPS must be ratified by the Investment Committee and the Board of CERS.

D. Internal Investments

The Investment Committee may approve the internal management of assets. In general, internal mandates will be limited to investments that are meant to replicate the return and risk of a public index. These mandates will be subject to the same search and approval process outlined in Section II-C (vi) as well as Section II E.

Proxy accounts may also be managed internally to gain exposure to assets with similar risk, return, and economic characteristics to strategic asset class allocations that may take time to build, such as private asset classes where deployment of funds is dependent on managers/funds calling capital commitments. These proxies shall be included in regular performance reporting and a detailed review of the composition of the underlying investments shall be made to the Investment Committee for review and ratified by the board prior to implementation and at least annually thereafter.

E. Investment Managers

In instances where the CERS Investment Committee, in consultation with the CIO, has determined it is desirable to employ the services of an external Investment Manager, the following shall be applicable:

i. Investment Managers shall be qualified and agree to serve as a fiduciary to CERS and should be of institutional quality as deemed by KPPA Investment Staff in collaboration with an investment consultant.
ii. Notwithstanding the CIO responsibilities when selecting a new investment, when the KPPA Investment Staff seeks a new mandate, staff will conduct a formal search process documenting how the universe was narrowed to the top option(s). If more than one investment option doesn't exist, staff shall outline comparable investments along with rationale as to why those strategies are not appropriate. As part of the process at arriving at a recommendation to the Investment Committee for investment, interviews shall be conducted and invitations to both the Board Chair and Investment Committee Chair members shall be extended providing the opportunity to participate in the selection process.
iii. Investment Managers shall manage assets in accordance with this IPS and any additional guidelines established by contract, as may be modified in writing from time to time.
iv. Total assets assigned to the selected manager shall not exceed 25% of that firm's total assets under management and shall not exceed 25% of a firm's total assets under management in a commingled product. Separate accounts or funds of one are not included in this 25% limitation for commingled products.
v. The assets managed by any one active or passive investment manager shall not exceed 15% of the overall assets in the pension and insurance funds as set forth in KRS 78.790(5).
vi. All investment management services will be contracted according to the CERS Investment Procurement Policy established by the CERS Board.

F. Custody Bank

KPPA shall recommend custodians and other agents who will be fiduciaries to CERS and who will assume responsibility for the safekeeping and accounting of all assets held on behalf of CERS and other duties as agreed to by contract. Upon approval of these recommendations by the CERS Board, KPPA may enter into a contractual agreement with these entities.

A process shall implement portfolio accounting system that includes plan accounting and unitization methods. An investment related service provider(s) may be selected to execute the process in accordance with the Boards' selection process. The following is a brief description of our plan accounting processing:

Within the plan accounting structure there are two primary types of accounts, Plan Accounts and Pool Accounts. Plan Accounts are the owners of the investment pool. An account is established for each plan and these accounts hold Units of Participation that represent the plan's/fund's invested value of the investment pool. Pool Accounts are accounts that hold the assets of the investment pool where all investment related activity and earnings occur. These accounts are the investment strategies of the pool. Units of Participation are bought and sold as each plan/fund contributes or withdraws cash or assets from the investment pool. The investment pool earnings are then allocated to plans utilizing a cost distribution method that allows for fluctuating prices experienced in capital markets. This involves earnings allocated to the plan accounts with an increase or decrease in cost on the Unit of Participation Holdings of the Plan Accounts. Correspondingly, the price of the Unit of Participation Holdings is updated to reflect change in market value in the investment pool. Earnings are allocated based on the daily weighted average of Master Trust Units held by each plan/fund account during the monthly earnings period. This method is commonly used when plans make multiple contributions or withdrawals from the investment pool throughout the month as it eliminates allocation distortion due to large end of month cash flows.

An institutional accounting system shall support a method for determining the amount of monthly earnings are allocated to each plan account.

G. Investment Consultants

Qualified independent investment consultants may be retained by the CERS Board to assist with the development of the overall strategic investment direction of the Fund and/or any of its asset classes. The Consultant may be expected to conduct asset-liability studies including presenting recommendations to the CERS Investment Committee and/or Board for appropriate asset allocation policies, rebalancing ranges, review and development of total fund policy benchmarks, and assisting with ongoing education for members of the Board. The Consultant may also be expected to prepare and present performance reviews, manager searches, and other investment-related consulting functions and duties as set forth by contract.

H. Selection

Qualified investment managers, investment consultants, and other investment related service providers shall be selected by the CERS Investment Committee and recommended for approval by the CERS Board, in accordance with the IPS. The selection shall be based upon the demonstrated ability of the professional(s) to provide the required expertise or assistance described in the Request for Proposals (RFP) or Request for Information (RFI), if utilized. In order to create an efficient and effective process, the CERS Investment Committee or CIO may, in their sole discretion, utilize an RFI, an RFP, third party proprietary software or database, review of existing service provider capabilities, or any combination of these or other methods to recommend service providers.

III. Asset Allocation Guidelines

In establishing asset allocation guidelines, the CERS Board recognizes that each CERS fund has its own capacity to tolerate investment volatility, or risk. Therefore, each CERS fund will be continually studied with asset allocation guidelines established on an individual fund basis. The CIO will ensure the asset allocation guidelines of each fund are reviewed annually with full asset-liability studies conducted every three to five years (or as market conditions warrant).

The CERS Board has established the following Asset Allocation Guidelines, effective July 1, 2024.

Asset Class	**Target**	Minimum	Maximum
Equity			
Public Equity	**45%**	30%	55%
Private Equity	**8%**	4%	12%
Fixed Income			
Core Fixed Income	**13%**	10%	20%
Specialty Credit*	**20%**	16%	24%

Cash	**2%**	0%	5%
Inflation Protected			
Real Estate	**5%**	3%	7%
Real Return	**7%**	4%	10%

*includes High Yield Fixed Income

The intent of the CERS Board in allocating funds to the investment managers is for the investment managers to fully invest the funds. However, the CERS Board is aware that from time to time the investment manager will require a portion of the allocated funds to be held in cash provided the cash holdings do not exceed 5% of the manager's allocation for any given quarter, unless such cash holdings are an integral part of a fixed income manager's investment strategy.

The individual CERS fund level asset allocations will be reviewed and reported on quarterly by KPPA Investment Staff relative to the target asset class allocations and taking into account any tactical asset allocation shift directed by the CERS Investment Committee.

Regarding individual investment manager initial allocations, KPPA Investment Staff will recommend a funding amount for illiquid private market investments to be approved by the CERS Investment Committee and ratified by the CERS Board. Subsequent investments with those same managers will also be approved by the CERS Investment Committee and ratified by the CERS Board. Regarding liquid public market investments, KPPA Investment Staff will recommend individual allocations expressed as a percentage of the relevant asset class target. The asset class structural targets will be approved by the CERS Investment Committee and ratified by the CERS Board. Modest deviations from approved structural targets can be expected in the normal course of business throughout market cycles, but it is expected that the KPPA Investment Staff will update the Investment Committee on any active positioning decision (manager, style, geography, sector, duration, etc.) at least quarterly, and otherwise seek to maintain approved targets until recommended and approved for changes.

Short-term market shifts may cause the asset mix to drift from the allocation targets. Should the target percentage fall out of the indicated range for a particular asset class, KPPA Investment Staff shall direct rebalancing transactions to reallocate assets from the over-allocated asset class(es) to the under-allocated asset class(es). Within the allowable ranges, KPPA Investment Staff should use regular cash flows to rebalance toward targets to avoid incurring additional trading costs to correct minor deviations from asset allocation targets.

Investments in private assets are generally less liquid than investments in public markets securities and are typically implemented via periodic commitments to funds with limited partnership structures. As a result, actual allocations to these asset classes may deviate from their strategic targets for extended periods. Actual vs. target deviations for these asset classes shall not be considered in violation of the Asset Allocation Guidelines. However, when identified by the KPPA Investment Staff the deviation must be reported to the CERS Investment Committee Chair at the next Quarterly CERS Investment Committee meeting and each Investment Committee meeting thereafter until the allocation is in compliance with the target. To best manage risk exposures, Deviations to these asset classes shall be offset in the public market asset classes with the most similar risk/return characteristics as a short-term proxy for the private asset classes.

In keeping with its responsibility as a CERS Board and wherever consistent with its fiduciary responsibility, the CERS Board encourages the investment of the Fund's assets in investments, funds, and securities of corporations which provide a positive contribution to the economy of the Commonwealth of Kentucky. However, where any security is not a prohibited investment under the governing laws and policies, discretion will be granted to the appointed investment managers in the selection of such securities and timing of transactions consistent with the following guidelines and restrictions.

A. Equity

Public Equity

Investments may be made in common stock, securities convertible into common stock, preferred stock of publicly traded companies on stock markets, asset class relevant ETFs or any other type of security contained in a manager's benchmark. Each individual equity account shall have a comprehensive set of investment guidelines prepared by the CIO, which contains a listing of permissible investments, portfolio restrictions, and standards of performance for the account.

Generally, U.S. equity markets are more efficient than Non-U.S markets, while large-cap and developed market segments are more efficient than their small-cap and emerging market counterparts. Implementation of the public markets allocation should reflect the overall efficiency within a particular market segment. The more efficient the market segment, the higher the proportion of indexed assets. Similarly, active management is more likely to add value in inefficient markets, so a lower percentage of indexed assets would be appropriate.

Private Equity

Subject to approval of the CERS Investment Committee and ratification by the CERS Board, investments may be made for the purpose of creating a diversified portfolio of private equity investments. Private equity investments generally possess a higher degree of risk with a higher return potential than traditional equity investments. Accordingly, total net rates of return from private equity investments are expected to be greater than those that can be obtained from traditional public equity investments. Examples of private equity investments include, but are not limited to: venture capital, buyouts, special situations, distressed debt, and private placements. US Key features of a well-constructed private equity portfolio include diversification across vintage year, sector/style, and geography.

The private equity market is highly sophisticated and specialized with respect to variety and types of investment structures. There exists major competition for deal flow on the part of both investors and general partners. Most investment vehicles are structured as commingled vehicles and are often blind pool investment partnerships. The most common offering forms are equity private placements where the governing laws of the partnership impose a passive role of the limited partner investor. These contractual arrangements are long-term in nature and provide the general partner a reasonable time horizon to invest capital, add value through operational management, and realize the proceeds of their investments. Terms of the partnership are typically proposed by the general partner and are critical to the economic incentives and ultimate net performance of the partnership.

Private Equity Investment Strategy and Plan Guidelines

To strengthen diversification, several guidelines will be utilized in KPPA Investment Staff's formulation and recommended annual investment strategy and plan for private equity investments. These guidelines encompass annual commitment levels to the asset class, types of investment vehicles that can be utilized, controlling financing stage risks, industry, manager and geography concentration/diversification limits, acceptable contract negotiations, appropriate sizes for investments, and the preferred alignment of interests.

Investment Vehicles: CERS funds will gain exposure to private equity investments by hiring external investment managers either directly or through participation in secondary private equity markets. Typically, CERS will participate as a Limited Partner (LP) to limited partnership vehicles sponsored by such specialty external investment managers. CERS will also at times structure separately managed accounts with specific investment objectives to be implemented by external investment managers. CERS funds may also gain private equity exposure by utilizing the following vehicles: limited liability companies and co-investments alongside CERS existing or potential limited partnerships.

Investment Timing Risks: KPPA Investment Staff should limit the potential for any one investment to negatively impact the long-term results of the portfolio by investing across business cycles. Moreover, the portfolio must gain exposure to the array of financing stages by opportunistically exploiting the best investments at different stages of the business cycle. KPPA Investment Staff may also consider purchasing secondary partnership interests to shorten the effective life of the partnership interest and therefore positively impact the current and long-term net return of the portfolio. Should KPPA Investment Staff anticipate the need of entering a secondary partnership such agreement would need the approval of CERS Investment Committee and ratification by the CERS Board. In addition, mindful of vintage year diversification. Staff and investment consultant shall attempt to source on behalf of CERS attractive commitments annually, further ensuring the portfolio invests across business cycles.

General Partner Diversification: KPPA Investment Staff will seek to work with a variety of general partners due to their specialized expertise in particular segments of the private equity market and source of their deal flow. No more than 15% of CERS' Pension or Insurance total allocation to private equity investments may be committed to any one partnership.

Total Exposure to Private Equity: Given the illiquid nature of the asset and the complexity of each private equity transaction, it is important that the CIO actively manage the maximum amount of CERS' fund assets allocated to this asset class. Should circumstances arise and the allocation go beyond the maximum allowable allocation as indicated at in the table at the start of Section III, the CIO will inform the Investment Committee Chair in writing as soon as possible and report to the Investment Committee Chair and the CEO at the next monthly strategic planning meeting and all subsequent quarterly CERS Investment Committee meetings until the allocation is back in compliance.

B. Fixed Income

Core Fixed Income

The core 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; municipal bonds; Non-U.S. sovereign debt; mortgages including residential mortgage backed securities; commercial mortgage backed securities; and whole loans, asset-backed securities, and asset class relevant ETFs.

Each individual core fixed income account shall have a comprehensive set of investment guidelines prepared by the CIO which contain a listing of permissible investments, portfolio restrictions, risk parameters, and standards of performance for the account.

Specialty Credit

Specialty Credit includes both publicly traded debt, e.g., high yield bonds, and private credit.

The high yield fixed income accounts may include, but are not limited to, the following fixed income securities: non-investment grade U.S. corporate credit including both bonds and bank loans; non-investment grade 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 ETFs.

Post 2008/2009 Global Financial Crisis (GFC) regulatory changes created an opportunity for non-bank lenders to fill the loan demand vacated by the banks. Borrowers are generally small to medium sized businesses with non-investment grade ratings and are subject to loan terms controlled by the lenders (i.e., covenants, rates, and term) which provide additional risk controls, higher yields than that of public fixed rate loans, and periodic cash flows. Private credit investments may be illiquid in nature and structured as limited partnership agreements.

Each individual Specialty Credit account shall have a comprehensive set of investment guidelines prepared by the CIO which contains a listing of permissible investments, portfolio restrictions, risk parameters, and standards of performance for the account.

Cash Equivalent Securities

Selection of short-term instruments, whether viewed as liquidity reserves or as investment vehicles, should be determined primarily by the safety and liquidity of the investment and only secondarily by the available yield. 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, and collective short-term investment funds (STIFs), 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 shall prevail. All instruments shall have a maturity at the time of purchase that does not exceed 397 days. 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.

CERS fixed income managers that 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.

C. Inflation Protected Assets

Real Estate

Investments are made in real estate equity and debt for the purposes of achieving the highest total rate of return possible consistent with a prudent level of risk and provide returns that have a positive correlation to inflation.

The illiquid nature and complexity of real estate investments make it difficult for casual investors to effectively access the asset class. It is our belief that through active management and by investing with top tier managers that have aligned interests through co-investment and incentive-based compensation, CERS can maximize their risk-adjusted returns.

Allowable real estate investments include open-end and closed-end commingled real estate funds, joint venture investments, public and private real estate investment trusts (REITs), public real estate operating companies, and real estate related debt. CERS has determined that the primary role of the real estate asset class is to provide for the following:

- Attractive risk-adjusted returns through active management and accessing managers with the expertise and capabilities to exploit market inefficiencies in the asset class.
- Diversification benefits through lower correlations with other asset classes
- Provide a hedge against unanticipated inflation, which real estate has historically provided due to lease structures that can reset to market and growth in existing asset replacement value during inflationary periods when material and labor costs increase.
- Permit CERS to invest in unique opportunities that arise due to dislocations in markets that occur from time to time.

Real Return

The purpose of the Real Return Portfolio is to identify strategies that provide both favorable stand-alone risk-adjusted returns as well as the benefit of hedging inflation for the broader plans. Real Return strategies may include real assets, such as infrastructure, real estate, commodities, and natural resources, as well as financial assets that have a positive correlation to inflation. This can include real bonds such as Treasury Inflation-Protected Securities (TIPS), other inflation linkers, or real stocks such as REITs, Master Limited Partnerships (MLPs), and oil & gas stocks.

To access a wide variety of investment styles and strategies, investment vehicles may include mutual funds, ETFs, separately managed accounts, as well as hedge funds (open-end limited partnerships) and private equity (closed-end limited partnerships). The list of strategies that CERS' Real Return Portfolio may use includes, but is not limited to, the following:

- Inflation-linked securities directly tie coupon payments or principal increases to an inflation index, such as Consumer Price Index (CPI). These strategies could include not only US TIPS, but also global sovereign inflation linked bonds, corporate or infrastructure inflation linked bonds, and possibly short duration floating rate bonds.

  Inflation sensitive equities include publicly traded securities of companies that have a high sensitivity to inflation in their profit margins via the nature of their operating assets, such as energy, basic materials, mining, natural resources, utilities, real estate,and listed infrastructure companies. This category can also include, ETFs and index products that invest in inflation sensitive securities.
- Commodities: Commodities are the raw materials that are physical inputs into the production process. Managers that invest in liquid commodity strategies using exchange traded futures can span from simple indexing (matching a long-only commodities index),

to enhanced indexing or active long (selecting positions that vary from the index but within fairly tight ranges), as well as unconstrained long-short managers.

- Private Property: For the purposes of this IPS, private property refers to the ownership of an idiosyncratic, physical asset that is predominantly fixed or substantially long-lived, such as timberland and farmland. Timberland investing involves the institutional ownership of forests for the purpose of growing and harvesting the timber. Timber may be used for furniture, housing lumber, flooring, pulp for paper, woodchips, and charcoal, among other things. Farmland investing entails ownership of land used primarily, if not exclusively, for agricultural production both for crops, including row crops and permanent crops, as well as livestock. Private property can also include infrastructure investing, which refers to financing the manufacture or development of the underlying fundamental assets and basic core infrastructure that are necessary for an economy whereby such assets are largely fixed and long-lived. These tend to be high cost, capital-intensive investments that are vital to a society's prosperity and facilitate the transfer, distribution, or production of basic goods and services.

- Natural Resources: Natural resources can include investing in the financing, development, extraction, and production of minerals, basic materials, petroleum products, and water as well as renewable resources such as agricultural commodities and solar energy. As opposed to property, the returns generated in these investment strategies come more from the actual production of the resource itself. Further, these are depleting and/or consumable assets that are also portable and fungible and which in the aggregate comprise a majority of the inputs into most measurements of inflation.

- Private Assets: Private assets can include tangible or intangible assets that are not easily sold in the regular course of a business' operations, and which are held for their role in contributing directly to the business' ability to generate profit. As the useful life of the asset tends to extend across many years and the assets tend to be capital intensive as well, they have some similarity to private infrastructure. Further, given that the assets contribute directly to the production process as well as often retaining intrinsic value, there is a fundamental link to inflation somewhat similar to natural resources.

- Other (Opportunistic Inflation Hedge): Other/opportunistic strategies include those that have a propensity to provide a positive real return or positive correlation with inflation over time. Liquid strategies such as inflation swaps, diversified inflation hedging mutual funds, or nominal bonds backed by inflation sensitive assets may be included in this allocation, while other illiquid strategies that may provide the same real return profile can include private equity in inflation sensitive companies, hard asset-backed private credit, and structured inflation-linked products among others.

Portfolio Guidelines

No more than 20% of the total net assets of the Real Return portfolio may be invested in any one registered investment vehicle, mutual fund, or separately managed account.

No more than 20% of the total net assets of the Real Return portfolio may be invested in any single closed-end or open-end limited partnership or other unregistered investment vehicle.

The relative allocations to the liquid and illiquid portfolios will be determined according to each individual Plan's liquidity needs, funding status, and allocation targets on an investment-by-investment basis.

D. Co-Investment and Continuation Vehicle Policy

Co-investment and continuation vehicle opportunities often have abbreviated approval timelines that may not align with scheduled Investment Committee or Board meetings. In the event that approval is needed between meetings, the CIO has discretion to make direct co-investments in companies alongside of current General Partners of CERS' Limited Partnership investments, or to participate in a continuation vehicle of an existing fund, with the approval from two of the following three: the CERS Board Chair, the CERS Investment Committee Chair, and CERS CEO. Any co-investment opportunity must also be consistent with the strategy CERS has already invested before it can be considered. For purposes of this IPS, a direct co-investment is defined as a direct investment in a portfolio company alongside the General Partner of an existing CERS' Limited Partnership investment deemed in good standing, and a Continuation Vehicle is a new fund created by transferring one or more assets from an existing fund nearing the end of its term to a new vehicle to allow the asset(s) more time to reach full potential

The maximum investment in any co-investment vehicle shall not exceed 50% of the total capital committed by all partners at the time of the final closing. The maximum investment in any single direct co-investment shall not exceed 20% of the original partnership commitment. Total investment in direct co-investments shall not exceed 20% of the asset class portfolio on a cost basis at the time of investment.

IV. Monitoring

Performance Measurement

CERS overall fund performance is measured relative to CERS Pension or Insurance Total Fund Benchmark. The benchmark is calculated by means of a weighted average methodology. This method is consistent with the CFA Institute Global Investment Performance Standards (GIPS®), a set of standardized, industry-wide ethical principles that guide investment managers and asset owners on how to fairly calculate and present their investment results, with the goal of promoting performance transparency and comparability. It is the product of the various component weights (i.e., asset classes' percentages) by their respective performance (returns). Due to market fluctuations and acceptable divergence, the asset classes' weights (percentages) are often not equivalent to the benchmark's weights. Therefore, the performance may indicate that the Funds have outperformed (underperformed) relative to their respective benchmarks, even when the preponderance of lesser weighted categories have underperformed (outperformed) their indices.

CERS measures its asset classes, sub-asset classes, sectors, strategies, portfolios, and instruments (investment) performance with indices that are recognized and published. These indices are determined to be appropriate measures of investments and composites of investments with identical or similar investments profiles, characteristics, and strategies. The benchmarks and indexes are intended to be objective, investable, replicable, representative and measurable of the investment mandate and, developed from publicly available information that is acceptable to CERS and the investment manager/advisor as the neutral position consistent with the underlying investor status. The CERS investment consultant and KPPA Investment staff recommend the benchmarks and indexes. These measures shall be subject to the review and approval of the CERS Investment Committee with ratification by the CERS Board when asset allocation studies are performed, or when a change to existing benchmarks is recommended by KPPA Investment

Staff and the CERS investment consultant. The current asset class benchmarks, effective as of July 1, 2024, with the adoption of the asset allocation, are as follows:

Asset Class	Benchmark
Equity	
Public Equity	MSCI ACWI ($ net)
Private Equity	Russell 3000 + 300 bps (one quarter) lagged)
Fixed Income	
Core Fixed Income	Bloomberg US Aggregate
Specialty Credit	50% Bloomberg US Corporate High Yield / 50% Morningstar LSTA Leveraged Loan
Cash	FTSE 3 Month US T-Bill
Inflation Protected	
Real Estate	NCREIF ODCE (one quarter lagged)
Real Return	US CPI + 3%

The following descriptions represent general standards of measurement that will be used as guidelines for the various classes of investments and managers of CERS. They are to be computed and expressed on a time-weighted total return basis:

Total Public Asset Class Allocations

Short-term

- For periods less than five years or a full market cycle, the Asset Class composite performance should exceed the returns of the appropriate Index.

Intermediate & Long-term

- For periods greater than five years or a full market cycle, the Asset Class composite performance should exceed the appropriate Index, compare favorably on a risk-adjusted basis, and generate returns that rank above the median return of a relevant peer group. Volatility, as measured by the standard deviation of monthly returns, should be comparable to the Index.

Individual Public Security Portfolios: Individual portfolios shall be assigned a market goal or benchmark that is representative of the style or market capitalization of the assignment. Individual accounts should be monitored using the following Standards:

Short-term

- For periods less than five years or a full market cycle, individual portfolios should exceed the returns of their market goal or benchmark.

Intermediate & Long-term

- For periods greater than five years or a full market cycle, individual portfolios should exceed the return of their market goal or benchmark, compare favorably on a risk-adjusted basis, and generate returns that rank above the median return of a relevant peer group. Volatility, as measured by the standard deviation of monthly returns, should be comparable to the benchmark.

Alternative Assets:

Private Equity

The Private Equity portfolio should also seek to achieve a long-term net Internal Rate of Return (IRR) that exceeds public market equity investments as measured by a Public Markets Equivalent (PME) comparison using the most appropriate public equity index. KPPA Investment Staff shall complete a comparison of performance between equity portfolio performance and Private Equity portfolio returns quarterly and will report the following to the Investment Committee:

Short-term

- Alternative investments should earn a net IRR above the median net IRR of other similar funds of the same vintage year, as reported by industry benchmarks.

Intermediate & Long-term

- The private equity portfolio should earn a return that meets or exceeds the CERS Private Equity Index. Individual private equity investments should earn a net IRR above the median net IRR of other similar funds of the same vintage year, as reported by industry benchmarks.

Inflation Protected

Real Estate

Private Real Estate investments are unique and can be illiquid and long term in nature. Given that this may lead to large short-term performance discrepancies versus public benchmarks, CERS more appropriately measures its real estate investments based on both relative return and absolute return methodologies:

Relative Return: The Real Estate portfolio is expected to generate net returns above the National Council of Real Estate Investment Fiduciaries Open End Diversified Core Equity Index (NCREIF ODCE) lagged 1 calendar quarter.

Real Return

The total Real Return investments shall seek to:

- Short-term benchmark: For periods less than five years or a full market cycle, the allocation should achieve a net annual rate of return that exceeds the appropriate benchmark (the weighted average return of the underlying investment benchmarks).
- Strategic objective: For periods greater than five years or a full market cycle, the allocation should not only outperform the short-term benchmark, but also achieve a rate of return that exceeds (US CPI + 300 basis points) as well.

Performance Review

On a timely basis, but not less than quarterly, the CERS Investment Committee will review the performance of the portfolio for determination of compliance with this IPS. This will include a quarterly performance peer review analysis comparing CERS with other public pension plans. On an annual basis, a comprehensive review of each asset class and underlying portfolios shall be conducted by the KPPA Investment staff and presented to the CERS Investment Committee. The review shall consist of an organizational, performance and compliance assessment.

The Compliance Officer, or KPPA staff, shall perform tests at least monthly to assure compliance with the restrictions imposed by this IPS. These tests shall be performed at the asset class and total fund level. Quarterly, the Compliance Officer shall prepare a report to the CERS Investment Committee detailing the restrictions tested, exceptions, the cause of the exception and the subsequent resolution. The CERS Investment Committee shall report the findings to the CERS Board at the next regularly scheduled meeting. KPPA Internal Audit will schedule periodic reviews/audits of this function to ensure compliance with this IPS.

The following restrictions shall be tested at least monthly:

1. The amount of stock in the domestic or international equity allocation in any single corporation shall not exceed 5% of the aggregate market value of CERS' assets.

2. The amount of stock held in the domestic or international equity allocation shall not exceed 3% of the outstanding shares of any single corporation.

3. Investment in frontier markets (those countries not included in the MSCI EM Index) shall not exceed 5% of CERS' international equity assets.

4. The duration of the core fixed income portfolios combined shall not vary from that of CERS' Fixed Income Index by more than +/- 25% duration as measured by effective duration, modified duration, or dollar duration except when the CERS Investment Committee has determined a target duration to be used for an interim basis.

5. The amount invested in the debt of a single issuer shall not exceed 5% of the total market value of CERS' fixed income assets, with the exception of US Government issued, guaranteed or agency obligations (or securities collateralized by same), and derivative securities used for exposure, cost efficiency, or risk management purposes in compliance with Section VII of this policy.

6. 50% of the core fixed income assets must have stated liquidity that is trade date plus three days or better.

7. The assets managed by any one active or passive investment manager shall not exceed 15% of assets as outlined in Section II of this IPS.

The CIO shall develop a comprehensive set of investment guidelines for each externally managed account. These guidelines should ensure, at the total fund and asset class level, that the restrictions set forth above are preserved.

Under the CIO's direction, KPPA Investment Staff shall perform site visits with all current CERS investment managers over 3-year rolling market cycles.

V Additional Items

<u>Derivatives Permitted Use:</u>

CERS permits external managers and KPPA Investment Staff to invest in derivative securities, or strategies which make use of derivative investments, for exposure, cost efficiency and risk management purposes, if such investments do not cause the portfolio to be leveraged beyond a 100% invested position. Any derivative security shall be sufficiently liquid that it can be expected to be sold at, or near, its most recently quoted market price. Typical uses of derivatives in the portfolio are broadly defined below:

Exposure:

Derivatives are an effective way for a portfolio manager to gain exposure to a security that the manager does not want to purchase in the cash market. Reasons for gaining exposure to a security through the use of derivatives may include cheaper transactions costs, liquidity/lack of supply in the underlying market, and the flexibility to implement investment views with minimum portfolio disruption. An example is a cash equitization program.

Cost Efficiency:

Derivatives are often used due to the cost efficiency associated with the contract properties. Given the fact that derivatives can be used as a form of insurance, upfront trading costs must be sufficiently low for investors to purchase the contract and insure their portfolios efficiently. Furthermore, due to properties associated with derivatives and cash outlay characteristics (minimal cash outlay at inception of the contract) derivatives are generally a vehicle of gaining cost efficient exposure. An example is the cost (zero) to purchase a futures contract.

Risk Management:

Derivatives can be used for mitigating risk in the portfolio. When used as a risk management tool, derivatives can significantly reduce an identified financial risk or involuntary risk from investment areas by providing changes in fair values or cash flows that substantially offset the changes in fair values or cash flows of the associated item being hedged. An example is the use of currency forwards to offset periods of dollar strength when international equity markets increase in value, thereby protecting foreign asset gains in the portfolio.

Derivatives Restricted Use:

Settlement:

Investments in futures contracts are to be cash settled unless physically settled and stored by external managers. At no time shall CERS agree to take physical delivery on a futures contract.

Position Limits:

Futures and options positions entered into by CERS, or on its behalf, will comply with all position and aggregate limits established by the local governing authorities within each jurisdiction.

Over-the-Counter (OTC):

Investments in securities not traded on public exchanges that are deemed OTC in nature are allowed provided that a counterparty risk monitoring component is delineated in the manager's guideline section of the manager's contract. All counterparties must have a short-term credit rating of at least BBB (Standard and Poor's or Fitch) or Baa2 (Moody's).

All OTC derivative transactions, including those managed through Agency Agreements, must be subject to established International Swaps and Derivatives Association, Inc. (ISDA) Master Agreements and have full documentation of all legal obligations of CERS under the transactions. All ISDA Master Agreements entered into by or on behalf of CERS by the KPPA Investment Staff and external manager pursuant to an Agency Agreement shall provide that netting applies (netting allows the parties to an ISDA Master Agreement to aggregate the amounts owed by each of them under all of the transactions outstanding under that ISDA Master Agreement and replace them with a single net amount payable by one party to the other.) The KPPA Investment Staff and external managers may also use collateral arrangements to mitigate counterparty credit or performance risk. If an external manager utilizes a collateral arrangement to mitigate counterparty credit or performance risk the arrangement shall be delineated in the manager's guideline section of the manager's contract.

Derivatives Applications Not Permitted:

Speculation:

Derivatives may not be used for any activity for which the primary purpose is speculation or to profit while materially increasing risk to CERS. Derivatives are considered speculative if their uses have no material relation to objectives and strategies specified by the CERS IPS or applicable to the CERS portfolio. Derivatives may not be used for circumventing any limitations or restrictions imposed by the CERS IPS or applicable regulatory requirements.

Leverage:

Leverage is inherent in derivative contracts since only a small cash deposit is required to establish a much larger economic impact position. Thus, relative to the cash markets, where in most cases the cash outlay is equal to the asset acquired, derivative investments offer the possibility of establishing substantially larger market risk exposures with the same amount of cash as a traditional cash market portfolio. Therefore, risk management and control processes must focus on the total risk, i.e. the net notional value, assumed in a derivative investment. Leveraging the portfolio beyond a 100% invested position is not permitted, i.e. the notional value should not exceed the market value of assets.

The above is not intended to limit CERS from borrowing to cover short-term cash flow needs nor prohibit CERS from loaning securities in accordance with a securities lending agreement.

The CERS Board recognizes that the voting of proxies is an important responsibility in assuring the overall performance over a longtime horizon. The CERS Board has delegated the responsibility of voting all proxies to an outside Proxy Voting service provider or contracted external investment manager. The CERS Board expects that the proxy voting service will execute all proxies in a timely fashion, and in accordance with the voting policy which has been formally adopted.

The CERS Board has adopted the ISS U.S. Proxy Voting Guidelines as the CERS approved Proxy Voting Policy for all internally voted items. This policy is updated at least annually by ISS and is and hereby incorporated by this reference. The policy can be found publicly using the following link:

ISS U.S. Proxy Voting Guidelines.com

Additional CERS Investment Administrative Policies

A. Investment Procurement Policy as amended and the as amended are hereby incorporated by reference.
B. CERS Investment Brokerage Policy as amended is hereby incorporated by reference.
C. CERS Transactions Procedures Policy as amended is hereby incorporated by reference.
D. CERS Securities Litigation Policy and Procedures as amended is hereby incorporated by reference.
E. CERS Investment Securities Lending Guidelines as amended is hereby incorporated by reference.
F. CERS Securities Trading Policy for Trustees and Employees as amended is hereby incorporated by reference.
G. CERS Manager and Placement Agent Statement of Disclosure Policy as amended is hereby incorporated by reference.
H. CERS Conflict of Interest and Confidentiality Policy as amended and hereby incorporated by reference.
I. CERS Proxy Voting Policy as amended and hereby incorporated by reference.

Signatories

As Adopted by the CERS Investment Committee	As Adopted by the CERS Board of Trustees
Date:_	Date:
Signature:_	Signature:
Dr. Merl Hackbart	Mr. George Cheatham
Chair, CERS Investment Committee	Chair, CERS Board of Trustees

County Employees Retirement Systems
Investment Policy Statement
Adopted DATE 2024

This Investment Policy Statement (IPS) is issued by the CERS Board of Trustees (CERS Board or CERS Trustees) of the County Employees Retirement System (CERS) in connection with investing in the pension and insurance trust funds (Funds) of CERS.

I. Introduction

A. Purpose

The purpose of this IPS is to define the framework for investing the assets of CERS. This IPS is intended to provide general principles for establishing the goals, risk tolerance, asset allocation, implementation, employment of outside service providers, monitoring, as well as general governance of the Funds.

The pension plans administered by the County Employees Retirement System (CERS) are Qualified Pension Plans under Section 401(a) of the Internal Revenue Code. Additionally, Kentucky Revised Statutes 61.701 establishes health insurance benefits to recipients of CERS. Kentucky Revised Statutes 61.702 provides that all amounts necessary to provide for insurance benefits shall be paid to the insurance fund. The CERS Board shall manage the administration of assets for~~of~~ the insurance fund in the same manner in which it administers its retirement fund.

B. Philosophy

The CERS Trustees recognize their fiduciary duty not only to invest CERS funds in formal compliance with the Uniform Prudent Investor Act, but also to manage those assets in continued recognition of the basic long-term nature of CERS. The CERS Trustees interpret this to mean, in addition to the specific guidelines and restrictions set forth in the law and this document, that the assets of CERS shall be proactively managed—that is, investment decisions regarding the particular asset classes, strategies, and securities to be purchased or sold shall be the result of a long-term investment strategy. Being a long-term investor means that CERS Trustees are willing to accept a certain amount of risk in pursuit of potentially higher reward and that the Trustees can afford to be patient for a longer period of time. CERS recognizes that risk is a mult-faceted concept that can not be defined by a single quantitative measure. Instead, risks need to be viewed through various lenses and will span across differing levels of the investment process. Some risks are specific to the organization while other risks can be classified as investment risks such as volatility, liquidity, geopolitical, etc.

The CERS Trustees recognize that asset allocation is the primary driver of long-term investment performance and will therefore review asset allocation and asset-liability studies on a regular basis as outlined in Section III of this document. The Asset Allocation Guidelines represent a strategic decision, with the primary aim that each fund of the CERS plan outperform its asset-class-weighted benchmark as outlined in section IV while assuming a commensurate level of risk. The appropriate level of risk is determined as part of the asset allocation or asset-liability study process and reflected in the target allocations and allowable ranges established in Section III.

The CERS Trustees recognize that there is a generally accepted principle that an inverse relationship exists between market efficiency and the ability for active management to produce excess returns. Therefore, KPPA Office of Investments staff (KPPA Investment Staff) will focus on investing in index or index-like investments with the goal of replicating, or exceeding, index returns with low management fees and low tracking errors in markets they deem to be more efficient. In markets KPPA Investment Staff deem to be less efficient, active management may be pursued, accepting higher tracking error and paying higher management fees with the expectation of producing excess returns over the long term. This allows the KPPA Investment Staff and consultant(s) to focus their efforts on identifying, selecting, and monitoring managers, as well as the overall management of fees paid, in the areas of the market most likely to produce excess returns.

The CERS Trustees recognize that, commensurate with their overall objective of maximizing long-term return given the appropriate level of risk, it is necessary that proper diversification of assets be maintained both across and within the classes of securities held to minimize/mitigate overall portfolio risk. Consistent with carrying out their fiduciary responsibilities and the concept of Modern Portfolio Theory, the CERS Trustees will not systematically exclude any investments in companies, industries, countries, or geographic areas unless required to do so by statute. Within this context of proactive management and the necessity for adherence to proper diversification, the CERS Trustees rely upon appropriate professional advice from staff and service providers.

II. Responsibilities

The CERS Trustees and other fiduciaries shall discharge their duties with respect to CERS: (1) solely in the interest of the participants and beneficiaries; (2) for the exclusive purpose of providing benefits to participants and beneficiaries; (3) with the care, skill and caution under the circumstances then prevailing which a prudent investor acting in a like capacity and familiar with those matters would use in the conduct of an activity of like character and purpose; (4) impartially; (5) incurring and paying appropriate and reasonable expenses of administration which may not necessarily be the lowest and (6) in accordance with a good faith interpretation of the laws, regulations, and other instruments governing CERS.

Additionally, the Trustees and other fiduciaries shall not engage in any transaction which results in a substantial diversion of CERS income or assets. Adequate security and a reasonable rate of return shall be provided to a disqualified person or in any other prohibited transaction described in Internal Revenue Code Section 503(b).

A. CERS Board of Trustees

The CERS Investment Committee is created by Kentucky Revised Statutes 78.790(1)(b) and the CERS Board as set forth in the CERS Board’s Statement of Bylaws and Committee Organization (Section 2.2(e)). Per KRS 78.790(1)(b), the CERS Investment Committee shall have the authority to implement the investment policies adopted by the CERS Board and act on behalf of the CERS Board on all investment-related matters. The CERS Investment Committee has the power to act on behalf of the CERS Board on all CERS Board approved investment related matters, including the acquisition, sale, safeguarding, monitoring and management of the assets, securities and funds of CERS. The CERS Board shall require a vote of six (6) Trustees to approve the recommendations of the CERS Investment Committee at the CERS Board meeting following the CERS Investment Committee meeting where such recommendation was made.

B. CERS Investment Committee

The CERS Board shall establish an investment committee as required by KRS 78.790(1)(b). The CERS Investment Committee shall consist of five members of the CERS Board and shall be specifically composed as follows: The three (3) members with investment experience appointed by the Governor under KRS 78.782(1)(b); one (1) elected member to be appointed by the CERS Board Chair; and one (1) member appointed by the Governor under KRS 78.782(1)(b) with retirement experience, to be appointed by the CERS Board Chair. The CERS Investment Committee has the authority to implement the investment policies adopted by the CERS Board and to act on behalf of the CERS Board on all approved investment related matters.

The CERS Investment Committee has the following oversight responsibilities:

1. Monitor compliance with this IPS and all applicable laws and regulations. Non-compliance shall be communicated by the Committee Chair to the Board along with suggestions for remediation and appropriate timing.
2. Recommend the selection and termination of service providers to be approved by the Board. Notwithstanding the previous sentence, if the need arises to terminate a manager between CERS Board meetings, the KPPA Executive Director, Office of Investments (CIO) will have discretion to do so after receiving approval from either the CERS Board Chair or the CERS Investment Committee Chair, with concurrence by the CERS CEO. Upon termination, the CIO will notify all CERS Board members via a memo that contains the rationale for the decision. The CERS Investment Committee and the CERS Board must be notified of the manager termination at the next scheduled CERS Investment Committee and CERS Board meetings.
3. Meet no less than quarterly to evaluate whether this IPS, the investment activities and management controls and processes continue to be consistent in meeting CERS goals. Mandate actions necessary to maintain the overall effectiveness of the investment program.
4. Review assessment of investment program management processes and procedures, and this IPS relative to meeting stated goals.

C. KPPA Investment Staff

The CIO is responsible for the administration of investment assets of CERS consistent with the policies, guidelines and limits established by the federal and state laws, the CERS Board, and the CERS Investment Committee.

The CIO receives direction from and reports to the KPPA Executive Director. The CIO shall provide information to the CERS Investment Committee on all investment matters, including but not limited to the following:

i. Maintaining the diversification and risk exposure of the Funds consistent with policies and guidelines.
ii. Assessing and reporting on the performance and risk exposure of the overall investment program relative to goals, objectives, policies and guidelines on at least a quarterly basis.
iii. Monitoring and assessing service providers to assure that they meet expectations and conform to policies and guidelines.

iv. Recommending changes to service providers, statutes, policies or guidelines as needed to maintain a productive relationship between the investment program and its goals; providing an annual review the suitability of asset class benchmarks; and acting as liaison on all investment related matters.

v. Identifying issues for consideration by the CERS Investment Committee and preparing recommendations or reports regarding such matters.

vi. On an annual basis, staff will provide a comprehensive overview of each asset class composite, including actual exposure versus structure targets, performance versus appropriate benchmark(s) and peer group(s), and risk assessment. For private markets the analysis will also include an overview of existing commitments and an investment pacing plan. For all asset classes the overview should include an outlook and investment plan for the coming year.

vii. Preparing a memo for the CERS Investment Committee for each proposed investment which shall cover pertinent details of the investment, including: (1) Recommendation by staff and the opinion of an investment consultant; (2) Location of investment within the strategic asset allocation, along with rationale; (3) Sizing of the investment, along with rationale, and additionally for private investments how it fits into the existing pacing plan; (4) For public markets, a summary of the search process which details the criteria used to arrive at a list of finalist candidates and rationalization for recommending the proposed investment; (5) Key risks specific to the investment which may include but are not limited to volatility, liquidity and geopolitical risks, as well as fees for the proposed investment~~, and liquidity terms~~; (6) Investment vehicle to be used; and if applicable, (7) Specific reasons why a CERS fund may be excluded from the investment.

viii. Engaging in a monthly meeting with the CERS Investment Committee Chair and the CERS CEO to discuss market trends and all things relevant to the CERS plans positioning.

The CIO or designee is authorized to execute trades on fixed income and equity securities, including exchange-traded funds (ETFs), for approved mandates, meeting the internal investments (section D) guidelines, and to execute proxies for the CERS Board consistent with this IPS.

To carry out this IPS and any investment related decisions of the CERS Board, the CERS Chief Executive Officer (CEO), and the CIO or designee are authorized to execute agreements and other necessary or proper documents pertaining to investment managers, consultants, investment related transactions, or other investment functions. All investment decisions of the CEO and/or the CIO not addressed in this IPS must be ratified by the Investment Committee and the Board of CERS.

D. Internal Investments

The Investment Committee may approve the internal management of assets. In general, internal mandates will be limited to investments that are meant to replicate the return and risk of a public index. These mandates will be subject to the same search and approval process outlined in Section II-C (vi) as well as Section II E.

Proxy accounts may also be managed internally to gain exposure to assets with similar risk, return, and economic characteristics to strategic asset class allocations that may take time to build, such as private asset classes where deployment of funds is dependent on managers/funds calling capital commitments. These proxies shall be included in regular performance reporting and a detailed review of the composition of the underlying investments shall be made to the Investment Committee for review and ratified by the board prior to implementation and at least annually thereafter.

E. Investment Managers

In instances where the CERS Investment Committee, in consultation with the CIO, has determined it is desirable to employ the services of an external Investment Manager, the following shall be applicable:

i. Investment Managers shall be qualified and agree to serve as a fiduciary to CERS and should be of institutional quality as deemed by KPPA Investment Staff in collaboration with an investment consultant.
ii. Notwithstanding the CIO responsibilities when selecting a new investment, when the KPPA Investment Staff seeks a new mandate, staff will conduct a formal search process documenting how the universe was narrowed to the top option(s). If more than one investment option doesn't exist, staff shall outline comparable investments along with rationale as to why those strategies are not appropriate. As part of the process at arriving at a recommendation to the Investment Committee for investment, interviews shall be conducted and invitations to both the Board Chair and Investment Committee Chair members shall be extended providing the opportunity to participate in the selection process.
iii. Investment Managers shall manage assets in accordance with this IPS and any additional guidelines established by contract, as may be modified in writing from time to time.
iv. Total assets assigned to the selected manager shall not exceed 25% of that firm's total assets under management and shall not exceed 25% of a firm's total assets under management in a commingled product. Separate accounts or funds of one are not included in this 25% limitation for commingled products.
v. The assets managed by any one active or passive investment manager shall not exceed 15% of the overall assets in the pension and insurance funds as set forth in KRS 78.790(5).
vi. All investment management services will be contracted according to the CERS Investment Procurement Policy established by the CERS Board.

F. Custody Bank

KPPA shall recommend custodians and other agents who will be fiduciaries to CERS and who will assume responsibility for the safekeeping and accounting of all assets held on behalf of CERS and other duties as agreed to by contract. Upon approval of these recommendations by the CERS Board, KPPA may enter into a contractual agreement with these entities.

A process shall implement portfolio accounting system that includes plan accounting and unitization methods. An investment related service provider(s) may be selected to execute the process in accordance with the Boards' selection process. The following is a brief description of our plan accounting processing:

Within the plan accounting structure there are two primary types of accounts, Plan Accounts and Pool Accounts. Plan Accounts are the owners of the investment pool. An account is established for each plan and these accounts hold Units of Participation that represent the plan's/fund's invested value of the investment pool. Pool Accounts are accounts that hold the assets of the investment pool where all investment related activity and earnings occur. These accounts are the investment strategies of the pool. Units of Participation are bought and sold as each plan/fund contributes or withdraws cash or assets from the investment pool. The investment pool earnings are then allocated to plans utilizing a cost distribution method that allows for fluctuating prices experienced in capital markets. This involves earnings allocated to the plan accounts with an increase or decrease in cost on the Unit of Participation Holdings of the Plan Accounts. Correspondingly, the price of the Unit of Participation Holdings is updated to reflect change in market value in the investment pool. Earnings are allocated based on the daily weighted average of Master Trust Units held by each plan/fund account during the monthly earnings period. This method is commonly used when plans make multiple contributions or withdrawals from the investment pool throughout the month as it eliminates allocation distortion due to large end of month cash flows.

An institutional accounting system shall support a method for determining the amount of monthly earnings are allocated to each plan account.

G. Investment Consultants

Qualified independent investment consultants may be retained by the CERS Board to assist with the development of the overall strategic investment direction of the Fund and/or any of its asset classes. The Consultant may be expected to conduct asset-liability studies including presenting recommendations to the CERS Investment Committee and/or Board for appropriate asset allocation policies, rebalancing ranges, review and development of total fund policy benchmarks, and assisting with ongoing education for members of the Board. The Consultant may also be expected to prepare and present performance reviews, manager searches, and other investment-related consulting functions and duties as set forth by contract.

H. Selection

Qualified investment managers, investment consultants, and other investment related service providers shall be selected by the CERS Investment Committee and recommended for approval by the CERS Board, in accordance with the IPS. The selection shall be based upon the demonstrated ability of the professional(s) to provide the required expertise or assistance described in the Request for Proposals (RFP) or Request for Information (RFI), if utilized. In order to create an efficient and effective process, the CERS Investment Committee or CIO may, in their sole discretion, utilize an RFI, an RFP, third party proprietary software or database, review of existing service provider capabilities, or any combination of these or other methods to recommend service providers.

III. Asset Allocation Guidelines

In establishing asset allocation guidelines, the CERS Board recognizes that each CERS fund has its own capacity to tolerate investment volatility, or risk. Therefore, each CERS fund will be continually studied with asset allocation guidelines established on an individual fund basis. The CIO will ensure the asset allocation guidelines of each fund are reviewed annually with full asset-liability studies conducted every three to five years (or as market conditions warrant).

The CERS Board has established the following Asset Allocation Guidelines, effective July 1, 2024.

Asset Class	**Target**	Minimum	Maximum
Equity			

Public Equity	**45%**	30%	55%
Private Equity	**8%**	4%	12%
Fixed Income			
Core Fixed Income	**13%**	10%	20%
Specialty Credit*	**20%**	16%	24%
Cash	**2%**	0%	5%
Inflation Protected			
Real Estate	**5%**	3%	7%
Real Return	**7%**	4%	10%

*includes High Yield Fixed Income

The intent of the CERS Board in allocating funds to the investment managers is for the investment managers to fully invest the funds. However, the CERS Board is aware that from time to time the investment manager will require a portion of the allocated funds to be held in cash provided the cash holdings do not exceed 5% of the manager's allocation for any given quarter, unless such cash holdings are an integral part of a fixed income manager's investment strategy.

The individual CERS fund level asset allocations will be reviewed and reported on quarterly by KPPA Investment Staff relative to the target asset class allocations and taking into account any tactical asset allocation shift directed by the CERS Investment Committee.

Regarding individual investment manager initial allocations, KPPA Investment Staff will recommend a funding amount for illiquid private market investments to be approved by the CERS Investment Committee and ratified by the CERS Board. Subsequent investments with those same managers will also be approved by the CERS Investment Committee and ratified by the CERS Board. Regarding liquid public market investments, KPPA Investment Staff will recommend individual allocations expressed as a percentage of the relevant asset class target. The asset class structural targets will be approved by the CERS Investment Committee and ratified by the CERS Board. Modest deviations from approved structural targets can be expected in the normal course of business throughout market cycles, but it is expected that the KPPA Investment Staff will update the Investment Committee on any active positioning decision (manager, style, geography, sector, duration, etc.) at least quarterly, and otherwise seek to maintain approved targets until recommended and approved for changes.

Short-term market shifts may cause the asset mix to drift from the allocation targets. Should the target percentage fall out of the indicated range for a particular asset class, KPPA Investment Staff shall direct rebalancing transactions to reallocate assets from the over-allocated asset class(es) to the under-allocated asset class(es). Within the allowable ranges, KPPA Investment Staff should use regular cash flows to rebalance toward targets to avoid incurring additional trading costs to correct minor deviations from asset allocation targets.

Investments in private assets are generally less liquid than investments in public markets securities and are typically implemented via periodic commitments to funds with limited partnership structures. As a result, actual allocations to these asset classes may deviate from their strategic targets for extended periods. Actual vs. target deviations for these asset classes shall not be considered in violation of the Asset Allocation Guidelines. However, when identified by the KPPA Investment Staff the deviation must be reported to the CERS Investment Committee Chair at the next Quarterly CERS Investment Committee meeting and each Investment Committee meeting thereafter until the allocation is in compliance with the target. To best manage risk exposures, Deviations to these asset classes shall be offset in the public market asset classes with the most similar risk/return characteristics as a short-term proxy for the private asset classes.

In keeping with its responsibility as a CERS Board and wherever consistent with its fiduciary responsibility, the CERS Board encourages the investment of the Fund's assets in investments, funds, and securities of corporations which provide a positive contribution to the economy of the Commonwealth of Kentucky. However, where any security is not a prohibited investment under the governing laws and policies, discretion will be granted to the appointed investment managers in the selection of such securities and timing of transactions consistent with the following guidelines and restrictions.

A. Equity

Public Equity

Investments may be made in common stock, securities convertible into common stock, preferred stock of publicly traded companies on stock markets, asset class relevant ETFs or any other type of security contained in a manager's benchmark. Each individual equity account shall have a comprehensive set of investment guidelines prepared by the CIO, which contains a listing of permissible investments, portfolio restrictions, and standards of performance for the account.

Generally, U.S. equity markets are more efficient than Non-U.S markets, while large-cap and developed market segments are more efficient than their small-cap and emerging market counterparts. Implementation of the public markets allocation should reflect the overall efficiency within a particular market segment. The more efficient the market segment, the higher the proportion of indexed assets. Similarly, active management is more likely to add value in inefficient markets, so a lower percentage of indexed assets would be appropriate.

Private Equity

Subject to approval of the CERS Investment Committee and ratification by the CERS Board, investments may be made for the purpose of creating a diversified portfolio of private equity investments. Private equity investments generally possess a higher degree of risk with a higher return potential than traditional equity investments. Accordingly, total net rates of return from private equity investments are expected to be greater than those that can be obtained from traditional public equity investments. Examples of private equity investments include, but are not limited to: venture capital, buyouts, special situations, distressed debt, and private placements. US Key features of a well-constructed private equity portfolio include diversification across vintage year, sector/style, and geography.

The private equity market is highly sophisticated and specialized with respect to variety and types of investment structures. There exists major competition for deal flow on the part of both investors and general partners. Most investment vehicles are structured as commingled vehicles and are often blind pool investment partnerships. The most common offering forms are equity private placements where the governing laws of the partnership impose a passive role of the limited partner investor. These contractual arrangements are long-term in nature and provide the general partner a reasonable time horizon to invest capital, add value through operational management, and realize the proceeds of their investments. Terms of the partnership are typically proposed by the general partner and are critical to the economic incentives and ultimate net performance of the partnership.

Private Equity Investment Strategy and Plan Guidelines

To strengthen diversification, several guidelines will be utilized in KPPA Investment Staff's formulation and recommended annual investment strategy and plan for private equity investments. These guidelines encompass annual commitment levels to the asset class, types of investment vehicles that can be utilized, controlling financing stage risks, industry, manager and geography concentration/diversification limits, acceptable contract negotiations, appropriate sizes for investments, and the preferred alignment of interests.

Investment Vehicles: CERS funds will gain exposure to private equity investments by hiring external investment managers either directly or through participation in secondary private equity markets. Typically, CERS will participate as a Limited Partner (LP) to limited partnership vehicles sponsored by such specialty external investment managers. CERS will also at times structure separately managed accounts with specific investment objectives to be implemented by external investment managers. CERS funds may also gain private equity exposure by utilizing the following vehicles: limited liability companies and co-investments alongside CERS existing or potential limited partnerships.

Investment Timing Risks: KPPA Investment Staff should limit the potential for any one investment to negatively impact the long-term results of the portfolio by investing across business cycles. Moreover, the portfolio must gain exposure to the array of financing stages by opportunistically exploiting the best investments at different stages of the business cycle. KPPA Investment Staff may also consider purchasing secondary partnership interests to shorten the effective life of the partnership interest and therefore positively impact the current and long-term net return of the portfolio. Should KPPA Investment Staff anticipate the need of entering a secondary partnership such agreement would need the approval of CERS Investment Committee and ratification by the CERS Board. In addition, mindful of vintage year diversification. Staff and investment consultant shall attempt to source on behalf of CERS attractive commitments annually, further ensuring the portfolio invests across business cycles.

General Partner Diversification: KPPA Investment Staff will seek to work with a variety of general partners due to their specialized expertise in particular segments of the private equity market and source of their deal flow. No more than 15% of CERS' Pension or Insurance total allocation to private equity investments may be committed to any one partnership.

Total Exposure to Private Equity: Given the illiquid nature of the asset and the complexity of each private equity transaction, it is important that the CIO actively manage the maximum amount of CERS' fund assets allocated to this asset class. Should circumstances arise and the allocation go beyond the maximum allowable allocation as indicated at in the table at the start of Section III, the CIO will inform the Investment Committee Chair in writing as soon as possible and report to the Investment Committee Chair and the CEO at the next monthly strategic planning meeting and all subsequent quarterly CERS Investment Committee meetings until the allocation is back in compliance.

B. Fixed Income

Core Fixed Income

The core 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; municipal bonds; Non-U.S. sovereign debt; mortgages including residential mortgage backed securities; commercial mortgage backed securities; and whole loans, asset-backed securities, and asset class relevant ETFs.

Each individual core fixed income account shall have a comprehensive set of investment guidelines prepared by the CIO which contain a listing of permissible investments, portfolio restrictions, risk parameters, and standards of performance for the account.

Specialty Credit

Specialty Credit includes both publicly traded debt, e.g., high yield bonds, and private credit.

The high yield fixed income accounts may include, but are not limited to, the following fixed income securities: non-investment grade U.S. corporate credit including both bonds and bank loans; non-investment grade 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 ETFs.

Post 2008/2009 Global Financial Crisis (GFC) regulatory changes created an opportunity for non-bank lenders to fill the loan demand vacated by the banks. Borrowers are generally small to medium sized businesses with non-investment grade ratings and are subject to loan terms controlled by the lenders (i.e., covenants, rates, and term) which provide additional risk controls, higher yields than that of public fixed rate loans, and periodic cash flows. Private credit investments may be illiquid in nature and structured as limited partnership agreements.

Each individual Specialty Credit account shall have a comprehensive set of investment guidelines prepared by the CIO which contains a listing of permissible investments, portfolio restrictions, risk parameters, and standards of performance for the account.

Cash Equivalent Securities

Selection of short-term instruments, whether viewed as liquidity reserves or as investment vehicles, should be determined primarily by the safety and liquidity of the investment and only secondarily by the available yield. 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, and collective short-term investment funds (STIFs), 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 shall prevail. All instruments shall have a maturity at the time of purchase that does not exceed 397 days. 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.

CERS fixed income managers that 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.

C. Inflation Protected Assets

Real Estate

Investments are made in real estate equity and debt for the purposes of achieving the highest total rate of return possible consistent with a prudent level of risk and provide returns that have a positive correlation to inflation.

The illiquid nature and complexity of real estate investments make it difficult for casual investors to effectively access the asset class. It is our belief that through active management and by investing with top tier managers that have aligned interests through co-investment and incentive-based compensation, CERS can maximize their risk-adjusted returns.

Allowable real estate investments include open-end and closed-end commingled real estate funds, joint venture investments, public and private real estate investment trusts (REITs), public real estate operating companies, and real estate related debt. CERS has determined that the primary role of the real estate asset class is to provide for the following:

- Attractive risk-adjusted returns through active management and accessing managers with the expertise and capabilities to exploit market inefficiencies in the asset class.
- Diversification benefits through lower correlations with other asset classes
- Provide a hedge against unanticipated inflation, which real estate has historically provided due to lease structures that can reset to market and growth in existing asset replacement value during inflationary periods when material and labor costs increase.
- Permit CERS to invest in unique opportunities that arise due to dislocations in markets that occur from time to time.

Real Return

The purpose of the Real Return Portfolio is to identify strategies that provide both favorable stand-alone risk-adjusted returns as well as the benefit of hedging inflation for the broader plans. Real Return strategies may include real assets, such as infrastructure, real estate, commodities, and natural resources, as well as financial assets that have a positive correlation to inflation. This can include real bonds such as Treasury Inflation-Protected Securities (TIPS), other inflation linkers, or real stocks such as REITs, Master Limited Partnerships (MLPs), and oil & gas stocks.

To access a wide variety of investment styles and strategies, investment vehicles may include mutual funds, ETFs, separately managed accounts, as well as hedge funds (open-end limited partnerships) and private equity (closed-end limited partnerships). The list of strategies that CERS' Real Return Portfolio may use includes, but is not limited to, the following:

- Inflation-linked securities directly tie coupon payments or principal increases to an inflation index, such as Consumer Price Index (CPI). These strategies could include not only US TIPS, but also global sovereign inflation linked bonds, corporate or infrastructure inflation linked bonds, and possibly short duration floating rate bonds.

  Inflation sensitive equities include publicly traded securities of companies that have a high sensitivity to inflation in their profit margins via the nature of their operating assets, such as energy, basic materials, mining, natural resources, utilities, real estate,and listed infrastructure companies. This category can also include, ETFs and index products that invest in inflation sensitive securities.

- Commodities: Commodities are the raw materials that are physical inputs into the production process. Managers that invest in liquid commodity strategies using exchange traded futures can span from simple indexing (matching a long-only commodities index), to enhanced indexing or active long (selecting positions that vary from the index but within fairly tight ranges), as well as unconstrained long-short managers.

- Private Property: For the purposes of this IPS, private property refers to the ownership of an idiosyncratic, physical asset that is predominantly fixed or substantially long-lived, such as timberland and farmland. Timberland investing involves the institutional ownership of forests for the purpose of growing and harvesting the timber. Timber may be used for furniture, housing lumber, flooring, pulp for paper, woodchips, and charcoal, among other things. Farmland investing entails ownership of land used primarily, if not exclusively, for agricultural production both for crops, including row crops and permanent crops, as well as livestock. Private property can also include infrastructure investing, which refers to financing the manufacture or development of the underlying fundamental assets and basic core infrastructure that are necessary for an economy whereby such assets are largely fixed and long-lived. These tend to be high cost, capital-intensive investments that are vital to a society's prosperity and facilitate the transfer, distribution, or production of basic goods and services.

- Natural Resources: Natural resources can include investing in the financing, development, extraction, and production of minerals, basic materials, petroleum products, and water as well as renewable resources such as agricultural commodities and solar energy. As opposed to property, the returns generated in these investment strategies come more from the actual production of the resource itself. Further, these are depleting and/or consumable assets that are also portable and fungible and which in the aggregate comprise a majority of the inputs into most measurements of inflation.

- Private Assets: Private assets can include tangible or intangible assets that are not easily sold in the regular course of a business' operations, and which are held for their role in contributing directly to the business' ability to generate profit. As the useful life of the asset tends to extend across many years and the assets tend to be capital intensive as well, they have some similarity to private infrastructure. Further, given that the assets contribute directly to the production process as well as often retaining intrinsic value, there is a fundamental link to inflation somewhat similar to natural resources.

- Other (Opportunistic Inflation Hedge): Other/opportunistic strategies include those that have a propensity to provide a positive real return or positive correlation with inflation over time. Liquid strategies such as inflation swaps, diversified inflation hedging mutual funds, or nominal bonds backed by inflation sensitive assets may be included in this allocation, while other illiquid strategies that may provide the same real return profile can include private equity in inflation sensitive companies, hard asset-backed private credit, and structured inflation-linked products among others.

Portfolio Guidelines

No more than 20% of the total net assets of the Real Return portfolio may be invested in any one registered investment vehicle, mutual fund, or separately managed account.

No more than 20% of the total net assets of the Real Return portfolio may be invested in any single closed-end or open-end limited partnership or other unregistered investment vehicle.

The relative allocations to the liquid and illiquid portfolios will be determined according to each individual Plan's liquidity needs, funding status, and allocation targets on an investment-by-investment basis.

D. Co-Investment and Continuation Vehicle Policy

Co-investment and continuation vehicle opportunities often have abbreviated approval timelines that may not align with scheduled Investment Committee or Board meetings. In the event that approval is needed between meetings, the CIO has discretion to make direct co-investments in companies alongside of current General Partners of CERS' Limited Partnership investments, or to participate in a continuation vehicle of an existing fund, with the approval from two of the following three: the CERS Board Chair, the CERS Investment Committee Chair, and CERS CEO. Any co-investment opportunity must also be consistent with the strategy CERS has already invested before it can be considered. For purposes of this IPS, a direct co-investment is defined as a direct investment in a portfolio company alongside the General Partner of an existing CERS' Limited Partnership investment deemed in good standing, and a Continuation Vehicle is a new fund created by transferring one or more assets from an existing fund nearing the end of its term to a new vehicle to allow the asset(s) more time to reach full potential

The maximum investment in any co-investment vehicle shall not exceed 50% of the total capital committed by all partners at the time of the final closing. The maximum investment in any single direct co-investment shall not exceed 20% of the original partnership commitment. Total investment in direct co-investments shall not exceed 20% of the asset class portfolio on a cost basis at the time of investment.

IV. Monitoring

Performance Measurement

CERS overall fund performance is measured relative to CERS Pension or Insurance Total Fund Benchmark. The benchmark is calculated by means of a weighted average methodology. This method is consistent with the CFA Institute Global Investment Performance Standards (GIPS®), a set of standardized, industry-wide ethical principles that guide investment managers and asset owners on how to fairly calculate and present their investment results, with the goal of promoting performance transparency and comparability. It is the product of the various component weights (i.e., asset classes' percentages) by their respective performance (returns). Due to market fluctuations and acceptable divergence, the asset classes' weights (percentages) are often not equivalent to the benchmark's weights. Therefore, the performance may indicate that the Funds have outperformed (underperformed) relative to their respective benchmarks, even when the preponderance of lesser weighted categories have underperformed (outperformed) their indices.

CERS measures its asset classes, sub-asset classes, sectors, strategies, portfolios, and instruments (investment) performance with indices that are recognized and published. These indices are determined to be appropriate measures of investments and composites of investments with identical or similar investments profiles, characteristics, and strategies. The benchmarks and indexes are intended to be objective, investable, replicable, representative and measurable of the investment mandate and, developed from publicly available information that is acceptable to

CERS and the investment manager/advisor as the neutral position consistent with the underlying investor status. The CERS investment consultant and KPPA Investment staff recommend the benchmarks and indexes. These measures shall be subject to the review and approval of the CERS Investment Committee with ratification by the CERS Board when asset allocation studies are performed, or when a change to existing benchmarks is recommended by KPPA Investment Staff and the CERS investment consultant. The current asset class benchmarks, effective as of July 1, 2024, with the adoption of the asset allocation, are as follows:

Asset Class	Benchmark
Equity	
Public Equity	MSCI ACWI ($ net)
Private Equity	Russell 3000 + 300 bps (one quarter) lagged)
Fixed Income	
Core Fixed Income	Bloomberg US Aggregate
Specialty Credit	50% Bloomberg US Corporate High Yield / 50% Morningstar LSTA Leveraged Loan
Cash	FTSE 3 Month US T-Bill
Inflation Protected	
Real Estate	NCREIF ODCE (one quarter lagged)
Real Return	US CPI + 3%

The following descriptions represent general standards of measurement that will be used as guidelines for the various classes of investments and managers of CERS. They are to be computed and expressed on a time-weighted total return basis:

<u>Total Public Asset Class Allocations</u>

Short-term

- For periods less than five years or a full market cycle, the Asset Class composite performance should exceed the returns of the appropriate Index.

Intermediate & Long-term

- For periods greater than five years or a full market cycle, the Asset Class composite performance should exceed the appropriate Index, compare favorably on a risk-adjusted basis, and generate returns that rank above the median return of a relevant peer group. Volatility, as measured by the standard deviation of monthly returns, should be comparable to the Index.

<u>Individual Public Security Portfolios</u>: Individual portfolios shall be assigned a market goal or benchmark that is representative of the style or market capitalization of the assignment. Individual accounts should be monitored using the following Standards:

Short-term

- For periods less than five years or a full market cycle, individual portfolios should exceed the returns of their market goal or benchmark.

Intermediate & Long-term

- For periods greater than five years or a full market cycle, individual portfolios should exceed the return of their market goal or benchmark, compare favorably on a risk-adjusted basis, and generate returns that rank above the median return of a relevant peer group. Volatility, as measured by the standard deviation of monthly returns, should be comparable to the benchmark.

Alternative Assets:

Private Equity

The Private Equity portfolio should also seek to achieve a long-term net Internal Rate of Return (IRR) that exceeds public market equity investments as measured by a Public Markets Equivalent (PME) comparison using the most appropriate public equity index. KPPA Investment Staff shall complete a comparison of performance between equity portfolio performance and Private Equity portfolio returns quarterly and will report the following to the Investment Committee:

Short-term

- Alternative investments should earn a net IRR above the median net IRR of other similar funds of the same vintage year, as reported by industry benchmarks.

Intermediate & Long-term

- The private equity portfolio should earn a return that meets or exceeds the CERS Private Equity Index. Individual private equity investments should earn a net IRR above the median net IRR of other similar funds of the same vintage year, as reported by industry benchmarks.

Inflation Protected

Real Estate

Private Real Estate investments are unique and can be illiquid and long term in nature. Given that this may lead to large short-term performance discrepancies versus public benchmarks, CERS more appropriately measures its real estate investments based on both relative return and absolute return methodologies:

Relative Return: The Real Estate portfolio is expected to generate net returns above the National Council of Real Estate Investment Fiduciaries Open End Diversified Core Equity Index (NCREIF ODCE) lagged 1 calendar quarter.

Real Return

The total Real Return investments shall seek to:

- Short-term benchmark: For periods less than five years or a full market cycle, the allocation should achieve a net annual rate of return that exceeds the appropriate benchmark (the weighted average return of the underlying investment benchmarks).
- Strategic objective: For periods greater than five years or a full market cycle, the allocation should not only outperform the short-term benchmark, but also achieve a rate of return that exceeds (US CPI + 300 basis points) as well.

Performance Review

On a timely basis, but not less than quarterly, the CERS Investment Committee will review the performance of the portfolio for determination of compliance with this IPS. This will include a quarterly performance peer review analysis comparing CERS with other public pension plans. On an annual basis, a comprehensive review of each asset class and underlying portfolios shall be conducted by the KPPA Investment staff and presented to the CERS Investment Committee. The review shall consist of an organizational, performance and compliance assessment.

The Compliance Officer, or KPPA staff, shall perform tests at least monthly to assure compliance with the restrictions imposed by this IPS. These tests shall be performed at the asset class and total fund level. Quarterly, the Compliance Officer shall prepare a report to the CERS Investment Committee detailing the restrictions tested, exceptions, the cause of the exception and the subsequent resolution. The CERS Investment Committee shall report the findings to the CERS Board at the next regularly scheduled meeting. KPPA Internal Audit will schedule periodic reviews/audits of this function to ensure compliance with this IPS.

The following restrictions shall be tested at least monthly:

1. The amount of stock in the domestic or international equity allocation in any single corporation shall not exceed 5% of the aggregate market value of CERS' assets.

2. The amount of stock held in the domestic or international equity allocation shall not exceed 3% of the outstanding shares of any single corporation.

3. Investment in frontier markets (those countries not included in the MSCI EM Index) shall not exceed 5% of CERS' international equity assets.

4. The duration of the core fixed income portfolios combined shall not vary from that of CERS' Fixed Income Index by more than +/- 25% duration as measured by effective duration, modified duration, or dollar duration except when the CERS Investment Committee has determined a target duration to be used for an interim basis.

5. The amount invested in the debt of a single issuer shall not exceed 5% of the total market value of CERS' fixed income assets, with the exception of US Government issued, guaranteed or agency obligations (or securities collateralized by same), and derivative securities used for exposure, cost efficiency, or risk management purposes in compliance with Section VII of this policy.

6. 50% of the core fixed income assets must have stated liquidity that is trade date plus three days or better.

7. The assets managed by any one active or passive investment manager shall not exceed 15% of assets as outlined in Section II of this IPS.

The CIO shall develop a comprehensive set of investment guidelines for each externally managed account. These guidelines should ensure, at the total fund and asset class level, that the restrictions set forth above are preserved.

Under the CIO's direction, KPPA Investment Staff shall perform site visits with all current CERS investment managers over 3-year rolling market cycles.

V Additional Items

<u>Derivatives Permitted Use:</u>

CERS permits external managers and KPPA Investment Staff to invest in derivative securities, or strategies which make use of derivative investments, for exposure, cost efficiency and risk management purposes, if such investments do not cause the portfolio to be leveraged beyond a 100% invested position. Any derivative security shall be sufficiently liquid that it can be expected to be sold at, or near, its most recently quoted market price. Typical uses of derivatives in the portfolio are broadly defined below:

Exposure:

Derivatives are an effective way for a portfolio manager to gain exposure to a security that the manager does not want to purchase in the cash market. Reasons for gaining exposure to a security through the use of derivatives may include cheaper transactions costs, liquidity/lack of supply in the underlying market, and the flexibility to implement investment views with minimum portfolio disruption. An example is a cash equitization program.

Cost Efficiency:

Derivatives are often used due to the cost efficiency associated with the contract properties. Given the fact that derivatives can be used as a form of insurance, upfront trading costs must be sufficiently low for investors to purchase the contract and insure their portfolios efficiently. Furthermore, due to properties associated with derivatives and cash outlay characteristics (minimal cash outlay at inception of the contract) derivatives are generally a vehicle of gaining cost efficient exposure. An example is the cost (zero) to purchase a futures contract.

Risk Management:

Derivatives can be used for mitigating risk in the portfolio. When used as a risk management tool, derivatives can significantly reduce an identified financial risk or involuntary risk from investment areas by providing changes in fair values or cash flows that substantially offset the changes in fair values or cash flows of the associated item being hedged. An example is the use of currency forwards to offset periods of dollar strength when international equity markets increase in value, thereby protecting foreign asset gains in the portfolio.

<u>Derivatives Restricted Use:</u>

Settlement:

Investments in futures contracts are to be cash settled unless physically settled and stored by external managers. At no time shall CERS agree to take physical delivery on a futures contract.

Position Limits:

Futures and options positions entered into by CERS, or on its behalf, will comply with all position and aggregate limits established by the local governing authorities within each jurisdiction.

Over-the-Counter (OTC):

Investments in securities not traded on public exchanges that are deemed OTC in nature are allowed provided that a counterparty risk monitoring component is delineated in the manager's guideline section of the manager's contract. All counterparties must have a short-term credit rating of at least BBB (Standard and Poor's or Fitch) or Baa2 (Moody's).

All OTC derivative transactions, including those managed through Agency Agreements, must be subject to established International Swaps and Derivatives Association, Inc. (ISDA) Master Agreements and have full documentation of all legal obligations of CERS under the transactions. All ISDA Master Agreements entered into by or on behalf of CERS by the KPPA Investment Staff and external manager pursuant to an Agency Agreement shall provide that netting applies (netting allows the parties to an ISDA Master Agreement to aggregate the amounts owed by each of them under all of the transactions outstanding under that ISDA Master Agreement and replace them with a single net amount payable by one party to the other.) The KPPA Investment Staff and external managers may also use collateral arrangements to mitigate counterparty credit or performance risk. If an external manager utilizes a collateral arrangement to mitigate counterparty credit or performance risk the arrangement shall be delineated in the manager's guideline section of the manager's contract.

Derivatives Applications Not Permitted:

Speculation:

Derivatives may not be used for any activity for which the primary purpose is speculation or to profit while materially increasing risk to CERS. Derivatives are considered speculative if their uses have no material relation to objectives and strategies specified by the CERS IPS or applicable to the CERS portfolio. Derivatives may not be used for circumventing any limitations or restrictions imposed by the CERS IPS or applicable regulatory requirements.

Leverage:

Leverage is inherent in derivative contracts since only a small cash deposit is required to establish a much larger economic impact position. Thus, relative to the cash markets, where in most cases the cash outlay is equal to the asset acquired, derivative investments offer the possibility of establishing substantially larger market risk exposures with the same amount of cash as a traditional cash market portfolio. Therefore, risk management and control processes must focus on the total risk, i.e. the net notional value, assumed in a derivative investment. Leveraging the portfolio beyond a 100% invested position is not permitted, i.e. the notional value should not exceed the market value of assets.

The above is not intended to limit CERS from borrowing to cover short-term cash flow needs nor prohibit CERS from loaning securities in accordance with a securities lending agreement.

The CERS Board recognizes that the voting of proxies is an important responsibility in assuring the overall performance over a longtime horizon. The CERS Board has delegated the responsibility of voting all proxies to an outside Proxy Voting service provider or contracted external investment manager. The CERS Board expects that the proxy voting service will execute all proxies in a timely fashion, and in accordance with the voting policy which has been formally adopted.

The CERS Board has adopted the ISS U.S. Proxy Voting Guidelines as the CERS approved Proxy Voting Policy for all internally voted items. This policy is updated at least annually by ISS and is and hereby incorporated by this reference. The policy can be found publicly using the following link:

ISS U.S. Proxy Voting Guidelines.com

Additional CERS Investment Administrative Policies

A. Investment Procurement Policy as amended and the as amended are hereby incorporated by reference.
B. CERS Investment Brokerage Policy as amended is hereby incorporated by reference.
C. CERS Transactions Procedures Policy as amended is hereby incorporated by reference.
D. CERS Securities Litigation Policy and Procedures as amended is hereby incorporated by reference.
E. CERS Investment Securities Lending Guidelines as amended is hereby incorporated by reference.
F. CERS Securities Trading Policy for Trustees and Employees as amended is hereby incorporated by reference.
G. CERS Manager and Placement Agent Statement of Disclosure Policy as amended is hereby incorporated by reference.
H. CERS Conflict of Interest and Confidentiality Policy as amended and hereby incorporated by reference.
I. CERS Proxy Voting Policy as amended and hereby incorporated by reference.

Signatories

As Adopted by the CERS Investment Committee

Date:_

Signature:_

Dr. Merl Hackbart

Chair, CERS Investment Committee

As Adopted by the CERS Board of Trustees

Date:

Signature:

Mr. George Cheatham

Chair, CERS Board of Trustees

County Employees Retirement System

Investment Office Quarterly Update

Quarter Ending: September 30, 2024

County Employees Retirement System

Economic and Market Update

Quarter Ending: September 30, 2024

Wilshire

Save the Date! Wilshire Client Conference

Back – and Better Than Ever!

Nearest Airports include Palm Springs (7 miles), Ontario (80 miles), and LAX (130 miles)

The Wilshire Client Conference returns this spring:

- **April 8 and 9, 2025**
- **Ritz Carlton, Rancho Mirage, California**

Agenda forthcoming, but educational topics include:

- Asset Allocation
- Private Credit
- Private Equity
- Risk Management
- Economic Outlook
- Alternative Yield
- Manager Sourcing
- Emerging Markets

For more information contact: wilshireconference25@wilshire.com

Wilshire

Market Commentary

U.S. Equity

The U.S. stock market was up 6.2% for the third quarter and is up 20.6% for the year-to-date. Sector performance was mostly positive for the quarter, with only the energy sector (-3.0%) producing a loss. The best performing were utilities (+18.7%) and real estate (+17.2%). Small-cap outperformed large-cap by 340 basis points while growth stocks generally underperformed value.

The FOMC reduced their overnight rate by 0.5% at their September meeting, the first decrease since the rate began to rise 2.5 years earlier. While markets expected a cut, the debate was whether it would be 25 or 50 basis points. During his press conference, Federal Reserve Chair Jerome Powell indicated that data released since their prior meeting – including weak employment numbers – may have played a part in the higher rate cut. Looking at job openings versus unemployed workers, the U.S. has recently reached pre-COVID levels. However, the trend has been noticeably and meaningfully negative. In fact, worsening employment conditions played a role in a large decline in consumer confidence near the end of September.

Non-U.S. Equity

Economic growth in the U.K. is modest, but positive, while inflation has moved back to target. Prospects in Germany, Europe's largest economy, are less promising. Recent data shows that German business activity contracted in September at the sharpest pace in seven months, this after economic growth fell during the second quarter. A surge in Chinese stocks followed several announcements from China's central bank and government. Among those is the possible removal of significant restrictions on home purchases.

Fixed Income

The U.S. Treasury yield curve was down across the maturity spectrum during the quarter. The 10-year Treasury yield stood at 3.78%, down -62 basis points. High yield bond spreads were down (-14 bps) to below 3%. The FOMC decreased their overnight rate by -0.50%. Defending the larger rate cut, Fed Chair Jerome Powell said the decision, "reflects our growing confidence that, with an appropriate recalibration of our policy stance, strength in the labor market can be maintained" while the economy continues to expand and inflation moves towards the Fed's target.

Wilshire

September 2024 Asset Class Assumptions

	Equity						Fixed Income							Real Assets					
														Real Estate					
	U.S. Stock	Dev ex-U.S. Stock	Emg Stock	Global ex-U.S. Stock	Global Stock	Private Equity	Cash	Core Bond	LT Core Bond	TIPS	High Yield	Private Credit	Dev ex-U.S. Bond (Hdg)	U.S. RES	Global RES	Private RE	Cmdty	Real Assets	U.S. CPI
Compound Return (%)	4.25	5.25	5.50	5.60	4.85	7.15	3.40	4.60	4.70	4.00	5.95	7.80	2.80	5.25	5.40	6.25	5.40	6.75	2.25
Arithmetic Return (%)	5.60	6.75	8.50	7.25	6.20	10.90	3.40	4.70	5.15	4.15	6.40	8.55	2.90	6.65	6.65	7.15	6.60	7.50	2.25
Risk (%)	17.00	18.00	26.00	19.00	17.05	29.65	0.75	4.70	9.85	6.00	10.00	12.75	4.00	17.50	16.45	13.90	16.00	12.60	1.75
Yield (%)	1.30	2.95	2.35	2.80	1.85	0.00	3.40	5.10	5.15	4.40	9.35	4.85	3.70	3.60	3.60	2.70	3.40	3.50	0.00
Growth Factor Exposure	8.00	8.00	8.00	8.00	8.00	14.00	0.00	-0.90	-2.40	-3.00	4.00	5.10	-1.00	6.00	6.00	3.50	0.00	2.75	0.00
Inflation Factor Exposure	-3.00	-1.00	3.00	0.10	-1.85	-4.25	0.00	-2.55	-6.85	2.50	-1.00	-1.50	-3.00	1.00	1.80	1.00	12.00	5.35	1.00
Correlations																			
U.S. Stock	1.00																		
Dev ex-U.S. Stock (USD)	0.81	1.00																	
Emerging Mkt Stock	0.74	0.74	1.00																
Global ex-U.S. Stock	0.84	0.95	0.89	1.00															
Global Stock	0.95	0.91	0.84	0.94	1.00														
Private Equity	0.72	0.63	0.61	0.67	0.73	1.00													
Cash Equivalents	-0.05	-0.09	-0.05	-0.08	-0.06	0.00	1.00												
Core Bond	0.28	0.13	0.00	0.08	0.20	0.30	0.18	1.00											
LT Core Bond	0.31	0.15	0.01	0.11	0.24	0.31	0.11	0.94	1.00										
TIPS	-0.05	0.00	0.15	0.06	-0.01	-0.03	0.20	0.60	0.48	1.00									
High Yield Bond	0.54	0.39	0.49	0.46	0.53	0.31	-0.10	0.24	0.32	0.05	1.00								
Private Credit	0.67	0.55	0.57	0.59	0.67	0.44	0.00	0.24	0.30	0.00	0.75	1.00							
Dev ex-U.S. Bond (Hdg)	0.16	0.25	-0.01	0.16	0.17	0.26	0.10	0.67	0.65	0.39	0.26	0.22	1.00						
U.S. RE Securities	0.57	0.47	0.44	0.49	0.56	0.49	-0.05	0.17	0.22	0.10	0.56	0.61	0.05	1.00					
Global RE Securities	0.63	0.56	0.54	0.59	0.64	0.55	-0.05	0.17	0.21	0.11	0.60	0.67	0.04	0.97	1.00				
Private Real Estate	0.55	0.45	0.45	0.49	0.54	0.50	-0.05	0.19	0.25	0.09	0.57	0.62	0.05	0.78	0.77	1.00			
Commodities	0.25	0.34	0.39	0.38	0.32	0.28	0.00	-0.03	-0.03	0.25	0.29	0.29	-0.10	0.25	0.28	0.25	1.00		
Real Assets	0.61	0.62	0.66	0.68	0.66	0.56	-0.03	0.24	0.26	0.32	0.64	0.69	0.05	0.78	0.83	0.76	0.62	1.00	
Inflation (CPI)	-0.10	-0.15	-0.13	-0.15	-0.13	-0.10	0.10	-0.12	-0.12	0.15	-0.08	0.00	-0.08	0.05	0.04	0.05	0.44	0.21	1.00

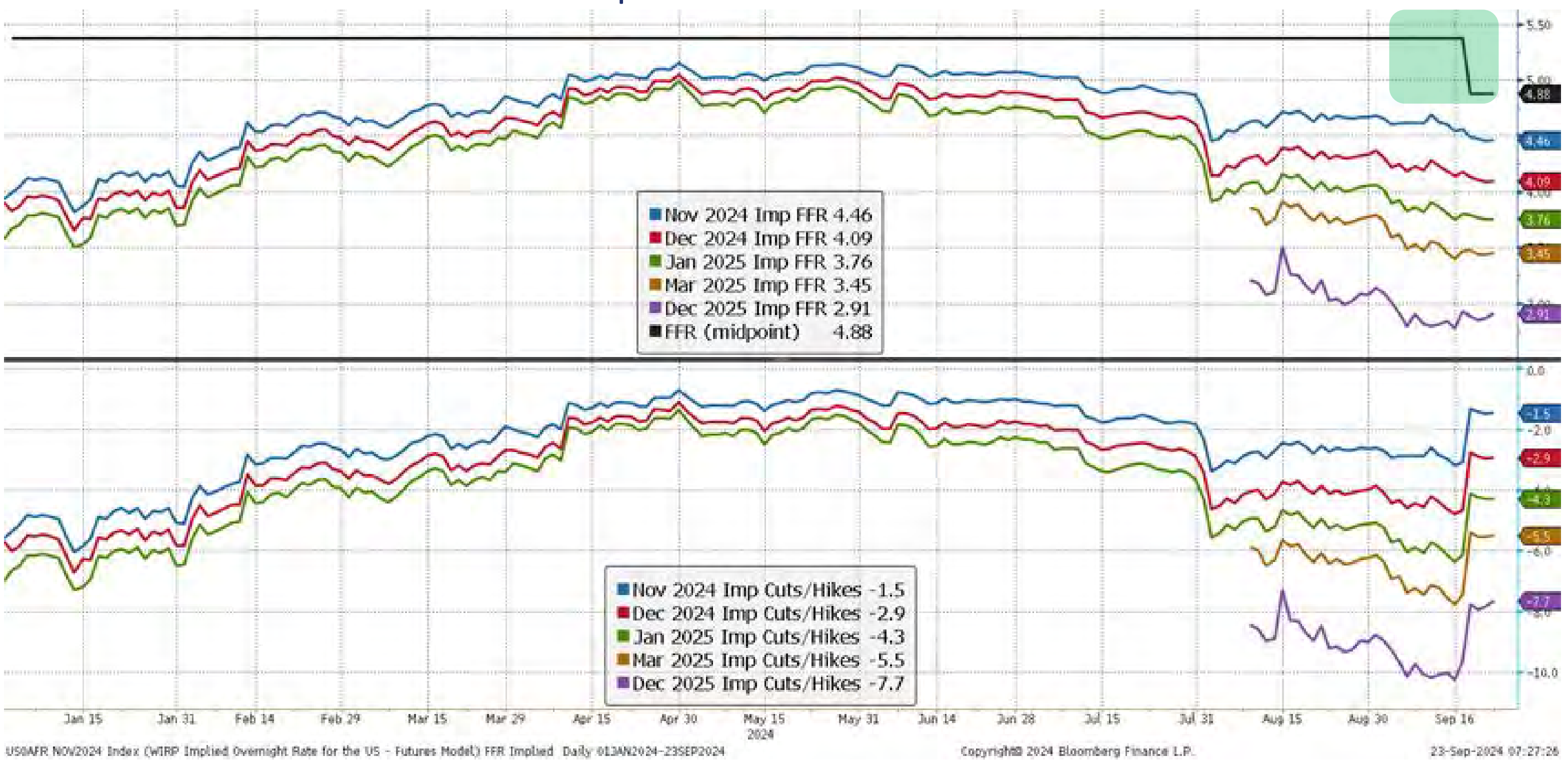
Wilshire

Rates Down (Real & BEI)

Data Source: Bloomberg

Wilshire

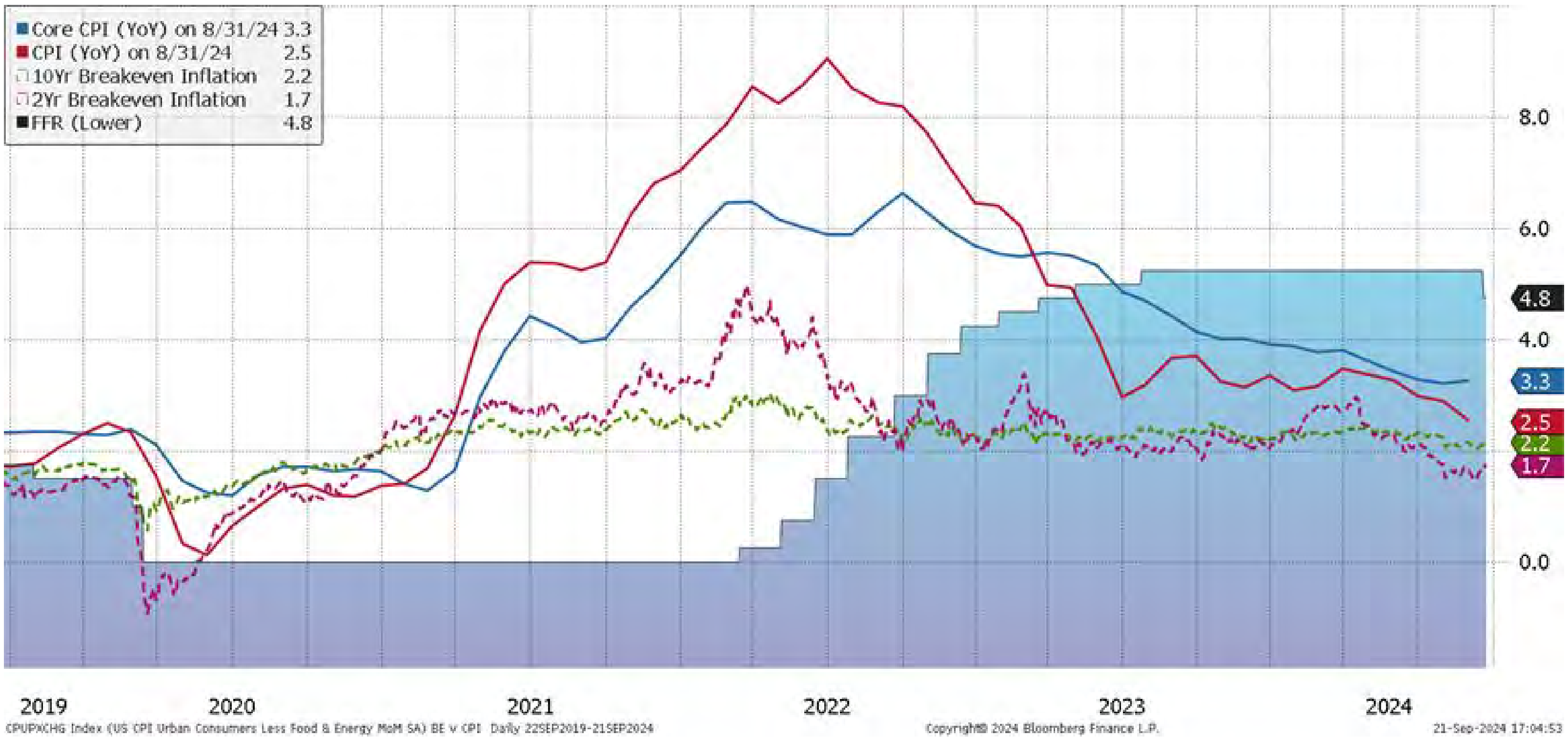
Fed Funds Rate: Markets Expectations



Data Source: Bloomberg

Wilshire

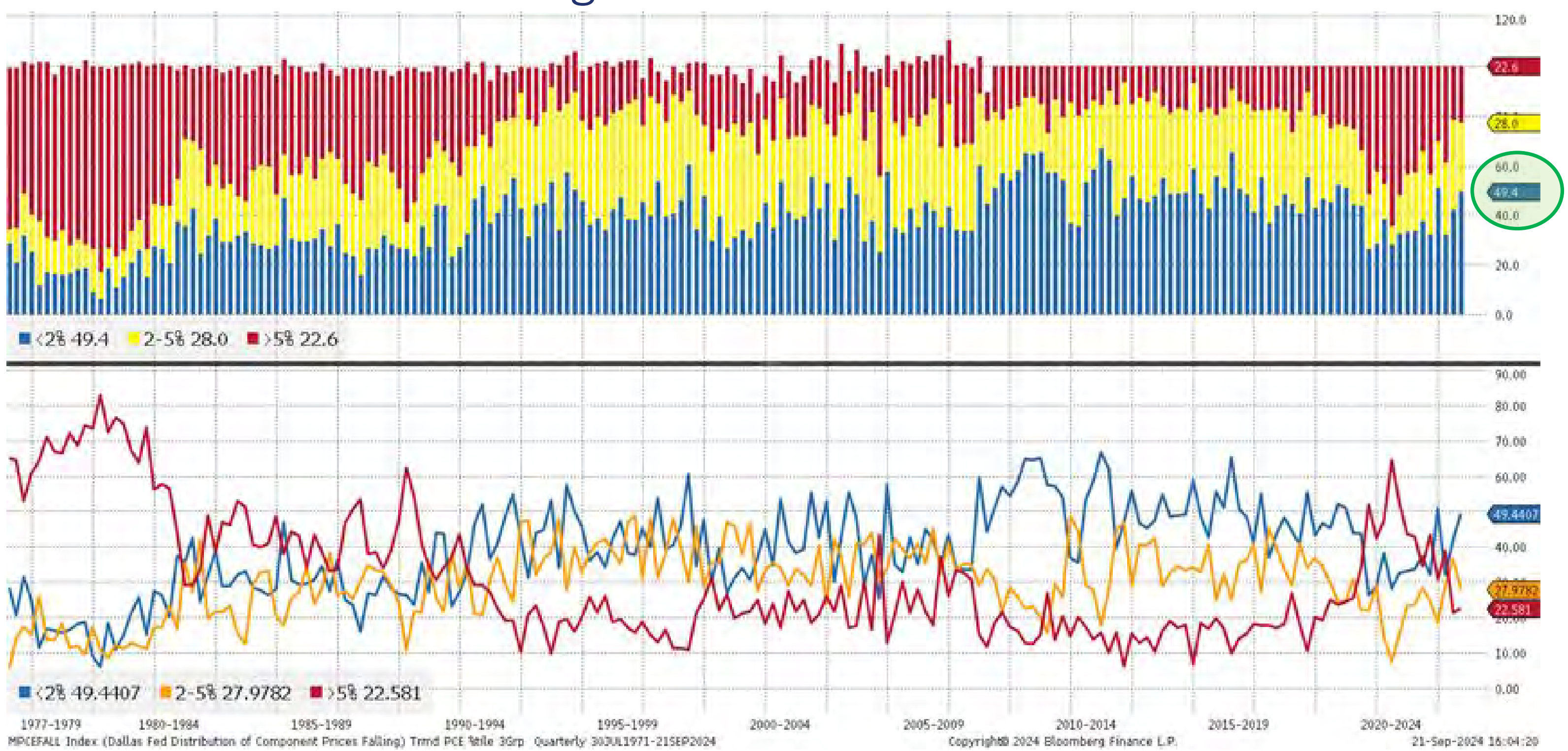
Inflation Summary



Data Source: Bloomberg

Wilshire

Inflation: Trimmed PCE Segmentation



Data Source: Bloomberg

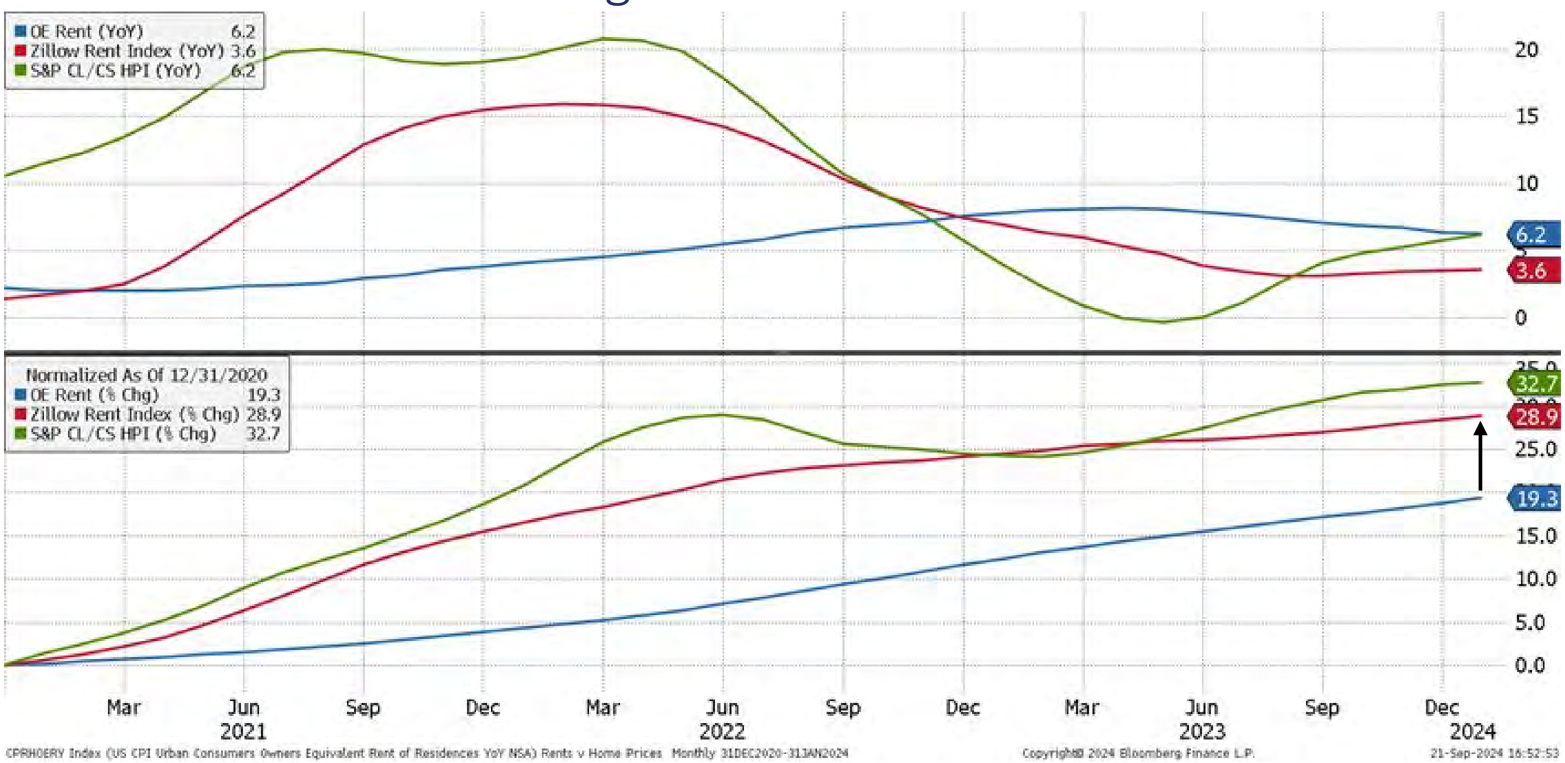
Wilshire

Inflation: Housing Remains the Once "Hot Spot"

Data Source: Bloomberg

Wilshire

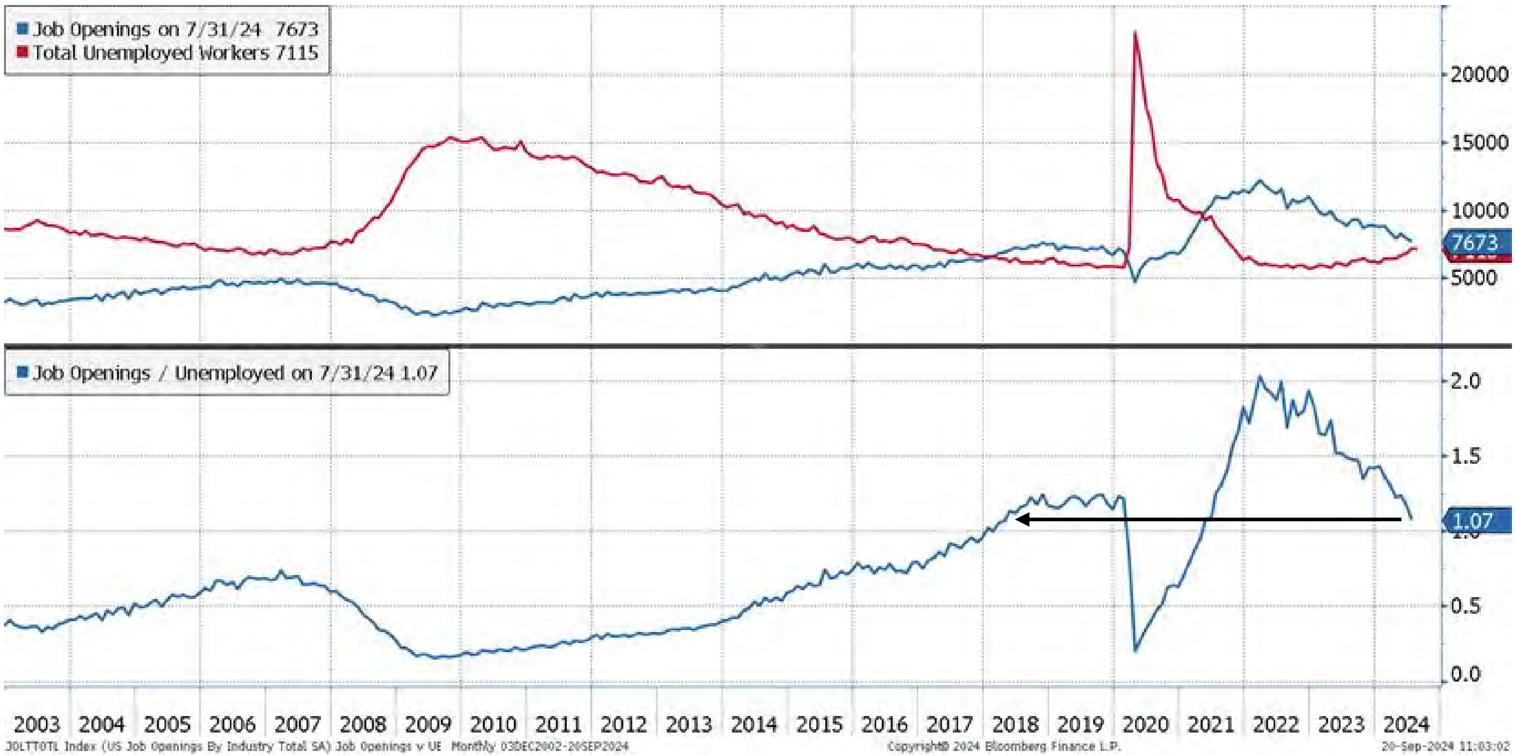
Inflation: Rent of Shelter Lags Other Relevant Price Indexes



Data Source: Bloomberg

Wilshire

Employment: Job Openings vs. Unemployed



Data Source: Bloomberg

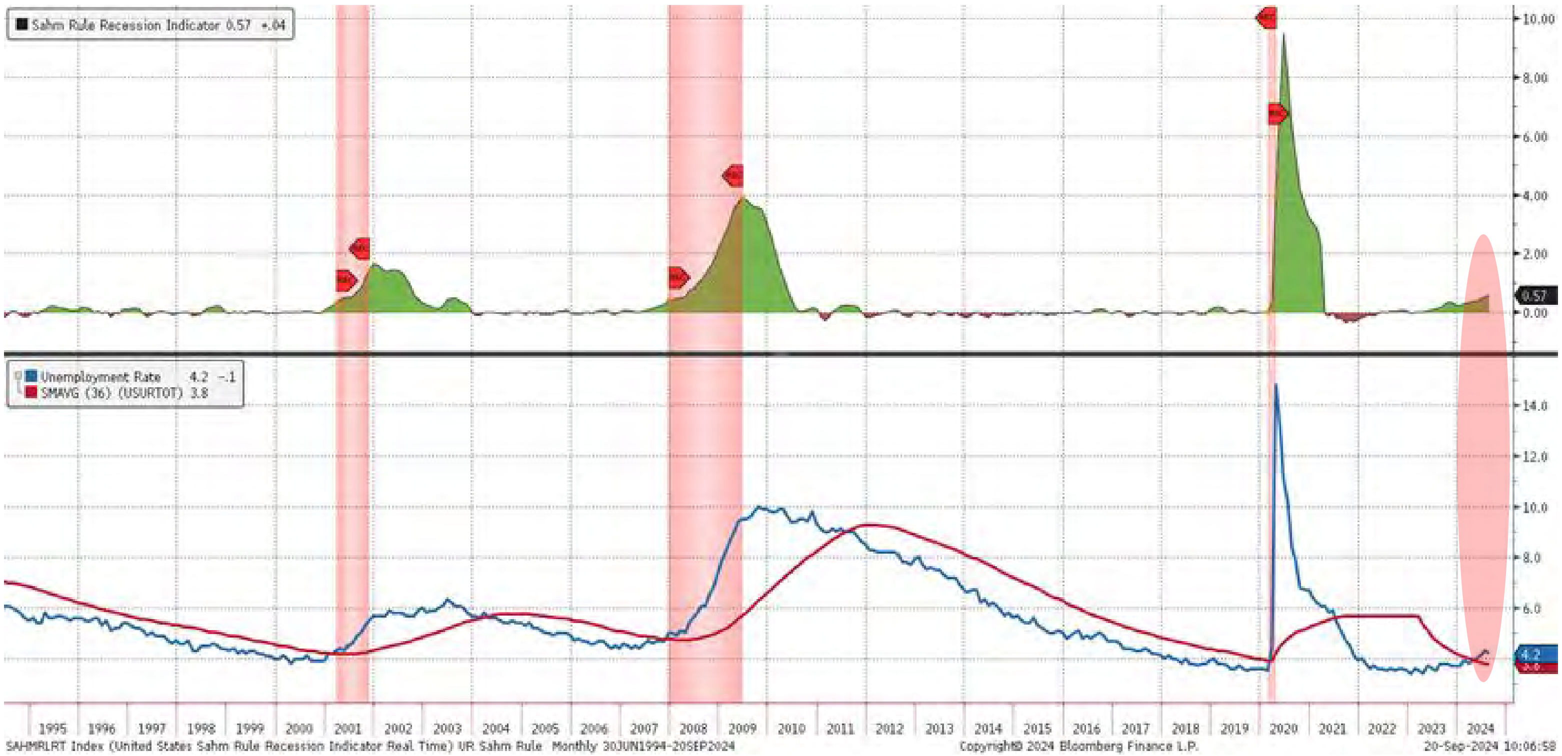
Wilshire

Employment: Claims Remain Contained

Data Source: Bloomberg

Wilshire

Unemployment Signals (Sahm & DoubleLine)



Data Source: Bloomberg

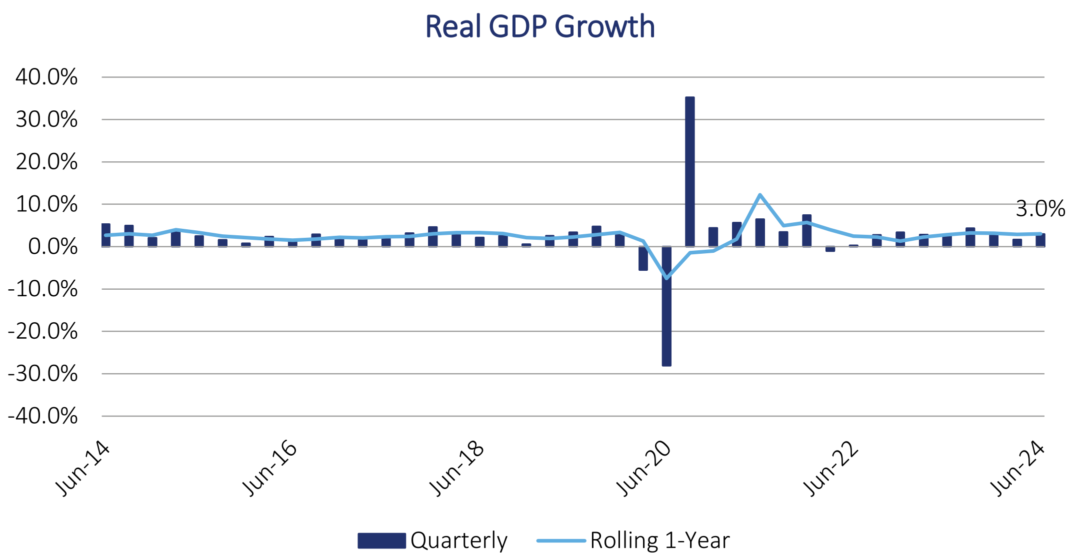
Wilshire

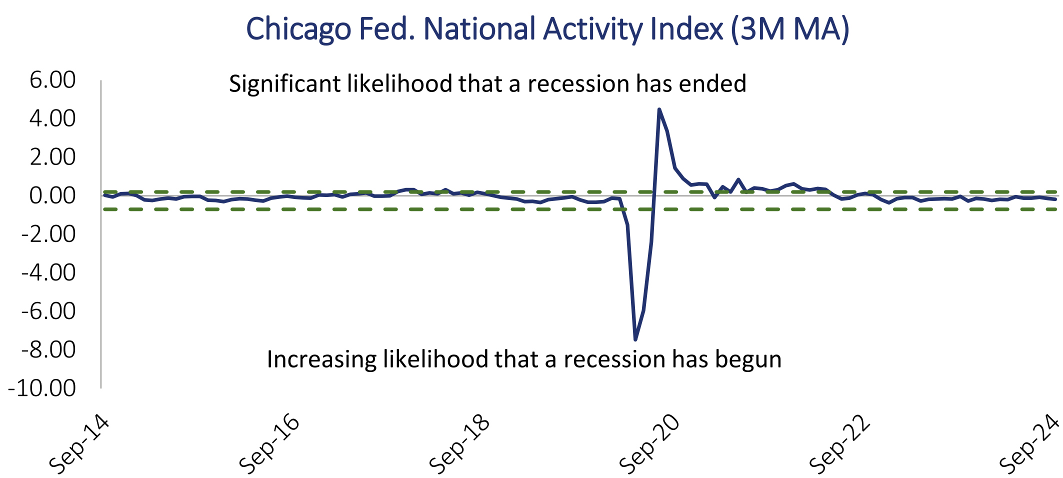
VIX Pricing

Data Source: Bloomberg

Wilshire

Economic Growth

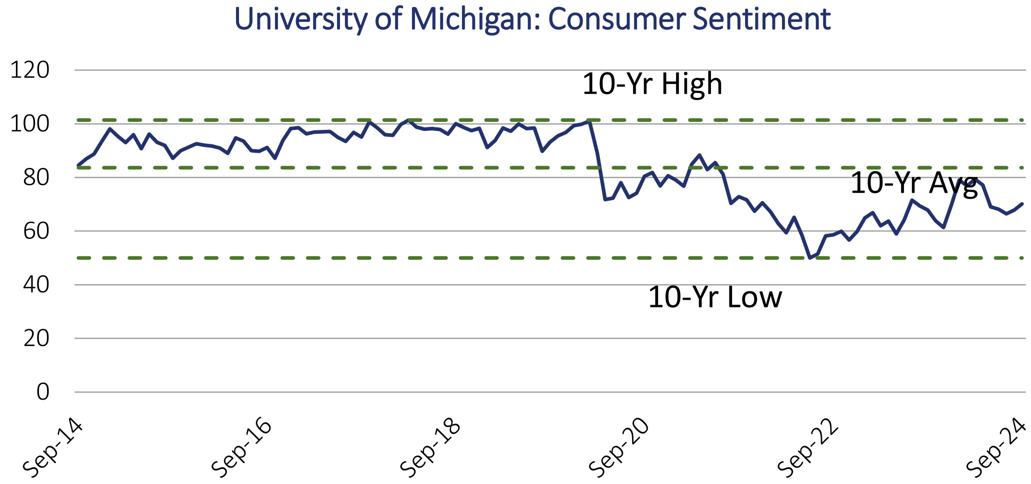


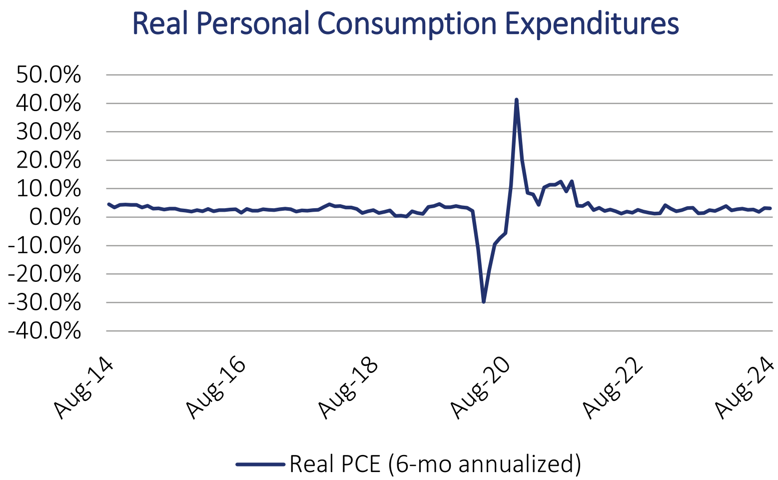


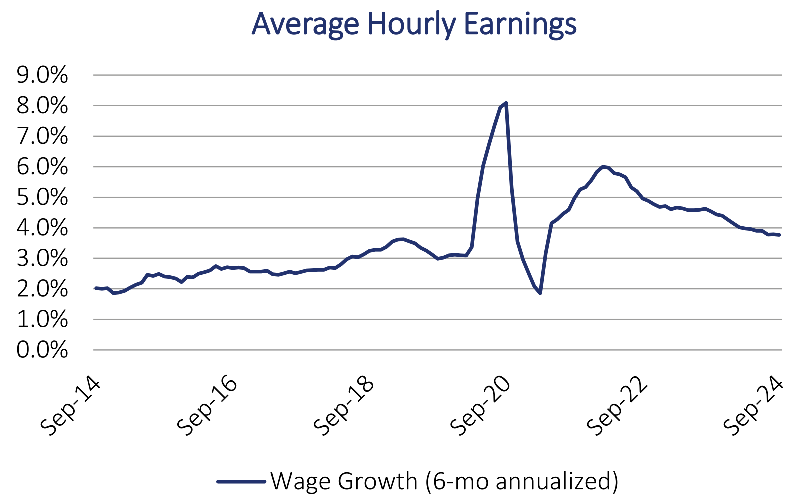
Data Source: Bloomberg

Wilshire

Consumer Activity

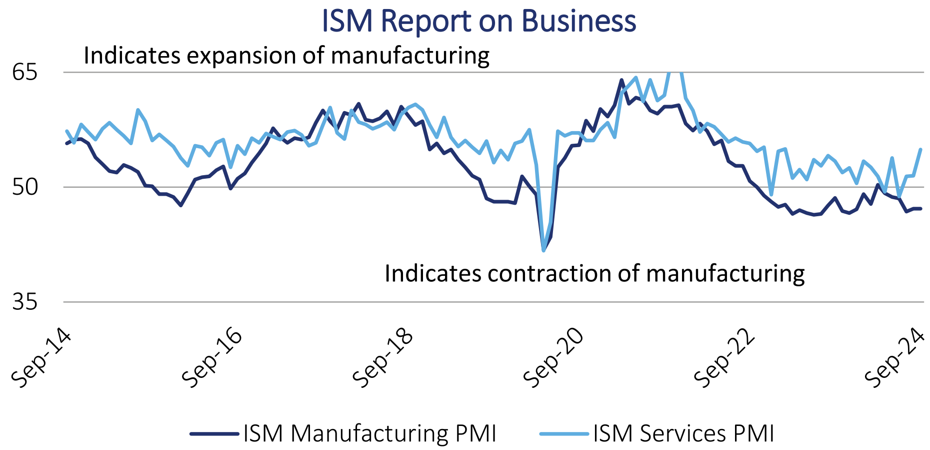


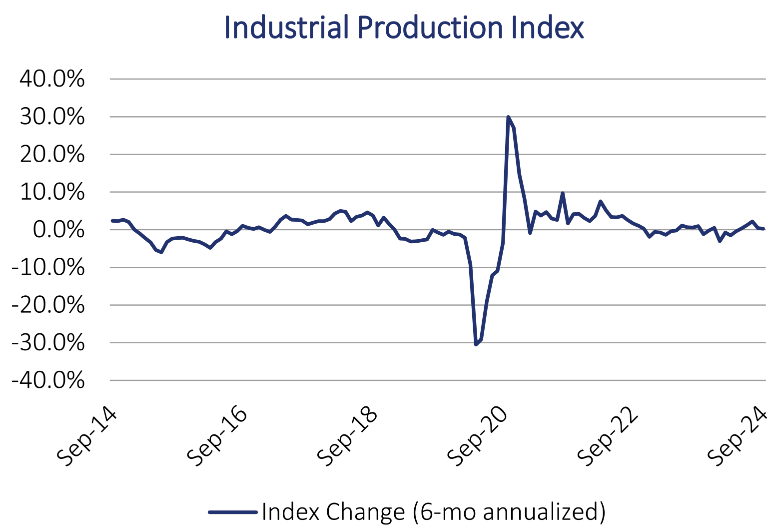


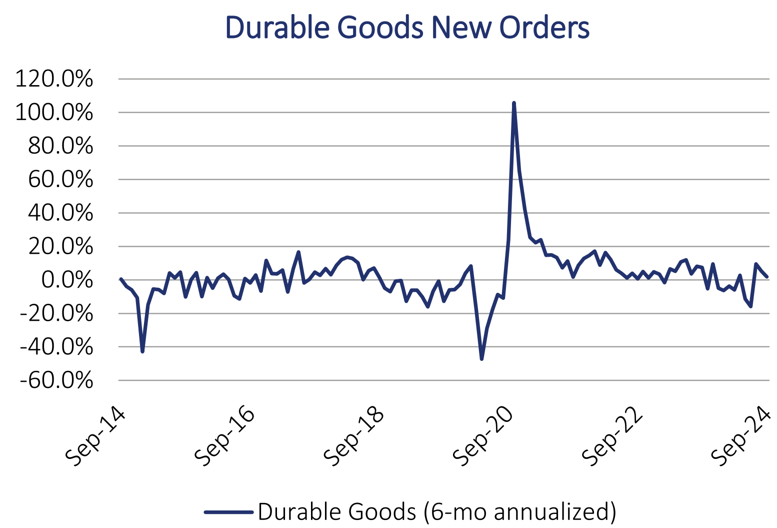


Data Source: Bloomberg

Business Activity



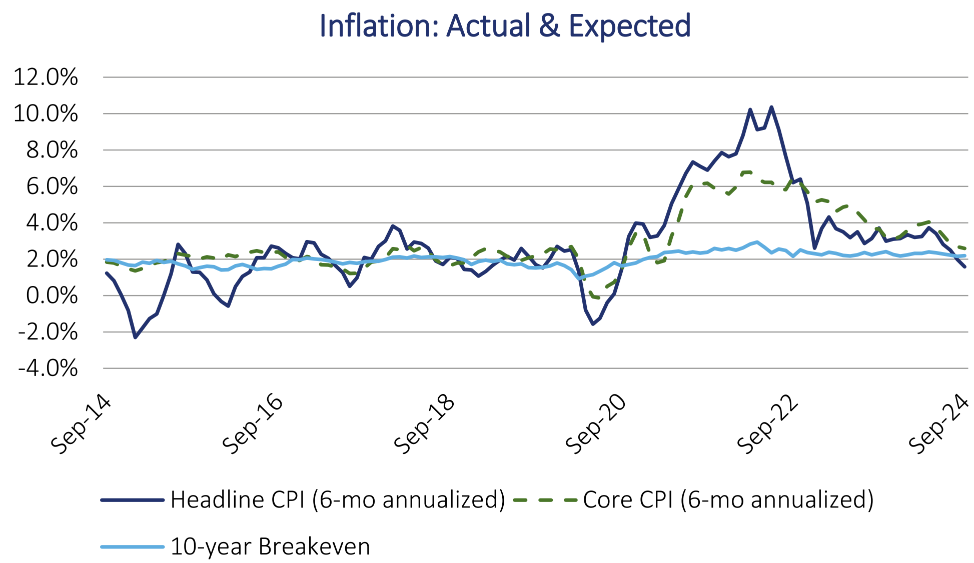


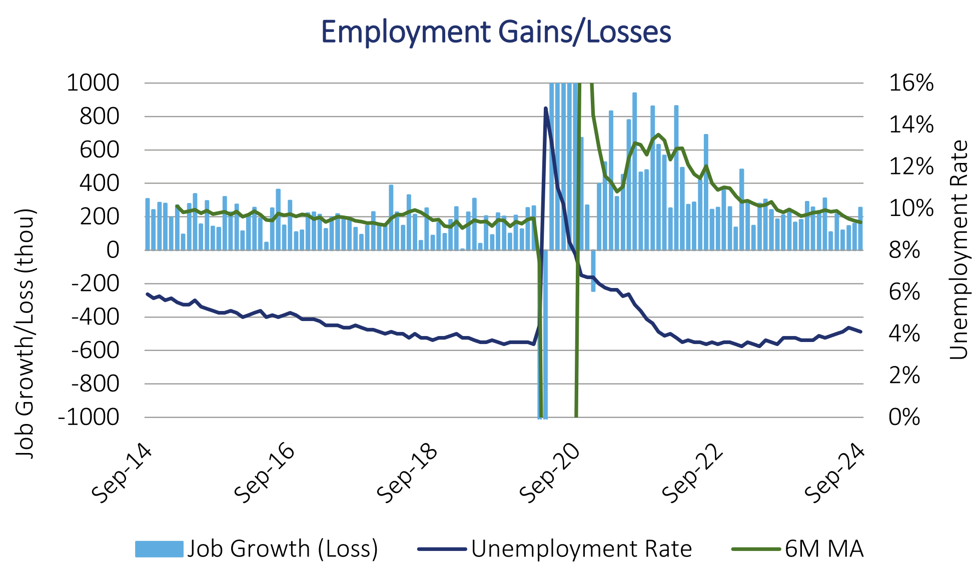


Data Source: Bloomberg

Wilshire

Inflation and Employment





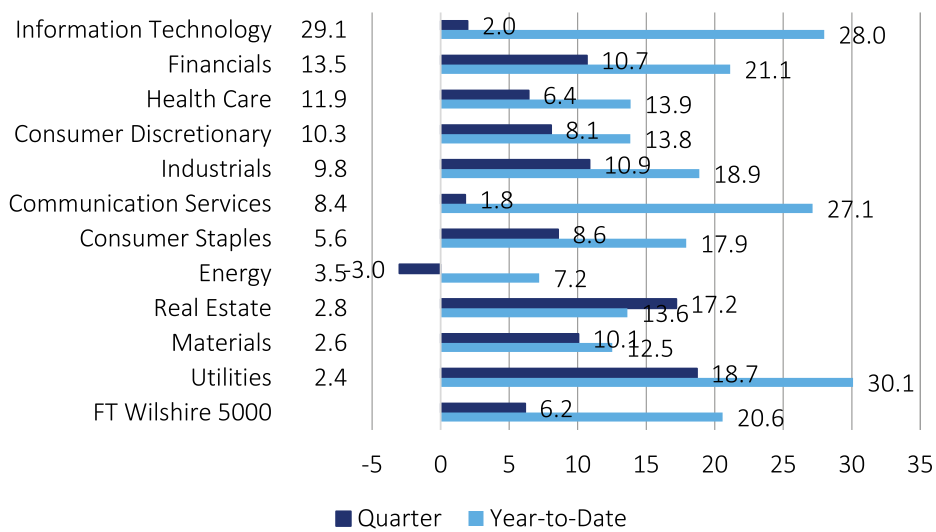
Data Source: Bloomberg

Wilshire

U.S. Equity Market

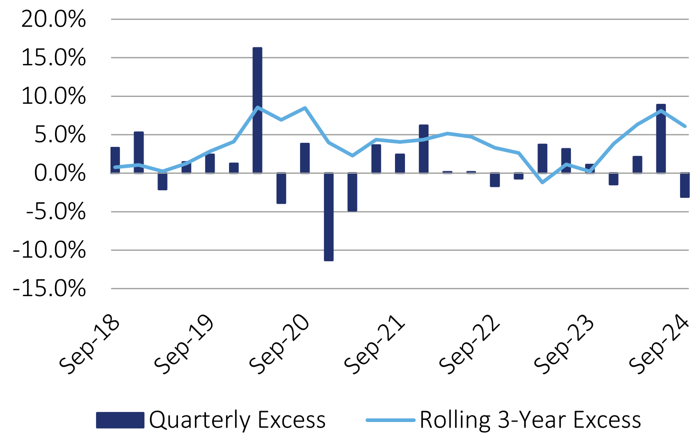
As of 9/30/2024	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
FT Wilshire 5000	6.2	20.6	35.2	10.5	15.5	13.0
FT Wilshire U.S. Large Cap	5.8	21.8	36.3	11.5	16.2	13.4
FT Wilshire U.S. Small Cap	9.1	13.0	28.3	5.1	11.0	9.8
FT Wilshire U.S. Large Growth	3.0	26.4	45.0	12.0	19.9	n/a
FT Wilshire U.S. Large Value	8.8	17.2	27.8	10.6	12.0	n/a
FT Wilshire U.S. Small Growth	8.5	12.8	27.3	2.1	10.0	n/a
FT Wilshire U.S. Small Value	9.8	13.2	29.2	7.9	11.6	n/a
Wilshire REIT Index	15.2	14.9	33.6	4.6	5.4	7.8
MSCI USA Min. Vol. Index	9.3	18.7	27.9	9.3	9.3	11.5
FTSE RAFI U.S. 1000 Index	7.7	17.5	30.6	11.2	14.2	11.4

U.S. Sector Weight and Return (%)

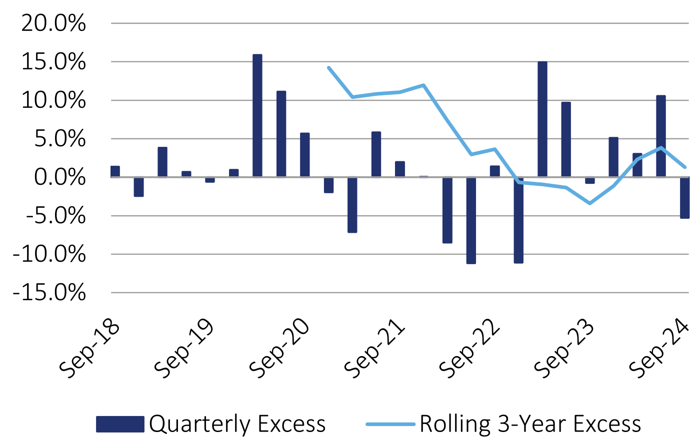


Data Sources: Bloomberg, Wilshire Atlas

Large Cap vs. Small Cap



Large Growth vs Large Value

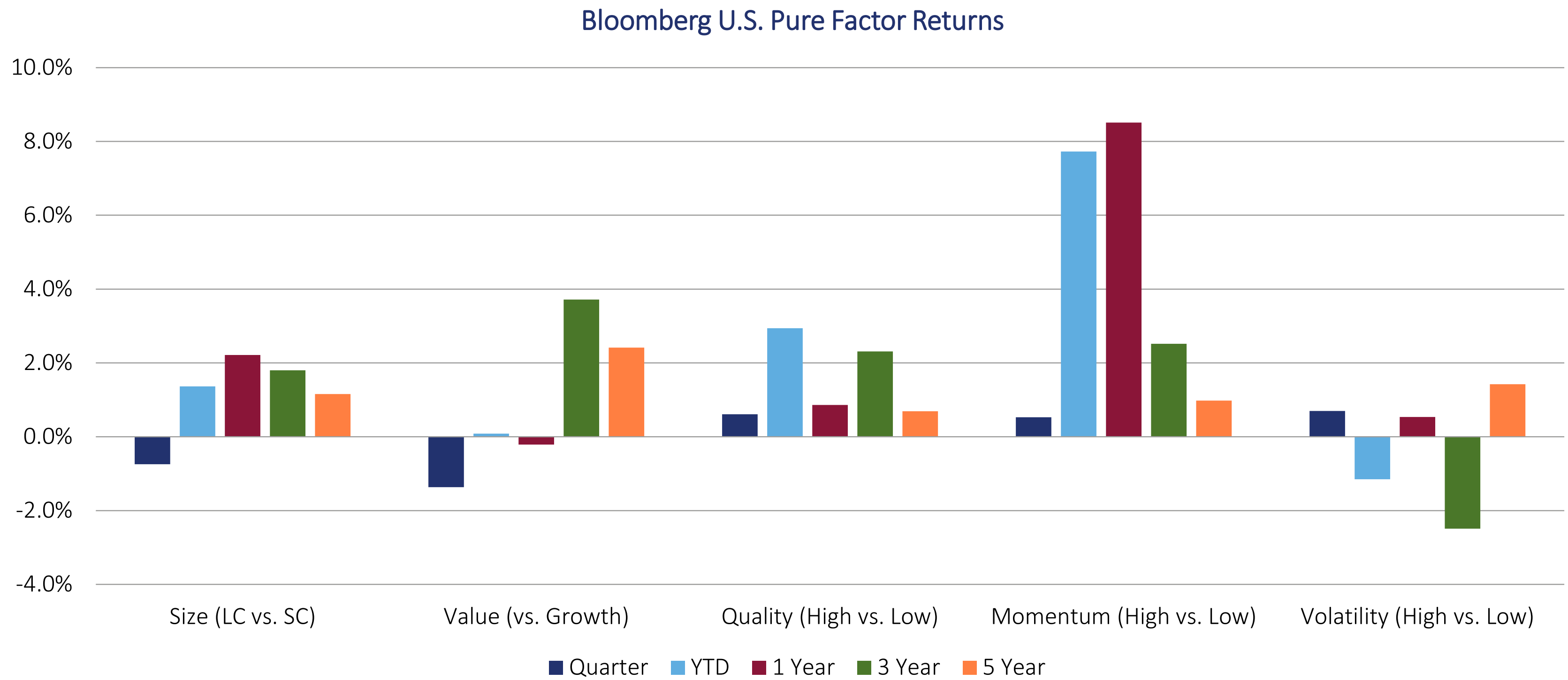


Wilshire

U.S. Factor Returns

Factor returns represent the contribution from large cap, value, etc. stocks within Bloomberg's Portfolio & Risk Analytics module

Value detracted from returns meaningfully for the quarter but is a positive contributor for the 3 and 5 year periods



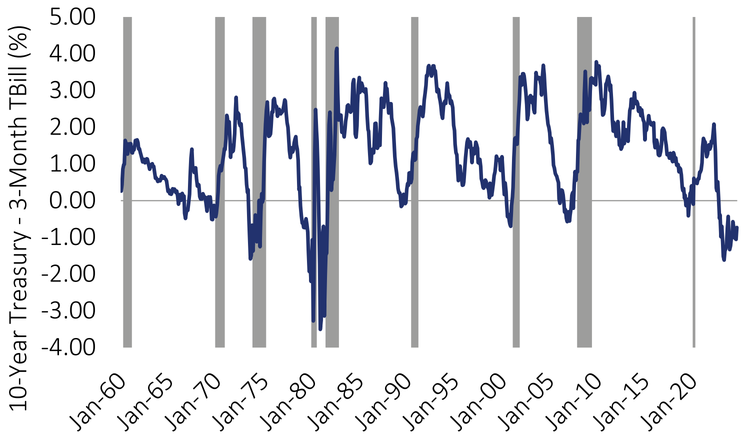
Data Source: Bloomberg

 |

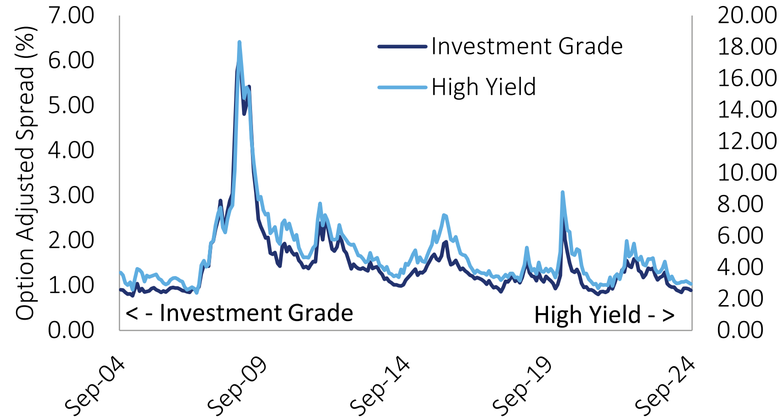
Wilshire

Risk Monitor

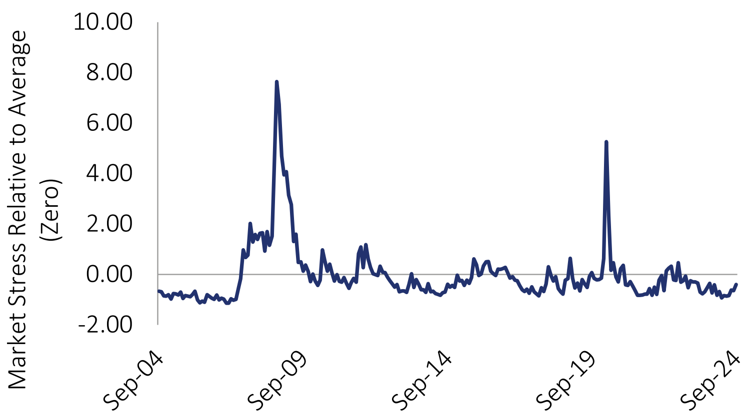
Yield Curve Slope vs Recessions (IN GRAY)



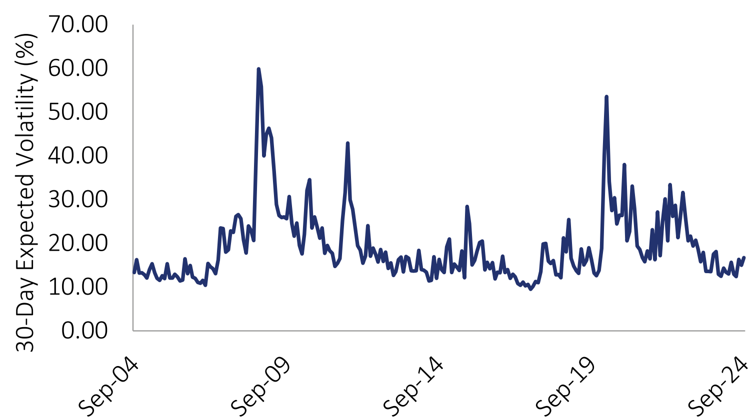
Bloomberg Credit Indexes



St. Louis Fed. Financial Stress Index



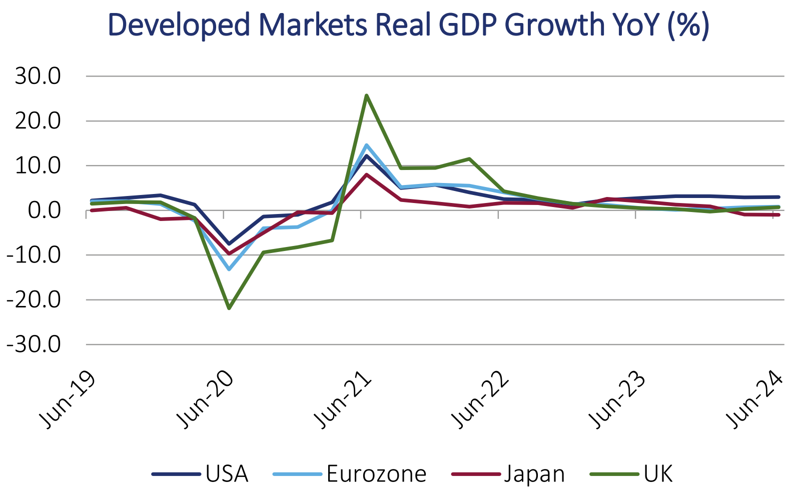
CBOE Volatility Index

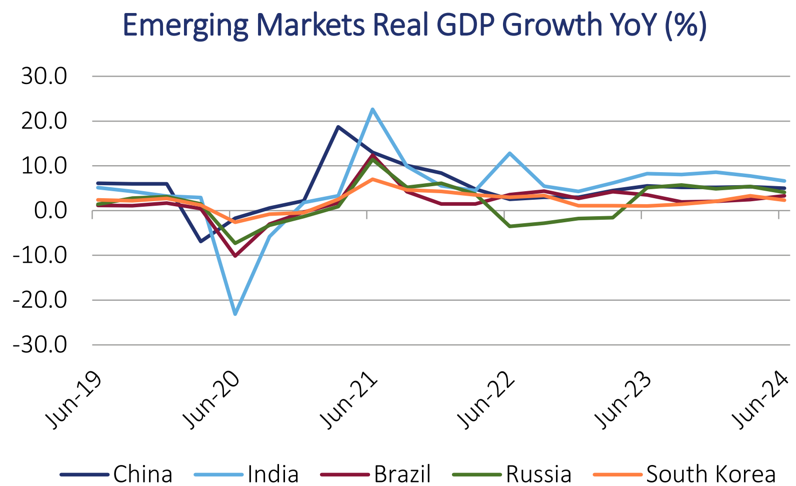


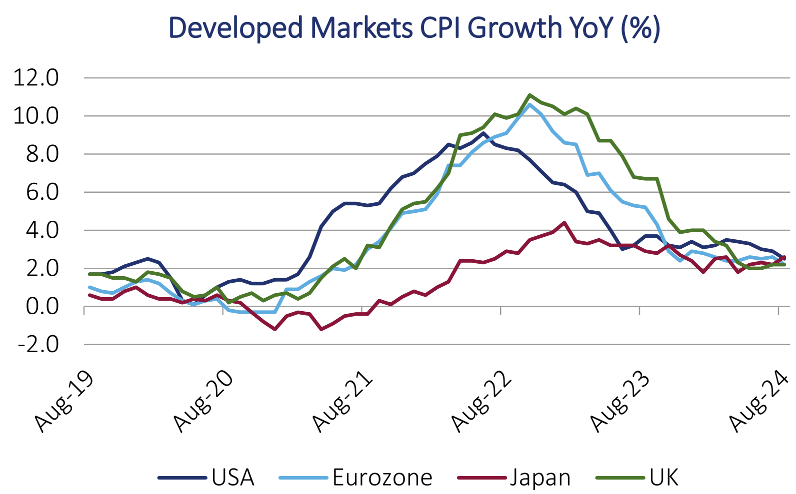
Data Source: Bloomberg

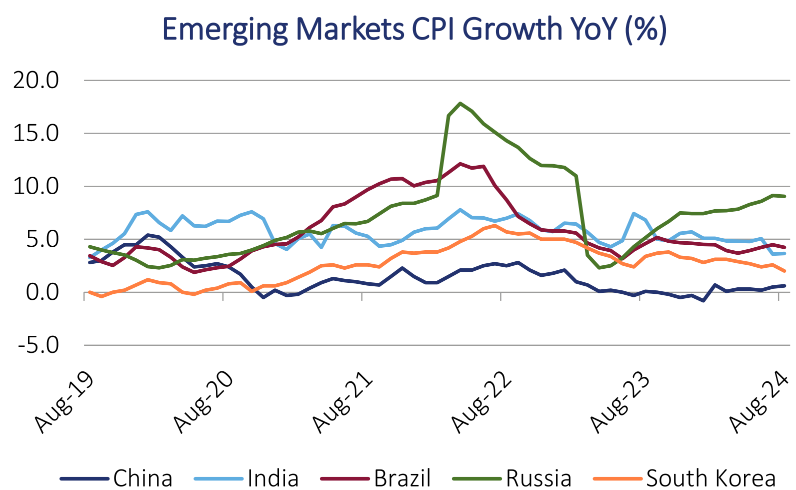
Wilshire

Non-U.S. Growth and Inflation









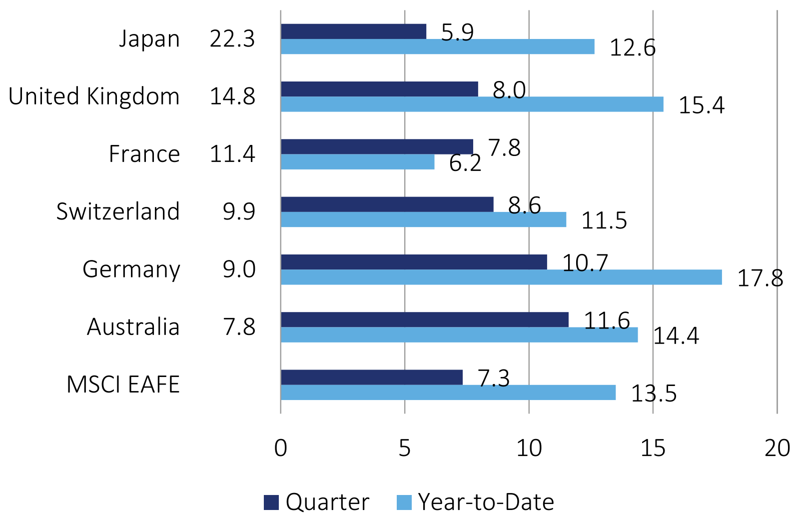
Data Source: Bloomberg

Wilshire

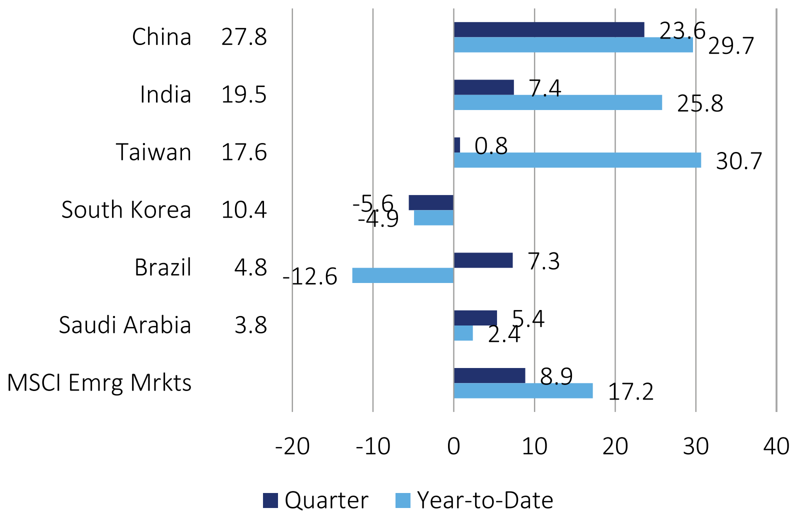
Non-U.S. Equity Market

As of 9/30/2024	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
MSCI ACWI ex-US ($G)	8.2	14.7	26.0	4.7	8.1	5.7
MSCI EAFE ($G)	7.3	13.5	25.4	6.0	8.7	6.2
MSCI Emerging Markets ($G)	8.9	17.2	26.5	0.8	6.1	4.4
MSCI Frontier Markets ($G)	8.5	12.5	21.0	2.0	2.5	0.2
MSCI ACWI ex-US Growth ($G)	7.0	14.3	27.1	1.1	7.4	6.3
MSCI ACWI ex-US Value ($G)	9.4	14.9	24.9	7.8	8.6	5.1
MSCI ACWI ex-US Small ($G)	9.0	12.4	23.8	1.9	8.7	6.5
MSCI ACWI Minimum Volatility	10.0	15.9	23.5	6.4	6.7	8.4
MSCI EAFE Minimum Volatility	11.2	13.7	22.0	3.8	4.3	5.6
FTSE RAFI Developed ex-US	7.7	12.8	23.6	7.8	9.5	5.8
MSCI EAFE LC (G)	0.9	12.5	18.1	8.5	9.3	7.9
MSCI Emerging Markets LC (G)	6.8	18.7	25.4	3.3	7.8	6.9

Developed Markets Weight and Return (%)



Emerging Markets Weight and Return (%)



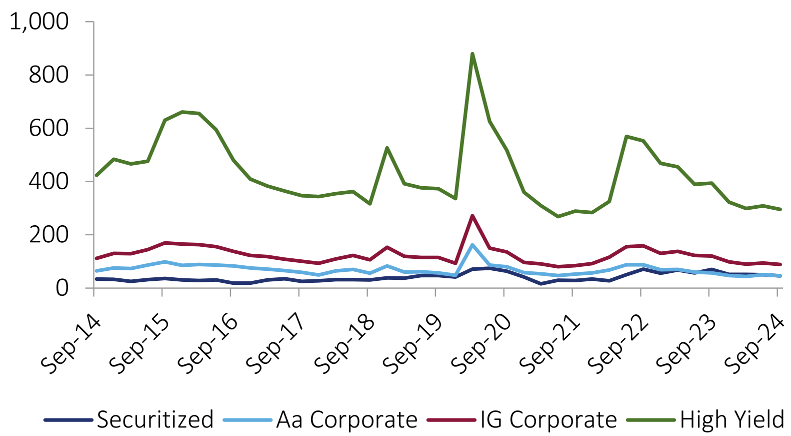
Data Source: Bloomberg

Wilshire

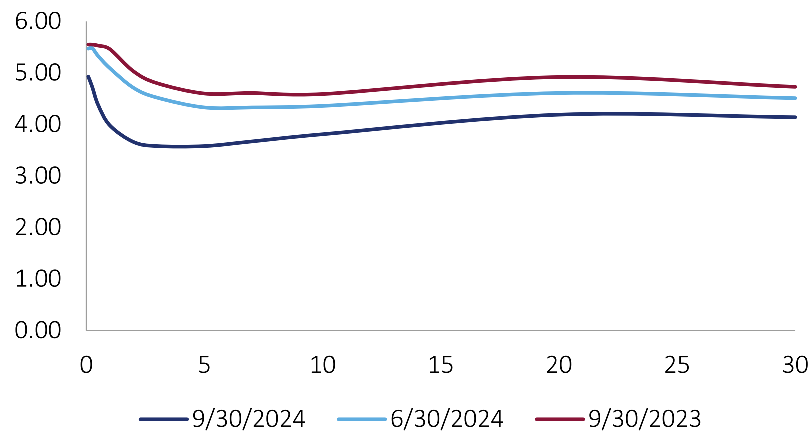
U.S. Fixed Income

As of 9/30/2024	YTW	Dur.	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg Aggregate	4.2	6.2	5.2	4.4	11.6	-1.4	0.3	1.8
Bloomberg Treasury	3.8	6.1	4.7	3.8	9.7	-1.8	-0.2	1.3
Bloomberg Gov't-Rel.	4.3	5.5	4.6	4.6	10.3	-0.5	0.6	2.0
Bloomberg Securitized	4.5	5.6	5.4	4.6	12.2	-1.1	0.1	1.5
Bloomberg Corporate	4.7	7.2	5.8	5.3	14.3	-1.2	1.2	2.9
Bloomberg LT Gov't/Credit	4.7	14.2	8.0	3.5	17.2	-6.2	-2.0	2.3
Bloomberg LT Treasury	4.2	15.4	7.8	2.4	15.4	-8.4	-4.3	1.1
Bloomberg LT Gov't-Rel.	5.2	11.9	7.2	4.5	16.3	-3.6	-1.1	2.7
Bloomberg LT Corporate	5.2	13.1	8.2	4.5	19.2	-4.3	-0.3	3.3
Bloomberg U.S. TIPS*	3.7	7.3	4.1	4.9	9.8	-0.6	2.6	2.5
Bloomberg High Yield	7.0	2.9	5.3	8.0	15.7	3.1	4.7	5.0
S&P/LSTA Leveraged Loan	8.9	0.3	2.0	6.5	9.6	6.5	5.7	4.9
Treasury Bills	4.6	0.3	1.4	4.1	5.6	3.5	2.3	1.7

Fixed Income Option Adjusted Spread (bps)



Treasury Yield Curve (%)



*Yield and Duration statistics are for a proxy index based on similar maturity, the Bloomberg Barclays U.S. Treasury 7-10 Year Index.
Data Source: Bloomberg

Wilshire

Federal Reserve

The Federal Open Market Committee decreased their overnight rate by 0.50% at their September meeting

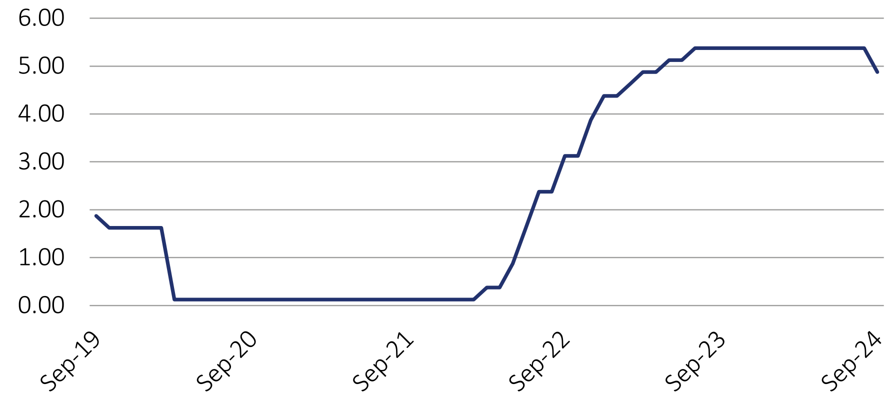
QE4 was larger than the 3 phases of quantitative easing – combined – following the global financial crisis

The Fed's balance sheet has begun to shrink again during the past year

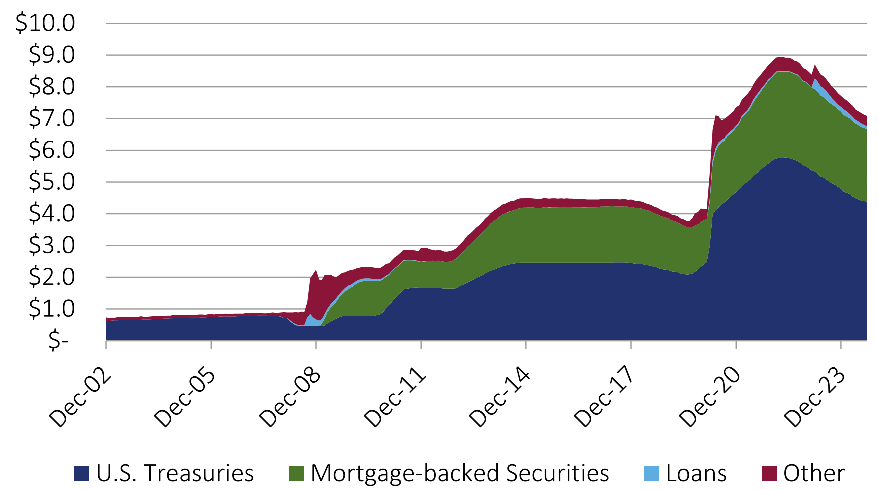
	Announced	Closed	Amount (bil)
QE1	11/25/2008	3/31/2010	$1,403
QE2	11/3/2010	6/29/2012	$568
QE3	9/13/2012	10/29/2014	$1,674
QE4	3/23/2020	3/15/2022	$4,779

Data Source: Bloomberg

Federal Funds Rate (Mid %)



Federal Reserve Balance Sheet ($T)

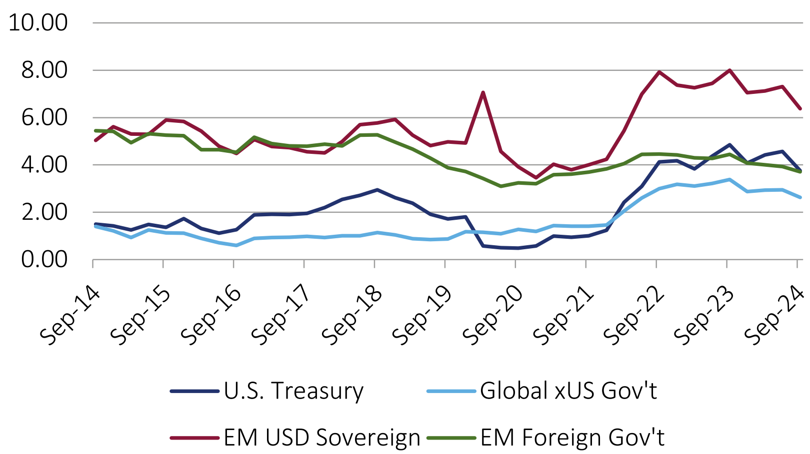


Wilshire

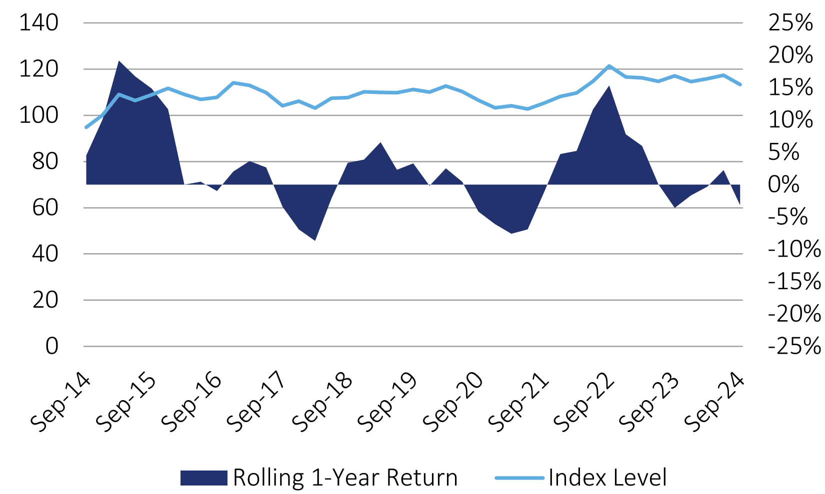
Non-U.S. Fixed Income

As of 9/30/2024	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
Developed Markets						
Bloomberg Global Aggregate xUS	8.5	2.8	12.3	-4.4	-1.9	-0.5
Bloomberg Global Aggregate xUS*	3.5	4.2	9.8	0.6	0.6	2.6
Bloomberg Global Inflation Linked xUS	7.5	1.8	13.9	-7.5	-2.7	-0.4
Bloomberg Global Inflation Linked xUS*	2.5	0.1	7.6	-4.9	-2.1	2.4
Emerging Markets (Hard Currency)						
Bloomberg EM USD Aggregate	5.8	8.2	16.9	-0.2	1.4	3.2
Emerging Markets (Foreign Currency)						
Bloomberg EM Local Currency Gov't	7.0	5.7	13.0	1.3	2.2	1.7
Bloomberg EM Local Currency Gov't*	3.2	7.0	11.2	4.0	2.9	3.3
Euro vs. Dollar	3.9	0.9	5.3	-1.3	0.4	-1.3
Yen vs. Dollar	12.0	-1.8	4.0	-8.2	-5.5	-2.7
Pound vs. Dollar	5.8	5.1	9.6	-0.2	1.7	-1.9

Global Fixed Income Yield to Worst (%)



U.S. Dollar Index: Advanced Economies



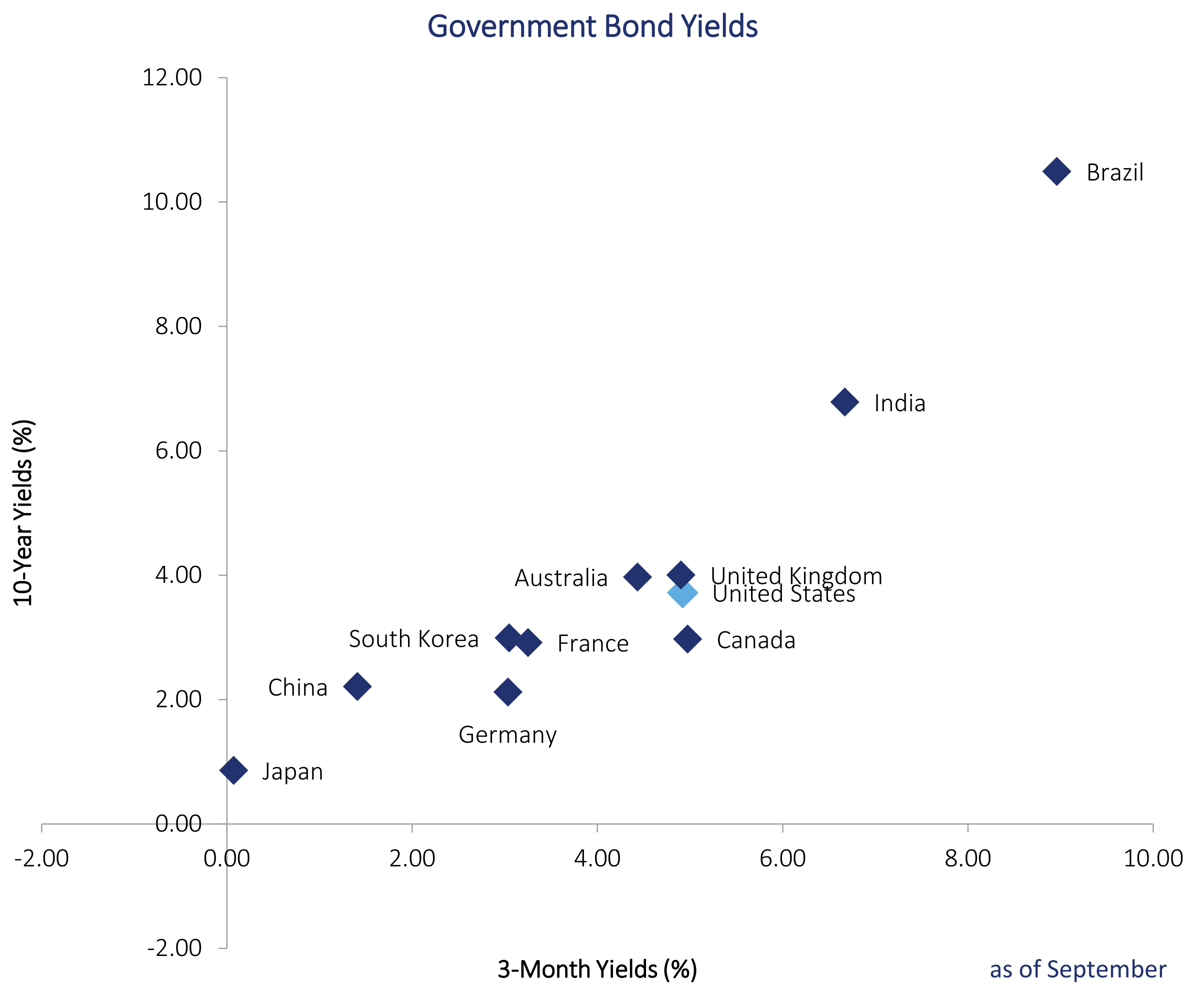
*Returns are reported in terms of local market investors, which removes currency effects.

Data Source: Bloomberg

Wilshire

Global Interest Rates

Short-term rates have turned positive across the globe; longer-term rates near 4.0% in the U.K. and Australia



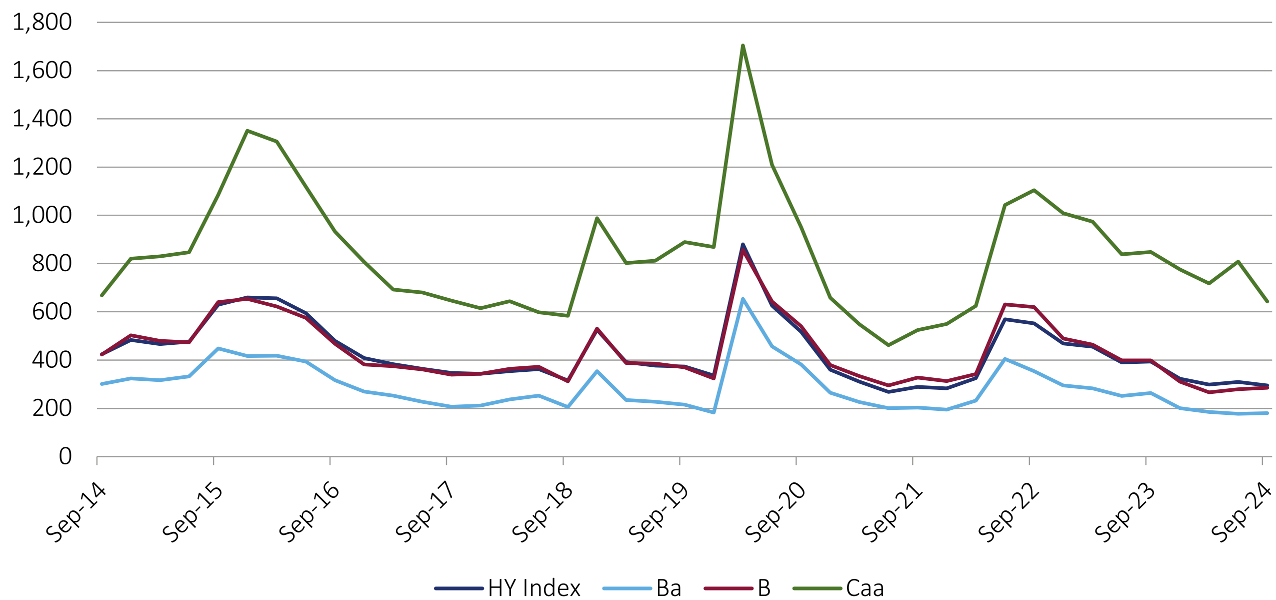
Data Source: Bloomberg

Wilshire

High Yield Bond Market

As of 9/30/2024	Weight	YTW	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg High Yield		7.0	5.3	8.0	15.7	3.1	4.7	5.0
S&P LSTA Leveraged Loan		8.9	1.9	6.1	9.5	6.2	5.4	4.5
High Yield Quality Distribution								
Ba U.S. High Yield	50.5%	5.8	4.3	6.8	14.7	2.3	4.7	5.3
B U.S. High Yield	36.4%	7.0	4.5	7.0	14.5	3.3	4.2	4.6
Caa U.S. High Yield	11.9%	10.4	10.2	12.5	20.3	4.3	5.4	4.9
Ca to D U.S. High Yield	1.2%	24.0	22.4	45.1	52.5	9.6	10.1	1.8

Fixed Income Option Adjusted Spread (bps)



Data Source: Bloomberg

Wilshire

Asset Class Performance

Asset Class Returns - Best to Worst

2019	2020	2021	2022	2023	2024 YTD	Annualized 5-Year as of 9/24
U.S. Equity 31.0%	U.S. Equity 20.8%	REITs 46.2%	Commodities 16.1%	U.S. Equity 26.1%	U.S. Equity 20.6%	U.S. Equity 15.5%
REITs 25.8%	Emrg Mrkts 18.7%	Commodities 27.1%	T-Bills 1.3%	Developed 18.9%	Emrg Mrkts 17.2%	Developed 8.7%
Developed 22.7%	U.S. TIPS 11.0%	U.S. Equity 26.7%	High Yield -11.2%	REITs 16.1%	REITs 14.9%	Commodities 7.8%
Emrg Mrkts 18.9%	Developed 8.3%	Developed 11.8%	U.S. TIPS -11.8%	High Yield 13.4%	Developed 13.5%	Emrg Mrkts 6.1%
High Yield 14.3%	Core Bond 7.5%	U.S. TIPS 6.0%	Core Bond -13.0%	Emrg Mrkts 10.3%	High Yield 8.0%	REITs 5.4%
Core Bond 8.7%	High Yield 7.1%	High Yield 5.3%	Developed -14.0%	Core Bond 5.5%	Commodities 5.9%	High Yield 4.7%
U.S. TIPS 8.4%	T-Bills 0.7%	T-Bills 0.0%	U.S. Equity -19.0%	T-Bills 5.1%	U.S. TIPS 4.9%	U.S. TIPS 2.6%
Commodities 7.7%	Commodities -3.1%	Core Bond -1.5%	Emrg Mrkts -19.7%	U.S. TIPS 3.9%	Core Bond 4.4%	T-Bills 2.3%
T-Bills 2.3%	REITs -7.9%	Emrg Mrkts -2.2%	REITs -26.8%	Commodities -1.3%	T-Bills 4.1%	Core Bond 0.3%

Data Sources: Bloomberg

Note: Developed asset class is developed equity markets ex-U.S., ex-Canada

County Employees Retirement System

Performance and Asset Allocations

Quarter Ending: September 30, 2024

Pension Portfolios Performance

CERS & CERS-HAZ - PENSION FUND PLAN NET RETURNS - 09/30/24

Plan	Market Value	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
CERS	**10,044,169,836.35**	**1.58**	**4.89**	**4.89**	**18.75**	**6.26**	**8.75**	**7.57**	**7.08**	**8.12**	**8.99**
KY Ret. CERS Plan IPS Index		1.72	4.77	4.77	20.62	6.62	8.83	7.42	7.07	8.13	9.06
CERS- H	**3,568,481,448.72**	**1.58**	**4.92**	**4.92**	**18.92**	**6.27**	**8.71**	**7.56**	**7.07**	**8.12**	**8.99**
KY Ret. CERS Haz Plan IPS Index		1.72	4.77	4.77	20.62	6.62	8.83	7.42	7.07	8.13	9.06

KPPA PENSION FUND UNIT - NET RETURNS - 09/30/24 - PROXY PLAN ASSET PERFORMANCE

Structure		Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
PUBLIC EQUITY		**1.89**	**6.69**	**6.69**	**30.10**	**6.75**	**11.54**	**9.12**	**8.08**	**9.20**	**10.48**
MSCI ACWI		2.32	6.61	6.61	31.76	7.65	11.87	9.13	8.03	9.05	10.38
PRIVATE EQUITY		**1.59**	**2.19**	**2.19**	**3.24**	**4.82**	**11.66**	**11.58**	**10.95**		**11.41**
Russell 3000 + 3%(Qtr Lag)		3.33	4.05	4.05	26.12	11.09	17.19	15.28	12.87		12.74
SPECIALTY CREDIT		**1.47**	**3.09**	**3.09**	**12.39**	**7.04**	**6.87**				**6.78**
50% BB US HY / 50% Morningstar LSTA Lev'd Ln		1.17	3.66	3.66	12.66	4.83	5.27				5.07
CORE FIXED INCOME		**1.29**	**5.13**	**5.13**	**11.76**	**1.80**	**2.59**	**3.01**			**3.03**
Bloomberg US Aggregate		1.34	5.20	5.20	11.57	-1.39	0.33	1.84			2.04
CASH		**0.43**	**1.33**	**1.33**	**5.54**	**3.41**	**2.33**	**1.80**	**1.94**	**2.76**	**3.38**
FTSE Treasury Bill-3 Month		0.44	1.37	1.37	5.63	3.63	2.38	1.67	1.59	2.41	3.01
REAL ESTATE		**0.30**	**1.71**	**1.71**	**-5.90**	**2.29**	**5.80**	**7.79**	**7.16**	**6.07**	**6.20**
NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^		-0.66	-0.66	-0.66	-9.99	1.02	2.27	5.47	5.81	7.06	5.91
REAL RETURN		**2.89**	**6.70**	**6.70**	**16.38**	**11.94**	**9.49**	**6.05**			**5.93**
US CPI +3%		0.33	0.97	0.97	5.53	7.33	6.76	4.35			4.29

Insurance Portfolios Performance

CERS INS & CERS HAZ INS - INSURANCE FUND - PLAN NET RETURNS - 09/30/24											
Plan	Market Value	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
CERS INS	**3,726,876,732.85**	**1.53**	**4.82**	**4.82**	**18.81**	**6.44**	**8.63**	**7.59**	**6.91**	**7.34**	**7.57**
KY Ins. CERS Plan IPS Index		1.72	4.77	4.77	20.62	6.63	8.63	7.40	6.95	7.62	7.81
CERS - H INS	**1,788,110,052.64**	**1.49**	**4.70**	**4.70**	**18.56**	**6.42**	**8.67**	**7.64**	**6.93**	**7.36**	**7.58**
KY Ins. CERS Haz Plan IPS Index		1.72	4.77	4.77	20.62	6.63	8.63	7.40	6.95	7.62	7.81

KPPA INSURANCE FUND UNIT - NET RETURNS - 09/30/24 - PROXY PLAN ASSET PERFORMANCE											
Structure		Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
PUBLIC EQUITY		**1.88**	**6.63**	**6.63**	**29.92**	**6.69**	**11.50**	**9.16**	**7.95**		**8.97**
MSCI ACWI		2.32	6.61	6.61	31.76	7.64	11.85	9.13	7.85		8.84
PRIVATE EQUITY		**1.22**	**1.63**	**1.63**	**4.99**	**8.43**	**11.93**	**12.74**	**11.10**		**10.71**
Russell 3000 + 3%(Qtr Lag)		3.33	4.05	4.05	26.12	11.09	17.19	15.28	12.62		12.31
SPECIALTY CREDIT		**1.39**	**3.07**	**3.07**	**12.47**	**7.31**	**6.89**				**6.69**
50% BB US HY / 50% Morningstar LSTA Lev'd Ln		1.17	3.66	3.66	12.66	4.83	5.27				5.07
CORE FIXED INCOME		**1.28**	**5.10**	**5.10**	**11.69**	**1.63**	**2.39**	**2.74**			**2.76**
Bloomberg US Aggregate		1.34	5.20	5.2	11.57	-1.39	0.33	1.84			2.04
CASH		**0.43**	**1.32**	**1.32**	**5.57**	**3.41**	**2.23**	**1.67**	**1.78**		**2.57**
FTSE Treasury Bill-3 Month		0.44	1.37	1.37	5.63	3.63	2.38	1.67	1.59		2.48
REAL ESTATE		**0.38**	**1.68**	**1.68**	**-6.06**	**2.06**	**5.65**	**7.82**			**8.17**
NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^		-0.66	-0.66	-0.66	-9.99	1.02	2.27	5.47			4.75
REAL RETURN		**3.14**	**6.65**	**6.65**	**14.64**	**10.57**	**8.94**	**5.72**			**5.56**
US CPI +3%		0.33	0.97	0.97	5.53	6.98	6.80	4.41			4.33

Internal Portfolios Performance

BNY

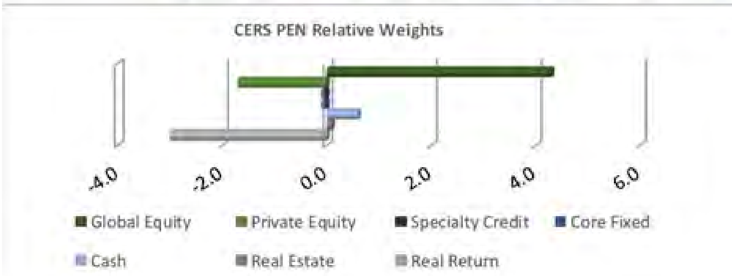
Monthly Investment Manager Performance (Net of Fee)

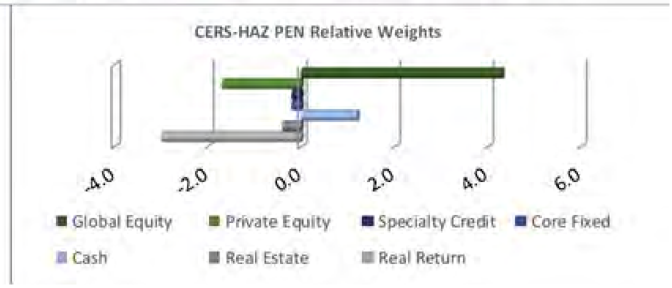
As of Date: 9/30/2024

Reporting Currency: BASE

Structure	Account/Security Id	Market Value	% of Total	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	ITD	Inception Date
PUBLIC EQUITY													
S&P 500 INDEX	KR2F19020002	3,451,868,181.96	17.35	2.13	5.88	5.88	36.27	11.98	16.20	13.50	10.96	9.32	7/1/2001
KY Ret. S&P Blend	KR2GX00SP500			2.14	5.89	5.89	36.35	11.91	15.98	13.38	10.89	9.24	7/1/2001
Internal US Mid Cap	KR2F10100002	226,767,708.87	1.14	1.08	6.95	6.95	27.71	8.19	12.48	10.81		10.66	8/1/2014
S&P MidCap 400 Index	IX1F0000180C			1.16	6.94	6.94	26.79	7.47	11.78	10.32		10.18	8/1/2014
Scientific Beta	KR2F10110002	282,197,377.80	1.42	1.59	8.03	8.03	28.72	7.97	10.84			11.24	7/1/2016
S&P 500 - Total Return Index	IX1F00079488			2.14	5.89	5.89	36.35	11.91	15.98			15.04	7/1/2016
PRIVATE EQUITY													
INTERNAL PRIVATE EQ	KR2F48100002	90,999,868.25	0.46	1.31	5.13	5.13						16.50	12/1/2023
CORE FI													
INTERNAL CORE FI	KR2F30250002	1,017,348,078.00	5.11	1.32	5.28	5.28	11.90					8.31	9/1/2023
Bloomberg U.S. Aggregate Bond Index	IX1F00003848			1.34	5.20	5.20	11.57					8.04	9/1/2023
REAL ESTATE													
INTERNAL REAL ESTATE	KR2F48200002	53,185,497.33	0.27	3.40	17.11	17.11						15.45	12/1/2023
NCREIF NFI ODCE Net 1Qtr in Arrears Index^	IX1G00369207			-0.66	-0.66	-0.66							
REAL RETURN													
INTERNAL REAL RETURN	KR2F36130002	271,596,188.64	1.37	4.85	12.93	12.93						18.43	12/1/2023
KRS CPI + 300 bpts	KR2GX005CPI3			0.33	0.97	0.97						4.80	12/1/2023
INTERNAL TIPS	KR2F39010002	142,334.60	0.00	0.43	1.32	1.32	5.49	3.62	2.54	2.26	3.47	4.24	5/1/2002
KR2 Internal US TIPS Blend	KR2GX000TIPS			1.25	3.43	3.43	8.88	1.00	3.29	2.62	3.62	4.38	5/1/2002
CASH ACCOUNT	KR2F90010002	601,749,157.70	3.02	0.43	1.33	1.33	5.54	3.41	2.33	1.80	1.94	3.38	1/1/1988
FTSE Treasury Bill-3 Month	IX1F0003127C			0.44	1.37	1.37	5.63	3.63	2.38	1.67	1.59	3.01	1/1/1988

Allocations





Performance Highlights

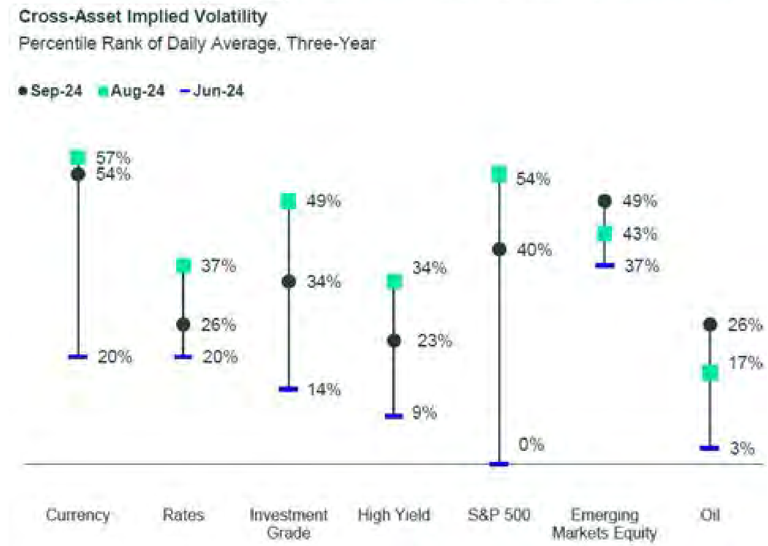
- The CERS Pension Composite produced a return of 4.90% while the CERS Insurance Composite returned 4.78% for the quarter versus the benchmark return of 4.77%.

    CERS Pension 4.89%
    CERSH Pension 4.92%
    CERS Insurance 4.82%
    CERSH Insurance 4.70%
    Benchmark 4.77%

- Across portfolios, the largest contributors to outperformance were the relative outperformance in the Real Return and Real Estate portfolios as well as the overweight to Public Equities and the underweight to Real Return while underperformance in the Private Equity portfolio relative to its public equity benchmark was a modest detractor.

- Markets struggled early in the quarter as rising fears of a US recession led to a sharp rotation out of growth stocks and into value stocks. Equity markets fell while the yield curve steepened. Markets began to stabilize in August as stronger than expected data alleviated near-term recession fears and gained steam with the Fed signaling rate cuts were imminent. September saw markets further buoyed as the Fed began the easing cycle by cutting rates 50 bps and indicating a further 100 bps of cuts by the end of 2025.

- While the probability of a recession remains remote, monetary policy will continue to have an unduly high impact via the valuations discounting mechanism and the interaction between fiscal and monetary policy will be crucial to future outcomes.



Performance Highlights

Public Equities

- Despite bouts of volatility, Public Equity markets pushed higher during the quarter with broad market indices reaching all-time highs as they recovered strongly from the early August lows with markets buoyed by the start of the Fed easing cycle.
- Market participation broadened significantly with a rotation in leadership away from Technology with Real Estate and Utilities the best performing sectors while Financials and Industrials contributed the most to performance and Value outperformed Growth.
- Small caps significantly outperformed Large caps for the quarter but still trailed by a large margin over the LTM.
- The S&P 500 Index is up 22% YTD, its best nine month start since 1997.
- International Equities markets also performed well, outperforming their US counterparts during the quarter with emerging markets outperforming developed.
- Small Cap equities remain compelling, trading near historic trough levels compared to the fuller valuations in Large Caps. A declining interest rate environment should bode well for this segment of the market as these companies tend to be more sensitive to borrowing costs.

S&P 500 Nine-Months Compared to the Rest of the Year

Performance Highlights

Public Equities

- The Public Equity portfolio returned 6.69% during the quarter versus its benchmark return of 6.61%.
- Overall, the relative overweight to Non-US equities was a positive contributor to performance while stock selection modestly detracted from performance.
- The US Equity Portfolio returned 6.18% vs 6.23% for the Russell 3000 with 5 of 7 mandates performing in line or outperforming their benchmark.
- The Non-US Equity Portfolio returned 7.47% vs 8.18% for the MSCI ACWI Ex-US with broad underperformance at the mandate level but outperformance provided by deep value strategies.
- Over the LTM the Public Equity portfolio has underperformed the benchmark by 166 basis points due to value and size factor tilts in the US portfolio and broad-based stock selection weakness in the Non-US portfolio.

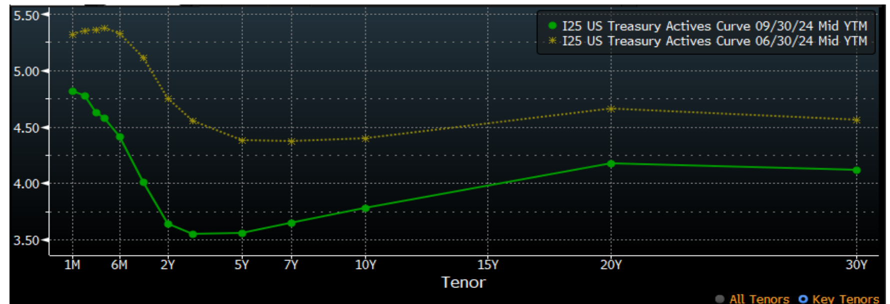
Relative Valuations of Value vs. Growth at Extreme Levels

Small Relative to Large Near Trough Levels

Performance Highlights

Core Fixed Income

- US Treasury yields dropped across the curve over the quarter with the Federal Reserve cutting rates at their September meeting.
- The 2YR rallied the most with yields declining 111 basis points causing the 2-10YR curve to have a positive slope for the first time since mid-2022, finishing the quarter with a spread of 14 basis points.
- The 2YR closed the quarter at 3.64% while the 5YR US Treasury yield fell 82 basis points to close at 3.56%. The 10YR yield was 62 basis points lower to close at 3.78%. The 20YR and 30YR yields were lower 49 basis points and 44 basis points to finish the quarter at 4.18% and 4.12%, respectively.
- As of September 30, markets priced in an additional 75 basis points of cuts by the end of 2024, 25 basis points more than the FOMC's median of their dot plot.

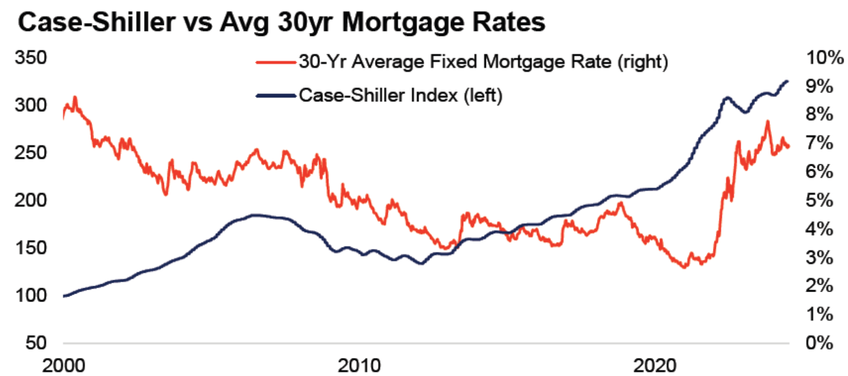


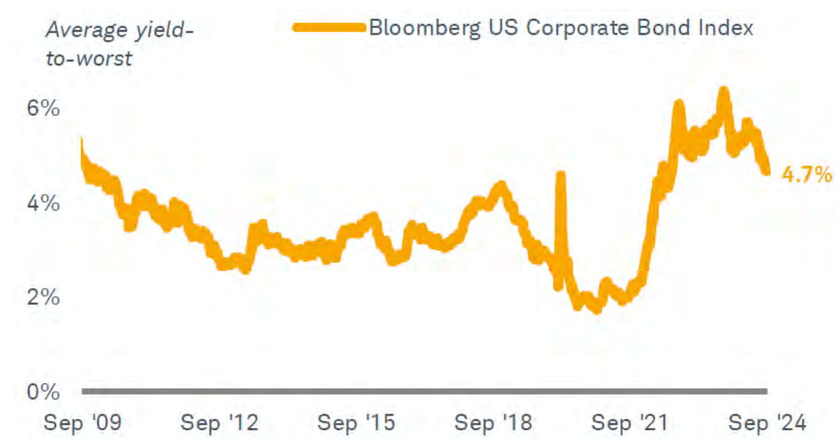
	Curve Id	1M	3M	2Y	5Y	10Y	20Y	30Y
11)	I25 09/30/24	4.820	4.627	3.642	3.559	3.782	4.176	4.120
12)	I25 06/30/24	5.323	5.358	4.755	4.377	4.397	4.661	4.559
13)	I25 (09/30/24-06/30/2...	-50.3	-73.0	-111.2	-81.8	-61.5	-48.5	-43.9

Performance Highlights

Core Fixed Income

- The Core Fixed Income Portfolio produced a return of 5.13% for the quarter, slightly underperforming the benchmark's return of 5.20%. The Internal Core portfolio produced a return of 5.28% for the quarter.
- The portfolio's relative underperformance was driven by an overweight ABS allocation as the sector generated a 3.35% total return for the quarter, the lowest of the Securitized sectors.
- Within the broader Securitized sector, MBS led the way with a 5.53% return followed by CMBS which produced a 4.65% while ABS returns trailed at 3.35%.
- The Corporate index OAS (Option Adjusted Spread) closed 5 basis points tighter at 89 during the quarter generating a total return of 5.84%, the best performing sector of the market, benefitting the most from falling yields.
- Home prices have steadily risen since GFC and surged in the pandemic. Demand from increasing immigration has mixed with inflexible supply to drive prices higher. Mortgage rates will fall slightly as the Fed cuts rates, but that will lead to further price increases.

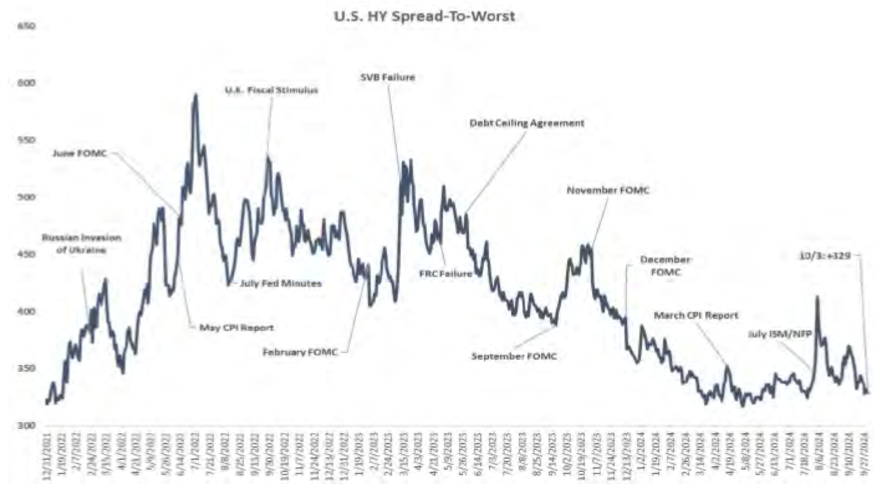


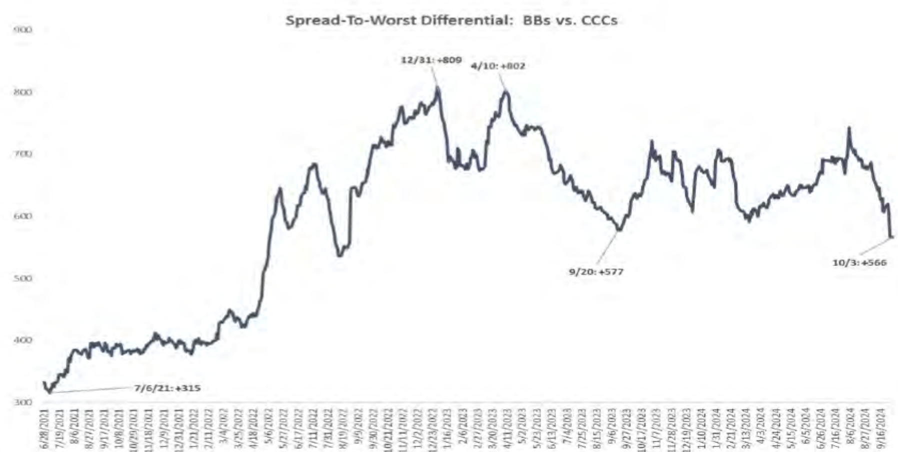


Performance Highlights

Specialty Credit Fixed Income

- The Specialty Credit portfolio produced a return of 3.09% for the quarter, underperforming the custom benchmark which returned 3.66%.
- Overall underperformance was driven by the relative overweight to floating rate exposure and shorter durations which benefitted less from the rally in rates during the quarter.
- The public market mandates with the Specially Credit portfolio underperformed during the quarter driven by security selection and industry allocation. Underweight allocations to distressed issuers, especially in the communication related sectors, hampered relative performance as these issuers significantly outperformed the non-distressed portion of the market.
- Over longer periods the portfolio has contributed significant outperformance, beating the benchmark by 221 and 160 basis points over three- and five-year periods respectively.

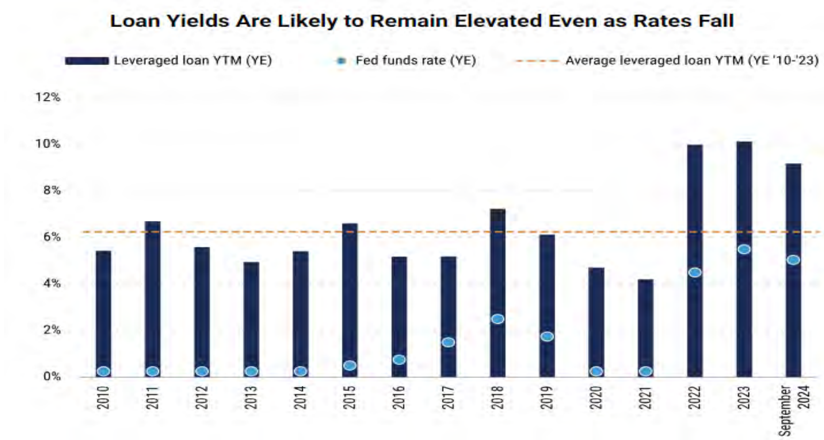


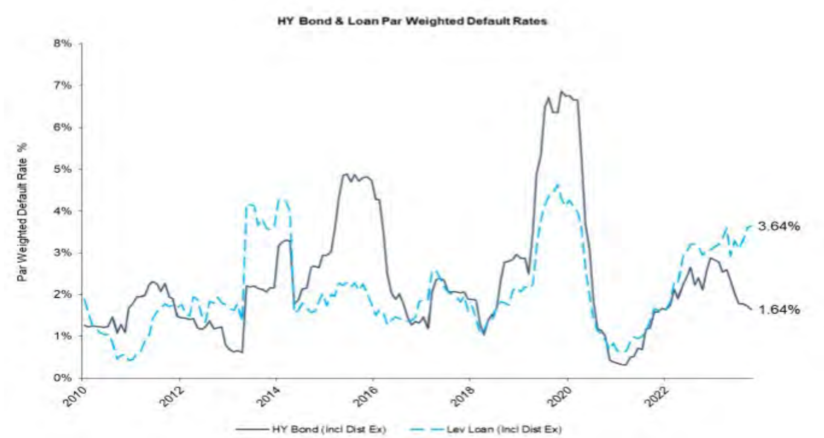


Performance Highlights

Specialty Credit Fixed Income

- The High Yield option adjusted spread (OAS) tightened 14 basis points during the quarter to 295.
- Lower quality and longer-dated issuers continued to outperform. For the quarter, BB, B, and CCC rated issues returned 4.20%, 4.53%, and 9.22%, respectively.
- Despite the Fed rate cut, loans posted an 11th consecutive monthly gain in September as coupons remained attractive.
- Loan issuance rebounded sharply in September with $97.1 billion coming to market, a 276% increase from August. Year-to-date issuance has been dominated by repricing and refinancing activity, which have accounted for 52% and 35% of issuance, respectively.
- The high yield bond default and distressed exchange activity remained moderate for the quarter. The LTM par-weighted default rate including distressed exchanges decreased to 1.64%.
- Default and distressed exchange activity remains concentrated in the leveraged loan market, where the par-weighted default rate increased to 3.64%.
- The 200 basis point spread between high yield bond and leveraged loan default activity is the largest difference since October 2000.





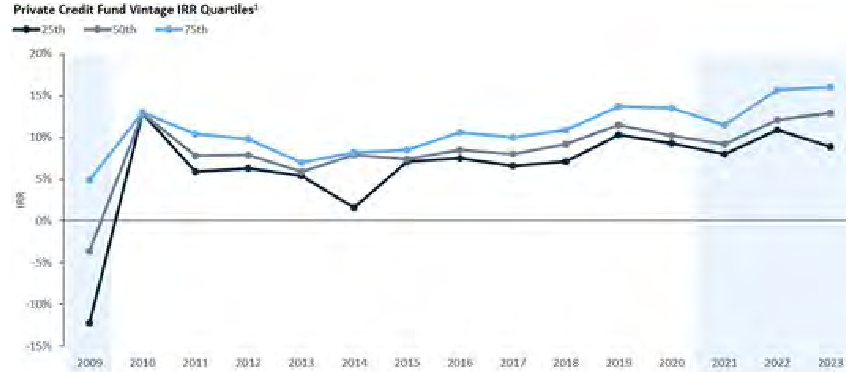
Performance Highlights

Specialty Credit Fixed Income

- Bearish ratings trends in the public high yield market continued, with activity on pace for a sixth straight year of the rating agency upgrade to downgrade ratios at 1x. Weakening business trends combined with more aggressive capital allocation plans have started to impact balance sheet metrics.
- While the possibility of having ‘higher for longer’ interest rates may cause stress for over-leveraged borrowers, today’s accommodative capital markets and strong borrower demand present an attractive setup for Private Credit.
- Yield levels remain at relative highs and compare favorably to most credit alternatives.
- Private credit continues to gain lending market share as traditional banks retreat further from the market.

	Returns by calendar year					2024	
	2019	2020	2021	2022	2023	Q1	Q2
Global private-equity funds	17.6%	33.7%	40.4%	-8.4%	5.8%	1.2%	0.8%
Venture capital	20.4%	58.2%	49.8%	-20.6%	-2.2%	1.3%	-0.4%
Expansion capital	7.3%	18.2%	27.9%	-11.3%	3.9%	-0.2%	1.5%
Buyout	16.9%	24.6%	37.7%	-1.5%	9.6%	1.2%	1.2%
Global private-credit funds	6.9%	7.2%	15.6%	3.8%	10.0%	1.9%	2.1%
Senior	6.4%	7.9%	7.7%	3.5%	11.6%	1.8%	2.1%
Mezzanine	9.4%	8.5%	16.0%	4.9%	10.4%	2.6%	2.5%
Distressed	4.3%	7.9%	21.8%	3.4%	8.9%	2.0%	2.1%
Global private-real-asset funds	4.5%	0.9%	22.7%	8.3%	1.1%	0.7%	1.1%
Real estate	8.3%	1.6%	26.6%	1.9%	-6.4%	-0.8%	-0.3%
Natural resources	-5.0%	-9.4%	32.4%	21.7%	1.6%	3.8%	2.4%
Infrastructure	8.1%	7.8%	13.6%	9.8%	8.2%	1.1%	2.1%

Private Credit Fund Vintage IRR Quartiles[1]

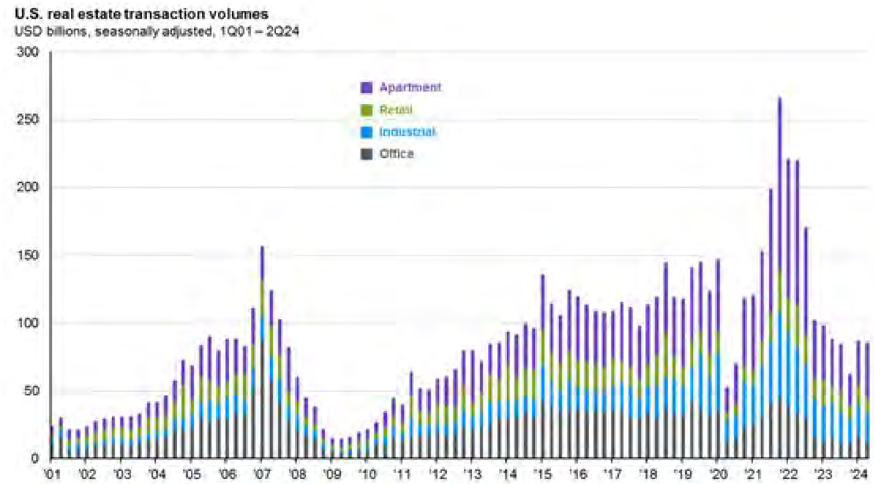


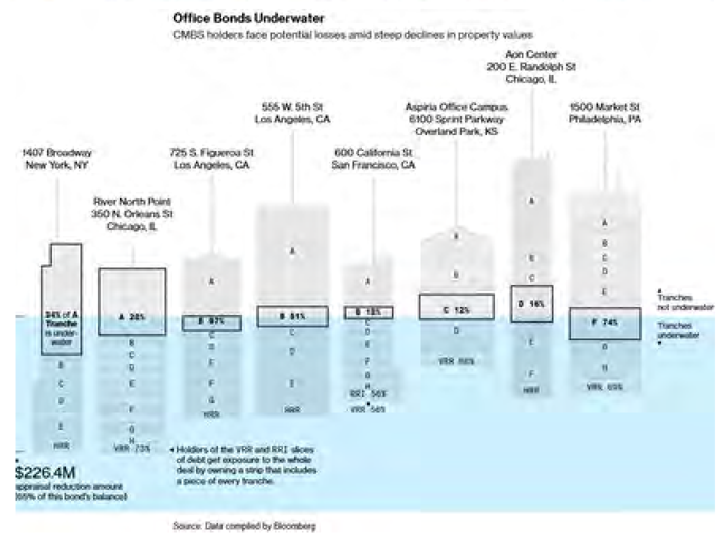
1. Source: Burgiss is a recognized source of private equity data, and the Burgiss Manager Universe includes funds representing the full range of private capital strategies; it may not include all private equity funds.

Performance Highlights

Real Return - Real Estate

- Real Return markets were broadly positive for the quarter while Real Estate markets continued to struggle, with the benchmark posting its sixth consecutive quarter of negative performance.
- The Real Estate portfolio produced a return of 1.71% during the quarter, outpacing the benchmark's -0.66% return.
- Relative outperformance was driven by the portfolio's open-ended Core strategies which were able to produce positive performance during the quarter although LTM performance remained negative. These strategies have benefitted from lower exposures to the most stressed parts of the market including the Office sector.
- While the prospects of Fed cuts has sparked a degree of optimism in the sector and there are nascent signs of stabilization, the market continues to struggle with low transaction volumes, anemic fundraising, still elevated rates and stagnant rental growth which warrants continued caution for the sector.
- The Office sector continues to face headwinds, with losses reaching the most senior tranches of some commercial mortgage-backed securities for the first time since the Great Financial Crisis.

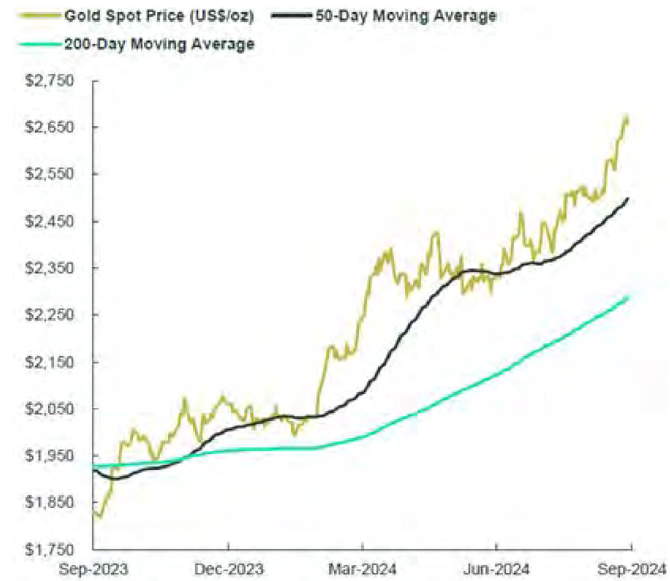


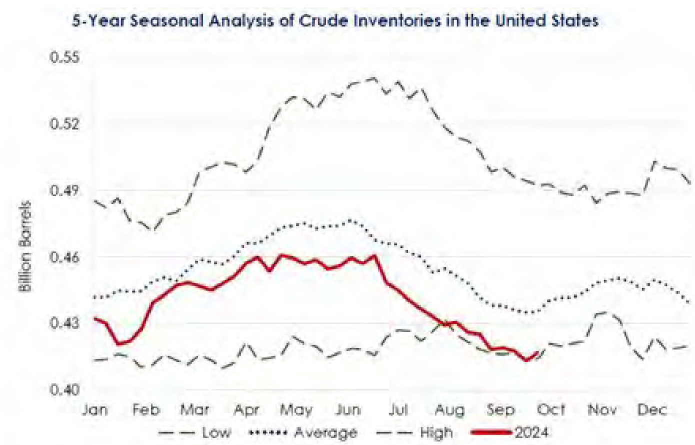


Performance Highlights

Real Return - Real Estate

- The Real Return portfolio continued to perform well during the quarter posting a return of 6.70% which outpaced the 0.97% return of the benchmark.
- Performance benefitted from strong performance across the recently approved and funded Real Return mandates, all of which outperformed their benchmark during the Quarter.
- The portfolio’s MLP exposure continued to produce solid performance, with a return of 5.99% for the quarter versus its benchmark return of 0.72% and is up over 33% LTM as strong cash flows, disciplined capex and consolidation have continued to benefit the industry.
- Broad commodities were relatively flat for the quarter, with gold rising almost 13% and silver returning 7% while oil was down almost 18%.
    - Oil was down 18% near its lowest level over the past twelve months, but remains generally in line with post-COVID levels.
    - Gold was up almost 13% for the quarter and tallied its fortieth record high for 2024.
    - Agricultural commodities and industrial metals produced modestly positive performance during the quarter.



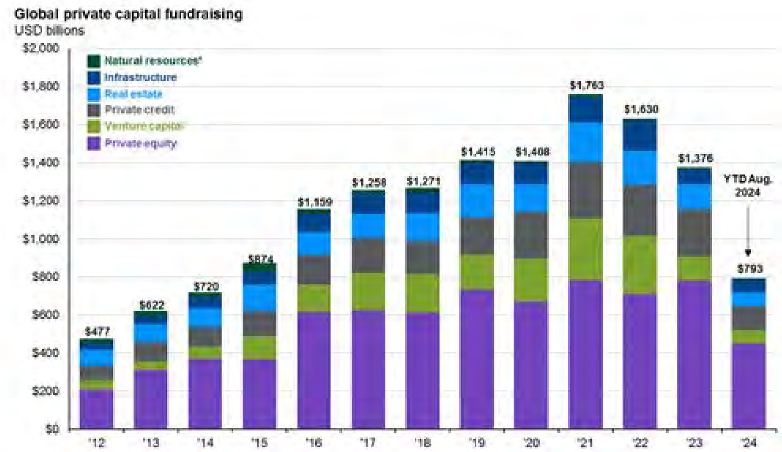


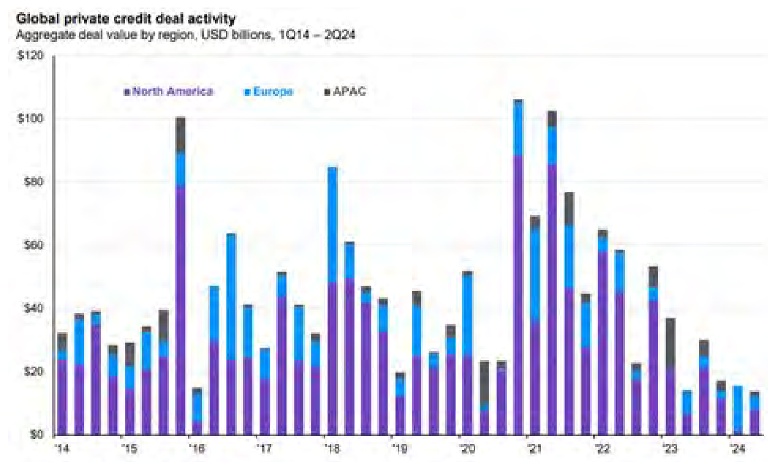
Source: U.S. Department of Energy, Bloomberg

Performance Highlights

Private Equity

- The Private Equity portfolio produced a return of 2.19% for the quarter, underperforming the benchmark's return of 4.05%.
- Performance relative to the benchmark (Russell 3000 + 3% based on a quarter lag) continues to be volatile given the market and timing misalignments as well as the vintage of the investments in the portfolio.
- While the pace of PE Fund exits and distributions have picked up recently, the very slow pace of distributions remains a concern for LPs in PE funds as newly raised funds continued to call capital while distributions from mature funds have been muted since 2022.
- Pricing in the secondary market has continued to improve, but remains well below peak levels reached in 2021. Some categories are still 25% below 2021 levels.
- Capital remained scarce as GPs faced a more arduous fundraising environment with constrained capital allocations from LPs as a result of limited distributions and already full allocations which continues to slowdown overall deal activity.





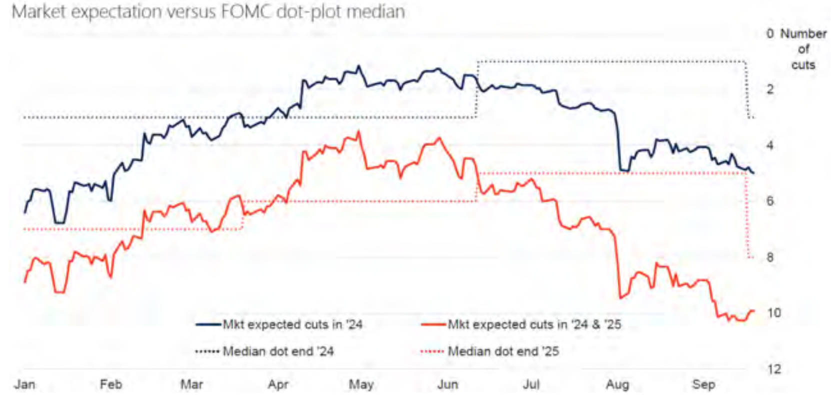
Source: Preqin, J.P. Morgan Asset Management. APAC includes data from Asia, Australia and New Zealand. Data are based on availability as of August 31, 2024.

Performance Highlights

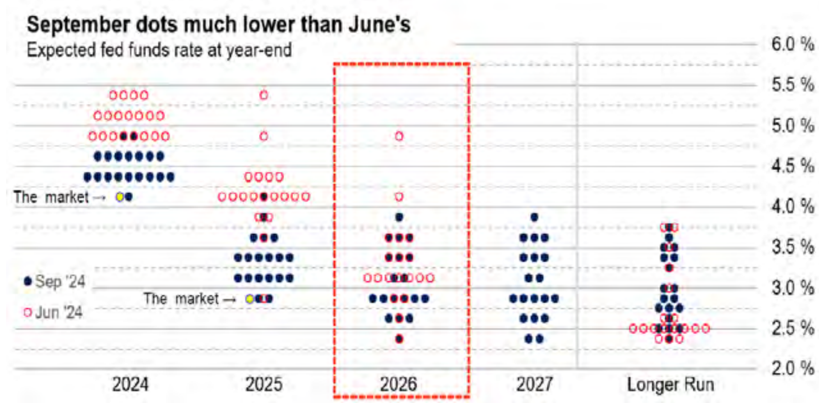
Liquidity

- Dot plot estimates moved decidedly lower in September, indicating a faster pace of rate cuts than anticipated in June. The longer-run range did not change, but the distribution is more even and a higher terminal rate is now expected.
- Cash produced a return of 1.33% for the 3-month period ending September 30th, slightly underperforming its 3-Month Treasury Bill benchmark which returned 1.37%.
- After more than a year on hold, the Fed cut rates 50 basis points in September, the first rate cut in more than four years. The question now for markets is how far the Fed will cut and how quickly they'll get there.
- The Federal Reserve has shifted the focus from inflation to jobs seeing two 25 basis point cuts for the remainder of 2024 and expects to cut four times in 2025 with the median neutral rate of 2.75 – 3.00%.

Market expectation versus FOMC dot-plot median



Dots reset mostly reflecting big September cut



Pension Portfolios Performance

Structure	Account Id	Market Value	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	ITD	Inception Date
CERS	KR2F00030002									
TOTAL GROSS OF FEES	KR2F00030002	10,047,789,147.62	1.67	5.09	5.09	19.43	7.00	9.56	9.20	4/1/1984
EQUITIES	KR2F00030002	4,949,778,135.60	1.89	6.70	6.70	30.06	6.82	11.68	102.00	7/1/2013
FIXED INCOME	KR2F00030002	3,293,882,098.58	1.55	4.05	4.05	13.36	6.20	6.10	94.36	7/1/2013
REAL ESTATE	KR2F00030002	510,771,490.49	0.21	1.11	1.11	-6.70	2.58	5.69	47.90	7/1/2013
ALTERNATIVE INVESTMENTS	KR2F00030002	1,031,573,182.58	2.03	3.11	3.11	7.39	8.78	11.38	83.25	7/1/2013
OTHER	KR2F00030002	4,831,475.69	26.08	4.37	4.37	-10.61	-22.46	-19.33	38.16	7/1/2013
CASH & TEMPORARY	KR2F00030002	256,952,764.68	0.43	1.33	1.33	5.54	3.26	2.24	33.81	7/1/2013
TOTAL NET OF FEES	KR2F00030002	10,044,169,836.35	1.58	4.89	4.89	18.75	6.26	8.75	8.99	4/1/1984
CERS- H	KR2F00040002									
TOTAL GROSS OF FEES	KR2F00040002	3,569,793,206.97	1.68	5.11	5.11	19.58	6.98	9.50	9.19	4/1/1984
EQUITIES	KR2F00040002	1,757,841,962.95	1.88	6.70	6.70	30.17	6.86	11.70	102.01	7/1/2013
FIXED INCOME	KR2F00040002	1,166,059,773.40	1.53	4.07	4.07	13.33	6.09	6.02	94.27	7/1/2013
REAL ESTATE	KR2F00040002	161,330,245.02	0.21	1.11	1.11	-6.68	2.61	5.71	47.04	7/1/2013
ALTERNATIVE INVESTMENTS	KR2F00040002	367,024,260.44	2.13	3.30	3.30	7.93	8.86	11.33	80.80	7/1/2013
OTHER	KR2F00040002	2,976,793.40	13.95	6.29	6.29	0.23	-7.91	-6.96	32.30	7/1/2013
CASH & TEMPORARY	KR2F00040002	114,560,171.76	0.43	1.33	1.33	5.54	3.33	2.28	25.64	7/1/2013
TOTAL NET OF FEES	KR2F00040002	3,568,481,448.72	1.58	4.92	4.92	18.92	6.27	8.71	8.99	4/1/1984

Insurance Portfolios Performance

Structure	Account Id	Market Value	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	ITD	Inception Date
CERS INS	KR3F00030002									
TOTAL GROSS OF FEES	KR3F00030002	3,728,368,118.73	1.61	4.98	4.98	19.47	7.16	9.47	7.94	4/1/1987
EQUITIES	KR3F00030002	1,817,265,714.21	1.87	6.64	6.64	30.01	6.85	11.65	9.81	7/1/2013
FIXED INCOME	KR3F00030002	1,231,558,111.28	1.48	4.07	4.07	13.43	6.12	6.04	5.10	7/1/2013
REAL ESTATE	KR3F00030002	185,436,929.54	0.33	1.18	1.18	-6.46	2.41	5.57	7.45	7/1/2013
ALTERNATIVE INVESTMENTS	KR3F00030002	384,018,794.94	1.76	2.53	2.53	7.20	9.58	11.54	9.04	7/1/2013
OTHER	KR3F00030002	1,239,967.98	46.78	1.45	1.45	-35.02				8/1/2013
CASH & TEMPORARY	KR3F00030002	108,848,600.78	0.43	1.32	1.32	5.57	3.75	2.43	1.61	7/1/2013
TOTAL NET OF FEES	KR3F00030002	3,726,876,732.85	1.53	4.82	4.82	18.81	6.44	8.63	7.57	4/1/1987
CERS - H INS	KR3F00040002									
TOTAL GROSS OF FEES	KR3F00040002	1,788,801,057.38	1.57	4.87	4.87	19.24	7.19	9.57	7.96	4/1/1987
EQUITIES	KR3F00040002	873,193,797.30	1.86	6.63	6.63	29.99	6.79	11.66	9.82	7/1/2013
FIXED INCOME	KR3F00040002	585,789,110.64	1.51	3.94	3.94	13.51	6.39	6.19	5.17	7/1/2013
REAL ESTATE	KR3F00040002	101,756,115.48	0.33	1.18	1.18	-6.45	2.41	5.58	7.45	7/1/2013
ALTERNATIVE INVESTMENTS	KR3F00040002	203,872,911.07	1.36	2.11	2.11	6.73	9.35	11.43	9.03	7/1/2013
OTHER	KR3F00040002	570,130.38	46.53	4.72	4.72	-38.89				8/1/2013
CASH & TEMPORARY	KR3F00040002	23,618,992.51	0.43	1.32	1.32	5.57	3.67	2.39	1.61	7/1/2013
TOTAL NET OF FEES	KR3F00040002	1,788,110,052.64	1.49	4.70	4.70	18.56	6.42	8.67	7.58	4/1/1987

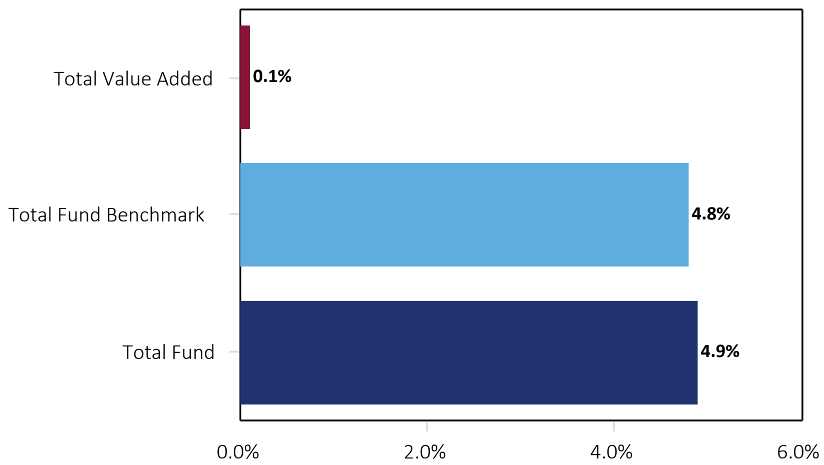
Wilshire

Total Fund Attribution

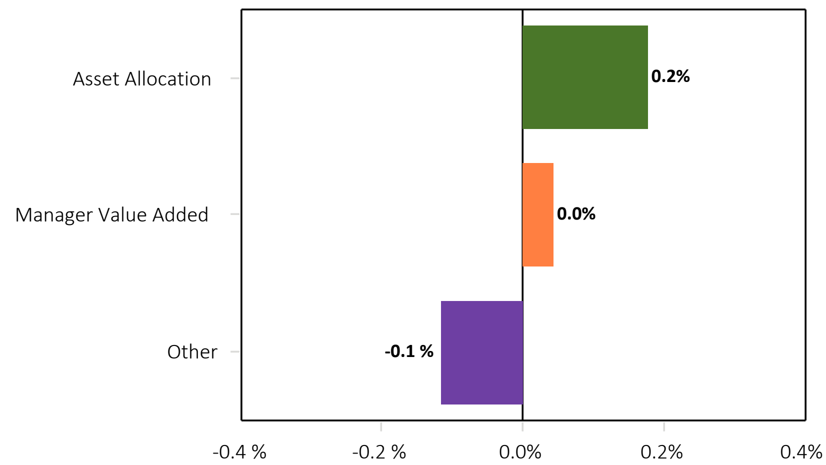
CERS Pension Plan

Periods Ended 1 Quarter Ending September 30, 2024

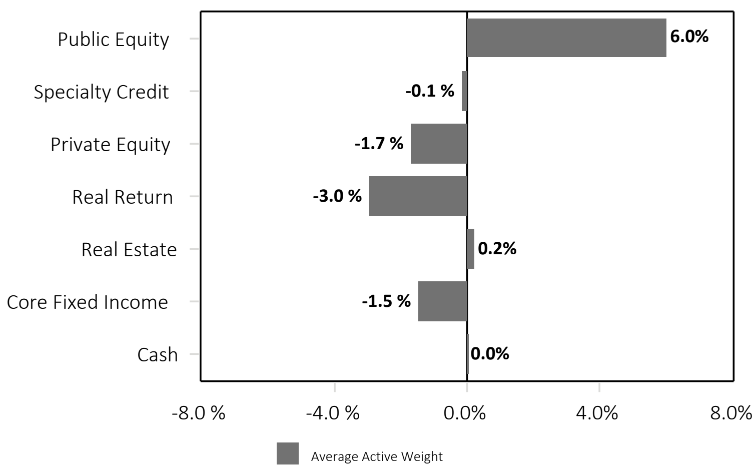
Total Fund Performance



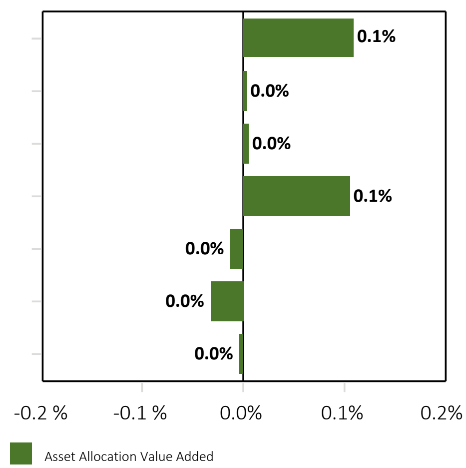
Total Value Added:0.1%



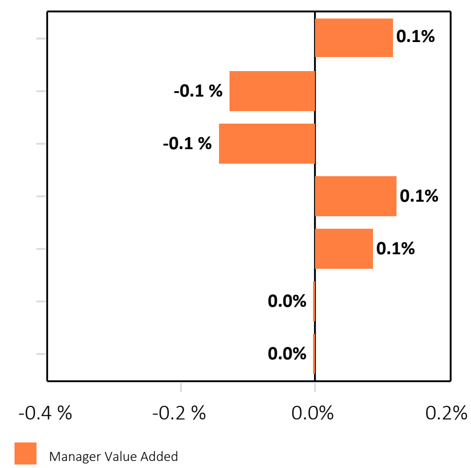
Total Asset Allocation:0.2%



Asset Allocation Value Added:0.2%



Total Manager Value Added:0.0%



 |

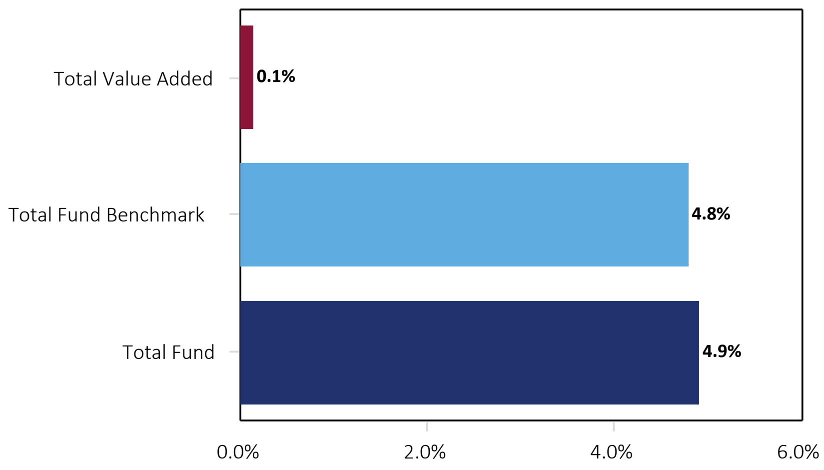
Wilshire

Total Fund Attribution

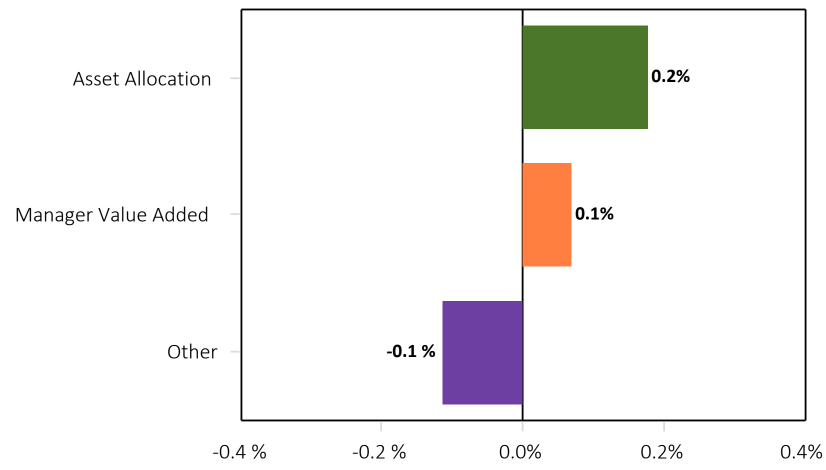
CERS (H) Pension Plan

Periods Ended 1 Quarter Ending September 30, 2024

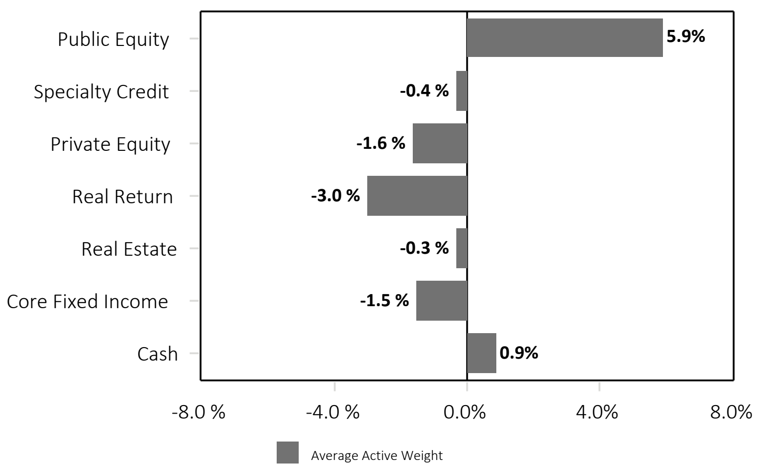
Total Fund Performance



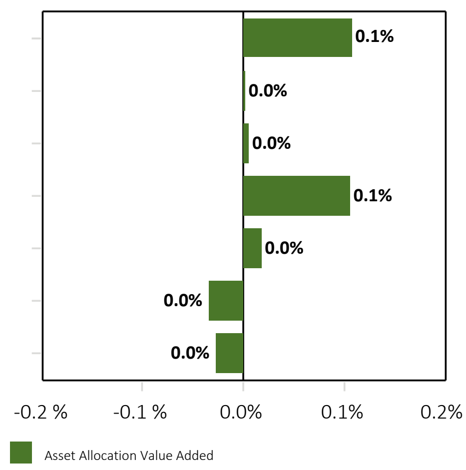
Total Value Added:0.1%



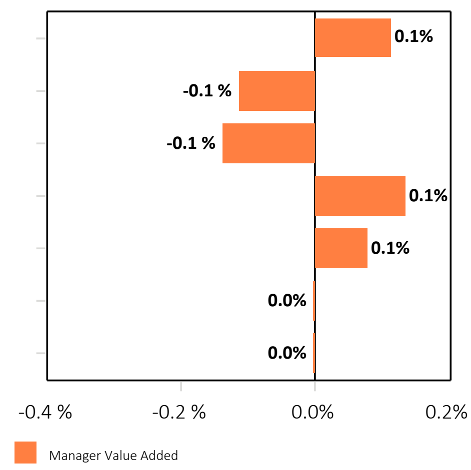
Total Asset Allocation:0.2%



Asset Allocation Value Added:0.2%



Total Manager Value Added:0.1%



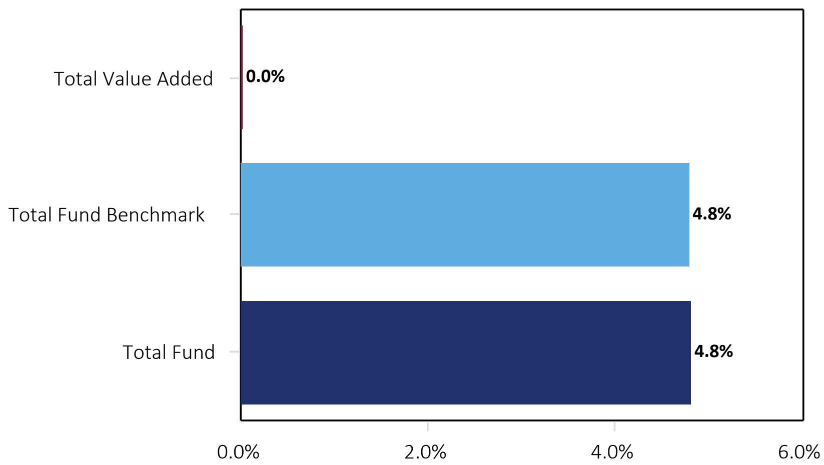
Wilshire

Total Fund Attribution

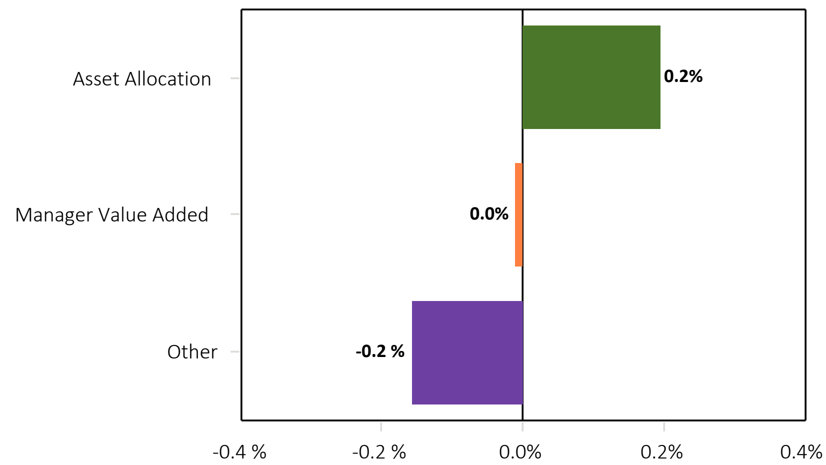
CERS Insurance Plan

Periods Ended 1 Quarter Ending September 30, 2024

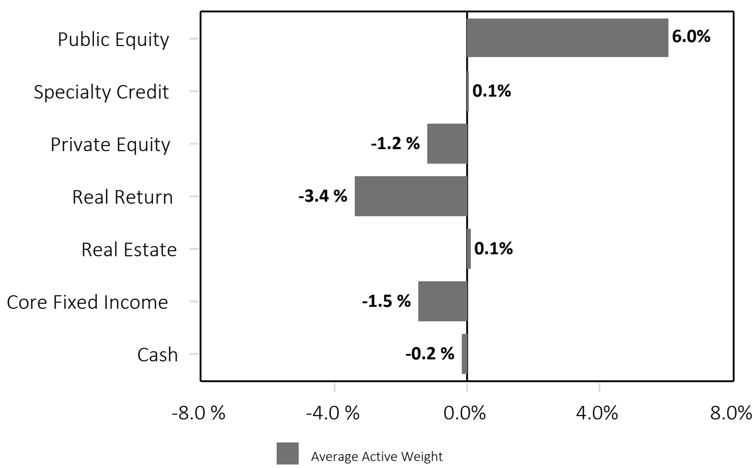
Total Fund Performance



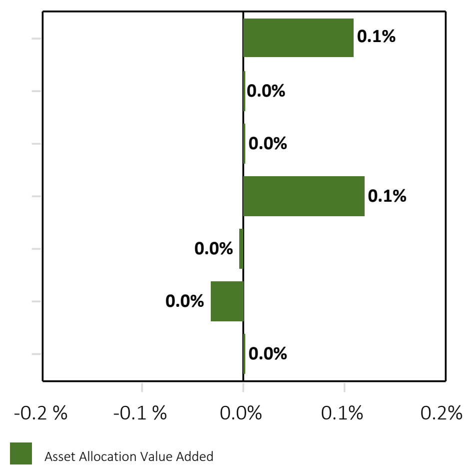
Total Value Added:0.0%



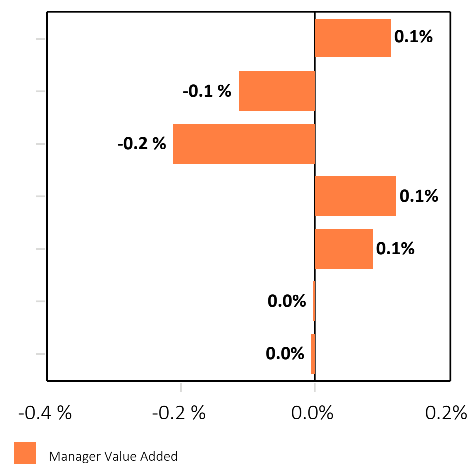
Total Asset Allocation:0.2%



Asset Allocation Value Added:0.2%



Total Manager Value Added:0.0%



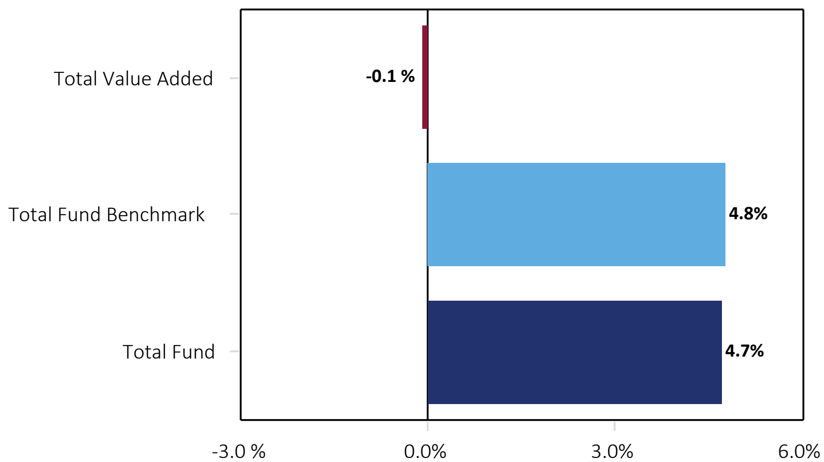
Wilshire

Total Fund Attribution

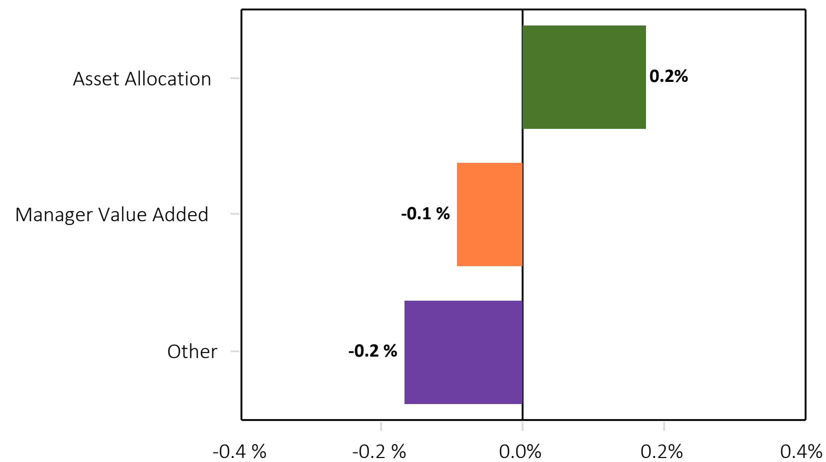
CERS (H) Insurance Plan

Periods Ended 1 Quarter Ending September 30, 2024

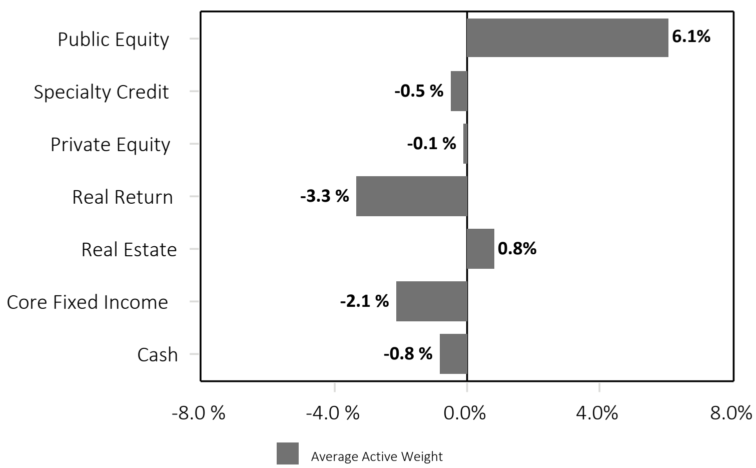
Total Fund Performance



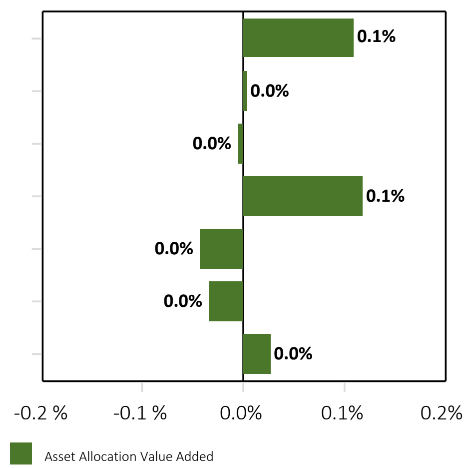
Total Value Added:-0.1 %



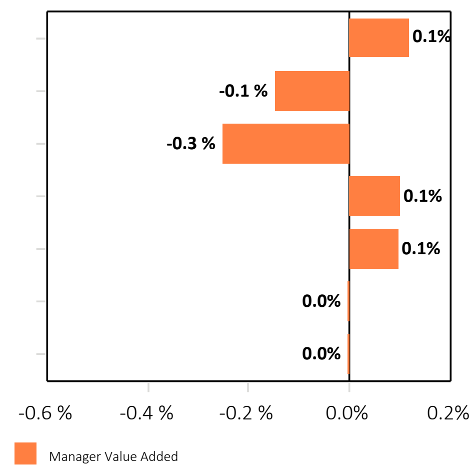
Total Asset Allocation:0.2%



Asset Allocation Value Added:0.2%



Total Manager Value Added:-0.1 %

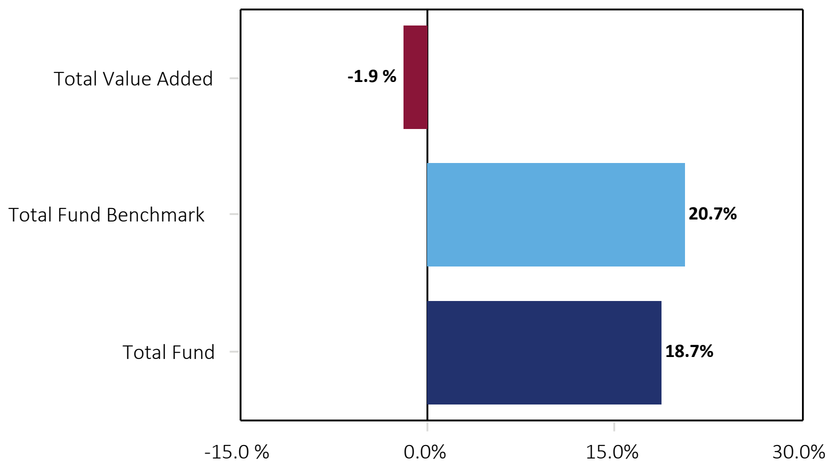


Total Fund Attribution

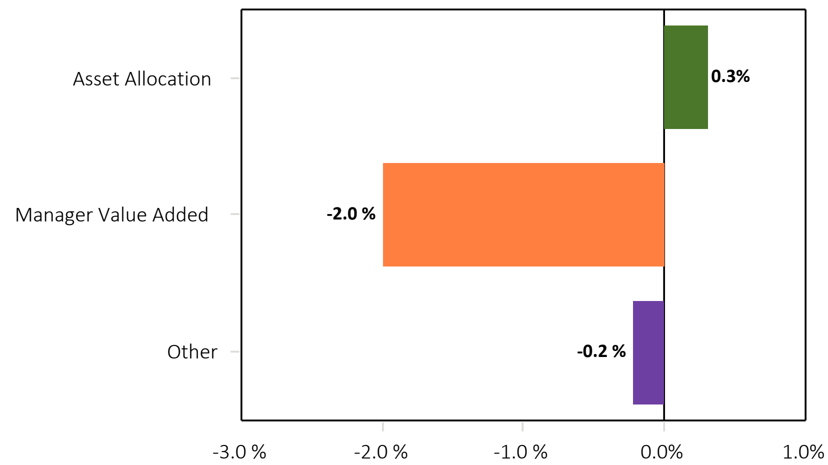
CERS Pension Plan

Periods Ended 1 Year Ending September 30, 2024

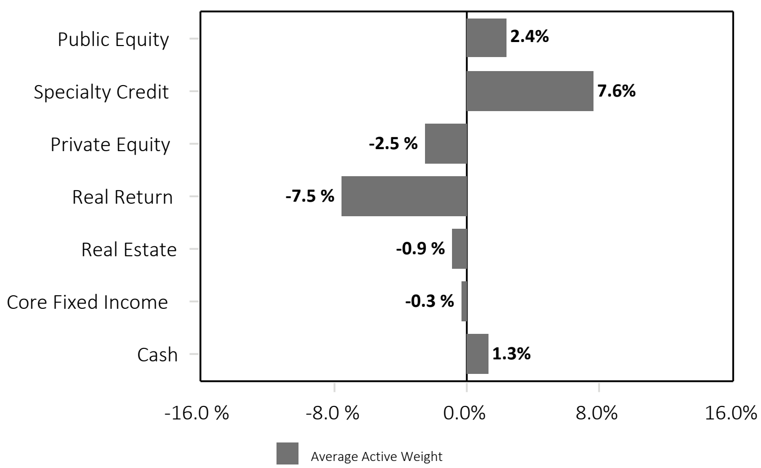
Total Fund Performance



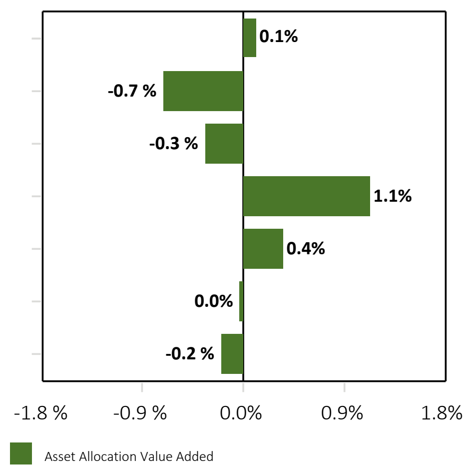
Total Value Added:-1.9 %



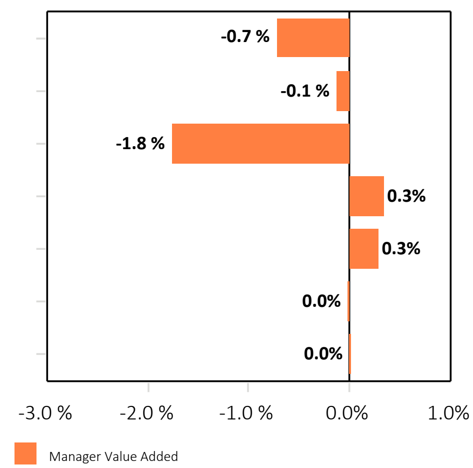
Total Asset Allocation:0.3%



Asset Allocation Value Added:0.3%



Total Manager Value Added:-2.0 %



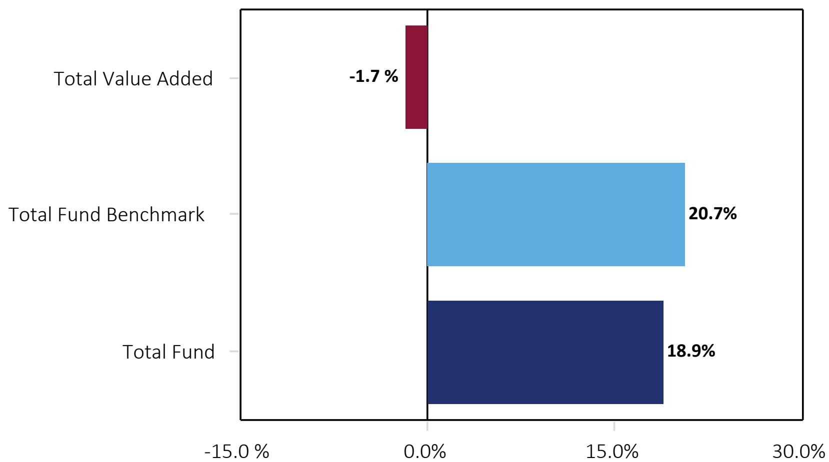
Wilshire

Total Fund Attribution

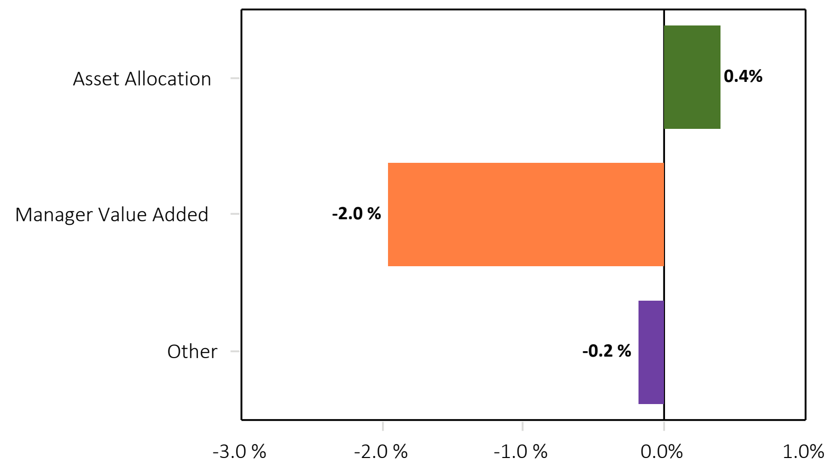
CERS (H) Pension Plan

Periods Ended 1 Year Ending September 30, 2024

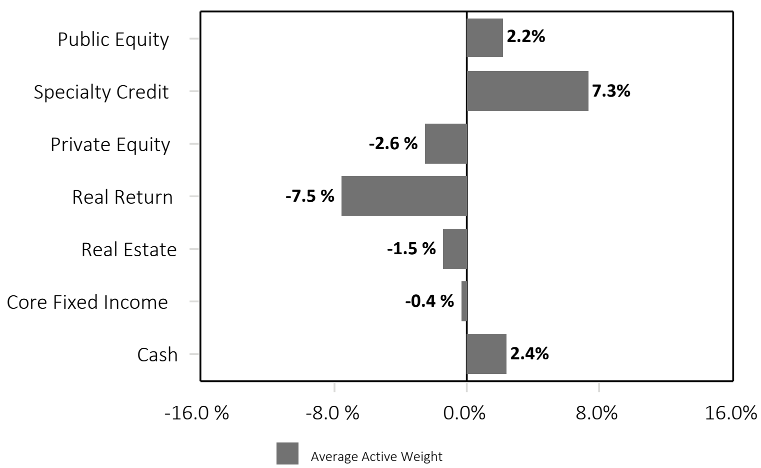
Total Fund Performance



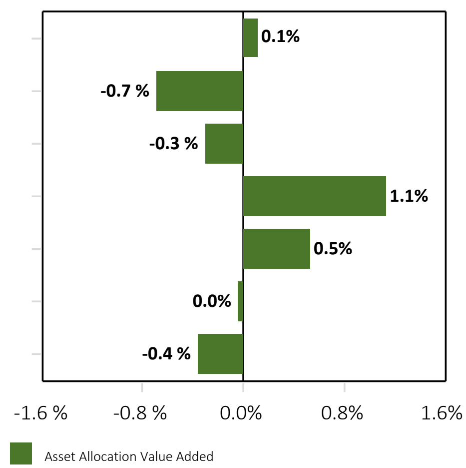
Total Value Added:-1.7 %



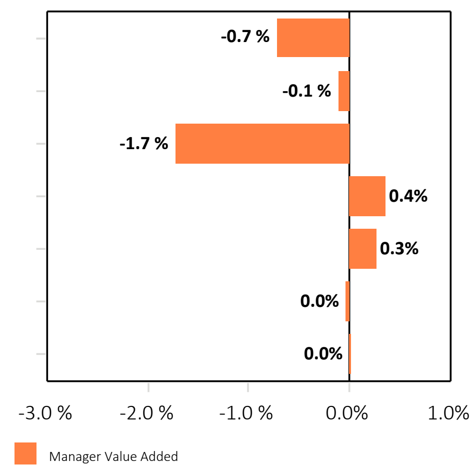
Total Asset Allocation:0.4%



Asset Allocation Value Added:0.4%



Total Manager Value Added:-2.0 %



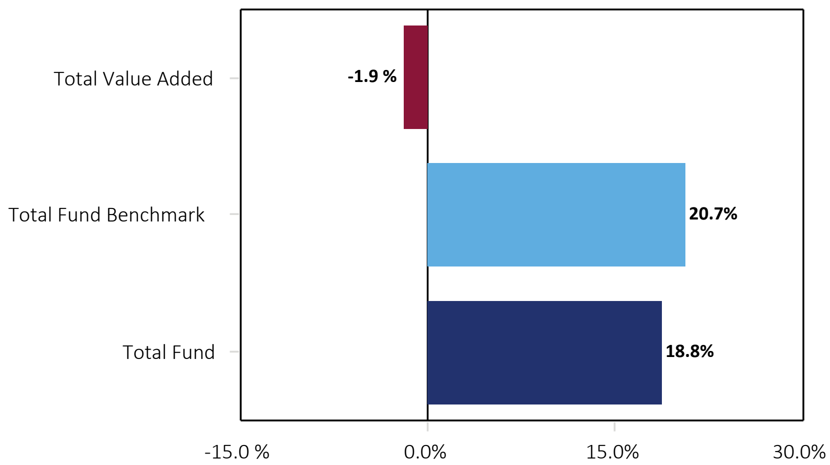
Wilshire

Total Fund Attribution

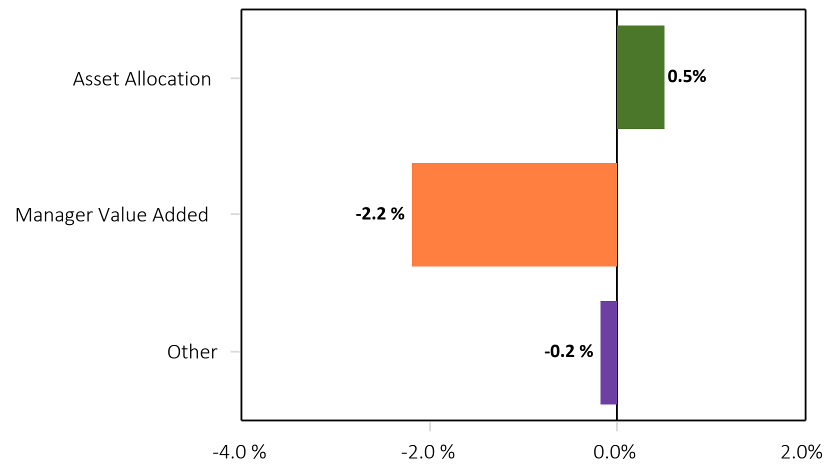
CERS Insurance Plan

Periods Ended 1 Year Ending September 30, 2024

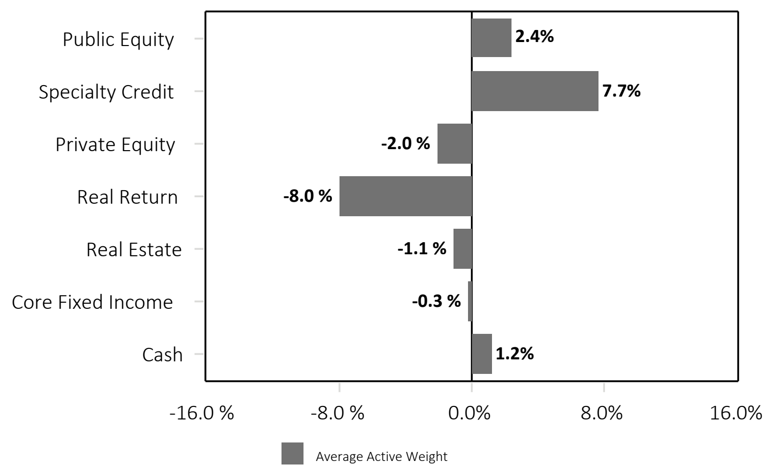
Total Fund Performance



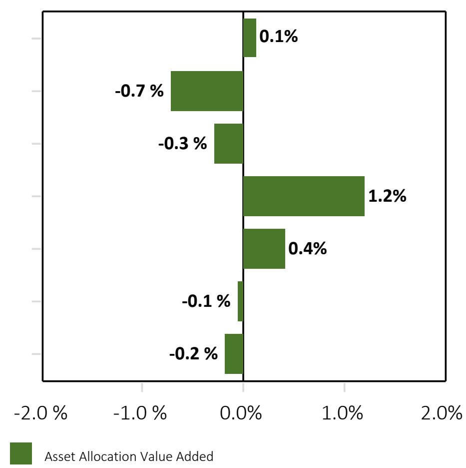
Total Value Added:-1.9 %



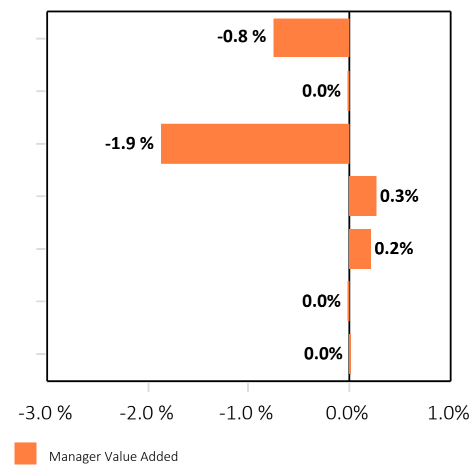
Total Asset Allocation:0.5%



Asset Allocation Value Added:0.5%



Total Manager Value Added:-2.2 %



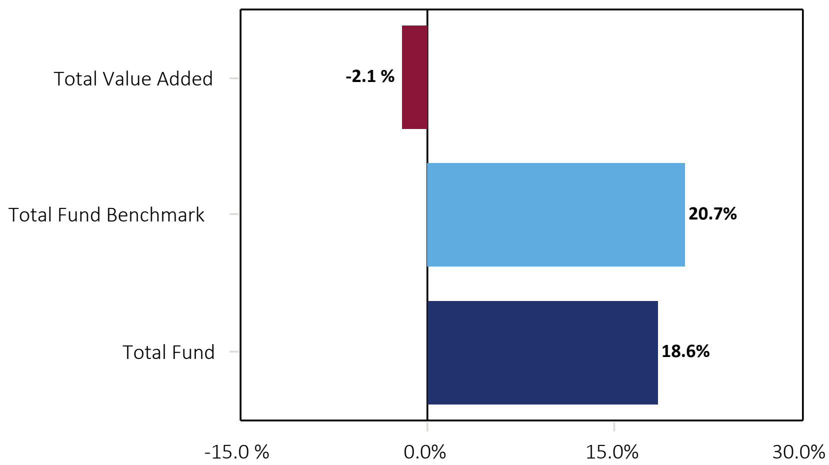
Wilshire

Total Fund Attribution

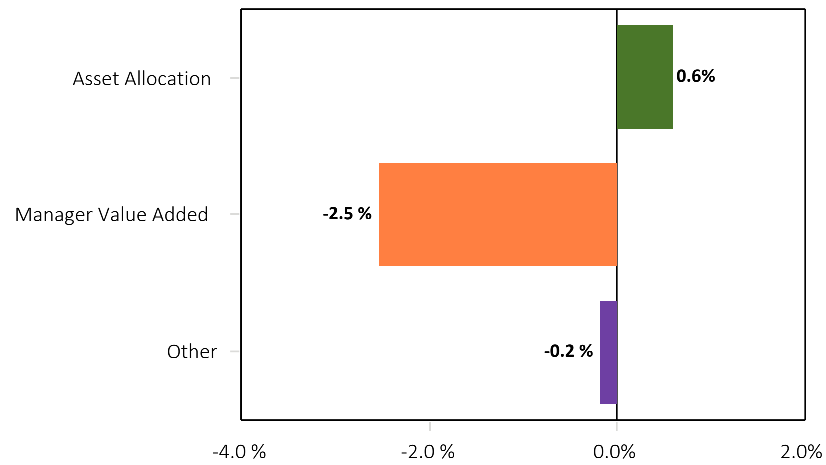
CERS (H) Insurance Plan

Periods Ended 1 Year Ending September 30, 2024

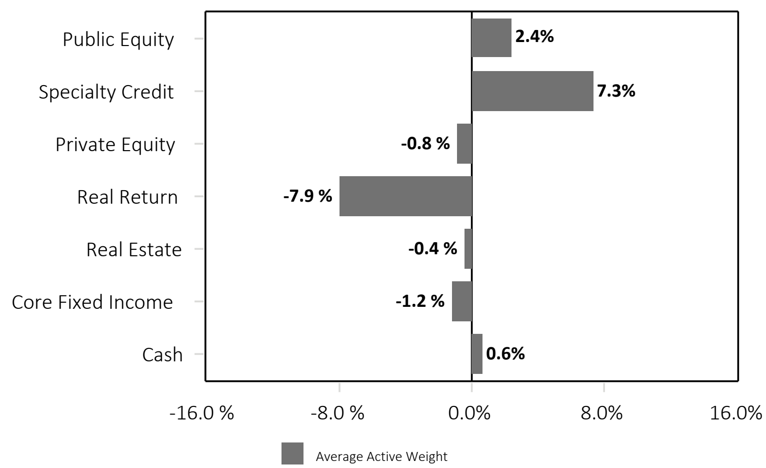
Total Fund Performance



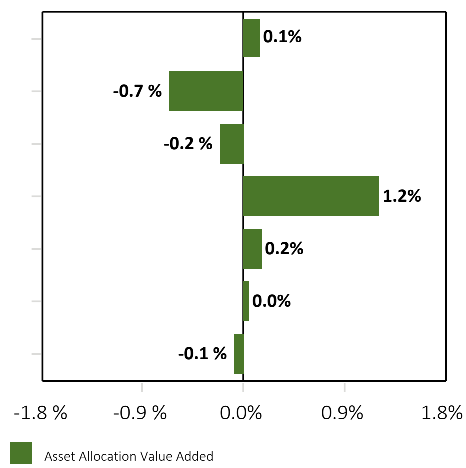
Total Value Added:-2.1 %



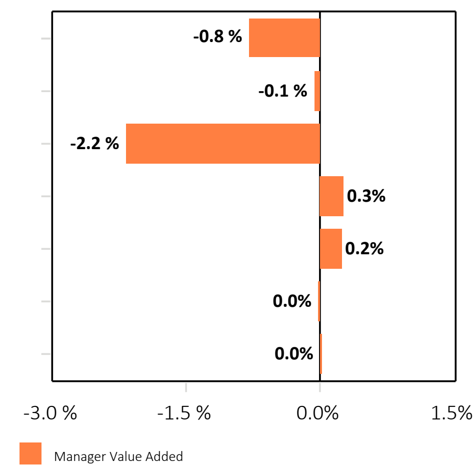
Total Asset Allocation:0.6%



Asset Allocation Value Added:0.6%



Total Manager Value Added:-2.5 %

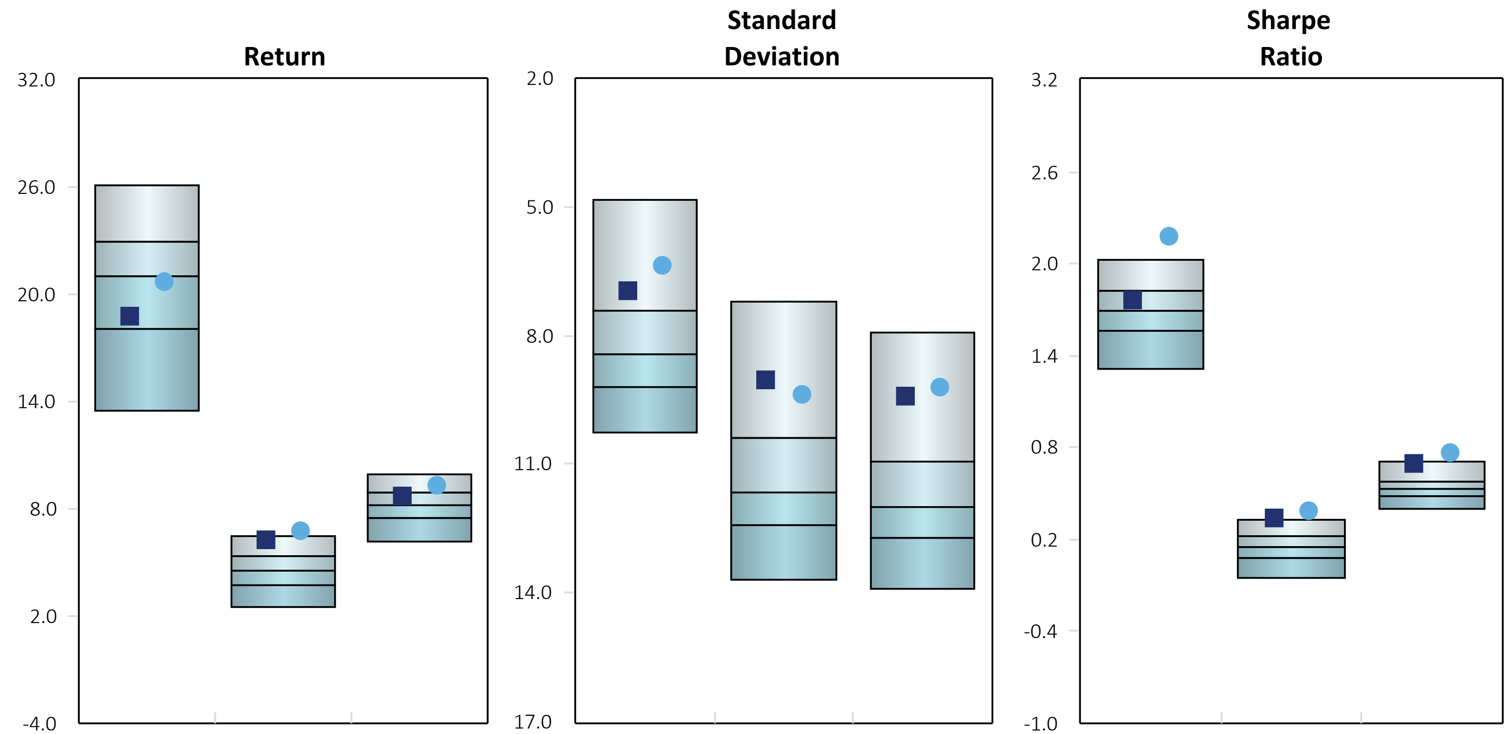


Wilshire

Plan Sponsor Peer Group Analysis - Multi Statistics

CERS Pension Plan vs All Public Plans-Total Fund

Periods Ended September 30, 2024



	Return			Standard Deviation			Sharpe Ratio		
	1 Year	**3 Years**	**5 Years**	**1 Year**	**3 Years**	**5 Years**	**1 Year**	**3 Years**	**5 Years**
■ CERS Pension Plan	18.75 (71)	6.25 (8)	8.74 (32)	6.96 (17)	9.01 (12)	9.40 (10)	1.76 (36)	0.34 (5)	0.69 (6)
● CERS Pension IPS Index	20.66 (54)	6.79 (3)	9.28 (16)	6.35 (12)	9.37 (14)	9.18 (9)	2.18 (2)	0.39 (4)	0.76 (4)
5th Percentile	26.08	6.48	9.95	4.85	7.22	7.92	2.02	0.33	0.71
1st Quartile	22.99	5.39	8.93	7.42	10.38	10.96	1.82	0.22	0.58
Median	20.98	4.54	8.25	8.44	11.64	12.01	1.69	0.15	0.54
3rd Quartile	18.03	3.74	7.51	9.18	12.44	12.72	1.57	0.08	0.49
95th Percentile	13.44	2.50	6.21	10.28	13.69	13.93	1.31	-0.05	0.40

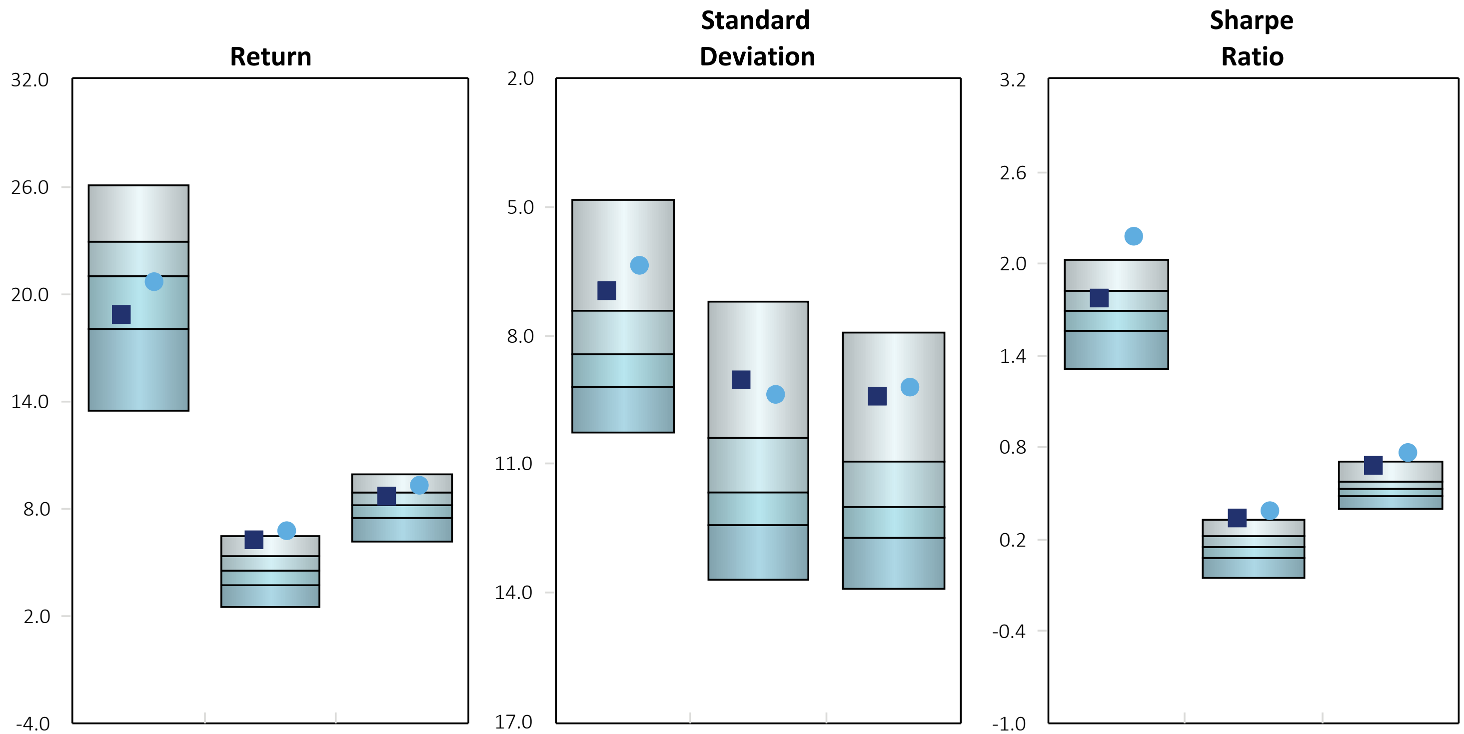
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Wilshire

Plan Sponsor Peer Group Analysis - Multi Statistics

CERS (H) Pension Plan vs All Public Plans-Total Fund

Periods Ended September 30, 2024



	Return 1 Year	Return 3 Years	Return 5 Years	Standard Deviation 1 Year	Standard Deviation 3 Years	Standard Deviation 5 Years	Sharpe Ratio 1 Year	Sharpe Ratio 3 Years	Sharpe Ratio 5 Years
■ CERS (H) Pension Plan	18.92 (70)	6.27 (8)	8.71 (33)	6.97 (18)	9.05 (12)	9.41 (10)	1.78 (33)	0.34 (5)	0.69 (6)
● CERS (H) Pension IPS Index	20.66 (54)	6.79 (3)	9.28 (16)	6.35 (12)	9.37 (14)	9.18 (9)	2.18 (2)	0.39 (4)	0.76 (4)
5th Percentile	26.08	6.48	9.95	4.85	7.22	7.92	2.02	0.33	0.71
1st Quartile	22.99	5.39	8.93	7.42	10.38	10.96	1.82	0.22	0.58
Median	20.98	4.54	8.25	8.44	11.64	12.01	1.69	0.15	0.54
3rd Quartile	18.03	3.74	7.51	9.18	12.44	12.72	1.57	0.08	0.49
95th Percentile	13.44	2.50	6.21	10.28	13.69	13.93	1.31	-0.05	0.40

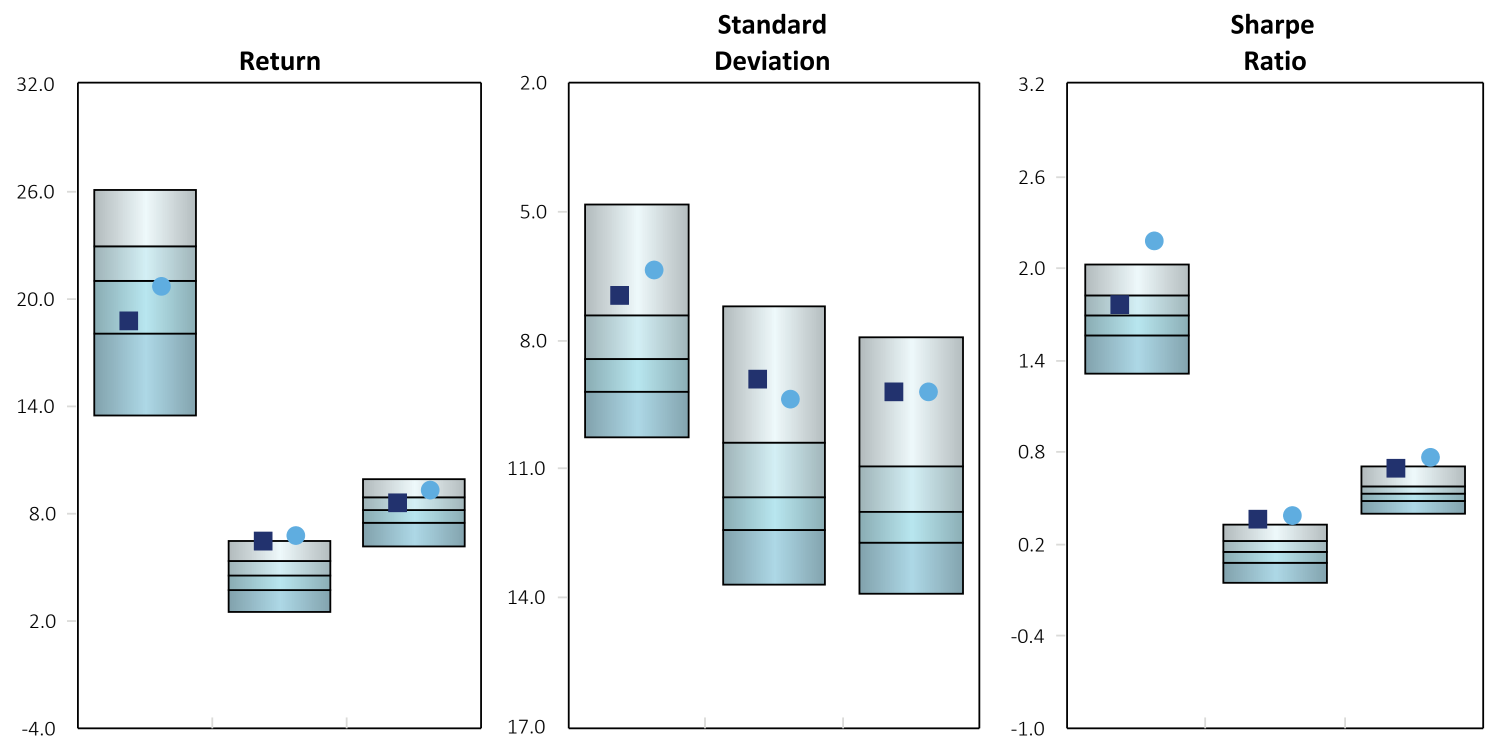
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Wilshire

Plan Sponsor Peer Group Analysis - Multi Statistics

CERS Insurance Plan vs All Public Plans-Total Fund

Periods Ended September 30, 2024



	Return 1 Year	Return 3 Years	Return 5 Years	Standard Deviation 1 Year	Standard Deviation 3 Years	Standard Deviation 5 Years	Sharpe Ratio 1 Year	Sharpe Ratio 3 Years	Sharpe Ratio 5 Years
■ CERS Insurance Plan	18.81 (70)	6.44 (6)	8.63 (35)	6.97 (17)	8.91 (12)	9.20 (10)	1.77 (35)	0.37 (5)	0.70 (6)
● CERS Insurance IPS Index	20.66 (54)	6.79 (3)	9.28 (16)	6.35 (12)	9.37 (14)	9.18 (9)	2.18 (2)	0.39 (4)	0.76 (4)
5th Percentile	26.08	6.48	9.95	4.85	7.22	7.92	2.02	0.33	0.71
1st Quartile	22.99	5.39	8.93	7.42	10.38	10.96	1.82	0.22	0.58
Median	20.98	4.54	8.25	8.44	11.64	12.01	1.69	0.15	0.54
3rd Quartile	18.03	3.74	7.51	9.18	12.44	12.72	1.57	0.08	0.49
95th Percentile	13.44	2.50	6.21	10.28	13.69	13.93	1.31	-0.05	0.40

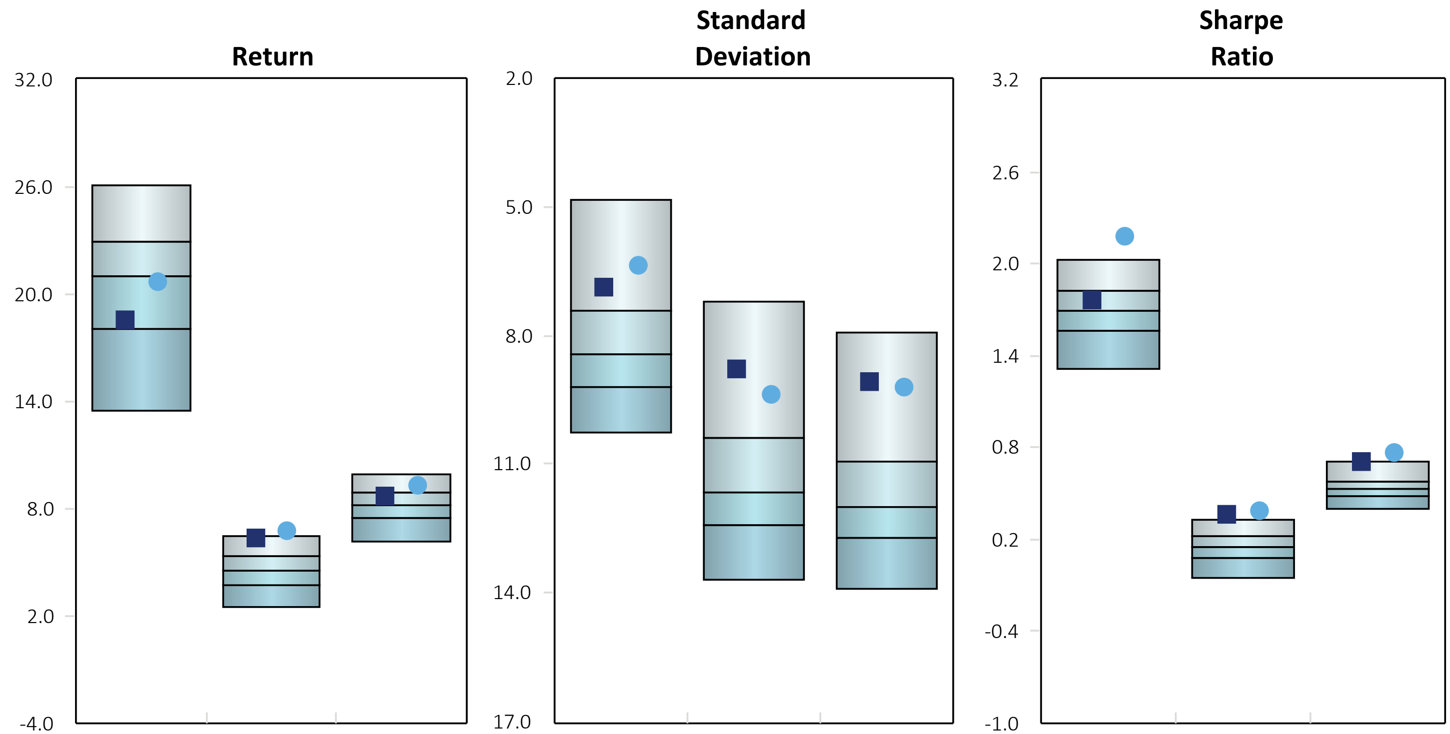
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Wilshire

Plan Sponsor Peer Group Analysis - Multi Statistics

CERS (H) Insurance Plan vs All Public Plans-Total Fund

Periods Ended September 30, 2024



	Return 1 Year	Return 3 Years	Return 5 Years	Standard Deviation 1 Year	Standard Deviation 3 Years	Standard Deviation 5 Years	Sharpe Ratio 1 Year	Sharpe Ratio 3 Years	Sharpe Ratio 5 Years
■ CERS (H) Insurance Plan	18.56 (72)	6.42 (6)	8.67 (34)	6.85 (17)	8.79 (10)	9.06 (9)	1.76 (36)	0.37 (4)	0.71 (5)
● CERS (H) Insurance IPS Index	20.66 (54)	6.79 (3)	9.28 (16)	6.35 (12)	9.37 (14)	9.18 (9)	2.18 (2)	0.39 (4)	0.76 (4)
5th Percentile	26.08	6.48	9.95	4.85	7.22	7.92	2.02	0.33	0.71
1st Quartile	22.99	5.39	8.93	7.42	10.38	10.96	1.82	0.22	0.58
Median	20.98	4.54	8.25	8.44	11.64	12.01	1.69	0.15	0.54
3rd Quartile	18.03	3.74	7.51	9.18	12.44	12.72	1.57	0.08	0.49
95th Percentile	13.44	2.50	6.21	10.28	13.69	13.93	1.31	-0.05	0.40

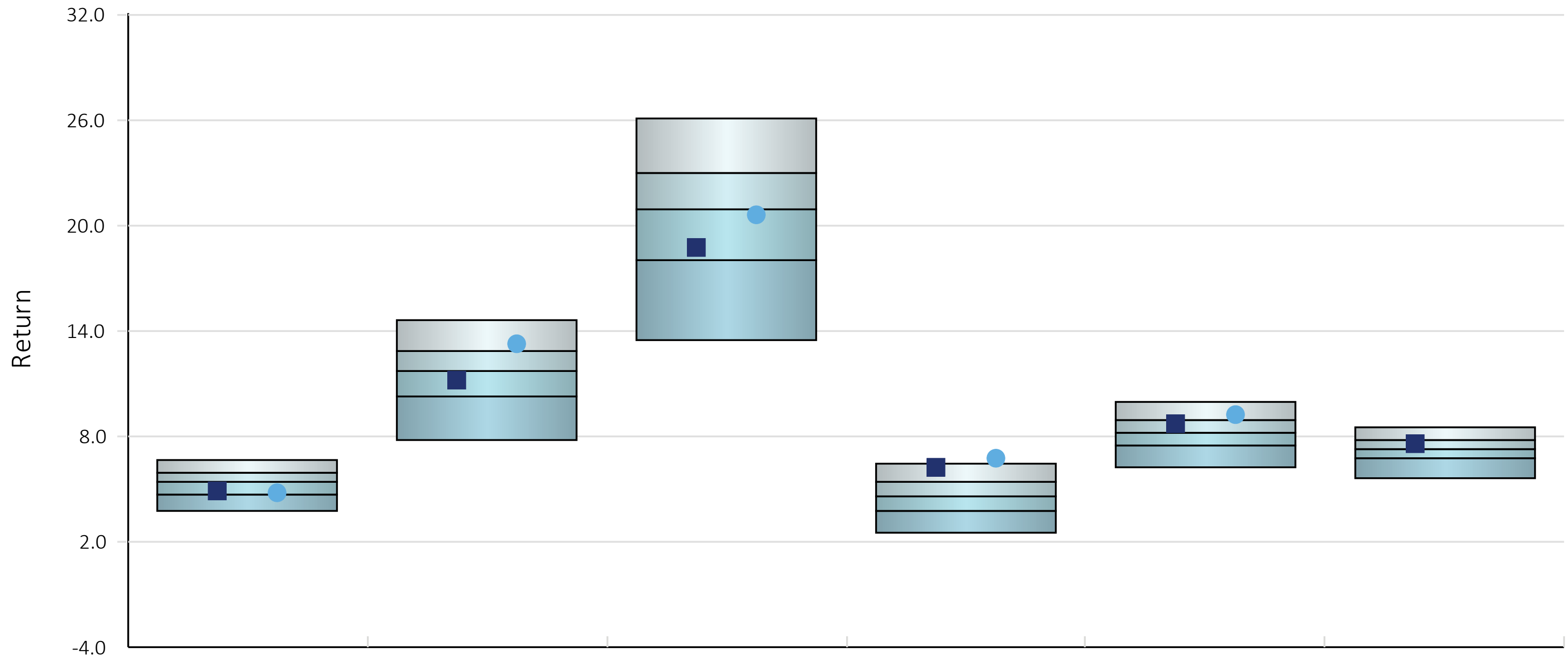
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Wilshire

Plan Sponsor Peer Group Analysis

CERS Pension Plan vs All Public Plans-Total Fund

Periods Ended September 30, 2024



	QTD	YTD	1 Year	3 Years	5 Years	10 Years
CERS Pension Plan	4.89 (69)	11.21 (63)	18.75 (71)	6.25 (8)	8.74 (32)	7.57 (35)
CERS Pension IPS Index	4.79 (74)	13.31 (19)	20.66 (54)	6.79 (3)	9.28 (16)	
5th Percentile	6.66	14.61	26.08	6.48	9.95	8.57
1st Quartile	5.92	12.91	22.99	5.39	8.93	7.77
Median	5.38	11.75	20.98	4.54	8.25	7.26
3rd Quartile	4.71	10.23	18.03	3.74	7.51	6.71
95th Percentile	3.73	7.80	13.44	2.50	6.21	5.62
Population	738	728	723	699	683	576

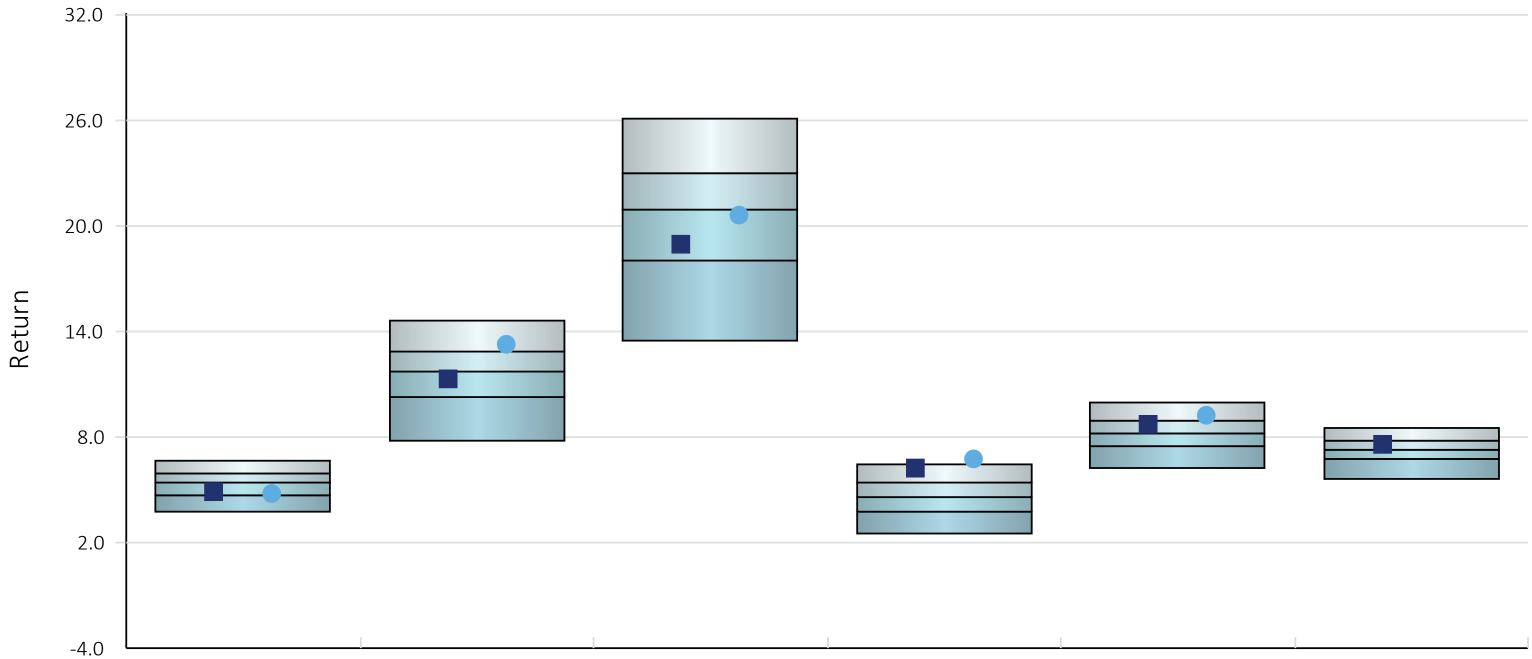
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Wilshire

Plan Sponsor Peer Group Analysis

CERS (H) Pension Plan vs All Public Plans-Total Fund

Periods Ended September 30, 2024



	QTD	YTD	1 Year	3 Years	5 Years	10 Years
■ CERS (H) Pension Plan	4.92 (69)	11.29 (61)	18.92 (70)	6.27 (8)	8.71 (33)	7.56 (35)
● CERS (H) Pension IPS Index	4.79 (74)	13.31 (19)	20.66 (54)	6.79 (3)	9.28 (16)	
5th Percentile	6.66	14.61	26.08	6.48	9.95	8.57
1st Quartile	5.92	12.91	22.99	5.39	8.93	7.77
Median	5.38	11.75	20.98	4.54	8.25	7.26
3rd Quartile	4.71	10.23	18.03	3.74	7.51	6.71
95th Percentile	3.73	7.80	13.44	2.50	6.21	5.62
Population	738	728	723	699	683	576

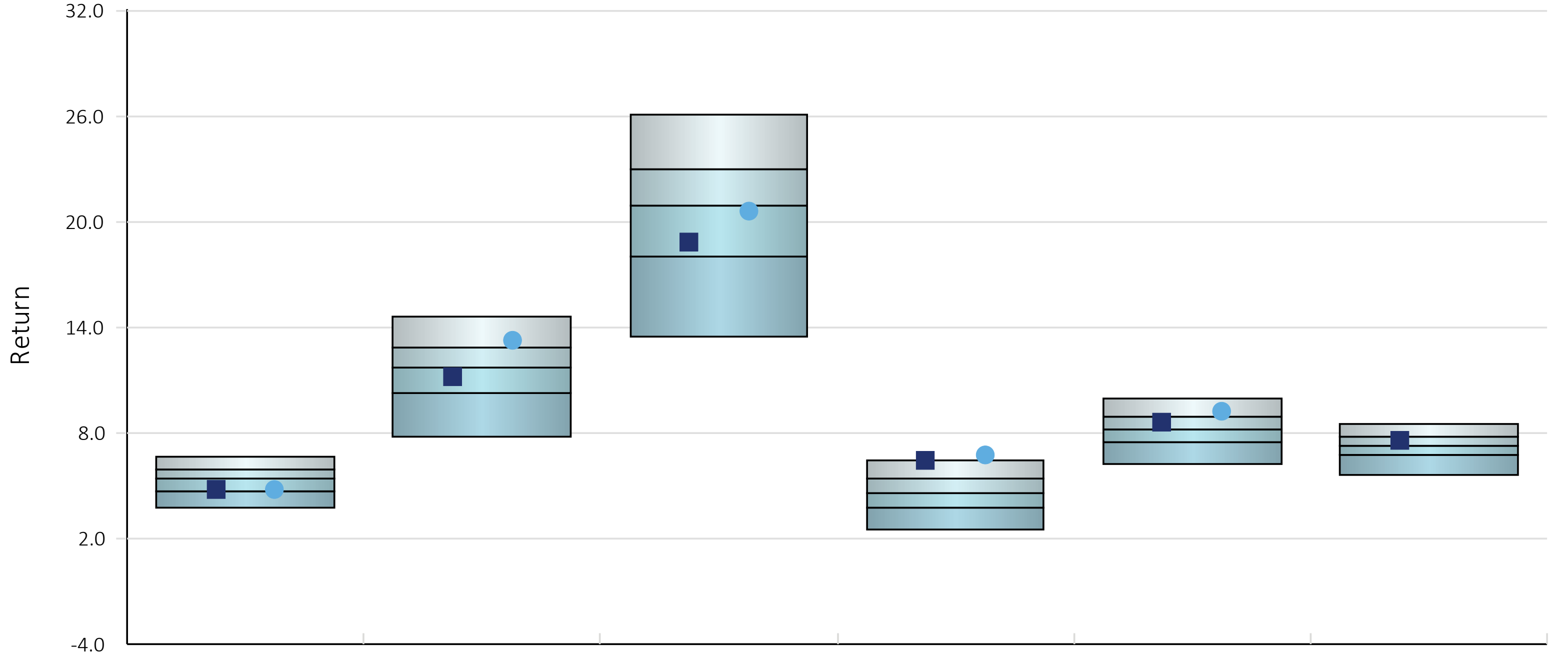
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Wilshire

Plan Sponsor Peer Group Analysis

CERS Insurance Plan vs All Public Plans-Total Fund

Periods Ended September 30, 2024



	QTD	YTD	1 Year	3 Years	5 Years	10 Years
■ CERS Insurance Plan	4.82 (73)	11.17 (63)	18.81 (70)	6.44 (6)	8.63 (35)	7.59 (34)
● CERS Insurance IPS Index	4.79 (74)	13.31 (19)	20.66 (54)	6.79 (3)	9.28 (16)	
5th Percentile	6.66	14.61	26.08	6.48	9.95	8.57
1st Quartile	5.92	12.91	22.99	5.39	8.93	7.77
Median	5.38	11.75	20.98	4.54	8.25	7.26
3rd Quartile	4.71	10.23	18.03	3.74	7.51	6.71
95th Percentile	3.73	7.80	13.44	2.50	6.21	5.62
Population	738	728	723	699	683	576

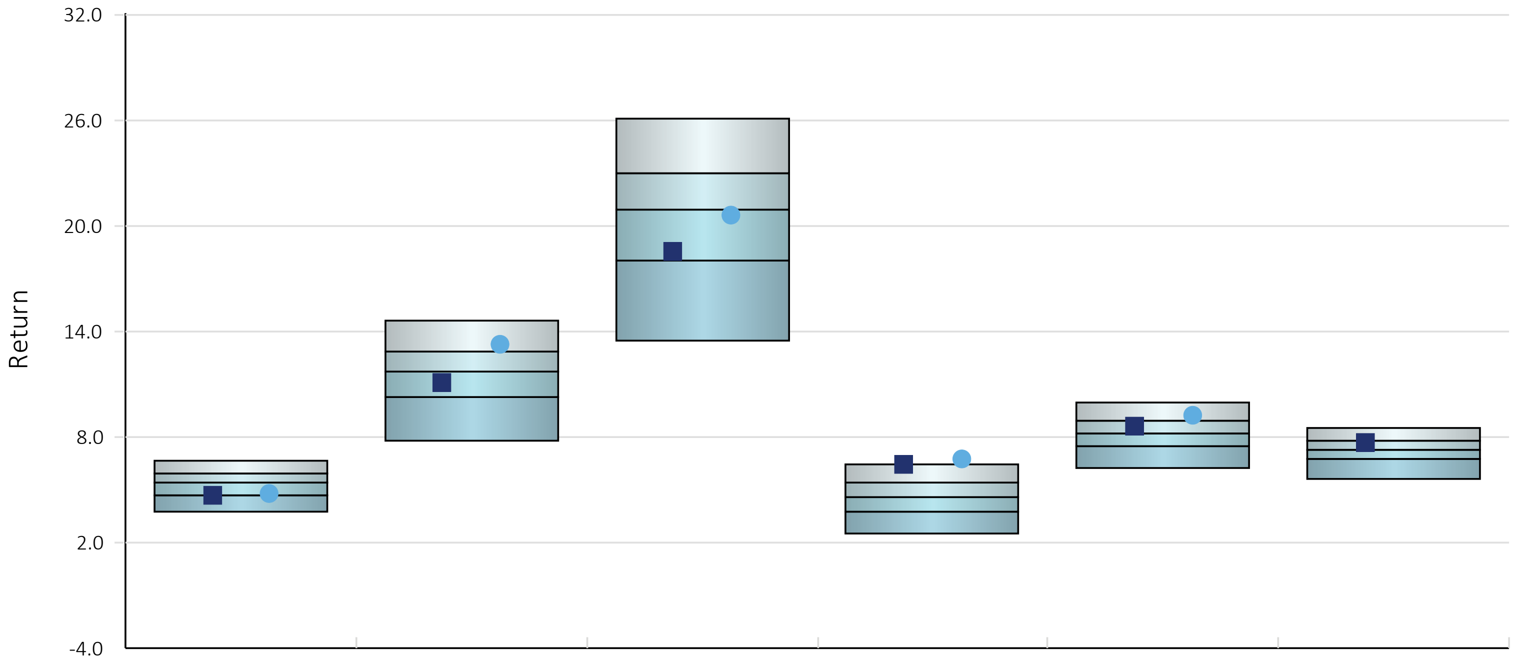
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Wilshire

Plan Sponsor Peer Group Analysis

CERS (H) Insurance Plan vs All Public Plans-Total Fund

Periods Ended September 30, 2024



	QTD	YTD	1 Year	3 Years	5 Years	10 Years
CERS (H) Insurance Plan	4.70 (76)	11.10 (64)	18.56 (72)	6.42 (6)	8.67 (34)	7.64 (32)
CERS (H) Insurance IPS Index	4.79 (74)	13.31 (19)	20.66 (54)	6.79 (3)	9.28 (16)	
5th Percentile	6.66	14.61	26.08	6.48	9.95	8.57
1st Quartile	5.92	12.91	22.99	5.39	8.93	7.77
Median	5.38	11.75	20.98	4.54	8.25	7.26
3rd Quartile	4.71	10.23	18.03	3.74	7.51	6.71
95th Percentile	3.73	7.80	13.44	2.50	6.21	5.62
Population	738	728	723	699	683	576

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

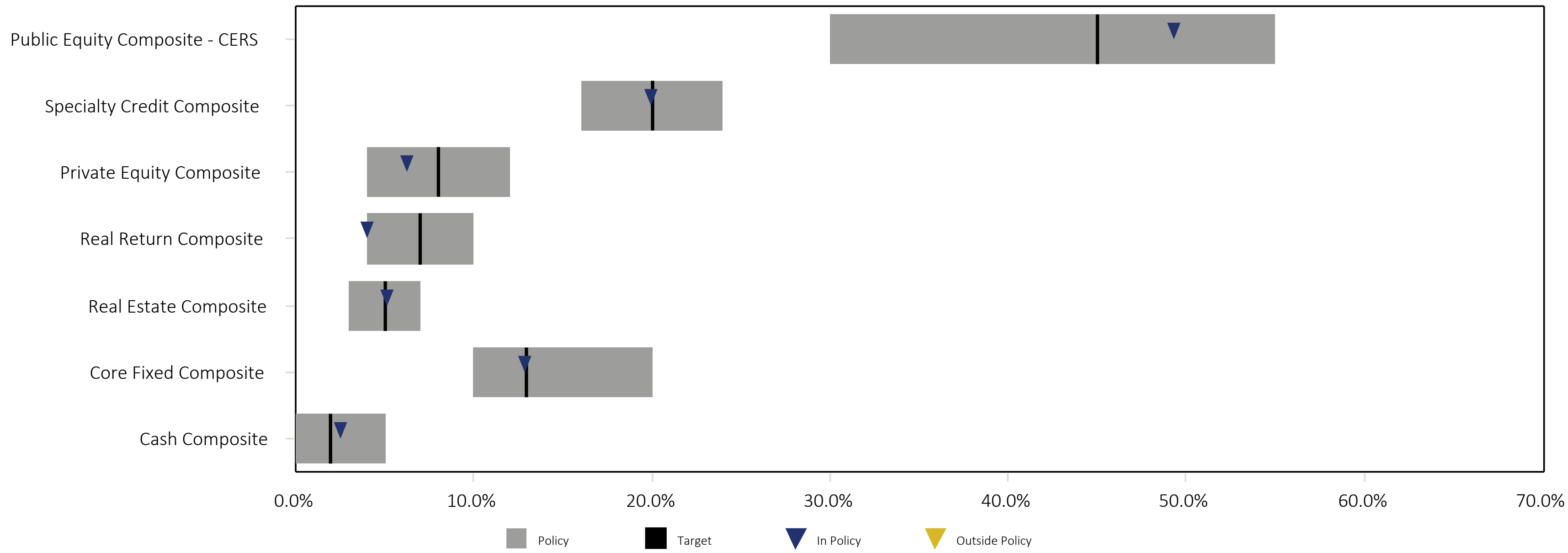
Wilshire

Asset Allocation Compliance

CERS Pension Plan

Periods Ended As of September 30, 2024

Executive Summary



	Asset Allocation $	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance $
CERS Pension Plan	10,044,169,836	100.00			100.00	
Public Equity Composite	4,949,778,136	49.28	30.00	55.00	45.00	-429,901,709
Specialty Credit Composite	2,000,196,446	19.91	16.00	24.00	20.00	8,637,521
Private Equity Composite	628,297,080	6.26	4.00	12.00	8.00	175,236,506
Real Return Composite	403,276,102	4.02	4.00	10.00	7.00	299,815,786
Real Estate Composite	512,454,040	5.10	3.00	7.00	5.00	-10,245,548
Core Fixed Composite	1,293,685,653	12.88	10.00	20.00	13.00	12,056,426
Cash Composite	256,482,380	2.55	0.00	5.00	2.00	-55,598,983

 |

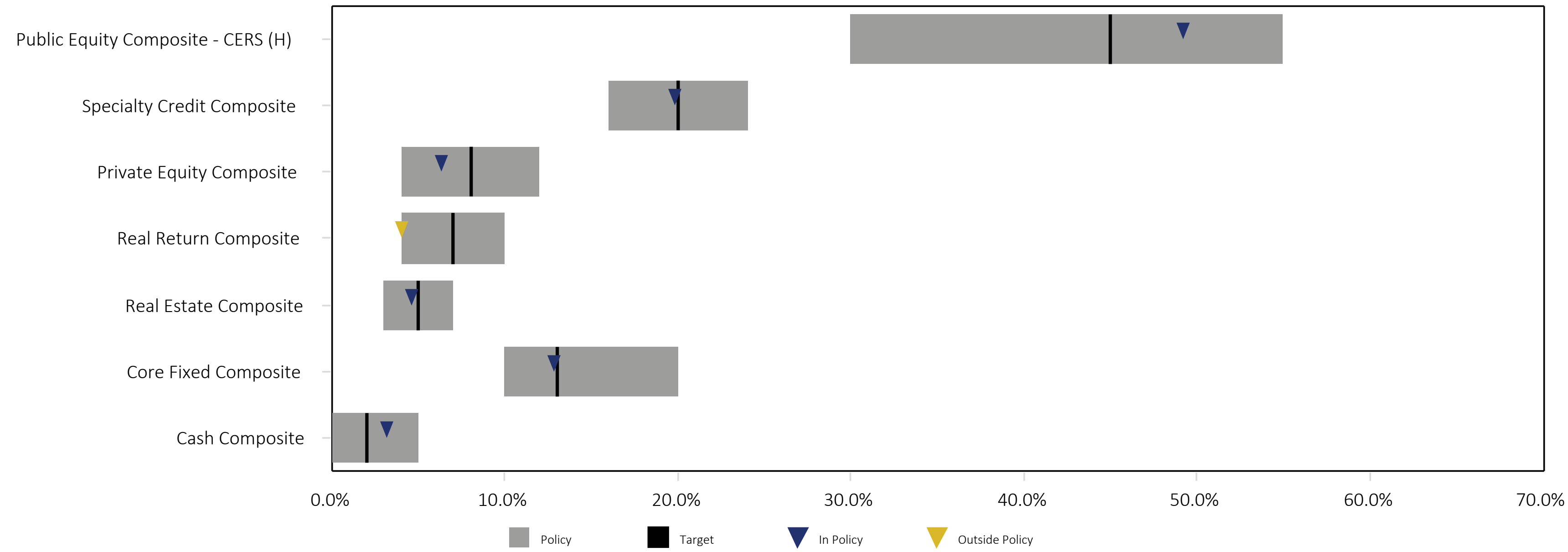
Wilshire

Asset Allocation Compliance

CERS (H) Pension Plan

Periods Ended As of September 30, 2024

Executive Summary



	Asset Allocation $	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance $
CERS (H) Pension Plan	3,568,481,449	100.00			100.00	
Public Equity Composite	1,757,841,963	49.26	30.00	55.00	45.00	-152,025,311
Specialty Credit Composite	707,546,756	19.83	16.00	24.00	20.00	6,149,534
Private Equity Composite	224,468,837	6.29	4.00	12.00	8.00	61,009,679
Real Return Composite	142,555,423	3.99	4.00	10.00	7.00	107,238,278
Real Estate Composite	163,162,043	4.57	3.00	7.00	5.00	15,262,029
Core Fixed Composite	458,513,018	12.85	10.00	20.00	13.00	5,389,570
Cash Composite	114,393,409	3.21	0.00	5.00	2.00	-43,023,780

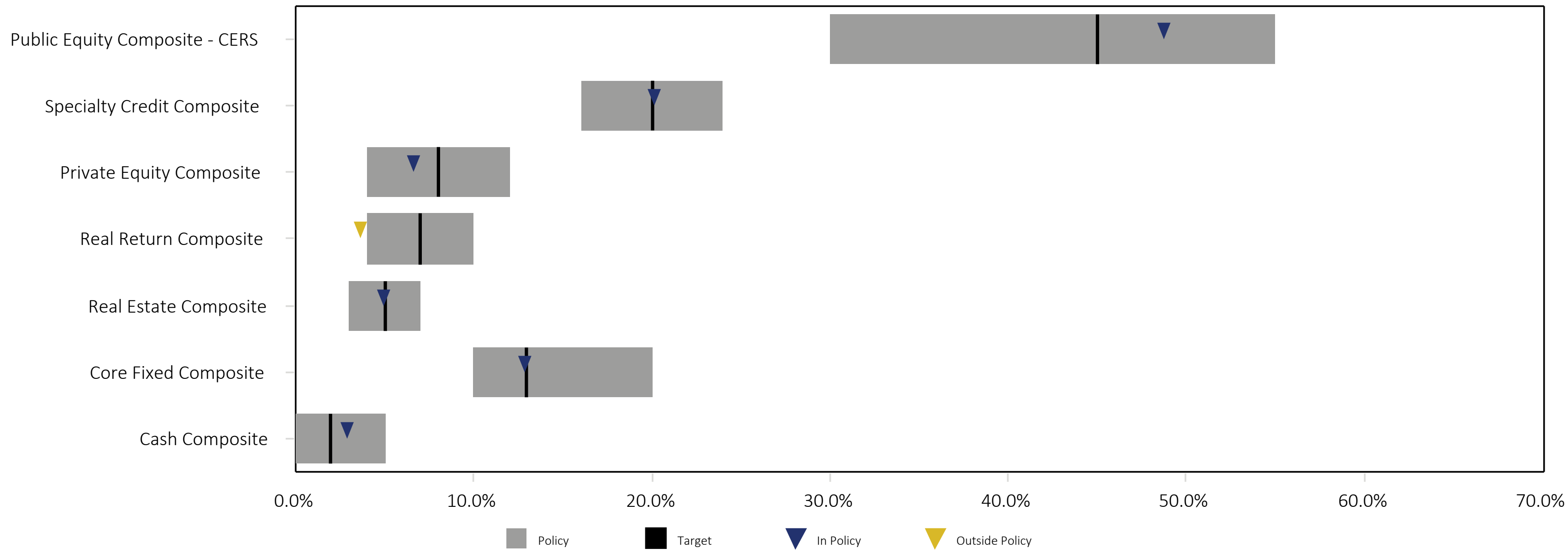
Wilshire

Asset Allocation Compliance

CERS Insurance Plan

Periods Ended As of September 30, 2024

Executive Summary



	Asset Allocation $	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance $
CERS Insurance Plan	3,726,876,733	100.00			100.00	
Public Equity Composite	1,817,265,714	48.76	30.00	55.00	45.00	-140,171,184
Specialty Credit Composite	750,917,991	20.15	16.00	24.00	20.00	-5,542,645
Private Equity Composite	248,352,882	6.66	4.00	12.00	8.00	49,797,256
Real Return Composite	135,665,913	3.64	4.00	10.00	7.00	125,215,459
Real Estate Composite	185,436,930	4.98	3.00	7.00	5.00	906,907
Core Fixed Composite	480,640,120	12.90	10.00	20.00	13.00	3,853,855
Cash Composite	108,597,183	2.91	0.00	5.00	2.00	-34,059,648

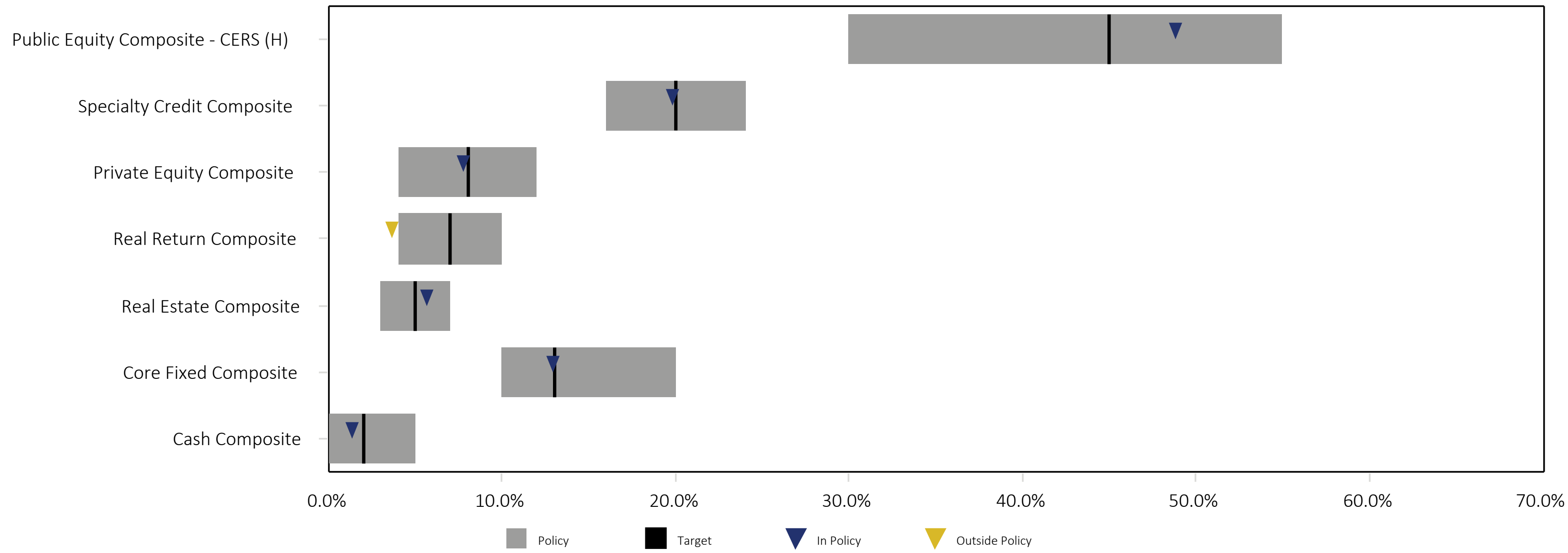
Wilshire

Asset Allocation Compliance

CERS (H) Insurance Plan

Periods Ended As of September 30, 2024

Executive Summary



	Asset Allocation $	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance $
CERS (H) Insurance Plan	1,788,110,053	100.00			100.00	
Public Equity Composite	873,193,797	48.83	30.00	55.00	45.00	-68,544,274
Specialty Credit Composite	354,844,242	19.84	16.00	24.00	20.00	2,777,768
Private Equity Composite	138,753,565	7.76	4.00	12.00	8.00	4,295,239
Real Return Composite	65,119,346	3.64	4.00	10.00	7.00	60,048,358
Real Estate Composite	101,756,115	5.69	3.00	7.00	5.00	-12,350,613
Core Fixed Composite	230,944,869	12.92	10.00	20.00	13.00	1,509,438
Cash Composite	23,498,118	1.31	0.00	5.00	2.00	12,264,083

 |

Wilshire

Asset Allocation & Performance

Total Fund

Periods Ended September 30, 2024

	Market Value $	Performance (%) net of fees										
		QTD	YTD	FYTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	Since Inception	Inception Date
CERS Pension Plan	**10,044,169,836**	**4.89**	**11.21**	**4.89**	**18.75**	**6.25**	**8.74**	**10.25**	**7.08**	**8.12**	**8.99**	**4/1/1984**
CERS Pension IPS Index		4.79	13.31	4.79	20.66	6.79	9.28					
Value Added		0.10	-2.10	0.10	-1.91	-0.54	-0.54					
Assumed Rate 6.50%		1.59	4.84	1.59	6.50	6.50	6.50					
Value Added		3.30	6.37	3.30	12.25	-0.25	2.24					
CERS Insurance Plan	**3,726,876,733**	**4.82**	**11.17**	**4.82**	**18.81**	**6.44**	**8.63**	**8.21**	**6.91**	**7.34**	**7.57**	**4/1/1987**
CERS Insurance IPS Index		4.79	13.31	4.79	20.66	6.79	9.28					
Value Added		0.03	-2.14	0.03	-1.85	-0.35	-0.65					
Assumed Rate 6.50%		1.59	4.84	1.59	6.50	6.50	6.50					
Value Added		3.23	6.33	3.23	12.31	-0.06	2.13					
CERS (H) Pension Plan	**3,568,481,449**	**4.92**	**11.29**	**4.92**	**18.92**	**6.27**	**8.71**	**10.25**	**7.07**	**8.12**	**8.99**	**4/1/1984**
CERS (H) Pension IPS Index		4.79	13.31	4.79	20.66	6.79	9.28					
Value Added		0.13	-2.02	0.13	-1.74	-0.52	-0.57					
Assumed Rate 6.50%		1.59	4.84	1.59	6.50	6.50	6.50					
Value Added		3.33	6.45	3.33	12.42	-0.23	2.21					
CERS (H) Insurance Plan	**1,788,110,053**	**4.70**	**11.10**	**4.70**	**18.56**	**6.42**	**8.67**	**8.21**	**6.93**	**7.36**	**7.58**	**4/1/1987**
CERS (H) Insurance IPS Index		4.79	13.31	4.79	20.66	6.79	9.28					
Value Added		-0.09	-2.21	-0.09	-2.10	-0.37	-0.61					
Assumed Rate 6.50%		1.59	4.84	1.59	6.50	6.50	6.50					
Value Added		3.11	6.26	3.11	12.06	-0.08	2.17					

Wilshire

Asset Allocation & Performance

Insurance Plan Accounts

Periods Ended September 30, 2024

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
Public Equity	**1.88**	**6.61**	**16.86**	**6.61**	**29.92**			**6.66**	12/1/2021
Public Equity Policy Index	2.32	6.61	18.66	6.61	31.76			7.61	
Value Added	-0.44	0.00	-1.80	0.00	-1.84			-0.95	
US Equity Composite	**1.76**	**6.10**	**19.84**	**6.10**	**33.97**	**9.96**	**14.72**	**10.40**	7/1/1992
Russell 3000 Index	2.07	6.23	20.63	6.23	35.19	10.29	15.26	10.63	
Value Added	-0.31	-0.13	-0.79	-0.13	-1.22	-0.33	-0.54	-0.23	
S&P 500 Index	**2.13**	**5.93**	**22.06**	**5.93**	**36.30**	**11.98**	**16.19**	**9.36**	7/1/2001
S&P 500 Index	2.14	5.89	22.08	5.89	36.35	11.91	15.98	8.96	
value added	-0.01	0.04	-0.02	0.04	-0.05	0.07	0.21	0.40	
Scientific Beta	**1.59**	**8.04**	**16.48**	**8.04**	**28.69**	**7.91**	**10.84**	**11.07**	7/1/2016
S&P 500 Index	2.14	5.89	22.08	5.89	36.35	11.91	15.98	15.04	
Value Added	-0.55	2.15	-5.60	2.15	-7.66	-4.00	-5.14	-3.97	
River Road FAV	**2.74**	**11.52**	**18.22**	**11.52**	**28.22**	**5.20**	**7.30**	**10.29**	7/1/2016
Russell 3000 Value Index	1.32	9.47	16.23	9.47	27.65	8.70	10.61	10.28	
Value Added	1.42	2.05	1.99	2.05	0.57	-3.50	-3.31	0.01	
Westfield Capital	**2.24**	**3.09**	**24.36**	**3.09**	**42.78**	**12.04**	**19.52**	**15.28**	7/1/2011
Russell 3000 Growth Index	2.76	3.42	24.00	3.42	41.47	11.31	19.09	15.81	
Value Added	-0.52	-0.33	0.36	-0.33	1.31	0.73	0.43	-0.53	
Internal US Mid Cap	**1.08**	**6.74**	**13.55**	**6.74**	**27.05**	**8.05**	**12.31**	**10.65**	8/1/2014
S&P MidCap 400 Index	1.16	6.94	13.54	6.94	26.79	7.47	11.78	10.18	
Value Added	-0.08	-0.20	0.01	-0.20	0.26	0.58	0.53	0.47	
NTGI Structured	**0.61**	**8.68**	**12.62**	**8.68**	**27.97**	**5.27**	**11.31**	**10.69**	7/1/2011
Russell 2000 Index	0.70	9.27	11.17	9.27	26.76	1.84	9.39	9.26	
Value Added	-0.09	-0.59	1.45	-0.59	1.21	3.43	1.92	1.43	

 Insurance Plan composite used for representative manager returns. Individual plan results may vary slightly due to cash flows.

Wilshire

Asset Allocation & Performance

Insurance Plan Accounts

Periods Ended September 30, 2024

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
Next Century Growth	-4.13	3.51	9.82	3.51	20.60	-4.78		19.80	11/1/2019
Russell Microcap Growth Index	0.43	8.57	9.29	8.57	26.38	-8.31		6.46	
Value Added	-4.56	-5.06	0.53	-5.06	-5.78	3.53		13.34	
Non-US Equity Composite	2.07	7.48	12.50	7.48	24.04	2.55	7.67	3.34	4/1/2000
MSCI ACWI ex US IMI (10/17)	2.74	8.18	13.90	8.18	25.06	3.74	7.66	3.48	
Value Added	-0.67	-0.70	-1.40	-0.70	-1.02	-1.19	0.01	-0.14	
BlackRock World Ex US	1.11	7.76	13.18	7.76	25.10	5.86	8.58	7.46	6/1/2012
MSCI World ex US (11/19)	1.11	7.76	13.10	7.76	24.98	5.65	8.42	7.35	
value added	0.00	0.00	0.08	0.00	0.12	0.21	0.16	0.11	
American Century	0.92	7.01	14.29	7.01	26.29	-1.83	8.16	6.33	7/1/2014
MSCI ACWI ex US IMI (10/17)	2.74	8.18	13.90	8.18	25.06	3.74	7.66	4.66	
Value Added	-1.82	-1.17	0.39	-1.17	1.23	-5.57	0.50	1.67	
Franklin Templeton	1.03	5.62	6.83	5.62	22.48	-6.28	3.13	4.59	7/1/2014
MSCI ACWI ex US IMI (10/17)	2.74	8.18	13.90	8.18	25.06	3.74	7.66	4.66	
Value Added	-1.71	-2.56	-7.07	-2.56	-2.58	-10.02	-4.53	-0.07	
Lazard Asset Mgmt	1.20	6.82	12.15	6.82	23.37	3.91	7.51	5.28	7/1/2014
MSCI ACWI ex US IMI (10/17)	2.74	8.18	13.90	8.18	25.06	3.74	7.66	4.66	
Value Added	-1.54	-1.36	-1.75	-1.36	-1.69	0.17	-0.15	0.62	
LSV Asset Mgmt	2.73	8.20	12.71	8.20	22.99	7.32	8.59	4.92	7/1/2014
MSCI ACWI ex US IMI (10/17)	2.74	8.18	13.90	8.18	25.06	3.74	7.66	4.66	
Value Added	-0.01	0.02	-1.19	0.02	-2.07	3.58	0.93	0.26	
Axiom	2.33	8.48	16.58	8.48	25.05			-3.71	12/1/2021
MSCI AC World ex USA Small Cap (Net)	3.01	8.90	11.93	8.90	23.25			2.75	
Value Added	-0.68	-0.42	4.65	-0.42	1.80			-6.46	

 Insurance Plan composite used for representative manager returns. Individual plan results may vary slightly due to cash flows.

Wilshire

Asset Allocation & Performance

Insurance Plan Accounts

Periods Ended September 30, 2024

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
JP Morgan Emerging Markets	**5.14**	**5.36**	**8.39**	**5.36**	**19.39**	**-6.65**		**3.26**	**11/1/2019**
MSCI Emerging Markets IMI Index	6.27	8.40	16.64	8.40	26.08	1.44		6.16	
Value Added	-1.13	-3.04	-8.25	-3.04	-6.69	-8.09		-2.90	
Pzena Emerging Markets	**9.65**	**11.55**	**18.47**	**11.55**	**25.38**	**10.07**		**11.12**	**11/1/2019**
MSCI Emerging Markets (Net)	6.68	8.72	16.86	8.72	26.05	0.40		4.96	
Value Added	2.97	2.83	1.61	2.83	-0.67	9.67		6.16	
Private Equity Composite	**1.22**	**1.63**	**4.26**	**1.63**	**4.98**	**8.44**	**11.94**	**10.73**	**7/1/2002**
Russell 3000 +3% 1 Quarter Lag	3.35	3.98	30.12	3.98	26.82	11.29	17.57	12.64	
Value Added	-2.13	-2.35	-25.86	-2.35	-21.84	-2.85	-5.63	-1.91	
Core Fixed Income Composite	**1.28**	**5.13**	**4.74**	**5.13**	**11.70**	**1.64**	**2.39**	**3.30**	**10/1/2018**
Blmbg. U.S. Aggregate Index	1.34	5.20	4.45	5.20	11.57	-1.39	0.33	1.93	
Value Added	-0.06	-0.07	0.29	-0.07	0.13	3.03	2.06	1.37	
NISA	**1.24**	**5.01**	**4.69**	**5.01**	**11.89**	**-0.95**	**0.54**	**2.40**	**7/1/2011**
Blmbg. U.S. Aggregate Index	1.34	5.20	4.45	5.20	11.57	-1.39	0.33	2.23	
Value Added	-0.10	-0.19	0.24	-0.19	0.32	0.44	0.21	0.17	
Loomis Sayles	**1.30**	**5.12**	**4.91**	**5.12**	**12.05**	**-0.07**	**1.36**	**2.15**	**2/1/2019**
Blmbg. U.S. Aggregate Index (Since 8/1/23)	1.34	5.20	4.45	5.20	11.57	-5.68	-1.50	1.59	
Value Added	-0.04	-0.08	0.46	-0.08	0.48	5.61	2.86	0.56	
Lord Abbett	**0.63**	**1.87**	**7.12**	**1.87**	**9.04**	**2.18**	**2.41**	**2.93**	**10/1/2018**
ICE BofA 1-3 Year U.S. Corporate Index	0.91	3.16	5.18	3.16	8.37	1.96	2.29	2.79	
Value Added	-0.28	-1.29	1.94	-1.29	0.67	0.22	0.12	0.14	
Internal Core Fixed Income	**1.32**	**5.28**	**4.55**	**5.28**	**11.88**			**8.29**	**9/1/2023**
Blmbg. U.S. Aggregate Index	1.34	5.20	4.45	5.20	11.57			8.04	
value added	-0.02	0.08	0.10	0.08	0.31			0.25	

 Insurance Plan composite used for representative manager returns. Individual plan results may vary slightly due to cash flows.

Wilshire

Asset Allocation & Performance

Insurance Plan Accounts

Periods Ended September 30, 2024

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
Cash Composite	**0.43**	**1.33**	**4.11**	**1.33**	**5.59**	**3.41**	**2.25**	**2.58**	7/1/1992
FTSE 3 Month T-Bill	0.44	1.37	4.17	1.37	5.63	3.63	2.38	2.48	
Value Added	-0.01	-0.04	-0.06	-0.04	-0.04	-0.22	-0.13	0.10	
Specialty Credit Composite	**1.38**	**3.07**	**8.76**	**3.07**	**12.44**	**7.31**	**6.91**	**6.97**	10/1/2018
Specialty Credit Policy Index	1.17	3.66	7.28	3.66	12.66	4.83	5.27	5.18	
Value Added	0.21	-0.59	1.48	-0.59	-0.22	2.48	1.64	1.79	
Cerberus Capital Mgmt	**0.96**	**1.24**	**5.13**	**1.24**	**6.76**	**8.57**	**10.00**	**9.28**	9/1/2014
Morningstar LSTA U.S. Leveraged Loan	0.71	2.04	6.54	2.04	9.59	6.47	5.74	4.76	
Value Added	0.25	-0.80	-1.41	-0.80	-2.83	2.10	4.26	4.52	
Columbia	**1.18**	**4.64**	**7.79**	**4.64**	**15.39**	**3.50**	**4.35**	**6.03**	11/1/2011
Blmbg. U.S. Corp: High Yield Index	1.62	5.28	8.00	5.28	15.74	3.10	4.72	5.97	
Value Added	-0.44	-0.64	-0.21	-0.64	-0.35	0.40	-0.37	0.06	
Manulife Asset Mgmt	**1.52**	**4.49**	**6.06**	**4.49**	**12.45**	**1.94**	**4.04**	**4.17**	12/1/2011
Policy Index	1.37	5.20	4.91	5.20	12.08	-1.05	0.70	1.56	
Value Added	0.15	-0.71	1.15	-0.71	0.37	2.99	3.34	2.61	
Marathon Bluegrass	**1.34**	**2.99**	**9.13**	**2.99**	**10.07**	**3.37**	**4.79**	**5.97**	1/1/2016
Blmbg. U.S. Corp: High Yield Index	1.62	5.28	8.00	5.28	15.74	3.10	4.72	6.46	
Value Added	-0.28	-2.29	1.13	-2.29	-5.67	0.27	0.07	-0.49	
Shenkman Capital	**0.79**	**2.56**	**6.18**	**2.56**	**9.73**	**5.68**	**5.14**	**4.48**	7/1/2011
Morningstar LSTA U.S. Leveraged Loan	0.71	2.04	6.54	2.04	9.59	6.47	5.74	4.86	
Value Added	0.08	0.52	-0.36	0.52	0.14	-0.79	-0.60	-0.38	
Waterfall	**0.35**	**1.66**	**9.88**	**1.66**	**10.40**	**7.34**	**5.07**	**8.17**	7/1/2011
Policy Index	1.16	3.85	7.20	3.85	12.47	3.84	4.37	4.52	
Value Added	-0.81	-2.19	2.68	-2.19	-2.07	3.50	0.70	3.65	

 | Insurance Plan composite used for representative manager returns. Individual plan results may vary slightly due to cash flows.

Wilshire

Asset Allocation & Performance

Insurance Plan Accounts

Periods Ended September 30, 2024

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
Arrowmark	0.94	3.72	11.56	3.72	16.31	13.35	11.39	11.07	6/1/2018
Morningstar LSTA U.S. Leveraged Loan	0.71	2.04	6.54	2.04	9.59	6.47	5.74	5.34	
Value Added	0.23	1.68	5.02	1.68	6.72	6.88	5.65	5.73	
Real Estate Composite	0.38	1.68	-3.83	1.68	-6.03	2.03	5.67	7.97	5/1/2009
NCREIF ODCE NOF 1 Quarter Lag	-0.66	-0.66	-8.06	-0.66	-9.99	1.02	2.27		
Value Added	1.04	2.34	4.23	2.34	3.96	1.01	3.40		
Internal Real Estate	3.40	17.11	14.23	17.11				15.45	12/1/2023
Baring	-4.27	-1.20	-22.10	-1.20	-22.41	-20.91	-6.24	-1.92	1/1/2019
Barings Euro RE II	8.79	12.36	7.21	12.36	-7.75	-8.16		-19.03	12/1/2020
Divcowest IV	1.95	1.95	-2.48	1.95	-0.39	7.17	5.41	14.81	3/1/2014
Fundamental Partners III	0.81	0.81	-0.26	0.81	-2.70	8.52	12.17	10.95	5/1/2017
Greenfield Acq VII	7.68	7.68	-0.84	7.68	1.76	7.89	11.71	12.44	7/1/2014
Lubert Adler VII	-1.13	-1.13	-18.74	-1.13	-22.44	-9.73	-9.70	-4.54	7/1/2014
Lubert Adler VII B	-4.40	-4.40	-0.39	-4.40	-3.31	15.62	16.84	12.97	7/1/2017
Harrison Street	0.00	0.45	-4.60	0.45	-6.33	2.74	4.09	6.42	5/1/2012
Mesa West Core Lend	0.92	0.92	-7.48	0.92	-7.79	-1.98	0.88	4.14	5/1/2013
Mesa West IV	-4.57	-4.57	-12.70	-4.57	-13.28	-9.48	-2.94	-0.23	3/1/2017
Patron Capital	0.58	3.87	-0.42	3.87	-0.62	-0.64	1.96	2.27	8/1/2016
Prologis Targeted US	0.00	1.09	-4.32	1.09	-5.70	8.29	12.30	13.76	10/1/2014
Rubenstein PF II	-13.54	-13.54	-43.86	-13.54	-55.84	-38.82	-27.43	-6.81	7/1/2013
Stockbridge Sm/Mkts	0.63	0.63	-0.17	0.63	-3.08	1.54	5.06	7.13	5/1/2014

 Insurance Plan composite used for representative manager returns. Individual plan results may vary slightly due to cash flows.

Wilshire

Asset Allocation & Performance

Insurance Plan Accounts

Periods Ended September 30, 2024

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
Walton St RE VI	-4.35	-4.35	-5.57	-4.35	-4.03	8.19	3.75	-10.09	5/1/2009
Walton St RE VII	-6.99	-6.99	-5.74	-6.99	-12.34	-6.38	-5.94	2.61	7/1/2013
Real Return Composite	3.14	6.64	13.15	6.64	14.62	10.59	8.95	5.57	7/1/2011
US CPI +3%	0.43	1.27	4.21	1.27	5.48	7.88	7.30	5.65	
Value Added	2.71	5.37	8.94	5.37	9.14	2.71	1.65	-0.08	
Tortoise Capital	0.18	6.01	29.19	6.01	33.53	28.36	15.45	11.46	8/1/2009
Alerian MLP Index	-0.29	0.72	18.56	0.72	24.46	25.47	13.50	8.61	
Value Added	0.47	5.29	10.63	5.29	9.07	2.89	1.95	2.85	
Internal TIPS	0.43	1.32	4.06	1.32	5.49	3.62	2.36	3.73	10/1/2003
Blmbg. U.S. TIPS 1-10 Year	1.28	3.50	4.93	3.50	9.01	1.00	3.26	3.43	
Value Added	-0.85	-2.18	-0.87	-2.18	-3.52	2.62	-0.90	0.30	
Internal Real Return	4.71	12.76	18.39	12.76				17.89	12/1/2023
Amerra AGRI Fund II	0.00	-2.94	-14.47	-2.94	-18.47	1.48	4.92	4.17	12/1/2012
Amerra AGRI Holdings	-0.82	-0.82	-6.03	-0.82	-11.61	-6.27	-4.90	-3.13	8/1/2015
BTG Pactual	-7.47	-7.47	-5.18	-7.47	-4.41	8.90	5.32	-0.84	12/1/2014
IFM Infrastructure	0.00	0.00	-0.68	0.00	4.47	4.56	4.84	4.60	7/1/2019
Blackstone Strat Opp	0.33	0.99	1.74	0.99	1.08	-0.87	-3.59	-2.28	8/1/2017
Magnetar MTP EOF II	61.16	61.16	131.93	61.16	129.37	103.92	68.34	35.03	8/1/2015
Maritime Partners	3.49	3.49	7.91	3.49	7.91			7.91	10/1/2023
Oberland Capital	45.01	45.01	52.18	45.01	54.60	25.85	20.43	17.23	10/1/2014
Taurus Mine Finance	1.65	1.65	12.82	1.65	7.18	32.15	12.75	8.50	1/1/2009
Tricadia Select	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-3.55	9/1/2017

 Insurance Plan composite used for representative manager returns. Individual plan results may vary slightly due to cash flows.

Wilshire

Asset Allocation & Performance

Insurance Plan Accounts

Periods Ended September 30, 2024

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
TPF II	-1.12	-1.12	27.42	-1.12	25.46	15.94	6.55	0.54	10/1/2008
Luxor Capital	-0.02	-0.05	2.71	-0.05	2.52	4.47	-4.18	-0.03	4/1/2014
Pine River	0.00	9.48	21.93	9.48	21.95	1.50	4.00	3.38	5/1/2014
PRISMA Capital	0.44	1.29	3.90	1.29	5.27	2.01	1.58	2.68	9/1/2011

 Insurance Plan composite used for representative manager returns. Individual plan results may vary slightly due to cash flows.

County Employees Retirement System

Compliance Report

Quarter Ending: September 30, 2024

CERS
County Employees Retirement System

Compliance Review Period Ended September 30, 2024	Compliance Status
Total assets assigned to the selected manager shall not exceed 25% of that firm's total assets under management and shall not exceed 25% of a firm's total assets under management in a commingled product. Separate accounts or funds of one are not included in this 25% limitation for commingled products.	🟢
The assets managed by any one active or passive investment manager shall not exceed 15% of the overall assets in the Pension and Insurance funds per KRS 61.650(5).*	🟢
Cash holdings do not exceed five percent (5%) of the manager's allocation for any given quarter.**	🟢
The KPPA Investment Staff may passively manage up to twenty (20%) percent of the overall portfolio dedicated to these efficient markets (Public Equity) CERS Pension - 20.4% CERSH Pension - 20.2% CERS Insurance - 20.1%	🔴
No more than fifteen (15) percent of the CERS Pension or Insurance total allocation to private equity investments may be committed to any one partnership, without the approval of the Board.	🟢
Maximum of thirteen (13%) percent of CERS Pan assets allocated to Private Equity	🟢

Legend

🟢 In Compliance

🟡 To be determined

🔴 Not In Compliance

Compliance Review Period Ended September 30, 2024	Compliance Status
All instruments in the Cash allocation shall have a maturity at the time of purchase that does not exceed 397 days. 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.	
No more than 50% of the total net assets of the Real Return portfolio may be invested in any one registered investment vehicle, mutual fund, or separately managed account.	
No more than 20% of the total net assets of the Real Return portfolio may be invested in any single closed-end or open-end limited partnership or other unregistered investment vehicle.	
The maximum investment in any co-investment vehicle shall not exceed 50 percent of the total capital committed by all partners at the time of the final closing.	
The maximum investment in any single direct co-investment shall not exceed 20 percent of the original partnership commitment.	
Total investment in direct co-investments shall not exceed 20 percent of the asset class portfolio on a cost basis at the time of investment.	
The amount of stock in the domestic or international equity allocation in any single corporation shall not exceed 5% of the aggregate market value of CERS' assets.	
The amount of stock held in the domestic or international equity allocation shall not exceed 3% of the outstanding shares of any single corporation.	

Legend

- In Compliance
- To be determined
- Not In Compliance

Compliance Review Period Ended September 30, 2024	Compliance Status
Investment in "frontier" markets (those countries not included in the MSCI EM Index) shall not exceed 5% of CERS' international equity assets.	In Compliance
The duration of the core fixed income portfolios combined shall not vary from that of CERS' Fixed Income Index by more than +/- 25% duration as measured by effective duration, modified duration, or dollar duration except when the Investment Committee has determined a target duration to be used for an interim basis.	In Compliance
The amount invested in the debt of a single issuer shall not exceed 5% of the total market value of CERS' fixed income assets, with the exception of U.S. Government issued, guaranteed or agency obligations (or securities collateralized by same).	In Compliance
50% of the core fixed income assets must have stated liquidity that is trade date plus three days or better.	In Compliance
CERS permits external managers and Staff to invest in derivative securities, or strategies which make use of derivative investments, for exposure, cost efficiency and risk management purposes, if such investments do not cause the portfolio to be leveraged beyond a 100% invested position.	In Compliance
Except for investments in Real Return investments, derivatives may not be used for any activity for which the primary purpose is speculation or to profit while materially increasing risk to CERS.	In Compliance
External Investment Managers shall manage assets in accordance with this IPS and any additional guidelines established by contract, as may be modified in writing from time to time.	In Compliance

Legend

- In Compliance
- To be determined
- Not In Compliance

Compliance Review Period Ended September 30, 2024	Compliance Status
IPS Asset Allocation Guidelines	
CERS Insurance - Real Return allocation 3.6% < minimum 4.0%	
CERSH Insurance - Real Return allocation 3.6% < minimum 4.0%	

Legend

- In Compliance
- To be determined
- Not In Compliance

** Only applies to external manager and not assets managed by KPPA Investment Staff*

*** Excludes cash holdings that are an integral part of a fixed income manager's investment strategy.*

County Employees Retirement System

Capital Calls and Distributions

Quarter Ending: September 30, 2024

Kentucky Public Pensions Authority
Capital Calls and Distributions
For the period July 1, 2024 thru September 30, 2024
County Employees Retirement System

Pension Funds Managers	Total Pension Fund Commitment	CERS Commitment	CERS Beginning Valuation	CERS Period Contributions	CERS Period Distributions	CERS Ending Valuation	CERS Haz Commitment	CERS Haz Beginning Valuation	CERS Haz Period Contributions	CERS Haz Period Distributions	CERS Haz Ending Valuation
Adams Street SPC II A1	175,000,000	97,124,912	82,565,093	0	2,227,691	80,337,401	32,749,407	27,840,003	0	751,152	27,088,851
Adams Street SPC II B1	175,000,000	97,124,911	78,822,400	1,477,333	5,072,297	75,227,436	32,749,407	26,578,010	498,140	1,710,320	25,365,829
Adams Street SPC III A1	174,750,000	88,004,101	5,196,715	8,774,062	0	13,970,777	32,241,316	1,903,877	3,214,479	0	5,118,355
Adams Street SPC III B1	174,750,000	88,004,098	4,936,700	0	0	4,936,700	32,241,314	1,808,617	0	0	1,808,617
AMERRA Agri Fund II, LP	40,100,000	27,641,371	10,810,650	0	142,271	10,668,379	8,727,285	3,413,276	0	44,920	3,368,356
AMERRA-KRS Agri Holding Company, LP	65,000,000	44,805,214	21,753,420	2,229,115	1,089,112	22,893,423	14,146,472	6,868,266	703,805	343,868	7,228,203
Arcano KRS Fund I, L.P.	36,000,000	15,587,717	5,469,212	0	0	5,469,212	4,852,329	1,702,521	0	0	1,702,521
Arctos Sports Partners Fund II	85,000,000	42,000,000	8,551,099	1,055,516	0	9,606,615	18,000,000	3,664,757	452,364	0	4,117,121
Arctos Sports Partners Fund II Co-Investments LP	85,000,000	42,000,000	25,390,944	204,524	0	25,595,467	18,000,000	10,881,833	87,653	0	10,969,486
Ares Special Situations Fund IV, L.P.	26,192,000	17,935,797	13,526,270	0	0	13,526,270	6,121,833	4,616,777	0	0	4,616,777
Barings Euro Real Estate II	166,012,438	93,398,599	26,679,046	0	0	27,781,805	29,533,607	8,436,191	0	0	8,784,895
Barings Real Estate European Value Add I SCSp	117,185,250	65,928,423	17,018,909	2,446,991	0	20,211,214	20,847,252	5,381,556	773,764	0	6,390,996
Bay Hills Capital I, L.P.	67,500,000	29,226,970	2,682,256	0	0	2,682,256	9,098,116	834,964	0	0	834,964
Bay Hills Capital III, L.P.	51,250,000	35,095,051	33,133,852	0	0	33,133,852	11,978,618	11,309,222	0	0	11,309,222
Bay Hills Emerging Partners II LP	45,000,000	19,484,647	38,560,418	0	0	38,560,418	6,065,411	12,003,542	0	0	12,003,542
Bay Hills Emerging Partners II-B LP	45,000,000	19,484,647	25,285,434	0	0	25,285,434	6,065,411	7,871,149	0	0	7,871,149
BDCM Opportunity Fund IV, L.P.	35,580,000	24,364,524	39,799,017	0	1,391,614	38,407,403	8,316,082	13,584,172	0	474,985	13,109,187
Blackstone Capital Partners V, L.P.	47,174,735	20,426,290	8,898	0	0	8,898	6,358,537	2,770	0	0	2,770
Blackstone Capital Partners VI, L.P.	60,000,000	38,220,311	9,336,576	0	405,991	8,930,585	18,479,695	4,514,277	0	196,298	4,317,979
Blue Torch Credit Opportunities Fund II LP	140,000,000	77,659,705	86,772,871	0	0	86,772,871	26,221,374	29,298,384	0	0	29,298,384
BSP Co-Invest Vehicle K LP	37,262,028	21,962,420	23,326,726	0	615,138	22,711,588	7,274,035	7,725,899	0	203,736	7,522,163
BSP Private Credit Fund	100,000,000	58,940,485	52,745,701	0	1,527,271	51,218,430	19,521,309	17,469,573	0	505,838	16,963,735
BTG Pactual Brazil Timberland Fund I	34,500,000	23,847,150	15,688,163	0	5,385,110	10,303,053	7,642,335	5,027,612	0	1,725,775	3,301,836
Camelot Opportunities Fund, L.P.	23,400,000	10,132,016	0	0	0	0	3,154,014	0	0	0	0
Cerberus KRS Levered Loan Opportunities Fund, L.P.	140,000,000	82,516,679	116,625,797	0	0	118,726,678	27,329,832	38,626,899	0	0	39,322,719
Ceres Farms	100,000,000										
Columbia Captal Equity Partners IV, L.P.	27,000,000	11,690,788	1,844,654	0	306,997	1,537,657	3,639,247	574,226	0	95,566	478,660
Crestview Partners II, L.P.	67,500,000	29,226,970	11,051,625	33,908	405,482	10,680,052	9,098,116	3,440,280	10,555	126,223	3,324,613
Crestview Partners III, L.P.	39,000,000	26,706,479	17,637,507	0	0	17,637,507	9,115,436	6,020,021	0	0	6,020,021
CS Adjacent Investment Partners Parallel LP	140,000,000	82,516,679	66,646,942	10,293,956	1,417,827	73,985,823	27,329,832	22,073,716	3,409,397	469,590	24,504,381
CVC European Equity Partners VI, L.P.	24,464,675	16,752,957	14,817,436	55,319	531,354	14,939,112	5,718,107	5,057,477	18,882	181,361	5,099,007
DAG Ventures II, L.P.	27,000,000	11,690,788	493,266	0	0	493,266	3,639,247	153,550	0	0	153,550
DAG Ventures III, L.P.	27,000,000	11,690,788	51,908	0	0	51,908	3,639,247	16,159	0	0	16,159
DAG Ventures IV, L.P.	90,000,000	38,969,294	11,628,880	0	0	11,628,880	12,130,822	3,619,975	0	0	3,619,975
DAG Ventures V, L.P.	8,000,000	5,096,042	12,836	0	0	12,836	2,463,959	6,206	0	0	6,206
DCM VI, L.P.	13,500,000	5,845,394	760,224	0	0	760,224	1,819,623	236,652	0	0	236,652
DivcoWest Fund IV	20,800,000	14,568,740	701,847	0	0	701,847	4,539,761	218,702	0	0	218,702
Elda River Opportunities Fund II	37,500,000	19,256,300	140,206	0	34,783	105,423	6,088,953	44,334	0	10,998	33,335
Fundamental Partners III LP	70,000,000	39,382,001	29,605,380	0	1,784,683	27,820,697	12,452,997	9,361,528	0	564,335	8,797,193
Green Equity Investors V, L.P.	90,000,000	38,969,294	222,659	0	0	222,659	12,130,822	69,312	0	0	69,312
Green Equity Investors VI, L.P.	32,000,000	20,384,166	20,914,474	0	512,713	20,401,761	9,855,837	10,112,244	0	247,899	9,864,344
Green Equity Investors VII LP	25,000,000	17,900,000	12,984,898	0	468,835	12,516,063	5,575,000	4,044,179	0	146,020	3,898,159
Greenfield Acquisition Partners VII, L.P.	27,800,000	19,471,678	1,146,923	0	61,096	1,085,827	6,067,572	357,393	0	19,038	338,355
H.I.G. BioVentures II, L.P.	13,500,000	8,599,570	4,338,461	0	0	4,338,461	4,157,931	2,097,666	0	0	2,097,666
H.I.G. Capital Partner V, L.P.	13,100,000	8,970,638	4,904,404	0	32,964	4,871,440	3,061,852	1,673,968	0	11,251	1,662,716
H.I.G. Ventures II, L.P.	18,000,000	7,793,859	1,207,668	0	729,317	478,351	2,426,164	375,937	0	227,030	148,907
H&F Spock I LP	3,250,153	1,407,291	3,993,983	0	0	3,993,983	438,078	1,243,294	0	0	1,243,294
Harvest Partners VI, L.P.	28,400,000	20,768,921	2,660,021	0	57,889	2,602,132	5,782,239	740,572	0	16,117	724,455
Harvest Partners VII LP	20,000,000	14,320,000	17,914,039	0	0	17,914,039	4,460,000	5,579,373	0	0	5,579,373
Hellman and Friedman Capital Partners VI, L.P.	20,000,000	8,659,843	0	0	0	0	2,695,738	0	0	0	0
Horsley Bridge International Fund V, L.P.	45,000,000	19,484,647	34,516,558	0	1,178,672	33,337,886	6,065,411	10,744,722	0	366,911	10,377,811
IFM US Infrastructure Debt Fund	70,000,000	39,669,146	41,442,701	5,311,887	5,311,887	41,442,701	13,660,943	14,271,705	1,829,265	1,829,265	14,271,705
Institutional Venture Partners XII, L.P.	27,000,000	11,690,788	2,214	0	0	2,214	3,639,247	689	0	0	689
Kayne Anderson Energy Fund VII LP	50,000,000	35,800,000	20,646,770	0	1,604,459	19,042,311	11,150,000	6,430,489	0	499,713	5,930,776
KCP IV Co-Invest	13,236,353	9,064,009	1,552,802	0	0	1,616,986	3,093,721	530,001	0	0	551,909
Keyhaven Capital Partners Fund III, L.P.	28,160,387	12,193,227	3,761,885	0	0	3,917,380	3,795,652	1,171,044	0	0	1,219,448
Keyhaven Capital Partners IV LP	13,236,353	9,064,009	8,403,367	0	0	8,750,715	3,093,721	2,868,231	0	0	2,986,788
Levine Leichtman Capital Partners V, L.P.	46,000,000	31,499,949	1,297,029	0	0	1,297,029	10,751,540	442,701	0	0	442,701
Levine Leichtman Capital Partners VI LP	37,500,000	26,849,987	31,925,902	152,572	67,703	32,010,770	8,362,509	9,943,417	47,519	21,086	9,969,850
Lubert Adler VII	34,750,000	24,338,900	8,875,956	0	0	8,875,956	7,585,925	2,766,449	0	0	2,766,449
Lubert-Adler Real Estate Fund VII-B LP	36,750,000	20,675,550	4,627,448	0	0	4,627,448	6,537,824	1,463,247	0	0	1,463,247
Maritime Partners LP	175,000,000	87,500,000	0	66,890,284	1,413,079	65,477,206	35,000,000	0	26,756,114	565,231	26,190,882
MatlinPatterson Global Opportunities Partners II	45,000,000	19,484,647	0	0	0	0	6,065,411	0	0	0	0
MatlinPatterson Global Opportunities Partners III	45,000,000	19,484,647	0	0	0	0	6,065,411	0	0	0	0
Merit Mezzanine Fund IV, L.P.	27,000,000	11,690,788	0	0	0	0	3,639,247	0	0	0	0
Mesa West Core Lending Fund, LP	57,500,000	36,357,250	33,291,919	464,575	464,575	33,291,919	11,459,750	10,493,562	146,433	146,433	10,493,562
Mesa West Real Estate Income Fund IV LP	36,000,000	15,587,717	7,058,906	0	0	7,058,906	4,852,329	2,197,380	0	0	2,197,380
MiddleGround Partners I LP	50,000,000	35,875,000	37,192,890	7,549,742	1,229,241	43,513,391	11,200,000	11,611,439	2,356,993	383,763	13,584,669
MiddleGround Partners II LP	50,000,000	27,301,556	33,556,315	324,779	8,759	33,881,094	9,256,264	11,376,865	110,113	2,970	11,486,977
MiddleGround Partners II-X LP	25,000,000	13,650,778	17,834,623	9,346	4,380	17,843,969	4,628,132	6,046,614	3,169	1,485	6,049,783
Mill Road Capital I, L.P.	27,000,000	11,690,788	696,348	0	0	696,348	3,639,247	216,768	0	0	216,768
New Mountain Partners III, L.P.	32,337,197	14,001,752	575,313	0	0	575,313	4,358,631	179,090	0	0	179,090
New Mountain Partners IV, L.P.	32,800,000	22,460,833	4,999,712	15,538	6,634	5,008,211	7,666,315	1,706,498	5,303	2,264	1,709,399
New State Capital Partners Fund III LP	17,500,000	9,555,545	4,867,102	1,793,079	8,952	6,651,231	3,239,692	1,650,132	607,922	3,035	2,255,020
Oak Hill Capital Partners II, L.P.	67,500,000	29,226,970	0	0	0	0	9,098,116	0	0	0	0
Oak Hill Capital Partners III, L.P.	33,750,000	14,613,485	0	0	0	0	4,549,058	0	0	0	0
Oberland Capital Healthcare LP	3,450,000	2,475,375	4,661,072	0	3,750,987	910,084	772,800	1,455,163	0	1,171,039	284,124
Patron Capital V LP	40,177,800	22,604,031	8,333,289	80,802	0	8,760,343	7,147,629	2,635,072	25,551	0	2,770,111
Riverside Capital Appreciation Fund VI, L.P.	35,500,000	25,961,146	8,823,494	0	0	8,823,494	7,227,806	2,456,536	0	0	2,456,536
Rubenstein Properties Fund II	20,800,000	14,568,738	3,273,149	0	0	3,273,149	4,539,767	1,019,946	0	0	1,019,946
Secondary Opportunities Fund III, L.P.	25,000,000	19,411,552	3,794,343	0	0	3,794,343	5,588,448	1,092,365	0	0	1,092,365
Strategic Value Special Situations Fund IV LP	43,300,000	31,067,750	33,820,328	0	1,572,756	32,247,573	9,699,200	10,558,542	0	491,007	10,067,535
Strategic Value Special Situations Fund V LP	70,000,000	38,222,178	31,282,859	2,866,663	28,667	34,120,856	12,958,769	10,606,077	971,908	9,719	11,568,265
Taurus Mining Finance Fund LLC	45,100,000	30,883,643	2,188,707	0	72,366	2,116,341	10,541,186	747,048	0	24,700	722,348

Kentucky Public Pensions Authority
Capital Calls and Distributions
For the period July 1, 2024 thru September 30, 2024
County Employees Retirement System

Pension Funds Managers	Total Pension Fund Commitment	CERS Commitment	CERS Beginning Valuation	CERS Period Contributions	CERS Period Distributions	CERS Ending Valuation	CERS Haz Commitment	CERS Haz Beginning Valuation	CERS Haz Period Contributions	CERS Haz Period Distributions	CERS Haz Ending Valuation
Tenaska Power Fund II, L.P.	27,000,000	12,131,225	43,816	0	0	43,816	4,055,317	14,647	0	0	14,647
Triton Fund IV, L.P.	28,078,616	19,227,716	13,542,349	141,032	256,019	13,982,889	6,562,790	4,622,265	48,137	87,384	4,772,629
VantagePoint Venture Partners 2006, L.P.	27,000,000	11,690,788	1,687,139	0	0	1,687,139	3,639,247	525,192	0	0	525,192
VantagePoint Venture Partners IV, L.P.	36,000,000	15,587,717	25,084	0	0	25,084	4,852,329	7,808	0	0	7,808
Vista Equity Partners III, L.P.	45,000,000	19,484,647	933,582	1,010	0	934,592	6,065,411	290,616	314	0	290,931
Vista Equity Partners IV, L.P.	27,000,000	17,199,140	12,239,238	57,146	0	12,296,384	8,315,863	5,917,727	27,631	0	5,945,358
Vista Equity Partners VI LP	25,000,000	17,900,000	18,136,684	53,830	0	18,190,513	5,575,000	5,648,716	16,765	0	5,665,481
Walton Street Real Estate Fund VI, LP	36,000,000	17,056,796	6,876,570	0	358,505	6,518,065	6,030,018	2,431,045	0	126,741	2,304,304
Walton Street Real Estate Fund VII, LP	38,120,000	26,700,008	3,320,961	0	522,213	2,798,747	8,319,997	1,034,845	0	162,727	872,118
Warburg, Pincus Private Equity IX, L.P.	50,000,000	21,649,608	25,898	0	0	25,898	6,739,345	8,062	0	0	8,062
Warburg, Pincus Private Equity X, L.P.	38,750,000	16,778,446	388,040	0	0	388,040	5,222,993	120,794	0	0	120,794
Wayzata Opportunities Fund III, L.P.	35,500,000	25,961,146	1,251,406	0	451,419	799,987	7,227,806	348,402	0	125,679	222,723
White Oak Yield Spectrum Parallel Fund LP	100,000,000	58,940,485	0	5,210,130	0	96,856,400	19,521,309	0	1,725,615	0	32,079,201
TOTAL	**5,049,267,985**	**1,554,952,579**	**677,454,006**	**101,305,600**	**24,655,213**	**846,292,666**	**511,383,705**	**224,768,676**	**38,117,584**	**8,136,582**	**285,290,418**

Kentucky Public Pensions Authority
Capital Calls and Distributions
For the period July 1, 2024 thru September 30, 2024
County Employees Retirement System

Insurance Funds Managers	Total Pension Fund Commitment	CERS Commitment	CERS Beginning Valuation	CERS Period Contributions	CERS Period Distributions	CERS Ending Valuation	CERS Haz Commitment	CERS Haz Beginning Valuation	CERS Haz Period Contributions	CERS Haz Period Distributions	CERS Haz Ending Valuation
Adams Street SPC II A1	75,000,000	34,007,112	28,909,168	0	780,000	28,129,168	17,965,829	15,272,605	0	412,071	14,860,534
Adams Street SPC II B1	75,000,000	34,007,113	27,598,709	517,270	1,776,004	26,339,976	17,965,828	14,580,293	273,272	938,256	13,915,309
Adams Street SPC III A1	75,250,000	36,247,874	2,140,468	3,613,935	0	5,754,402	18,496,408	1,092,228	1,844,103	0	2,936,331
Adams Street SPC III B1	75,250,000	36,247,867	2,033,370	0	0	2,033,370	18,496,406	1,037,579	0	0	1,037,579
AMERRA Agri Fund II, LP	16,200,000	7,502,182	2,929,131	0	38,548	2,890,583	4,141,562	1,617,020	0	21,280	1,595,740
AMERRA-KRS Agri Holding Company, LP	35,000,000	16,208,417	7,869,363	806,389	393,990	8,281,763	8,947,820	4,344,264	445,165	217,501	4,571,929
Arcano KRS Fund I, L.P.	4,000,000	1,611,501	565,422	0	0	565,422	862,625	302,667	0	0	302,667
Arctos Sports Partners Fund II	40,000,000	20,500,000	4,173,751	515,192	0	4,688,943	7,000,000	1,425,183	175,919	0	1,601,102
Arctos Sports Partners Fund II Co-Investments LP	40,000,000	20,500,000	12,393,198	99,827	0	12,493,025	7,000,000	0	34,087	0	4,265,911
Ares Special Situations Fund IV, L.P.	13,808,000	7,867,793	5,933,491	0	0	5,933,491	4,255,629	3,209,380	0	0	3,209,380
Barings Euro Real Estate II	71,148,188	32,671,250	9,332,450	0	0	9,718,200	17,929,339	5,121,465	0	0	5,333,157
Barings Real Estate European Value Add I SCSp	50,222,250	23,062,059	5,953,291	855,969	0	7,069,974	12,656,004	3,267,049	469,739	0	3,879,862
Bay Hills Capital I, L.P.	75,000,000	30,215,638	277,299	0	0	277,299	16,174,225	148,436	0	0	148,436
Bay Hills Capital III, L.P.	48,750,000	27,777,730	23,590,425	0	0	23,590,425	15,024,764	12,759,882	0	0	12,759,882
Bay Hills Emerging Partners II LP	5,000,000	2,014,376	3,986,481	0	0	3,986,481	1,078,282	2,133,936	0	0	2,133,936
Bay Hills Emerging Partners II-B LP	5,000,000	2,070,000	2,686,261	0	0	2,686,261	1,250,000	1,622,138	0	0	1,622,138
BDCM Opportunity Fund IV, L.P.	24,420,000	13,914,506	22,729,106	0	794,747	21,934,359	7,526,253	12,294,005	0	429,873	11,864,133
Blackstone Capital Partners V, L.P.	12,414,403	5,001,455	2,084	0	0	2,084	2,677,245	1,116	0	0	1,116
Blackstone Capital Partners VI, L.P.	40,000,000	21,919,994	5,354,700	0	232,842	5,121,857	13,120,008	3,205,006	0	139,366	3,065,640
Blue Torch Credit Opportunities Fund II LP	60,000,000	27,169,450	30,357,716	0	0	30,357,716	14,281,092	15,956,941	0	0	15,956,941
BSP Co-Invest Vehicle K LP	17,252,566	7,709,915	8,124,697	0	214,332	7,910,365	4,204,913	4,431,132	0	116,895	4,314,237
BSP Private Credit Fund	50,000,000	22,344,255	19,995,821	0	578,987	19,416,834	12,186,342	10,905,528	0	315,774	10,589,755
BTG Pactual Brazil Timberland Fund I	15,500,000	7,016,381	4,615,819	0	1,584,424	3,031,396	3,855,131	2,536,149	0	870,557	1,665,592
Camelot Opportunities Fund, L.P.	2,600,000	1,047,475	0	0	0	0	560,706	0	0	0	0
Cerberus KRS Levered Loan Opportunities Fund, L.P.	60,000,000	26,813,106	37,896,580	0	0	38,579,244	14,623,610	20,668,430	0	0	21,040,748
Ceres Farms	50,000,000	0	0	0	0	0	0	0	0	0	0
Columbia Captial Equity Partners IV, L.P.	3,000,000	1,208,626	190,706	0	31,738	158,968	646,969	102,084	0	16,989	85,094
Crestview Partners II, L.P.	7,500,000	3,021,564	1,142,538	3,506	41,920	1,104,124	1,617,422	611,593	1,877	22,440	591,030
Crestview Partners III, L.P.	21,000,000	11,965,793	7,902,449	0	0	7,902,449	6,472,206	4,274,374	0	0	4,274,374
CS Adjacent Investment Partners Parallel LP	60,000,000	26,813,106	21,656,368	3,344,935	460,711	24,041,076	14,623,610	11,811,175	1,824,295	251,267	13,111,771
CVC European Equity Partners VI, L.P.	13,504,428	7,694,817	6,514,845	24,322	233,623	6,568,343	4,162,068	3,523,830	13,156	126,365	3,552,767
DAG Ventures II, L.P.	3,000,000	1,208,626	50,992	0	0	50,992	646,969	27,295	0	0	27,295
DAG Ventures III, L.P.	3,000,000	1,208,626	5,361	0	0	5,361	646,969	2,870	0	0	2,870
DAG Ventures IV, L.P.	10,000,000	4,028,752	1,202,225	0	0	1,202,225	2,156,563	643,543	0	0	643,543
DAG Ventures V, L.P.	7,000,000	3,835,999	9,657	0	0	9,657	2,296,001	5,780	0	0	5,780
DCM VI, L.P.	1,500,000	604,313	78,595	0	0	78,595	323,484	42,071	0	0	42,071
DivcoWest Fund IV	9,200,000	4,244,869	204,498	0	0	204,498	2,306,449	111,114	0	0	111,114
Elda River Opportunities Fund II	12,500,000	5,764,633	41,973	0	10,413	31,560	3,188,725	23,217	0	5,760	17,457
Fundamental Partners III LP	30,000,000	13,776,001	10,356,097	0	624,290	9,731,807	7,559,998	5,683,222	0	342,598	5,340,624
Green Equity Investors V, L.P.	10,000,000	4,028,752	23,019	0	0	23,019	2,156,563	12,322	0	0	12,322
Green Equity Investors VI, L.P.	28,000,000	15,343,995	15,743,188	0	385,940	15,357,248	9,184,005	9,422,939	0	231,001	9,191,938
Green Equity Investors VII LP	25,000,000	10,349,999	7,508,027	0	271,086	7,236,941	6,250,000	4,533,833	0	163,699	4,370,134
Greenfield Acquisition Partners VII, L.P.	12,200,000	5,628,527	331,533	0	17,661	313,872	3,058,186	180,134	0	9,596	170,539
H.I.G. BioVentures II, L.P.	11,500,000	6,301,998	3,179,342	0	0	3,179,342	3,772,002	1,902,965	0	0	1,902,965
H.I.G. Capital Partner V, L.P.	6,900,000	3,931,617	2,149,484	0	14,447	2,135,037	2,126,582	1,162,640	0	7,814	1,154,825
H.I.G. Ventures II, L.P.	2,000,000	805,750	124,852	0	75,399	49,453	431,313	66,832	0	40,361	26,472
H&F Spock I LP	1,794,672	723,029	1,393,566	0	0	1,393,566	387,032	745,966	0	0	745,966
Harvest Partners VI, L.P.	11,600,000	6,609,681	846,550	0	18,423	828,127	3,575,121	457,892	0	9,965	447,927
Harvest Partners VII LP	20,000,000	8,279,999	10,358,117	0	0	10,358,117	5,000,000	6,254,902	0	0	6,254,902
Hellman and Friedman Capital Partners VI, L.P.	7,500,000	3,021,564	0	0	0	0	1,617,422	0	0	0	0
Horsley Bridge International Fund V, L.P.	5,000,000	2,014,376	3,568,407	0	121,854	3,446,553	1,078,282	1,910,144	0	65,228	1,844,916
IFM US Infrastructure Debt Fund	30,000,000	13,890,494	14,511,519	1,860,003	1,860,003	14,511,519	7,156,853	7,476,826	958,337	958,337	7,476,826
Institutional Venture Partners XII, L.P.	3,000,000	1,208,626	229	0	0	229	646,969	122	0	0	122
Kayne Anderson Energy Fund VII LP	50,000,000	20,699,998	11,938,215	0	927,718	11,010,497	12,500,001	7,209,068	0	560,216	6,648,852
KCP IV Co-Invest	9,084,647	5,176,428	886,800	0	0	923,455	2,799,892	479,663	0	0	499,490
Keyhaven Capital Partners Fund III, L.P.	3,124,940	1,258,961	388,914	0	0	404,989	673,913	208,183	0	0	216,788
Keyhaven Capital Partners IV LP	9,084,647	5,176,428	4,799,138	0	0	4,997,506	2,799,892	2,595,818	0	0	2,703,114
Levine Leichtman Capital Partners V, L.P.	24,000,000	13,675,190	563,086	0	0	563,086	7,396,807	304,569	0	0	304,569
Levine Leichtman Capital Partners VI LP	37,500,000	15,525,007	18,459,965	88,219	39,147	18,509,037	9,374,983	11,147,297	53,272	23,639	11,176,930
Lubert Adler VII	15,250,000	7,036,350	2,566,028	0	0	2,566,028	3,823,174	1,394,242	0	0	1,394,242
Lubert-Adler Real Estate Fund VII-B LP	15,750,000	7,232,401	1,618,702	0	0	1,618,702	3,968,999	888,312	0	0	888,312
Maritime Partners LP	75,000,000	37,500,000	28,756,005	0	691,107	28,064,898	15,000,000	11,502,402	0	276,443	11,225,959
MatlinPatterson Global Opportunities Partners II	5,000,000	2,014,376	0	0	0	0	1,078,282	0	0	0	0
MatlinPatterson Global Opportunities Partners III	5,000,000	2,014,376	0	0	0	0	1,078,282	0	0	0	0
Merit Mezzanine Fund IV, L.P.	3,000,000	1,208,626	0	0	0	0	646,969	0	0	0	0
Mesa West Core Lending Fund, LP	29,600,000	13,790,640	18,682,821	260,722	260,722	18,682,821	7,619,040	10,321,867	144,044	144,044	10,321,867
Mesa West Real Estate Income Fund IV LP	14,000,000	6,428,800	2,911,285	0	0	2,911,285	3,527,999	1,597,656	0	0	1,597,656
MiddleGround Partners I LP	25,000,000	3,750,000	3,887,759	789,172	128,492	4,548,439	1,999,999	2,073,471	420,891	68,529	2,425,833
MiddleGround Partners II LP	25,000,000	11,262,207	13,842,368	133,975	3,613	13,976,343	5,794,817	7,122,404	68,935	1,859	7,191,339
MiddleGround Partners II-X LP	12,500,000	5,631,103	7,356,986	3,855	1,807	7,360,841	2,897,408	3,785,438	1,984	930	3,787,422
Mill Road Capital I, L.P.	3,000,000	1,208,626	71,990	0	0	71,990	646,969	38,536	0	0	38,536
New Mountain Partners III, L.P.	7,186,045	2,895,079	118,954	0	0	118,954	1,549,716	63,675	0	0	63,675
New Mountain Partners IV, L.P.	17,200,000	9,800,553	2,181,568	6,779	2,895	2,185,276	5,301,045	1,179,993	3,667	1,566	1,181,999
New State Capital Partners Fund III LP	7,500,000	3,378,662	1,720,917	634,001	3,165	2,351,753	1,738,445	885,475	326,217	1,629	1,210,063
Oak Hill Capital Partners II, L.P.	7,500,000	3,021,564	0	0	0	0	1,617,422	0	0	0	0
Oak Hill Capital Partners III, L.P.	12,500,000	5,035,940	0	0	0	0	2,695,704	0	0	0	0
Oberland Capital Healthcare LP	15,500,000	4,840,652	911,483	0	733,514	177,969	2,631,898	495,580	0	398,817	96,763
Patron Capital V LP	15,624,700	7,174,863	2,645,164	25,648	0	2,780,721	3,937,424	1,451,614	14,075	0	1,526,005
Riverside Capital Appreciation Fund VI, L.P.	18,712,500	10,748,972	3,653,251	0	0	3,653,251	5,705,349	1,939,075	0	0	1,939,075
Rubenstein Properties Fund II	9,200,000	4,244,871	953,692	0	0	953,692	2,306,445	518,187	0	0	518,187
Secondary Opportunities Fund III, L.P.	75,000,000	34,884,827	6,818,878	0	0	6,818,878	18,849,301	3,684,441	0	0	3,684,441
Strategic Value Special Situations Fund IV LP	21,700,000	6,776,910	7,377,329	0	343,070	7,034,259	3,684,660	4,011,113	0	186,530	3,824,583
Strategic Value Special Situations Fund V LP	30,000,000	13,514,648	11,061,029	1,013,599	10,136	12,064,491	6,953,780	5,691,303	521,533	5,215	6,207,621
Taurus Mining Finance Fund LLC	19,900,000	11,339,013	803,590	0	26,570	777,020	6,133,188	434,656	0	14,371	420,285

Kentucky Public Pensions Authority
Capital Calls and Distributions
For the period July 1, 2024 thru September 30, 2024
County Employees Retirement System

Insurance Funds Managers	Total Pension Fund Commitment	CERS Commitment	CERS Beginning Valuation	CERS Period Contributions	CERS Period Distributions	CERS Ending Valuation	CERS Haz Commitment	CERS Haz Beginning Valuation	CERS Haz Period Contributions	CERS Haz Period Distributions	CERS Haz Ending Valuation
Tenaska Power Fund II, L.P.	3,000,000	1,278,755	4,619	0	0	4,619	678,044	2,449	0	0	2,449
Triton Fund IV, L.P.	14,446,151	8,231,411	5,939,845	61,859	112,293	6,133,071	4,452,308	3,212,817	33,459	60,739	3,317,332
VantagePoint Venture Partners 2006, L.P.	3,000,000	1,208,626	174,421	0	0	174,421	646,969	93,366	0	0	93,366
VantagePoint Venture Partners IV, L.P.	4,000,000	1,611,501	2,593	0	0	2,593	862,625	1,388	0	0	1,388
Vista Equity Partners III, L.P.	5,000,000	2,014,376	96,518	104	0	96,622	1,078,282	51,665	56	0	51,721
Vista Equity Partners IV, L.P.	23,000,000	12,603,996	8,969,245	41,878	0	9,011,123	7,544,005	5,368,458	25,066	0	5,393,524
Vista Equity Partners VI LP	25,000,000	10,349,999	10,486,853	31,125	0	10,517,978	6,250,000	6,332,641	18,795	0	6,351,437
Walton Street Real Estate Fund VI, LP	4,000,000	1,712,019	690,213	0	35,984	654,229	917,457	369,880	0	19,283	350,596
Walton Street Real Estate Fund VII, LP	16,755,000	7,730,005	961,462	0	151,187	810,274	4,199,996	522,397	0	82,146	440,252
Warburg, Pincus Private Equity IX, L.P.	10,000,000	4,028,752	4,820	0	0	4,820	2,156,563	2,580	0	0	2,580
Warburg, Pincus Private Equity X, L.P.	7,500,000	3,021,564	69,856	0	0	69,856	1,617,422	37,393	0	0	37,393
Wayzata Opportunities Fund III, L.P.	18,712,500	10,748,972	518,133	0	186,906	331,227	5,705,349	275,015	0	99,206	175,809
White Oak Yield Spectrum Parallel Fund LP	50,000,000	22,344,255	33,216,671	1,858,968	514,791	34,560,847	12,186,342	18,116,052	0	280,762	18,849,153
TOTAL	**2,195,345,637**	**998,091,877**	**594,654,104**	**16,591,253**	**14,734,500**	**598,213,180**	**530,394,949**	**314,332,263**	**7,671,944**	**7,938,916**	**320,238,309**

Kentucky Public Pensions Authority

CERS & CERS-Hazardous Unit Holdings

Quarter Ending: September 30, 2024

Kentucky Public Pensions Authority								
Pension: CERS & CERS-H Unit Holdings								
Quarter Ended September 30, 2024								
	CERS				CERS-H			
UNIT OF PARTICIPATION	Shares/Par	Base Cost	Base Market Value	Base Market Unrealized G/L	Shares/Par	Base Cost	Base Market Value	Base Market Unrealized G/L
Grand Total	**47,138,484.172**	**7,650,399,845.100**	**10,040,134,483.810**	**2,389,734,638.710**	**16,932,185.522**	**2,759,049,376.280**	**3,567,360,109.140**	**808,310,732.860**
KRS ABSOLUTE RETURN UNIT	463,796.382	57,887,917.48	60,658,296.24	2,770,378.76	146,914.005	18,403,205.36	19,214,365.58	811,160.22
KRS ADAMS STREET A1 UNIT	418,648.175	70,722,653.33	80,337,401.26	9,614,747.93	141,163.369	23,846,867.81	27,088,851.44	3,241,983.63
KRS ADAMS STREET B1 UNIT	483,099.202	70,132,746.33	75,227,434.78	5,094,688.45	162,895.517	23,647,956.78	25,365,829.27	1,717,872.49
KRS ADAMS STREET III A1 UNIT	129,492.515	13,121,361.63	13,970,778.59	849,416.96	47,441.070	4,807,161.48	5,118,355.18	311,193.70
KRS ADAMS STREET III B1 UNIT	68,453.953	4,326,936.09	4,936,699.55	609,763.46	25,078.893	1,585,222.88	1,808,616.66	223,393.78
KRS AMERRA AGRI UNIT	305,929.157	29,843,594.52	22,893,424.37	-6,950,170.15	96,591.844	9,422,597.81	7,228,203.08	-2,194,394.73
KRS AMERRA UNIT	64,185.453	11,377,151.78	10,668,378.31	-708,773.47	20,265.446	3,592,141.12	3,368,355.82	-223,785.30
KRS ARCTOS SPORTS II UNIT	181,173.043	25,691,188.58	35,202,081.87	9,510,893.29	77,645.590	11,037,802.94	15,086,606.54	4,048,803.60
KRS ARROWMARK UNIT	1,387,072.461	179,940,529.93	357,403,579.34	177,463,049.41	458,544.662	59,485,267.30	118,152,085.13	58,666,817.83
KRS BLACKROCK UNIT	2,571,921.954	307,983,048.95	537,934,495.09	229,951,446.14	923,368.674	116,977,623.55	193,128,668.10	76,151,044.55
KRS BLUE TORCH UNIT	483,961.906	89,695,258.55	86,772,870.92	-2,922,387.63	163,407.083	30,285,111.33	29,298,383.91	-986,727.42
KRS BNYM CUSTODY FEE UNIT	-391,966.936	-391,966.94	-391,966.94	0.00	-138,970.104	-138,970.10	-138,970.10	0.00
KRS BTG UNIT	109,410.546	5,231,387.81	10,303,053.04	5,071,665.23	35,062.978	1,676,510.63	3,301,836.39	1,625,325.76
KRS CASH UNIT	2,453,231.306	253,127,689.95	256,949,678.21	3,821,988.26	1,093,780.154	114,447,307.43	114,561,744.71	114,437.28
KRS DB PRIVATE EQ UNIT	14,017.547	5,551,916.66	3,794,343.21	-1,757,573.45	4,035.553	1,598,357.48	1,092,364.67	-505,992.81
KRS DIVCOWEST IV UNIT	1,339.798	0.00	701,846.91	701,846.91	417.494	0.00	218,702.28	218,702.28
KRS DOMESTIC EQUITY UNIT	2,789,511.324	686,111,017.59	934,886,075.04	248,775,057.45	1,007,789.301	249,792,946.44	337,753,848.17	87,960,901.73
KRS GLOBAL FIXED UNIT	1,293,562.467	196,419,404.23	192,639,150.39	-3,780,253.84	504,994.545	74,764,663.14	75,204,501.20	439,838.06
KRS GREENFIELD VII UNIT	3,565.631	1,226,923.32	1,085,826.20	-141,097.12	1,111.088	382,321.62	338,354.83	-43,966.79
KRS HARRISON UNIT	639,390.832	126,991,166.77	136,147,493.71	9,156,326.94	199,992.765	39,723,947.92	42,585,086.23	2,861,138.31
KRS IFM INFRAST DEBT UNIT	267,825.438	44,760,129.45	41,442,700.58	-3,317,428.87	92,231.578	15,414,137.53	14,271,705.11	-1,142,432.42
KRS INTERNAL EQUITY UNIT	4,885,763.681	1,156,095,747.31	2,073,141,526.29	917,045,778.98	1,719,227.948	420,355,148.93	729,507,828.20	309,152,679.27
KRS INTERNAL PRIVATE EQUITY	14,851.990	1,525,500.24	1,734,991.38	209,491.14	126,241.912	12,966,755.80	14,747,426.40	1,780,670.60
KRS INTERNATIONAL EQUITY UNIT	6,967,521.236	1,162,527,849.93	1,410,520,069.76	247,992,219.83	2,469,162.459	416,748,607.22	499,862,589.00	83,113,981.78
KRS L-A VII UNIT	142,596.532	12,520,383.63	8,875,955.64	-3,644,427.99	44,444.354	3,902,341.54	2,766,449.57	-1,135,891.97
KRS LIQUID CORE FIXED UNIT	9,378,696.836	1,251,172,645.93	1,293,727,425.25	42,554,779.32	3,324,033.610	442,875,507.41	458,527,823.10	15,652,315.69
KRS LIQUID HY FI UNIT	1,171,547.493	217,377,240.56	213,368,627.25	-4,008,613.31	509,383.916	93,844,421.94	92,771,780.53	-1,072,641.41
KRS MAGNETAR MTP UNIT	74.380	92,507.70	105,423.86	12,916.16	23.519	29,252.41	33,335.09	4,082.68
KRS MARITIME PARTNERS UNIT	606,247.224	62,118,162.12	65,484,760.26	3,366,598.14	242,498.889	24,847,265.43	26,193,904.04	1,346,638.61
KRS MESA WEST CORE UNIT	205,495.934	41,403,572.83	33,291,918.90	-8,111,653.93	64,772.004	13,050,344.80	10,493,561.90	-2,556,782.90
KRS MESA WEST IV UNIT	132,628.510	13,137,502.78	9,171,853.65	-3,965,649.13	41,938.511	4,154,215.20	2,900,235.29	-1,253,979.91
KRS MULTI SECTOR CREDIT FI	1,492,072.539	171,393,554.55	269,285,084.48	97,891,529.93	490,250.072	56,309,662.72	88,478,963.73	32,169,301.01
KRS OBERLAND UNIT	7,305.791	0.00	627,595.95	627,595.95	2,280.831	0.00	195,932.28	195,932.28
KRS PE 2010 UNIT	482,154.941	107,042,349.63	143,484,057.36	36,441,707.73	150,090.886	33,322,349.88	44,665,412.43	11,343,062.55
KRS PE 2011 UNIT	136,817.562	31,269,309.91	45,980,028.10	14,710,718.19	66,151.917	15,117,394.50	22,231,553.89	7,114,159.39
KRS PE 2012 A UNIT	6,847.095	2,978,038.56	2,602,132.58	-375,905.98	1,906.288	829,109.95	724,455.28	-104,654.67
KRS PE 2012 B UNIT	52,079.268	6,261,619.07	9,623,480.82	3,361,861.75	14,499.313	1,743,288.65	2,679,259.25	935,970.60
KRS PE 2013 UNIT	175,762.288	53,320,428.28	73,232,534.38	19,912,106.10	59,991.058	18,189,914.76	24,995,676.08	6,805,761.32
KRS PE 2014 UNIT	247,076.057	23,155,737.38	31,163,779.66	8,008,042.28	84,331.821	7,903,501.82	10,636,798.73	2,733,296.91
KRS PE 2015 UNIT	132,949.140	18,986,682.82	48,775,102.31	29,788,419.49	45,378.104	6,480,521.47	16,647,882.53	10,167,361.06
KRS PE 2016 UNIT	261,103.440	22,308,484.40	67,662,925.09	45,354,440.69	81,321.327	6,948,033.12	21,073,789.21	14,125,756.09
KRS PE 2017 UNIT	145,695.140	11,343,324.10	32,010,769.54	20,667,445.44	45,377.187	3,532,912.61	9,969,849.89	6,436,937.28
KRS PE 2018 UNIT	163,377.778	26,117,228.12	32,247,572.64	6,130,344.52	51,005.746	8,153,671.73	10,067,535.01	1,913,863.28
KRS PE 2019 UNIT	172,436.585	23,864,121.68	43,513,390.54	19,649,268.86	53,833.861	7,450,261.85	13,584,668.35	6,134,406.50
KRS PE 2021 UNIT	619,032.159	65,185,770.31	92,497,148.31	27,311,378.00	209,875.403	22,100,452.32	31,360,044.86	9,259,592.54
KRS PERIMETER PARK UNIT	15,181.379	2,200,094.98	1,682,549.17	-517,545.81	16,528.029	2,395,252.22	1,831,798.12	-563,454.10
KRS POST-2015 REAL ESTATE UNIT	743,173.004	60,764,890.52	89,201,507.64	28,436,617.12	234,999.024	19,216,924.56	28,206,443.35	8,989,518.79
KRS PRIVATE CREDIT FI UNIT	1,580,014.109	344,818,152.46	362,369,833.68	17,551,681.22	523,306.572	114,198,463.85	120,018,241.85	5,819,778.00
KRS PROLOGIS UNIT	741,098.600	94,745,744.26	162,624,512.78	67,878,768.52	234,343.128	29,959,594.03	51,423,571.73	21,463,977.70
KRS REAL RETURN UNIT	581,561.693	99,891,369.24	153,251,639.82	53,360,270.58	200,273.560	34,249,653.91	52,775,572.83	18,525,918.92
KRS RUBENSTEIN PF II UNIT	72,479.805	12,423,315.06	3,273,149.29	-9,150,165.77	22,585.445	3,871,230.17	1,019,946.64	-2,851,283.53
KRS SHENKMAN UNIT	827,010.875	148,360,398.82	149,979,090.41	1,618,691.59	327,851.027	58,780,543.72	59,456,048.65	675,504.93
KRS STOCKBRIDGE UNIT	280,090.753	50,930,216.38	56,722,520.87	5,792,304.49	89,313.398	16,240,274.51	18,087,284.31	1,847,009.80
KRS TAURUS UNIT	5,881.570	169,164.80	2,116,341.51	1,947,176.71	2,007.493	57,738.27	722,348.07	664,609.80
KRS TPF II UNIT	351.766	3,994,387.54	43,815.74	-3,950,571.80	117.591	1,335,276.83	14,647.06	-1,320,629.77
KRS WALTON VI UNIT	35,256.688	7,013,044.58	6,518,065.56	-494,979.02	12,464.150	2,479,291.22	2,304,304.56	-174,986.66
KRS WALTON VII UNIT	21,067.990	9,121,269.88	2,798,743.32	-6,322,526.56	6,565.002	2,842,280.50	872,117.15	-1,970,163.35
KRS WATERFALL UNIT	897,560.187	155,019,978.73	183,860,919.35	28,840,940.62	300,048.662	51,815,735.98	61,463,535.98	9,647,800.00

Kentucky Public Pensions Authority Insurance: CERS & CERS-H Unit Holdings Quarter Ended September 30, 2024								
	CERS INS				CERS-H INS			
UNIT OF PARTICIPATION	Shares/Par	Base Cost	Base Market Value	Base Market Unrealized G/L	Shares/Par	Base Cost	Base Market Value	Base Market Unrealized G/L
Grand Total	**19,058,496.502**	**2,854,588,225.850**	**3,726,212,195.610**	**871,623,969.760**	**8,991,084.075**	**1,341,273,257.480**	**1,787,590,579.800**	**446,317,322.320**
KRS INS ABSOLUTE RETURN UNIT	150,905.744	15,634,144.54	19,762,297.37	4,128,152.83	84,547.518	8,954,335.60	11,072,164.31	2,117,828.71
KRS INS ADAMS STREET A1 UNIT	146,584.586	24,762,682.13	28,129,168.10	3,366,485.97	77,440.085	13,082,031.24	14,860,533.62	1,778,502.38
KRS INS ADAMS STREET B1 UNIT	169,127.930	24,556,132.59	26,339,975.70	1,783,843.11	89,349.643	12,972,910.96	13,915,309.11	942,398.15
KRS INS ADAMS STREET III A1	53,336.473	5,404,536.76	5,754,401.77	349,865.01	27,216.304	2,757,803.47	2,936,331.17	178,527.70
KRS INS ADAMS STREET III B1	28,195.586	1,782,215.84	2,033,369.52	251,153.68	14,387.522	909,420.65	1,037,579.03	128,158.38
KRS INS AMERRA AGRI UNIT	110,660.540	10,796,008.70	8,281,763.77	-2,514,244.93	61,089.896	5,959,911.66	4,571,928.60	-1,387,983.06
KRS INS AMERRA UNIT	17,311.676	3,082,625.88	2,890,583.05	-192,042.83	9,556.873	1,701,756.01	1,595,740.06	-106,015.95
KRS INS ARCTOS SPORTS II UNIT	87,963.014	12,540,864.84	17,181,968.14	4,641,103.30	30,036.149	4,292,480.34	5,867,013.10	1,574,532.76
KR3 ARROWMARK UNIT	554,115.798	72,645,814.21	144,311,949.10	71,666,134.89	301,875.792	39,576,763.39	78,619,458.40	39,042,695.01
KRS INS BLACKROCK UNIT	2,623,893.313	139,845,898.39	218,000,838.91	78,154,940.52	1,292,376.856	67,181,822.29	107,374,502.39	40,192,680.10
KRS INS BLUE TORCH UNIT	169,315.339	31,380,119.89	30,357,716.08	-1,022,403.81	88,997.305	16,494,349.72	15,956,941.25	-537,408.47
KRS INS BNYM CUSTODY FEE UNIT	-209,525.977	-209,525.98	-209,525.98	0.00	-100,721.470	-100,721.47	-100,721.47	0.00
KRS INS BTG UNIT	32,191.104	1,539,194.37	3,031,395.64	1,492,201.27	17,687.311	845,706.37	1,665,591.76	819,885.39
KRS INS CASH UNIT	984,405.626	107,944,508.13	108,854,440.09	909,931.96	213,561.190	25,478,773.51	23,615,350.37	-1,863,423.14
KRS INS DB PRIVATE EQ UNIT	25,211.823	10,778,319.74	6,818,878.85	-3,959,440.89	13,622.690	5,823,841.88	3,684,440.93	-2,139,400.95
KRS INS DIVCOWEST IV UNIT	388.165	0.00	204,498.27	204,498.27	210.909	0.00	111,113.90	111,113.90
KRS INS DOMESTIC EQUITY UNIT	1,005,181.355	242,864,122.12	337,483,807.88	94,619,685.76	519,863.747	124,717,771.17	174,541,236.81	49,823,465.64
KRS INS GLOBAL FIXED UNIT	414,755.220	60,640,871.16	60,557,175.78	-83,695.38	130,453.706	20,455,811.60	19,047,157.51	-1,408,654.09
KRS INS GREENFIELD VII UNIT	1,030.644	518,251.97	313,872.76	-204,379.21	559.987	281,584.96	170,538.68	-111,046.28
KRS INS HARRISON UNIT	244,840.322	48,281,975.17	51,028,669.20	2,746,694.03	133,920.349	26,403,340.85	27,911,159.13	1,507,818.28
KRS INS IFM INFRAST DEBT UNIT	94,964.510	15,673,146.99	14,511,519.75	-1,161,627.24	48,928.929	8,075,335.06	7,476,826.02	-598,509.04
KRS INS INTERNAL EQUITY UNIT	1,776,572.525	431,053,275.84	755,065,544.49	324,012,268.65	826,370.728	189,233,729.71	351,217,895.65	161,984,165.94
KRS INS INTL EQ UNIT	2,544,908.994	422,488,780.76	509,479,868.03	86,991,087.27	1,205,962.233	196,165,634.44	241,428,467.88	45,262,833.44
KRS INS L-A-VII UNIT	41,214.677	3,619,628.61	2,566,028.14	-1,053,600.47	22,393.841	1,966,711.62	1,394,241.82	-572,469.80
KRS INS LIQUID CORE FIXED UNIT	3,524,121.063	464,562,052.29	480,655,428.59	16,093,376.30	1,693,320.308	224,979,965.92	230,952,224.35	5,972,258.43
KRS INS LIQUID HY FI UNIT	577,864.886	101,391,085.53	102,480,639.20	1,089,553.67	133,266.350	24,466,111.10	23,633,934.27	-832,176.83
KRS INS MAGNETAR MTP	22.103	27,695.00	31,560.24	3,865.24	12.226	15,317.32	17,457.16	2,139.84
KRS INS MARITIME PARTNERS UNIT	260,102.368	26,622,070.39	28,064,897.51	1,442,827.12	104,040.947	10,648,827.72	11,225,958.98	577,131.26
KRS INS MESA WEST CORE UNIT	117,798.214	23,402,863.25	18,682,820.77	-4,720,042.48	65,081.046	12,930,882.91	10,321,867.17	-2,609,015.74
KRS INS MESA WEST IV UNIT	43,546.676	4,150,907.85	2,911,285.33	-1,239,622.52	23,897.561	2,277,938.73	1,597,656.24	-680,282.49
KRS INS MULTI SECTOR CREDIT FI	531,206.774	60,245,751.41	94,487,451.94	34,241,700.53	290,366.710	32,886,224.71	51,648,457.62	18,762,232.91
KRS INS OBERLAND UNIT	1,383.347	0.00	122,727.38	122,727.38	752.136	0.00	66,727.78	66,727.78
KRS INS PE 2010 UNIT	55,883.506	12,992,014.87	16,209,577.02	3,217,562.15	29,914.057	6,954,426.95	8,676,875.26	1,722,448.31
KRS INS PE 2011 UNIT	95,116.568	20,735,735.39	32,679,226.38	11,943,490.99	56,931.137	12,411,620.93	19,559,846.96	7,148,226.03
KRS INS PE 2012 A UNIT	2,171.980	857,541.32	828,126.96	-29,414.36	1,174.806	463,837.21	447,927.02	-15,910.19
KRS INS PE 2012 B UNIT	21,462.262	2,548,681.52	3,984,478.79	1,435,797.27	11,391.758	1,352,464.79	2,114,885.10	762,420.31
KRS INS PE 2013 UNIT	101,908.969	29,983,202.09	41,175,236.65	11,192,034.56	55,121.788	16,217,689.95	22,271,373.05	6,053,683.10
KRS INS PE 2014 UNIT	109,900.865	10,343,247.77	13,835,941.81	3,492,694.04	59,444.538	5,594,582.39	7,483,755.19	1,889,172.80
KRS INS PE 2015 UNIT	76,414.148	11,000,760.51	27,855,319.06	16,854,558.55	41,331.849	5,950,229.12	15,066,736.61	9,116,507.49
KRS INS PE 2016 UNIT	150,979.016	14,882,650.89	39,123,531.21	24,240,880.32	91,170.917	8,987,110.06	23,625,324.31	14,638,214.25
KRS INS PE 2017 UNIT	84,701.002	9,394,082.34	18,509,037.10	9,114,954.76	51,147.836	5,672,743.46	11,176,930.28	5,504,186.82
KRS INS PE 2018 UNIT	34,637.652	2,944,084.48	7,034,258.60	4,090,174.12	18,832.770	1,600,722.20	3,824,582.98	2,223,860.78
KRS INS PE 2019 UNIT	18,024.740	2,404,774.14	4,548,439.01	2,143,664.87	9,613.191	1,282,546.32	2,425,833.21	1,143,286.89
KRS INS PE 2021 UNIT	239,398.934	25,291,248.19	35,753,433.12	10,462,184.93	123,179.495	13,013,271.00	18,396,447.14	5,383,176.14
KRS INS POST-2015 REAL ESTATE	258,757.084	20,932,731.05	30,919,405.88	9,986,674.83	142,000.799	11,489,295.68	16,967,961.89	5,478,666.21
KRS INS PRIVATE CREDIT FI UNIT	551,345.331	118,624,811.94	124,141,482.61	5,516,670.67	300,698.435	64,690,071.32	67,705,569.34	3,015,498.02
KRS INS PROLOGIS UNIT	150,318.422	31,178,967.40	52,495,573.69	21,316,606.29	82,491.818	17,110,410.48	28,808,546.90	11,698,136.42
KRS INS REAL RETURN UNIT	154,765.519	26,698,651.18	40,882,872.19	14,184,221.01	79,757.050	13,802,640.93	21,068,628.87	7,265,987.94
KRS INS RUBENSTEIN PF II UNIT	21,246.598	3,619,762.92	953,692.90	-2,666,070.02	11,544.310	1,966,791.28	518,187.73	-1,448,603.55
KRS INS SHENKMAN UNIT	327,618.618	58,530,992.49	59,217,246.38	686,253.89	149,533.845	26,770,578.19	27,028,325.18	257,746.99
KRS INS STOCKBRIDGE UNIT	117,767.220	21,789,627.40	23,746,664.44	1,957,037.04	64,874.850	12,003,330.09	13,081,410.04	1,078,079.95
KRS INS TAURUS UNIT	2,155.196	187,415.28	777,018.25	589,602.97	1,165.729	108,181.79	420,283.22	312,101.43
KRS INS TPF II UNIT	37.089	83,222.76	4,619.29	-78,603.47	19.666	44,128.07	2,449.32	-41,678.75
KRS INS WALTON VI UNIT	3,560.012	703,910.73	654,228.73	-49,682.00	1,907.782	377,217.65	350,595.95	-26,621.70
KRS INS WALTON VII UNIT	6,099.463	2,636,250.43	810,273.88	-1,825,976.55	3,314.062	1,432,369.55	440,251.52	-992,118.03
KRS INS WATERFALL UNIT	350,631.890	58,197,840.39	69,885,496.29	11,687,655.90	184,096.210	30,540,624.63	36,692,769.13	6,152,144.50

Kentucky Public Pensions Authority

Proxy Voting Report

Quarter Ending: September 30, 2024

Report can be found:

https://www.kyret.ky.gov/Investments/Investments-Library/Pages/Proxy-Voting-Reports.aspx

Kentucky Public Pensions Authority

Security Litigation Report

Quarter Ending: September 30, 2024

Claims Filed during the Quarter (pg 3):
9
Proceeds Received during the Quarter (pg 4):
$50,856.66

Kentucky Retirement Systems

Quarterly Securities Litigation Report

Quarter Ended 09/30/24

Total Claims Filed	
No Claim on File	9
Fiscal Year 1997	1
Fiscal Year 1998	2
Fiscal Year 1999	5
Fiscal Year 2000	9
Fiscal Year 2001	8
Fiscal Year 2002	33
Fiscal Year 2003	45
Fiscal Year 2004	38
Fiscal Year 2005	89
Fiscal Year 2006	150
Fiscal Year 2007	70
Fiscal Year 2008	73
Fiscal Year 2009	85
Fiscal Year 2010	65
Fiscal Year 2011	69
Fiscal Year 2012	54
Fiscal Year 2013	48
Fiscal Year 2014	65
Fiscal Year 2015	80
Fiscal Year 2016	224
Fiscal Year 2017	140
Fiscal Year 2018	74
Fiscal Year 2019	55
Fiscal Year 2020	42
Fiscal Year 2021	43
Fiscal Year 2022	49
Fiscal Year 2023	49
Fiscal Year 2024	46
Fiscal Year 2025	9
Total Filed	**1,729**

Proceeds Received	
Fiscal Year 1998	$67,682
Fiscal Year 1999	$233,370
Fiscal Year 2000	$303,918
Fiscal Year 2001	$415,502
Fiscal Year 2002	$387,318
Fiscal Year 2003	$519,059
Fiscal Year 2004	$1,080,920
Fiscal Year 2005	$1,645,440
Fiscal Year 2006	$797,535
Fiscal Year 2007	$5,398,363
Fiscal Year 2008	$5,402,336
Fiscal Year 2009	$3,504,682
Fiscal Year 2010	$2,776,544
Fiscal Year 2011	$1,292,484
Fiscal Year 2012	$468,657
Fiscal Year 2013	$1,070,427
Fiscal Year 2014	$308,704
Fiscal Year 2015	$23,639,565
Fiscal Year 2016	$2,417,957
Fiscal Year 2017	$1,886,532
Fiscal Year 2018	$2,247,966
Fiscal Year 2019	$1,702,272
Fiscal Year 2020	$1,743,474
Fiscal Year 2021	$286,420
Fiscal Year 2022	$616,557
Fiscal Year 2023	$259,261
Fiscal Year 2024	$456,301
Fiscal Year 2025	$50,857
Total Proceeds	**$60,980,104**

Class Action Name	TNT Status Code	Status as of Date	Class Period Start Date	Class Period End Date	Class Account Id	Claimed Account Name
VIATRIS INC. Securities Litigation	FILED	7/1/2024	6/29/2020	2/28/2022	904032	KRS PUTNAM
VIATRIS INC. Securities Litigation	FILED	7/1/2024	6/29/2020	2/28/2022	140455	KRS INS ABEL NOSER TRANSITION
VIATRIS INC. Securities Litigation	FILED	7/1/2024	6/29/2020	2/28/2022	956596	KRS KRS INTERNAL EQUITY
VIATRIS INC. Securities Litigation	FILED	7/1/2024	6/29/2020	2/28/2022	904033	KRS INS PUTNAM
ALPHABET INC. Securities Litigation	FILED	7/23/2024	4/23/2018	4/30/2019	956596	KRS KRS INTERNAL EQUITY
ALPHABET INC. Securities Litigation	FILED	7/23/2024	4/23/2018	4/30/2019	956599	KRS S P 500 INDEX
ALPHABET INC. Securities Litigation	FILED	7/23/2024	4/23/2018	4/30/2019	956774	KRS INS S P 500 INDEX
ALPHABET INC. Securities Litigation	FILED	7/23/2024	4/23/2018	4/30/2019	956768	KRS INS WESTFIELD CAPITAL
ALPHABET INC. Securities Litigation	FILED	7/23/2024	4/23/2018	4/30/2019	956772	KRS INS KRS INTERNAL EQUITY
ALPHABET INC. Securities Litigation	FILED	7/23/2024	4/23/2018	4/30/2019	956591	KRS WESTFIELD CAPITAL
PRUDENTIAL FINANCIAL INC Securities Litigation	FILED	7/29/2024	6/5/2019	8/2/2019	956772	KRS INS KRS INTERNAL EQUITY
PRUDENTIAL FINANCIAL INC Securities Litigation	FILED	7/29/2024	6/5/2019	8/2/2019	956599	KRS S P 500 INDEX
PRUDENTIAL FINANCIAL INC Securities Litigation	FILED	7/29/2024	6/5/2019	8/2/2019	956774	KRS INS S P 500 INDEX
PRUDENTIAL FINANCIAL INC Securities Litigation	FILED	7/29/2024	6/5/2019	8/2/2019	956596	KRS KRS INTERNAL EQUITY
HANMI FINANCIAL CORPORATION Securities Litigation	FILED	8/5/2024	8/9/2018	4/30/2020	956588	KRS NTGI STRUCTURED
HANMI FINANCIAL CORPORATION Securities Litigation	FILED	8/5/2024	8/9/2018	4/30/2020	956765	KRS INS NTGI STRUCTURED
ASTEC INDUSTRIES INC. Securities Litigation	FILED	8/6/2024	7/26/2016	10/22/2018	956588	KRS NTGI STRUCTURED
ASTEC INDUSTRIES INC. Securities Litigation	FILED	8/6/2024	7/26/2016	10/22/2018	956765	KRS INS NTGI STRUCTURED
ADAMAS PHARMACEUTICALS INC Securities Litigation	FILED	8/26/2024	8/8/2017	3/4/2019	956588	KRS NTGI STRUCTURED
ADAMAS PHARMACEUTICALS INC Securities Litigation	FILED	8/26/2024	8/8/2017	3/4/2019	956765	KRS INS NTGI STRUCTURED
PERRIGO COMPANY PLC Securities Litigation	FILED	9/19/2024	4/21/2015	5/2/2017	KR2F1901002	STATE STREET TRANSITION
PERRIGO COMPANY PLC Securities Litigation	FILED	9/19/2024	4/21/2015	5/2/2017	956772	KRS INS KRS INTERNAL EQUITY
PERRIGO COMPANY PLC Securities Litigation	FILED	9/19/2024	4/21/2015	5/2/2017	956596	KRS KRS INTERNAL EQUITY
WEATHERFORD INTL. PLC-FKA-LTD SEC FAIRFD	FILED	9/19/2024	2/24/2009	2/8/2013	2672591	ZZKRS PEN WESTFIELD CAPITAL-SL
WEATHERFORD INTL. PLC-FKA-LTD SEC FAIRFD	FILED	9/19/2024	2/24/2009	2/8/2013	2672597	ZZKRS INS WESTFIELD CAPITAL-SL
Weatherford International PLC, FAIR FUND	FILED	9/30/2024	2/25/2009	11/12/2012	KR2F1901002	STATE STREET TRANSITION
Weatherford International PLC, FAIR FUND	FILED	9/30/2024	2/25/2009	11/12/2012	KR2F1006002	WESTFIELD CAPITAL
Weatherford International PLC, FAIR FUND	FILED	9/30/2024	2/25/2009	11/12/2012	KR3F1006002	WESTFIELD CAPITAL
GRAND CANYON EDUCATION INC Securities Litigation	FILED	10/9/2024	1/5/2018	1/27/2020	956588	KRS NTGI STRUCTURED
GRAND CANYON EDUCATION INC Securities Litigation	FILED	10/9/2024	1/5/2018	1/27/2020	956765	KRS INS NTGI STRUCTURED

BNY

Transaction Detail
Reported By Transaction Category

Report ID: IACS0008
Base Currency: USD
Status: REVISED

KR2G00000000 - TOTAL FUND
6/30/2024 - 9/30/2024

Trans Code / Link Ref	Shares/Par / Security Id	Description / Broker / Transaction No./Client Ref No.	Trade Date / C. Settle Date / Reported Date	Price Local/Base	Cost Local/Base	Amount Local/Base	Net Gain/Loss Local/Base
CLASS ACTIONS							
CASH & CASH EQUIVALENTS							
U.S. DOLLAR							
CD	0.000	23578TILE SHOP HOLDINGS, INC.	7/11/2024	0.000000	18.30	18.30	18.30
	NA9123459	(2019) Distribution 2ND DISTRI		0.000000	18.30	18.30	18.30
		20240711S007450 / 000000000001	7/11/2024			Gain/Loss Local Amounts: 18.30 Long	
		KR2F10020002 : NTGI STRUCTURED				Gain/Loss Base Amounts: 18.30 Long	
CD	0.000	17049COGNIZANT TECHNOLOGY SOLU	7/23/2024	0.000000	433.22	433.22	433.22
	NA9123459	TIONS CORP, Securities Litigat		0.000000	433.22	433.22	433.22
		20240723S000030 / 000000000008	7/23/2024			Gain/Loss Local Amounts: 433.22 Long	
		KR2F19020002 : S&P 500 INDEX				Gain/Loss Base Amounts: 433.22 Long	
CD	0.000	25020ALTRIA GROUP, INC., Secur	7/23/2024	0.000000	106.42	106.42	106.42
	NA9123459	ities Litigation Distribution		0.000000	106.42	106.42	106.42
		20240723S000040 / 000000000081	7/23/2024			Gain/Loss Local Amounts: 106.42 Long	
		KR2F19020002 : S&P 500 INDEX				Gain/Loss Base Amounts: 106.42 Long	
CD	0.000	3-18-cv-05704-RSLIMPINJ, INC.	7/30/2024	0.000000	15.39	15.39	15.39
	NA9123459	(W.D. WASH.) Distribution 3RD		0.000000	15.39	15.39	15.39
		20240730S000070 / 000000000009	7/30/2024			Gain/Loss Local Amounts: 15.39 Long	
		KR2F10020002 : NTGI STRUCTURED				Gain/Loss Base Amounts: 15.39 Long	
CD	0.000	23694BIOMARIN PHARMACEUTICAL I	8/5/2024	0.000000	7,589.42	7,589.42	7,589.42
	NA9123459	NC, Securities Litigation Dist		0.000000	7,589.42	7,589.42	7,589.42
		20240805S000010 / 000000006291	8/5/2024			Gain/Loss Local Amounts: 7,589.42 Long	
		KR2F19030002 : ABEL NOSER TRANS				Gain/Loss Base Amounts: 7,589.42 Long	
CD	0.000	23694BIOMARIN PHARMACEUTICAL I	8/5/2024	0.000000	12,785.20	12,785.20	12,785.20
	NA9123459	NC, Securities Litigation Dist		0.000000	12,785.20	12,785.20	12,785.20
		20240805S000070 / 000000006291	8/5/2024			Gain/Loss Local Amounts: 12,785.20 Long	
		KR2F10110002 : KRS INTERNAL EQUITY				Gain/Loss Base Amounts: 12,785.20 Long	

BNY

Transaction Detail
Reported By Transaction Category

Report ID: IACS0008
Base Currency: USD
Status: REVISED

KR2G00000000 - TOTAL FUND **6/30/2024 - 9/30/2024**

Trans Code / Link Ref	Shares/Par / Security Id	Description / Broker / Transaction No./Client Ref No.	Trade Date / C. Settle Date / Reported Date	Price Local/Base	Cost Local/Base	Amount Local/Base	Net Gain/Loss Local/Base
CD	0.000	21672LIVENT CORPORATION, Secur	8/6/2024	0.000000	1,594.87	1,594.87	1,594.87
	NA9123459	ities Litigation Distribution		0.000000	1,594.87	1,594.87	1,594.87
		20240806S000010 / 000000000000	8/6/2024			Gain/Loss Local Amounts: 1,594.87 Long	
		KR2F19010002 : STATE STREET TRANSIT				Gain/Loss Base Amounts: 1,594.87 Long	
CD	0.000	16593DAIMLER AG, Securities Li	8/7/2024	0.000000	892.17	892.17	892.17
	NA9123459	tigation (16CV02942) Distribut		0.000000	892.17	892.17	892.17
		20240807S000010 / 000000000000	8/7/2024			Gain/Loss Local Amounts: 892.17 Long	
		KR2F20070002 : LSV ASSET MANAGEMENT				Gain/Loss Base Amounts: 892.17 Long	
CD	0.000	25372AMNEAL PHARMACEUTICALS, I	8/8/2024	0.000000	1,859.31	1,859.31	1,859.31
	NA9123459	NC., Securities Litigation Dis		0.000000	1,859.31	1,859.31	1,859.31
		20240808S000150 / 000000000001	8/8/2024			Gain/Loss Local Amounts: 1,859.31 Long	
		KR2F10020002 : NTGI STRUCTURED				Gain/Loss Base Amounts: 1,859.31 Long	
CD	0.000	25037SHATTUCK LABS, INC., et a	8/28/2024	0.000000	143.00	143.00	143.00
	NA9123459	l., Securities Litigation Dist		0.000000	143.00	143.00	143.00
		20240828S003950 / 000000000000	8/28/2024			Gain/Loss Local Amounts: 143.00 Long	
		KR2F10020002 : NTGI STRUCTURED				Gain/Loss Base Amounts: 143.00 Long	
CD	0.000	20274NIELSEN HOLDINGS PLC, Sec	8/30/2024	0.000000	1,118.20	1,118.20	1,118.20
	NA9123459	urities Litigation Distributio		0.000000	1,118.20	1,118.20	1,118.20
		20240830S000090 / 000000000002	8/30/2024			Gain/Loss Local Amounts: 1,118.20 Long	
		KR2F10120002 : RIVER ROAD FAV				Gain/Loss Base Amounts: 1,118.20 Long	
CD	0.000	20274NIELSEN HOLDINGS PLC, Sec	8/30/2024	0.000000	22.00	22.00	22.00
	NA9123459	urities Litigation Distributio		0.000000	22.00	22.00	22.00
		20240830S000280 / 000000000002	8/30/2024			Gain/Loss Local Amounts: 22.00 Long	
		KR2F10110002 : KRS INTERNAL EQUITY				Gain/Loss Base Amounts: 22.00 Long	
CD	0.000	22158TEXTRON INC., Securities	9/9/2024	0.000000	1,356.80	1,356.80	1,356.80
	NA9123459	Litigation Distribution 1ST DI		0.000000	1,356.80	1,356.80	1,356.80
		20240909S000100 / 000000006304	9/9/2024			Gain/Loss Local Amounts: 1,356.80 Long	
		KR2F10110002 : KRS INTERNAL EQUITY				Gain/Loss Base Amounts: 1,356.80 Long	

BNY

Transaction Detail
Reported By Transaction Category

Report ID: IACS0008
Base Currency: USD
Status: REVISED

KR2G00000000 - TOTAL FUND
6/30/2024 - 9/30/2024

Trans Code / Link Ref	Shares/Par / Security Id	Description / Broker / Transaction No./Client Ref No.	Trade Date / C. Settle Date / Reported Date	Price Local/Base	Cost Local/Base	Amount Local/Base	Net Gain/Loss Local/Base
CD	0.000	LIBOR-BASED FNCL INSTR USD ANT	9/18/2024	0.000000	79.67	79.67	79.67
	NA9123459	ITR BONDHO		0.000000	79.67	79.67	79.67
		20240919S000010 / 33A21A4776E3	9/18/2024			Gain/Loss Local Amounts: 79.67 Long	
		KR2F30050002 : WATERFALL				Gain/Loss Base Amounts: 79.67 Long	
CD	0.000	LIBOR-BASED FNCL INSTR USD ANT	9/18/2024	0.000000	5,860.35	5,860.35	5,860.35
	NA9123459	ITR BONDHO		0.000000	5,860.35	5,860.35	5,860.35
		20240919S000020 / 33A21A4776E3	9/18/2024			Gain/Loss Local Amounts: 5,860.35 Long	
		KR2F90010002 : CASH ACCOUNT KR2				Gain/Loss Base Amounts: 5,860.35 Long	
CD	0.000	LIBOR-BASED FNCL INSTR USD ANT	9/18/2024	0.000000	1,110.78	1,110.78	1,110.78
	NA9123459	ITR BONDHO		0.000000	1,110.78	1,110.78	1,110.78
		20240919S000030 / 33A21A4776E3	9/18/2024			Gain/Loss Local Amounts: 1,110.78 Long	
		KR2F90010002 : CASH ACCOUNT KR2				Gain/Loss Base Amounts: 1,110.78 Long	
CD	0.000	LIBOR-BASED FNCL INSTR USD ANT	9/18/2024	0.000000	2,867.46	2,867.46	2,867.46
	NA9123459	ITR BONDHO		0.000000	2,867.46	2,867.46	2,867.46
		20240919S000040 / 33A21A4776E3	9/18/2024			Gain/Loss Local Amounts: 2,867.46 Long	
		KR2F90010002 : CASH ACCOUNT KR2				Gain/Loss Base Amounts: 2,867.46 Long	
CD	0.000	LIBOR-BASED FNCL INSTR USD ANT	9/18/2024	0.000000	546.95	546.95	546.95
	NA9123459	ITR BONDHO		0.000000	546.95	546.95	546.95
		20240919S000220 / 33A21A4776E3	9/18/2024			Gain/Loss Local Amounts: 546.95 Long	
		KR2F30080002 : NISA				Gain/Loss Base Amounts: 546.95 Long	

	Cost	Amount	Net Gain/Loss
TOTAL U.S. DOLLAR CASH & CASH EQUIVALENTS:	**38,399.51**	**38,399.51**	**38,399.51**
	38,399.51	**38,399.51**	**38,399.51**
TOTAL CASH & CASH EQUIVALENTS CLASS ACTIONS:	**38,399.51**	**38,399.51**	**38,399.51**
TOTAL CLASS ACTIONS:	**38,399.51**	**38,399.51**	**38,399.51**
TOTAL TRANSACTIONS BASE:	**38,399.51**	**38,399.51**	**38,399.51**

BNY

Transaction Detail
Reported By Transaction Category

Report ID: IACS0008
Base Currency: USD
Status: REVISED

KR3G00000000 - TOTAL FUND **6/30/2024 - 9/30/2024**

Trans Code / Link Ref	Shares/Par / Security Id	Description / Broker / Transaction No./Client Ref No.	Trade Date / C. Settle Date / Reported Date	Price Local/Base	Cost Local/Base	Amount Local/Base	Net Gain/Loss Local/Base
CLASS ACTIONS							
CASH & CASH EQUIVALENTS							
U.S. DOLLAR							
CD	0.000	17049COGNIZANT TECHNOLOGY SOLU	7/23/2024	0.000000	223.56	223.56	223.56
	NA9123459	TIONS CORP, Securities Litigat		0.000000	223.56	223.56	223.56
		20240723S000030 / 000000000008	7/23/2024			Gain/Loss Local Amounts: 223.56 Long	
		KR3F10110002 : KRS INTERNAL EQUITY				Gain/Loss Base Amounts: 223.56 Long	
CD	0.000	25020ALTRIA GROUP, INC., Secur	7/23/2024	0.000000	52.83	52.83	52.83
	NA9123459	ities Litigation Distribution		0.000000	52.83	52.83	52.83
		20240723S000030 / 000000000081	7/23/2024			Gain/Loss Local Amounts: 52.83 Long	
		KR3F19020002 : S&P 500 INDEX				Gain/Loss Base Amounts: 52.83 Long	
CD	0.000	23694BIOMARIN PHARMACEUTICAL I	8/5/2024	0.000000	3,225.84	3,225.84	3,225.84
	NA9123459	NC, Securities Litigation Dist		0.000000	3,225.84	3,225.84	3,225.84
		20240805S000010 / 000000006291	8/5/2024			Gain/Loss Local Amounts: 3,225.84 Long	
		KR3F19030002 : ABEL NOSER TRANSI				Gain/Loss Base Amounts: 3,225.84 Long	
CD	0.000	23694BIOMARIN PHARMACEUTICAL I	8/5/2024	0.000000	5,732.58	5,732.58	5,732.58
	NA9123459	NC, Securities Litigation Dist		0.000000	5,732.58	5,732.58	5,732.58
		20240805S000070 / 000000006291	8/5/2024			Gain/Loss Local Amounts: 5,732.58 Long	
		KR3F10110002 : KRS INTERNAL EQUITY				Gain/Loss Base Amounts: 5,732.58 Long	
CD	0.000	21672LIVENT CORPORATION, Secur	8/6/2024	0.000000	698.61	698.61	698.61
	NA9123459	ities Litigation Distribution		0.000000	698.61	698.61	698.61
		20240806S000010 / 000000000000	8/6/2024			Gain/Loss Local Amounts: 698.61 Long	
		KR3F19010002 : STATE STREET TRANSIT				Gain/Loss Base Amounts: 698.61 Long	
CD	0.000	16593DAIMLER AG, Securities Li	8/7/2024	0.000000	337.98	337.98	337.98
	NA9123459	tigation (16CV02942) Distribut		0.000000	337.98	337.98	337.98
		20240807S000020 / 000000000000	8/7/2024			Gain/Loss Local Amounts: 337.98 Long	
		KR3F20070002 : LSV ASSET MGMT				Gain/Loss Base Amounts: 337.98 Long	

BNY

Transaction Detail
Reported By Transaction Category

Report ID: IACS0008
Base Currency: USD

KR3G00000000 - TOTAL FUND **6/30/2024 - 9/30/2024** **Status: REVISED**

Trans Code / Link Ref	Shares/Par / Security Id	Description / Broker / Transaction No./Client Ref No.	Trade Date / C. Settle Date / Reported Date	Price Local/Base	Cost Local/Base	Amount Local/Base	Net Gain/Loss Local/Base
CD	0.000	25372AMNEAL PHARMACEUTICALS, I	8/8/2024	0.000000	888.76	888.76	888.76
	NA9123459	NC., Securities Litigation Dis		0.000000	888.76	888.76	888.76
		20240808S000180 / 000000000001	8/8/2024			Gain/Loss Local Amounts: 888.76 Long	
		KR3F10020002 : NTGI STRUCTURED				Gain/Loss Base Amounts: 888.76 Long	
CD	0.000	25037SHATTUCK LABS, INC., et a	8/28/2024	0.000000	63.11	63.11	63.11
	NA9123459	I., Securities Litigation Dist		0.000000	63.11	63.11	63.11
		20240828S002670 / 000000000000	8/28/2024			Gain/Loss Local Amounts: 63.11 Long	
		KR3F10020002 : NTGI STRUCTURED				Gain/Loss Base Amounts: 63.11 Long	
CD	0.000	20274NIELSEN HOLDINGS PLC, Sec	8/30/2024	0.000000	495.96	495.96	495.96
	NA9123459	urities Litigation Distributio		0.000000	495.96	495.96	495.96
		20240830S000090 / 000000000002	8/30/2024			Gain/Loss Local Amounts: 495.96 Long	
		KR3F10120002 : RIVER ROAD FAV				Gain/Loss Base Amounts: 495.96 Long	
CD	0.000	22158TEXTRON INC., Securities	9/10/2024	0.000000	665.68	665.68	665.68
	NA9123459	Litigation Distribution 1ST DI		0.000000	665.68	665.68	665.68
		20240910S000220 / 000000006304	9/10/2024			Gain/Loss Local Amounts: 665.68 Long	
		KR3F10110002 : KRS INTERNAL EQUITY				Gain/Loss Base Amounts: 665.68 Long	
CD	0.000	20274NIELSEN HOLDINGS PLC, Sec	9/11/2024	0.000000	72.24	72.24	72.24
	NA9123459	urities Litigation Distributio		0.000000	72.24	72.24	72.24
		20240911S000010 / 000000000002	9/11/2024			Gain/Loss Local Amounts: 72.24 Long	
		KR3F90010002 : CASH ACCOUNT KR3				Gain/Loss Base Amounts: 72.24 Long	

	Cost	Amount	Net Gain/Loss
TOTAL U.S. DOLLAR CASH & CASH EQUIVALENTS:	**12,457.15**	**12,457.15**	**12,457.15**
	12,457.15	**12,457.15**	**12,457.15**
TOTAL CASH & CASH EQUIVALENTS CLASS ACTIONS:	**12,457.15**	**12,457.15**	**12,457.15**
TOTAL CLASS ACTIONS:	**12,457.15**	**12,457.15**	**12,457.15**
TOTAL TRANSACTIONS BASE:	**12,457.15**	**12,457.15**	**12,457.15**

Kentucky Public Pensions Authority

Internal Asset Holdings Report & Internal Asset Transaction Report

Quarter Ending: September 30, 2024

Reports can be found:

https://kyret.ky.gov/Investments/Investments-Library/Pages/Internal-Reports.aspx

Kentucky Public Pensions Authority

Commissions Report

Quarter Ending: September 30, 2024

Reports can be found:

https://kyret.ky.gov/Investments/Investments-Library/Pages/Commissions-Reports.aspx

County Employees Retirement System

Investment Budget Update

Quarter Ending: September 30, 2024

KENTUCKY PUBLIC PENSIONS AUTHORITY
Investment Budget

Account Name	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Trust Budget FY 2025	FY25 Expenditures	Remaining	Percentage Spent
CONSULTING SERVICES										
Wilshire Associates	$ 1,021,799	$ 1,238,170	$ 1,225,671	$ 1,021,175	$ 838,172	$ 1,130,417	$ 1,250,000	$ 283,332	$ 966,668	23%
Albourne	-	-	-	-	306,750	270,000	275,000	67,500	207,500	25%
MercerInsight	-	-	-	-	153,548	160,000	165,000	40,000	125,000	24%
New Private Markets Consultant	-	-	-	-			250,000	-	250,000	0%
SUBTOTAL	**1,021,799**	**1,238,170**	**1,225,671**	**1,021,175**	**1,298,471**	**1,560,417**	**1,940,000**	**390,832**	**1,549,168**	**20%**
LEGAL & AUDITING SERVICES										
Faegre Drinker			96,039	202,502	16,428	18,519	375,000	275	374,725	0%
Intelligent Management Solutions (IMS)	620,001	202,140	155,700	69,884	81,880	8,061	700,000	126,413	573,588	18%
McClain/Goldberg			891	-	-	312	25,000		25,000	0%
Reinhart	317,909	671,269	663,689	619,509	109,508	619,420	3,000,000		3,000,000	0%
Stoll-Keenon-Ogden	10,314	135,353	254,211	463,560	750,438	210,475	875,000	17,030	857,971	2%
Haystack			-	-	120,175	209,490	200,000	49,355	150,645	25%
Umberg Zipser			289,100	498,058	606,701	738,483	750,000	55,086	694,914	7%
Fiduciary Legal Expenses	-	-	-	-	5,288	400,872	850,000	252,569	597,431	30%
Miscellaneous				-	-	3,160	50,000	9,450	40,550	19%
SUBTOTAL	**948,225**	**1,008,762**	**1,459,630**	**1,853,513**	**1,690,417**	**2,208,791**	**6,825,000**	**510,177**	**6,314,823**	**7%**
CONTRACTURAL SERVICES										
Bloomberg	68,722	71,810	98,163	102,243	104,153	110,823	160,000	28,197	131,803	18%
BNYM Custodial Fees	2,056,390	2,088,475	2,379,838	2,565,169	2,333,981	2,752,592	2,700,000	743,009	1,956,991	28%
eVestment (Solovis RMS)			-	30,000	33,800	39,422	35,000		35,000	0%
Solovis (Reporting & Analytics)			-	245,000	266,017	306,319	300,000	319,744	(19,744)	107%
FactSet	222,476	162,295	109,662	140,098	146,411	151,431	150,000	32,926	117,074	22%
Russell Index Subscription	1,075	1,250	1,000	1,000	750	1,000	30,000	250	29,750	1%
S&P Global		94,500	26,250	68,250	27,563		47,500		47,500	0%
TradeWeb			-	6,000	7,700	2,800	-		-	-
State Street/Elkins McSherry	10,000	5,000	15,000	10,000	10,000		10,000		10,000	0%
ISS	32,050	32,050	28,288	35,813	39,875	62,875	60,000	4,250	55,750	7%
MSCI	1,000	1,000	1,000	1,000	1,000	1,000	1,000		1,000	0%
KPMG Tax Guarantor Services		7,606	22,050	7,350	-	9,450	10,000		10,000	0%
Jayant Ghevaria and CO		10,050	-	52,085	-		55,000		55,000	0%
India Renewal Fee (SEBI)			-	3,000	-	2,950	3,000		3,000	0%
With Intelligence	-	-	-	-	9,520	9,520	10,000	10,150	(150)	-
SUBTOTAL	**2,391,713**	**2,474,036**	**2,681,251**	**3,267,008**	**2,980,769**	**3,450,182**	**3,571,500**	**1,138,525**	**2,432,975**	**32%**

KENTUCKY PUBLIC PENSIONS AUTHORITY
Investment Budget

Account Name	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Trust Budget FY 2025	FY25 Expenditures	Remaining	Percentage Spent
MISCELLANEOUS SERVICES										
Miscellaneous Services							250,000		250,000	
Morningstar						2,500	2,500		2,500	
Oxford						19,500	20,000		20,000	
Pension Real Estate Association						330	350		350	
Reimbursement of Pzena	-	-	-	-	-	12,923			-	
SUBTOTAL	**-**	**-**	**-**	**-**	**-**	**35,253**	**272,850**	**-**	**272,850**	**0%**
INACTIVE CONTRACTURAL SERVICES										
Dean Dorton	9,719		-	-	250	-	-	-	-	
Hirschler		4,794	-	-		-		-		
INFORMA	12,904		-	-		-	-	-		
Lighthouse Solutions	3,093		-	-		-		-		
London Stock Exchange GBP (GREAT BRITISH POUNDS)	6,467	3,544	-	-		-	-	-		
Deutsche Bank Trust	3,000		3,000	-		-		-		
Morris James LLP	94,192	20,154	-	-		-	-	-		
Calcaterra Pollack			1,200,000	-		-		-		
Manatt		90,798	30,757	-		-	-	-		
ORG	162,344		-	-		-	-	-		
SUBTOTAL	**291,718**	**119,290**	**1,233,757**	**-**	**250**	**-**	-		-	
TOTAL	**$ 4,653,455**	**$ 4,840,258**	**$ 6,600,309**	**$ 6,141,696**	**$ 5,969,907**	**$ 7,254,644**	**$ 12,609,350**	**$ 2,039,534**	**$ 10,569,816**	**16%**

INVESTMENT BUDGET	
CONSULTING SERVICES	
Wilshire Associates	General Investment Consultanting Services, Manager Research and Due Dilligence, Reporting, Asset Allocation
Albourne	Investment Consultant Research database - Private Markets Manager Research, Private Markets Research, Pension Markets Research
MercerInsight	Investment Consultant Research database - Public Markets Manager Research, Public Markets Research, Pension Markets Research
LEGAL & AUDITING SERVICES	
Faegre Drinker	Delaware litigation counsel
Intelligent Management Solutions (IMS)	IMS is an expert witness in the Bay Hills case.
McClain/Goldberg	Blackstone litigation counsel for the Trustees and Officers
Reinhart	Bay Hills counsel and investment counsel for contract negotiations
Stoll-Keenon-Ogden	Mayberry counsel
Haystack	Conduct Mayberry eDiscovery
Umberg Zipser	PAAMCO-Prisma (California litigation)
Frost Brown Todd	Currently has no investment-related cases
Swansburg & Smith	Reimbursement of Fiduciary Legal Expenses (KKR)
Eddins Domine	Reimbursement of Fiduciary Legal Expenses (KKR)
Taft	Reimbursement of Fiduciary Legal Expenses (Calcaterra Pollack)
CONTRACTURAL SERVICES	
Bloomberg	Bloomberg Professional Services, Data Analytics and Tools, Market Information and News, Research Portal
BNYM Custodial Fees	Full Service Custodial Services, Investment Accounting, Investment Operations, Transaction Services, Performance and Attribution, Reporting
eVestment (Solovis RMS)	Research Management Program organizing internal and exteranl research
Solovis (Reporting & Analytics)	Portfolio and Risk Analytics, Perfromance Measurement and Attribution, Reporting
FactSet	Workstation and Quant/Risk Applications for managing Public Equity Portfolios
Russell Index Subscription	Access to Russell Indexes for Portfolio Management, Reporting and Performance
S&P Global	Data on the S & P US Index / License to 10,000 Identifiers for Portfolio Management, Reporting and Performance
TradeWeb	Electronic Trading Platform for Internal Management
State Street/Elkins McSherry	Public Equity Trade Cost Analysis
ISS	Portfolio Monitoring and Proxy Voting Services
MSCI	International Public Equity Data Package
KPMG Tax Guarantor Services	Tax Accounting Services - Taiwan
Jayant Ghevaria and CO	Tax Accounting Services - India
India Renewal Fee (SEBI)	Registration of India Local Market Accounts
Oxford Economics	Global macroeconomics and markets research
Morningstar	Access to Morningstar Indexes for Portfolio Management, Reporting and Performance
Pension Real Estate Association	Industry Association for News and Research
With Intelligence	Portfolio Management Research provider

KENTUCKY PUBLIC PENSIONS AUTHORITY
Investment Fees and Expenses
For the three month periods ending September 30th
Pension

	2025		2024		2023		2022		2021	
	FYTD Fees	Market Value	FYTD Fees	Market Value	FYTD Fees	Market Value	FYTD Fees	Market Value	FYTD Fees	Market Value
Core Fixed Income	**518,475**	**3,262,153,338**	**538,998**	**2,131,936,660**	**879,295**	**2,084,448,991**	**964,078**	**2,367,680,815**	**733,578**	**2,567,773,367**
Investment Advisory Fees	*510,154*		*525,105*		*552,736*		*618,246*		*722,512*	
Performance Fees	-		-		*313,985*		*327,140*		-	
Miscellaneous Fees and Expenses	*8,322*		*13,893*		*12,575*		*18,692*		*11,066*	
Public Equity	**4,806,990**	**8,809,796,103**	**3,672,514**	**7,378,700,486**	**3,142,570**	**6,065,660,923**	**3,636,256**	**6,871,426,987**	**2,872,890**	**5,136,347,064**
Investment Advisory Fees	*4,702,779*		*3,567,463*		*3,040,804*		*3,523,547*		*2,749,937*	
Miscellaneous Fees and Expenses	*104,211*		*105,051*		*101,766*		*112,709*		*122,953*	
Specialty Credit Fixed Income	**25,799,945**	**3,991,761,404**	**22,856,573**	**3,275,957,851**	**12,036,439**	**3,083,985,656**	**13,440,821**	**3,152,469,147**	**8,644,395**	**2,645,521,211**
Investment Advisory Fees	*5,715,273*		*4,074,866*		*4,746,299*		*3,964,000*		*3,565,331*	
Performance Fees	*10,384,968*		*9,400,428*		*1,673,157*		*7,358,655*		*4,929,348*	
Miscellaneous Fees and Expenses	*9,699,703*		*9,381,280*		*5,616,983*		*2,118,166*		*149,716*	
Real Estate	**2,547,030**	**998,333,855**	**849,546**	**946,221,229**	**4,455,872**	**969,436,952**	**7,779,711**	**677,700,443**	**(1,596,844)**	**575,319,463**
Investment Advisory Fees	*1,738,832*		*1,924,845*		*1,579,279*		*1,114,665*		*973,432*	
Performance Fees	*41,823*		*(2,524,451)*		*2,231,775*		*6,615,761*		*(3,019,709)*	
Miscellaneous Fees and Expenses	*766,375*		*1,449,153*		*644,817*		*49,285*		*449,432*	
Real Return	**3,656,380**	**1,079,085,350**	**1,385,926**	**507,885,793**	**998,699**	**426,178,862**	**1,718,873**	**1,010,028,940**	**1,224,854**	**946,392,249**
Investment Advisory Fees	*1,398,185*		*1,044,249*		*488,379*		*1,085,377*		*1,113,697*	
Performance Fees	*1,960,002*		*167,367*		*285,096*		*380,418*		*26,635*	
Miscellaneous Fees and Expenses	*298,194*		*174,310*		*225,224*		*253,079*		*84,522*	
Private Equity	**3,543,093**	**1,153,983,200**	**7,960,728**	**1,178,285,116**	**(274,776)**	**1,209,741,651**	**24,096,611**	**1,305,498,399**	**10,317,788**	**1,120,309,401**
Investment Advisory Fees	*1,075,255*		*1,360,253*		*1,804,660*		*1,673,732*		*5,337,767*	
Performance Fees	*1,500,160*		*5,008,292*		*(2,822,439)*		*20,395,224*		*4,237,753*	
Miscellaneous Fees and Expenses	*967,678*		*1,592,184*		*743,004*		*2,027,655*		*742,268*	
Administrative Expense/Cash	**1,377,283**	**600,819,975**	**1,036,738**	**1,175,409,476**	**666,582**	**799,782,744**	**858,178**	**572,193,644**	**567,832**	**280,543,179**
Total Investment Mgmt Fees	**42,249,196**	**19,895,933,225**	**38,301,024**	**16,594,396,612**	**21,904,681**	**14,639,235,779**	**52,494,529**	**15,956,998,375**	**22,764,493**	**13,272,205,934**

KENTUCKY PUBLIC PENSIONS AUTHORITY Investment Fees and Expenses For the three month periods ending September 30th Insurance										
	2025		2024		2023		2022		2021	
	FYTD Fees	Market Value	FYTD Fees	Market Value	FYTD Fees	Market Value	FYTD Fees	Market Value	FYTD Fees	Market Value
Core Fixed Income	**166,955**	**1,014,916,318**	**184,881**	**754,337,920**	**324,043**	**767,219,317**	**354,733**	**862,879,050**	**306,612**	**1,009,303,589**
Investment Advisory Fees	*164,235*		*180,211*		*208,100*		*230,338*		*302,521*	
Performance Fees	-		-		*112,040*		*117,337*		-	
Miscellaneous Fees and Expenses	*2,720*		*4,670*		*3,903*		*7,058*		*4,091*	
Public Equity	**2,159,272**	**3,831,141,684**	**1,705,220**	**3,360,758,473**	**1,436,037**	**2,807,242,353**	**1,625,181**	**3,080,276,960**	**1,276,657**	**2,298,110,875**
Investment Advisory Fees	*2,115,591*		*1,657,228*		*1,389,622*		*1,574,855*		*1,237,579*	
Miscellaneous Fees and Expenses	*43,681*		*47,991*		*46,415*		*50,326*		*39,078*	
Specialty Credit Fixed Income	**11,337,702**	**1,757,297,204**	**10,206,292**	**1,472,221,495**	**5,558,434**	**1,371,584,870**	**5,969,311**	**1,429,342,653**	**3,600,898**	**1,200,876,963**
Investment Advisory Fees	*2,468,026*		*1,741,424*		*2,178,608*		*1,781,734*		*1,612,681*	
Performance Fees	*4,579,418*		*4,295,204*		*964,003*		*3,271,465*		*1,919,431*	
Miscellaneous Fees and Expenses	*4,290,258*		*4,169,664*		*2,415,823*		*916,112*		*68,786*	
Real Estate	**1,144,040**	**446,561,904**	**511,795**	**418,297,047**	**1,799,878**	**428,984,339**	**3,228,037**	**286,774,553**	**(586,612)**	**242,914,014**
Investment Advisory Fees	*797,124*		*870,090*		*604,578*		*482,095*		*436,720*	
Performance Fees	*18,291*		*(979,568)*		*919,660*		*2,722,999*		*(1,205,411)*	
Miscellaneous Fees and Expenses	*328,625*		*621,274*		*275,640*		*22,943*		*182,079*	
Real Return	**1,578,264**	**417,376,136**	**603,897**	**197,048,651**	**487,514**	**166,445,599**	**740,678**	**426,269,531**	**483,916**	**402,565,117**
Investment Advisory Fees	*581,847*		*466,172*		*266,024*		*484,286*		*449,536*	
Performance Fees	*867,945*		*59,893*		*116,876*		*140,229*		*(641)*	
Miscellaneous Fees and Expenses	*128,472*		*77,832*		*104,614*		*116,163*		*35,021*	
Private Equity	**1,499,854**	**577,355,826**	**4,590,785**	**600,831,793**	**(393,210)**	**598,395,346**	**16,466,674**	**616,691,355**	**6,117,871**	**517,344,161**
Investment Advisory Fees	*678,155*		*887,506*		*1,238,396*		*1,410,084*		*1,998,482*	
Performance Fees	*328,563*		*3,008,749*		*(1,963,029)*		*14,392,982*		*3,937,310*	
Miscellaneous Fees and Expenses	*493,136*		*694,529*		*331,423*		*663,608*		*182,079*	
Administrative Expense/Cash	**662,252**	**210,061,290**	**503,596**	**304,679,290**	**359,092**	**272,226,093**	**453,829**	**337,944,259**	**387,863**	**77,888,632**
Total Investment Mgmt Fees	**$ 18,548,339**	**$ 8,254,710,362**	**$ 18,306,465**	**$ 7,108,174,671**	**$ 9,571,788**	**$ 6,412,097,917**	**$ 28,838,443**	**$ 7,040,178,361**	**$ 11,587,205**	**$ 5,749,003,351**

KENTUCKY PUBLIC PENSIONS AUTHORITY Investment Fees and Expenses For the three month period ending September 30, 2024 Pension				
	CERS		CERS Hazardous	
	FYTD Fees	Market Value	FYTD Fees	Market Value
Core Fixed Income	**200,777**	**1,293,685,655**	**71,095**	**458,513,019**
Investment Advisory Fees	*197,546*		*69,951*	
Performance Fees	-		-	
Miscellaneous Fees and Expenses	*3,230*		*1,144*	
Public Equity	**2,708,790**	**4,949,778,136**	**961,531**	**1,757,841,963**
Investment Advisory Fees	*2,650,248*		*940,909*	
Miscellaneous Fees and Expenses	*58,542*		*20,622*	
Specialty Credit Fixed Income	**14,093,826**	**2,000,196,447**	**4,773,030**	**707,546,756**
Investment Advisory Fees	*2,995,909*		*1,029,528*	
Performance Fees	*5,797,922*		*1,920,318*	
Miscellaneous Fees and Expenses	*5,299,995*		*1,823,184*	
Real Estate	**1,413,315**	**512,454,040**	**446,010**	**163,162,043**
Investment Advisory Fees	*951,503*		*300,145*	
Performance Fees	*28,242*		*8,822*	
Miscellaneous Fees and Expenses	*433,570*		*137,044*	
Real Return	**1,824,410**	**403,276,102**	**708,876**	**142,555,423**
Investment Advisory Fees	*694,028*		*254,791*	
Performance Fees	*979,146*		*398,920*	
Miscellaneous Fees and Expenses	*151,237*		*55,165*	
Private Equity	**1,995,526**	**628,297,080**	**635,281**	**224,468,837**
Investment Advisory Fees	*684,991*		*226,350*	
Performance Fees	*717,892*		*210,494*	
Miscellaneous Fees and Expenses	*592,643*		*198,436*	
Administrative Expenses/Cash	**698,022**	**256,482,380**	**247,557**	**114,393,409**
Total Investment Mgmt Fees	**22,934,665**	**10,044,169,841**	**7,843,381**	**3,568,481,451**

KENTUCKY PUBLIC PENSIONS AUTHORITY Investment Fees and Expenses For the three month period ending September 30, 2024 Insurance				
	CERS		CERS Hazardous	
	FYTD Fees	Market Value	FYTD Fees	Market Value
Core Fixed Income	**78,383**	**145,715,261**	**36,032**	**565,869,729**
Investment Advisory Fees	*77,103*		*35,442*	
Performance Fees	*-*		*-*	
Miscellaneous Fees and Expenses	*1,280*		*590*	
Public Equity	**994,004**	**873,193,084**	**481,594**	**1,817,264,181**
Investment Advisory Fees	*973,163*		*471,793*	
Miscellaneous Fees and Expenses	*20,841*		*9,801*	
Specialty Credit Fixed Income	**5,095,205**	**354,844,242**	**2,688,786**	**750,917,992**
Investment Advisory Fees	*1,070,205*		*534,314*	
Performance Fees	*2,050,367*		*1,114,899*	
Miscellaneous Fees and Expenses	*1,974,633*		*1,039,573*	
Real Estate	**507,760**	**101,756,115**	**279,581**	**185,436,929**
Investment Advisory Fees	*349,391*		*191,729*	
Performance Fees	*7,447*		*5,048*	
Miscellaneous Fees and Expenses	*150,921*		*82,804*	
Real Return	**749,638**	**65,119,346**	**305,247**	**135,665,913**
Investment Advisory Fees	*261,153*		*115,620*	
Performance Fees	*430,425*		*163,289*	
Miscellaneous Fees and Expenses	*58,060*		*26,338*	
Private Equity	**552,930**	**138,753,565**	**284,871**	**248,352,882**
Investment Advisory Fees	*318,941*		*177,470*	
Performance Fees	*(30,822)*		*(36,089)*	
Miscellaneous Fees and Expenses	*264,811*		*143,490*	
Administrative Expenses/Cash	**298,901**	**108,728,439**	**143,837**	**23,369,107**
Total Investment Mgmt Fees	**$ 8,276,822**	**$ 1,788,110,053**	**$ 4,219,948**	**$ 3,726,876,733**

M E M O R A N D U M

TO: County Employees Retirement System Board of Trustees

From: William O'Mara, Chair
Finance Committee

Date: December 2, 2024

Subject: Summary of Finance Committee Quarterly Meeting

The County Employees Retirement System held a regular meeting on November 25, 2024.

1. **The following items were approved by the Finance Committee and are being forwarded to the County Employees Retirement System Board of Trustees for ratification***

    a. **Hazardous Duty Requests –** The Finance Committee considered a total of nine (9) requests for Hazardous Duty designation for positions in member organizations. After hearing the presentation from KPPA staff indicating staff had reviewed each request and determined that they meet the statutory guidelines for Hazardous coverage, the Finance Committee voted unanimously to approve each request.

RECOMMENDATION: The Finance Committee requests the County Employees Retirement System Board of Trustees ratify the actions taken by the Finance Committee.

2. **The following items were also discussed during the Finance Committee meeting:**
    a. KPPA staff presented quarterly/year end financial reports consisting of:
        a. YTD Financial Spreadsheet
        b. Administration Expense to Budget
        c. Investment Expense to Budget
        d. Contribution Report
        e. Outstanding Invoice Report
        f. Penalty Waiver Report

County Employees Retirement System
1270 Louisville Road
Frankfort, KY 40601

b. The CFO made several pertinent observations concerning the financial position of the CERS funds. The fiduciary net position for the pension/insurance funds stood at approximately $19.21 billion which was up over 16.88% from the year-over-year fiscal quarter 2023. The increase totals approximately $2.8 billion in pension/insurance fund growth. Pension fund growth represented $2.1 billion of the fiduciary net position growth while insurance fund growth represented approximately $712 million.

The growth was driven by two particular asset classes. Public Equity was up 16.69% ($1.31 billion in assets). However, Core-Fixed Income net position increased by 47.67% ($787 million in assets).

Benefit payments for the system were up over the year-over-year quarter a significant amount increasing approximately 13.27%. Approximately $44 million more was paid in benefits. In addition, administrative expenses were up significantly at 34.96% over the same quarter in 2023. It should also be noted that the Insurance funds were also impacted by a significant increase in healthcare premiums. These factors play a major role in the cash flow deficit increase in the programs.

Employee contributions were up 5.38% but employer contributions were down 8.70% driven mainly by the assumed rate of return increase from 6.25% to 6.50%. There were also 375 more active members paying into the system.

Importantly, the net cash flows for the system showed resilience. For the pension plans, the HAZ fund remained positive though barely. While the Non-HAZ pension funds went from barely positive to an approximate $31 million deficit. The Non-HAZ Pension plan saw a slight increase in the negative cash flow as a percentage of total assets from 0.53% to 0.87%.

As expected, due to the full funding of both the HAZ and Non-HAZ Insurance plans the cash flows were negative. This will occur with fully funded plans as the employer contribution is significantly reduced.

c. The CFO also informed the committee about a KPPA Outstanding Invoice Task Force that will seek to standardize agency response to outstanding invoices. The task force will also seek an administrative regulation to codify those procedures.

d. The CFO further indicated that the outstanding invoice balance remained steady at approximately $3.25 million.

e. The Investment Office indicated they would conduct both a general consultant and a private market consultant search through RFP in the second half of calendar year 2025.

***Board of Trustees Action Required**

County Employees Retirement System
1270 Louisville Road
Frankfort, KY 40601

KENTUCKY PUBLIC PENSIONS AUTHORITY

Ryan Barrow, 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:	November 25, 2024
Subject:	Hazardous Position Classification

AGENCIES ARE REQUESTING HAZARDOUS DUTY COVERAGE FOR THE FOLLOWING POSITIONS:

Agency	**Position**	**Effective Date**
City of London	Fire Chief	8/1/2024
City of Southgate	Police Sergeant Specialist	9/1/2024
Louisville Jefferson County Metro Government	Special Police- Parks Senior Park Ranger	1/1/2025
Walton Fire District	Paramedic	1/1/2025
City of Versailles	Detective Sergeant	7/1/2021
City of Erlanger	Fire/EMS Paramedic (24/48)	9/1/2024
City of Adairville	Police Officer	12/1/2023
Independence Fire District	EMS Director	1/1/2025
Jeffersontown Fire District	Fire Chief	7/1/2024

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.

Combining Statement of Fiduciary Net Position

For the three month period ending September 30, 2024, with Comparative Totals for the three month period ending September 30, 2023 ($ in Thousands) (Unaudited)

	Pension		Insurance		CERS Total			
ASSETS	CERS Nonhazardous	CERS Hazardous	CERS Nonhazardous	CERS Hazardous	2025	2024		
CASH AND SHORT-TERM INVESTMENTS								
Cash Deposits	$264	$31	$104	$12	$411	$3,247	(87.34)%	1
Short-term Investments	378,389	160,635	152,907	44,215	736,146	630,029	16.84%	2
Total Cash and Short-term Investments	**378,652**	**160,667**	**153,012**	**44,227**	**736,558**	**633,276**		
RECEIVABLES								
Accounts Receivable	61,560	26,249	5,708	2,042	95,559	102,586	(6.85)%	
Accounts Receivable - Investments	112,490	40,444	48,051	21,898	222,882	147,392	51.22%	3
Total Receivables	**174,050**	**66,692**	**53,759**	**23,940**	**318,441**	**249,978**		
INVESTMENTS, AT FAIR VALUE								
Core Fixed Income	1,281,241	454,102	474,703	228,092	2,438,138	1,651,117	47.67%	4
Public Equities	4,859,964	1,725,982	1,779,240	855,097	9,220,283	7,901,587	16.69%	5
Private Equities	628,020	222,260	248,351	138,753	1,237,384	1,360,303	(9.04)%	
Specialty Credit	1,991,545	703,834	747,296	353,745	3,796,420	3,316,294	14.48%	6
Derivatives	(51)	(26)	(14)	7	(83)	(262)	(68.22)%	
Real Return	399,963	141,435	134,591	64,555	740,545	514,615	43.90%	7
Real Estate	512,454	163,162	185,437	101,756	962,809	999,046	(3.63)%	
Total Investments, at Fair Value	**9,673,136**	**3,410,749**	**3,569,605**	**1,742,005**	**18,395,495**	**15,742,699**	16.85%	
Securities Lending Collateral Invested	261,644	92,759	84,249	40,504	479,156	338,465	41.57%	8
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)	(1,854)	0.00%	
Accumulated Amortization	(9,961)	(827)	-	-	(10,788)	(10,788)	0.00%	
Total Capital Assets	**-**	**-**	**-**	**-**	**-**	**-**		
Total Assets	**10,487,483**	**3,730,867**	**3,860,624**	**1,850,676**	**19,929,649**	**16,964,417**		
LIABILITIES								
Accounts Payable	5,561	1,005	228	13	6,807	7,033	(3.21)%	
Investment Accounts Payable	119,846	43,347	43,687	20,008	226,887	177,450	27.86%	9
Securities Lending Collateral	261,644	92,759	84,249	40,504	479,156	338,465	41.57%	10
Total Liabilities	**387,050**	**137,111**	**128,163**	**60,525**	**712,849**	**522,948**		
Total Fiduciary Net Position Restricted	**$10,100,433**	**$3,593,757**	**$3,732,461**	**$1,790,151**	**$19,216,800**	**$16,441,469**	16.88%	

NOTE - Variance Explanation for changes greater than 10% and more than $1 million.
Differences due to rounding, notes continued on next page.

1) The variance is a result of continuous fluctuation of deposits and transactions that flow through the cash account. As a result of an Internal Audit finding, we continue to evaluate the optimum cash balances at JP Morgan Chase.

2) Short term investments are primarily comprised of cash on hand at the custodial bank, the variance in the balance is a result of the cash flows of each plan.

3) The variance in Investment Accounts Receivable is primarily the result of pending trades.

4) The increase in Core Fixed Income is a result of additional funding and favorable market conditions.

5) The increase in Public Equity is a result of additional funding and favorable market conditions.

6) The increase in Specialty Credit is a result of additional funding and favorable market conditions.

7) The increase in Real Return is a result of additional funding of new managers and favorable market conditions.

8) The variance is a result of the demand of the Securities Lending Program.

9) The variance in Investment Accounts Payable is primarily the result of pending trades.

10) The variance is a result of the demand of the Securities Lending Program.

Combining Statement of Changes In Fiduciary Net Position

For the three month period ending September 30, 2024, with Comparative Totals for the three month period ending September 30, 2023 ($ in Thousands) (Unaudited)

	Pension		Insurance		CERS Total			
	CERS Nonhazardous	CERS Hazardous	CERS Nonhazardous	CERS Hazardous	2025	2024		
ADDITIONS								
Member Contributions	$36,112	$15,561	$-	$-	$51,673	$49,033	5.38%	
Employer Contributions	148,252	72,564	221	4,206	225,243	246,708	(8.70)%	
Pension Spiking Contributions	16	17	-	-	33	23	41.30%	
Health Insurance Contributions (HB1)	(14)	(16)	4,756	1,327	6,053	5,458	10.91%	
Humana Gain Share Payment	-	-	-	-	-	12,082	(100.00)%	1
Medicare Drug Reimbursement	-	-	-	-	-	-		
Insurance Premiums	-	-	23	(8)	15	85	(82.84)%	
Retired Reemployed Healthcare	-	-	4,421	574	4,995	2,180	129.10%	2
Total Contributions	**184,367**	**88,125**	**9,421**	**6,099**	**288,012**	**315,568**		
INVESTMENT INCOME								
From Investing Activities								
Net Appreciation (Depreciation) in FV of Investments	413,800	147,129	151,158	71,263	783,350	(320,191)	344.65%	3
Interest/Dividends	79,073	28,128	28,689	13,623	149,513	129,121	15.79%	4
Total Investing Activities Income (loss)	492,873	175,257	179,847	84,886	932,863	(191,070)		
Less: Investment Expense	15,411	5,305	5,818	2,973	29,508	28,288	4.31%	
Less: Performance Fees	7,523	2,539	2,458	1,247	13,767	14,122	(2.51)%	
Net Income (loss) from Investing Activities	469,939	167,413	171,570	80,666	889,588	(233,479)		
From Securities Lending Activities								
Securities Lending Income	3,061	1,137	1,012	408	5,618	4,779		
Less: Securities Lending Borrower Rebates (Income)/Expense	2,739	1,018	890	357	5,004	4,164		
Less: Securities Lending Agent Fees	48	18	18	8	92	92		
Net Income from Securities Lending	273	101	103	44	522	523	(0.24)%	
Net Investment Income (loss)	**470,212**	**167,515**	**171,673**	**80,710**	**890,110**	**(232,956)**		
Total Additions	**654,578**	**255,640**	**181,094**	**86,809**	**1,178,122**	**82,612**		

Combining Statement of Changes In Fiduciary Net Position (continued)

For the three month period ending September 30, 2024, with Comparative Totals for the three month period ending September 30, 2023 ($ in Thousands) (Unaudited)

	Pension		Insurance		CERS Total			
	CERS Nonhazardous	CERS Hazardous	CERS Nonhazardous	CERS Hazardous	2025	2024		
DEDUCTIONS								
Benefit Payments	255,961	98,847	-	-	354,808	313,252	13.27%	5
Refunds	7,243	2,344	-	-	9,587	9,490	1.02%	
Administrative Expenses	8,568	552	235	131	9,486	7,028	34.96%	6
Healthcare Premiums Subsidies	-	-	33,067	25,784	58,850	50,708	16.06%	7
Self Funded Healthcare Costs	-	-	1,226	147	1,374	1,014	35.47%	
Excise Tax	-	-	-	-	-	6		
Total Deductions	**271,772**	**101,743**	**34,528**	**26,062**	**434,105**	**381,499**		
Net Increase (Decrease) in Fiduciary Net Position Restricted for Pension Benefits	382,807	153,897	146,567	60,747	744,017	(298,887)		
Total Fiduciary Net Position Restricted for Pension Benefits								
Beginning of Period	**9,717,626**	**3,439,860**	**3,585,894**	**1,729,403**	**18,472,784**	**16,740,356**		
End of Period	**$10,100,433**	**$3,593,757**	**$3,732,461**	**$1,790,150**	**$19,216,801**	**$16,441,469**	16.88%	

NOTE - Variance Explanation for changes greater than 10% and more than $1 million. ***Differences due to rounding.***

1) The Humana Gain Share payment will fluctuate year to year based on claims paid.

2) Retired Reemployed Healthcare contributions increased due to an increase in retired reemployed members in CERS and CERS hazardous.

3) The increase in Net Appreciation in Fair Value of Investments is the result of gains largely from Public Equities and Core Fixed Income.

4) The increase in Interest/Dividend Income is primarily the result of increased Dividends/Interest from Specialty Credit, Real Estate, and Core Fixed Income.

5) Benefit Payments increased due to an increase in retirees in August and September as well as an increase in Partial Lump Sum Payments received by retirees.

6) Administrative Expense increased due to an increase in payrol and leave liability accruals as well as an increase in administrative spending for the quarter.

7) Healthcare Premiums Subsidies increased due to an increase in premiums paid for 65 and older retirees.

CERS Contribution Report

For the three month period ending September 30, 2024, with comparative totals for the three month period ending September 30, 2023 ($ in Millions)

	County Employees Retirement System			
	Nonhazardous		Hazardous	
	Pension			
	FY25	FY24	FY25	FY24
Member Contributions	$36.1	$34.4	$15.5	$14.6
Employer Contributions	148.3	164.1	72.6	76.5
Net Investment Income	56.4	46.3	20.4	16.4
Total Inflows	**240.8**	**244.8**	**108.5**	**107.5**
Benefit Payments/Refunds	263.2	238.1	101.1	84.6
Administrative Expenses	8.6	6.1	0.6	0.6
Total Outflows	**271.8**	**244.2**	**101.7**	**85.2**
NET Contributions	**(31.0)**	**0.6**	**6.8**	**22.3**
Realized Gain/(Loss)	208.4	7.5	73.4	2.8
Unrealized Gain/(Loss)	205.4	(176.8)	73.6	(62.5)
Change in Net Position	**382.8**	**(168.7)**	**153.8**	**(37.4)**
Beginning of Period	**9,717.6**	**8,781.4**	**3,439.9**	**3,055.8**
End of Period	**$10,100.4**	**$8,612.7**	**$3,593.7**	**$3,018.4**
Net Contributions less Net Investment Income	($87.4)	($45.7)	($13.6)	$5.9
Cash Flow as % of Net Assets	(0.87)%	(0.53)%	(0.38)%	0.20%
Net Investment Income	$56.4	$46.3	$20.4	$16.4
Yield as % of Net Assets	0.56%	0.54%	0.57%	0.54%

	County Employees Retirement System			
	Nonhazardous		Hazardous	
	Insurance			
	FY25	FY24	FY25	FY24
Employer Contributions	$0.2	$1.1	$4.2	$5.0
Insurance Premiums	0.0	0.1	(0.0)	(0.0)
Humana Gain Share	0.0	10.4	0.0	1.6
Retired Reemployed Healthcare	4.4	1.8	0.6	0.4
Health Insurance Contributions	4.8	4.3	1.3	1.2
Net Investment Income	20.5	16.9	9.4	7.6
Total Inflows	**29.9**	**34.6**	**15.5**	**15.8**
Healthcare Premioums	34.3	28.1	25.9	23.6
Administrative Expenses	0.2	0.2	0.1	0.1
Total Outflows	**34.5**	**28.3**	**26.0**	**23.7**
NET Contributions	**(4.6)**	**6.3**	**(10.5)**	**(7.9)**
Realized Gain/(Loss)	86.7	2.0	43.1	2.0
Unrealized Gain/(Loss)	64.5	(64.3)	28.1	(30.7)
Change in Net Position	**146.6**	**(56.0)**	**60.7**	**(36.6)**
Beginning of Period	**3,585.9**	**3,289.5**	**1,729.4**	**1,613.6**
End of Period	**$3,732.5**	**$3,233.5**	**$1,790.1**	**$1,577.0**
Net Contributions less Net Investment Income	($25.1)	($10.6)	($19.9)	($15.5)
Cash Flow as % of Net Assets	(0.67)%	(0.33)%	(1.11)%	(0.99)%
Net Investment Income	$20.5	$16.9	$9.4	$7.6
Yield as % of Net Assets	0.55%	0.52%	0.53%	0.48%

CERS
Outstanding Invoices by Type and Employer

Invoice Type	9/30/2024	6/30/2024	Change H/(L)
Averaging Refund to Employer	$(473,525)	$(546,794)	-13%
Employer Free Military and Decompression Service	35,736	22,363	60%
Member Pension Spiking Refund	(4,787)	(19,318)	(75)%
Monthly Reporting Invoice	271,125	549,449	(51)%
Penalty – Monthly Reporting	197,000	249,100	-21%
Reinstatement	171,358	175,292	-2%
Other Invoices**	2,728	7,070	(61)%
Total	**199,635**	**437,162**	
Health Insurance Reimbursement	1,038,678	295,263	252%
Omitted Employer	1,210,979	1,249,348	(3)%
Employer Pension Spiking*	715,480	1,309,552	(45)%
Standard Sick Leave	91,770	105,472	(13)%
Total	**3,056,907**	**2,959,635**	3%
Grand Total	**$3,256,541**	**$3,396,797**	**(4)%**

**Pension Spiking invoices on this report are Employer Pension Spiking. By statute these invoices are due 12 months from the invoice date. Employer Pension Spiking is in effect only for retirements prior to July 1, 2018, therefore, unless there has been a recently created invoice for a backdated retirement, all of these invoices are greater than 12 months old.*

***Other Invoices include Expense Allowance; Expired Post Pending; Personnel Adjustment; and, Refunded Member Contributions Due.*

Employer Name (Top Ten)	6/30/2024	6/30/2024	Change H/(L)
Kentucky River Regional Jail***	$973,164	$973,164	0%
Jefferson County Bd of Education	632,279	(57,885)	-1192%
City of Covington***	422,841	418,466	1%
City of Fort Thomas***	279,457	275,414	1%
Livingston County Fiscal Court***	228,567	228,567	0%
City of Taylor Mill	143,227	143,227	0%
City of Jeffersontown	124,198	121,898	2%
City of Franfort	108,776	59,678	82%
Elliott County Ambulance Service	88,793	45,143	97%
Bullitt County Fiscal Court	$86,527	$86,527	0%

****Indicates invoices turned over to Legal for further action*

	Total Unpaid Balance	Invoice Count
CERS	$2,230,977	875
CERH	1,025,564	83
Grand Total:	**$3,256,541**	**958**

CERS
County Employees Retirement System

County Employees Retirement System
Penalty Invoices Report
From: 7/1/2024 To: 9/30/2024
Note: Delinquent Interest amounts are included in the totals for the invoice

	Invoice Amount	Invoice Remaining Balance	Delinquent Interest	Invoice Status Date	Invoice Due Date	Invoice Status	Employer Classification	Comments
	$1,000	$-	$-	9/12/2024	8/22/2015	CANC	Cities	New employer reporting official
	1,000	-	-	9/12/2024	3/23/2016	CANC	Cities	New employer reporting official
	1,000	-	-	9/12/2024	5/26/2016	CANC	Cities	New employer reporting official
	1,000	-	-	9/24/2024	11/3/2016	CANC	County Attorneys	Employer in good standing with KPPA
	1,000	-	-	7/24/2024	5/29/2020	CANC	Fiscal Courts	Circumstances outside of the employer’s control
	1,000	-	-	9/11/2024	9/28/2023	CANC	Cities	New employer reporting official
	1,000	-	-	9/11/2024	10/11/2023	CANC	Cities	New employer reporting official
	1,000	-	-	9/24/2024	12/1/2023	CANC	County Attorneys	Employer in good standing with KPPA
	1,000	-	-	9/23/2024	2/9/2024	CANC	Utility Boards	Employer in good standing with KPPA
	1,000	-	-	7/29/2024	6/22/2024	CANC	Cities	Employer in good standing with KPPA
	1,000	-	-	7/12/2024	8/2/2024	CANC	Special Districts & Boards	Circumstances outside of the employer’s control
	2,276	-	-	8/23/2024	9/18/2024	CANC	Cities	New employer reporting official
	1,071	-	-	8/23/2024	9/18/2024	CANC	Cities	New employer reporting official
	1,000	-	-	9/4/2024	9/19/2024	CANC	Cities	Employer in good standing with KPPA
	4,863	-	-	9/3/2024	9/29/2024	CANC	Fire Departments	KPPA issue
Total	**$20,210**	**$-**	**$-**					
	$1,000	$1,000	$-	7/15/2024	8/14/2024	CRTD	Conservation Districts	
	1,000	1,000	-	7/15/2024	8/14/2024	CRTD	Fiscal Courts	
	1,000	1,000	-	7/16/2024	8/15/2024	CRTD	Cities	
	1,000	1,000	-	7/17/2024	8/16/2024	CRTD	Fiscal Courts	
	1,000	1,000	-	7/17/2024	8/16/2024	CRTD	Fiscal Courts	
	1,000	1,000	-	7/17/2024	8/16/2024	CRTD	Fiscal Courts	
	1,000	1,000	-	7/17/2024	8/16/2024	CRTD	Fiscal Courts	
	1,000	1,000	-	7/17/2024	8/16/2024	CRTD	Fiscal Courts	
	1,000	480	-	7/23/2024	8/22/2024	CRTD	Cities	
	1,000	1,000	-	8/1/2024	8/31/2024	CRTD	Boards of Education	
	1,000	1,000	-	8/19/2024	9/18/2024	CRTD	Cities	
	1,000	1,000	-	9/4/2024	10/4/2024	CRTD	Boards of Education	
	1,000	1,000	-	9/17/2024	10/17/2024	CRTD	Housing Authorities	
	1,000	1,000	-	9/17/2024	10/17/2024	CRTD	Cities	

County Employees Retirement System
Penalty Invoices Report
From: 7/1/2024 To: 9/30/2024
Note: Delinquent Interest amounts are included in the totals for the invoice

	Invoice Amount	Invoice Remaining Balance	Delinquent Interest	Invoice Status Date	Invoice Due Date	Invoice Status	Employer Classification	Comments
	1,000	1,000	-	9/19/2024	10/19/2024	CRTD	Ambulance Services	
	1,000	1,000	-	9/19/2024	10/19/2024	CRTD	Cities	
	1,000	550	-	9/23/2024	10/23/2024	CRTD	Cities	
	1,000	1,000	-	9/23/2024	10/23/2024	CRTD	Special Districts & Boards	
	1,000	1,000	-	9/24/2024	10/24/2024	CRTD	Cities	
	1,000	1,000	-	9/25/2024	10/25/2024	CRTD	Boards of Education	
	1,000	1,000	-	9/30/2024	10/30/2024	CRTD	Housing Authorities	
Total	**$21,000**	**$20,030**	**$-**					
	$1,000	$-	$-	9/26/2024	8/24/2013	PAID	Cities	
	1,000	-	-	9/17/2024	1/11/2017	PAID	Cities	
	1,000	-	-	9/17/2024	4/22/2017	PAID	Cities	
	1,000	-	-	9/17/2024	7/16/2017	PAID	Cities	
	1,000	-	-	8/12/2024	5/18/2023	PAID	Utility Boards	
	1,000	-	-	9/27/2024	9/2/2023	PAID	Special Districts & Boards	
	1,000	-	-	7/11/2024	10/19/2023	PAID	Area Development Districts	
	1,000	-	-	9/4/2024	3/20/2024	PAID	Housing Authorities	
	1,057	-	-	7/11/2024	5/17/2024	PAID	Boards of Education	
	1,000	-	-	9/4/2024	6/17/2024	PAID	Housing Authorities	
	1,000	-	-	7/15/2024	6/28/2024	PAID	Fiscal Courts	
	1,000	-	-	7/15/2024	6/28/2024	PAID	Fiscal Courts	
	1,000	-	-	7/9/2024	7/3/2024	PAID	Fiscal Courts	
	1,000	-	-	7/18/2024	7/19/2024	PAID	Cities	
	1,000	-	-	9/3/2024	7/21/2024	PAID	Utility Boards	
	1,000	-	-	7/23/2024	7/24/2024	PAID	Cities	
	1,000	-	-	7/31/2024	8/8/2024	PAID	Utility Boards	
	1,000	-	-	8/7/2024	8/8/2024	PAID	Fiscal Courts	
	1,000	-	-	8/9/2024	8/14/2024	PAID	Libraries	
	1,000	-	-	8/9/2024	8/15/2024	PAID	Ambulance Services	

County Employees Retirement System
Penalty Invoices Report
From: 7/1/2024 To: 9/30/2024
Note: Delinquent Interest amounts are included in the totals for the invoice

	Invoice Amount	Invoice Remaining Balance	Delinquent Interest	Invoice Status Date	Invoice Due Date	Invoice Status	Employer Classification	Comments
	1,000	-	-	8/6/2024	8/15/2024	PAID	County Attorneys	
	1,232	-	-	9/6/2024	8/16/2024	PAID	Fiscal Courts	
	1,000	-	-	8/21/2024	9/6/2024	PAID	Fiscal Courts	
	1,928	-	-	8/30/2024	9/8/2024	PAID	Fiscal Courts	
	1,000	-	-	9/9/2024	9/11/2024	PAID	County Attorneys	
	1,000	-	-	9/12/2024	9/18/2024	PAID	Cities	
	1,000	-	-	8/23/2024	9/21/2024	PAID	Cities	
	1,000	-	-	9/5/2024	9/22/2024	PAID	Cities	
	1,000	-	-	9/10/2024	9/29/2024	PAID	Fiscal Courts	
	1,000	-	-	9/9/2024	10/4/2024	PAID	Housing Authorities	
	1,023	-	-	9/12/2024	10/6/2024	PAID	Fiscal Courts	
Total	**$32,239**	**$-**	**$-**					

Notes:

Invoice Status:
CANC - Cancelled
CRTD - Created
PAID - Paid

KPPA ADMINISTRATIVE BUDGET FY 2024-2025
BUDGET-TO-ACTUAL SUMMARY ANALYSIS
FOR THE THREE MONTHS ENDING SEPTEMBER 30, 2024, WITH COMPARATIVE TOTALS FOR THE THREE MONTHS ENDING SEPTEMBER 30, 2023

CATEGORY	BUDGETED	FY 2025 EXPENSE	REMAINING	PERCENT REMAINING	FY 2024 EXPENSE	PERCENT DIFFERENCE
PERSONNEL	$36,798,000	$8,849,836	$27,948,164	75.95%	$8,475,218	4.42%
LEGAL CONTRACTS	2,030,000	294,608	1,735,392	85.49%	169,555	73.75%
AUDITING	300,000	40,251	259,749	86.58%	-	100.00%
ACTUARIAL SERVICES	525,000	-	525,000	100.00%	-	0.00%
MEDICAL REVIEWERS	1,800,000	258,085	1,541,915	85.66%	339,790	(24.05)%
OTHER PERSONNEL	510,000	67,440	442,560	86.78%	83,044	(18.79)%
PERSONNEL TOTAL	**$41,963,000**	**$9,510,219**	**$32,452,781**	**77.34%**	**$9,067,608**	**4.88%**
RENTALS - BUILDING & EQUIPMENT	1,175,000	246,410	928,590	79.03%	263,349	(6.43)%
INFORMATION TECHNOLOGY	4,230,000	851,803	3,378,197	79.86%	624,533	36.39%
OTHER OPERATIONAL	1,397,500	201,536	1,195,964	85.58%	215,067	(6.29)%
OPERATIONAL TOTAL	**$6,802,500**	**$1,299,749**	**$5,502,751**	**80.89%**	**$1,102,949**	**17.84%**
RESERVE	216,000	-	216,000	100.00%	-	0.00%
ADMINISTRATIVE BUDGETED AMOUNT	**$48,981,500**	**$10,809,968**	**$38,171,532**	**77.93%**	**$10,170,557**	**6.29%**

Administrative Budget Summary
Notes

PERSONNEL (Staffing):	KPPA has spent $8.9 million in the 1st Quarter, which is 24.05% of the entire budget, and 4.42% higher than last years 1Q. One item that is close to its annual budget is the workers comp line item: This is budgeted at $15k and we have been billed our annual premium of $12.5k (likely leaving us $2.5K under budget for the year).
LEGAL CONTRACTS:	KPPA has spent $295k or 15% of the annual budget, prior years 1Q was $170k (or 14% of the budget at that time). I do want to note that we have spent 39% of the Ice Miller budget and 35% of the JBB budget in Q1. Furthermore, we have requested an increase for the current Ice Miller contract to accommodate ongoing litigation.
OTHER PERSONNEL CATEGORIES:	All other personnel categories were under budget for the Quarter, bringing the total personnel category to $9.5M or only 23% of the total budget. This was 4.88% or $442k higher than the prior year.
OPERATIONAL TOTAL:	KPPA spent $1.3M in the operations category leaving 81% of the budget for the next three quarters.
OVERALL:	The total administrative expenses were $10.8M for the Quarter, which was 6.29% higher than the prior year Q1, and we have 77.93% (or $38M) remaining of the total $49.9M budget.

KPPA ADMINISTRATIVE BUDGET FY 2024-2025 BUDGET-TO-ACTUAL ANALYSIS FOR THE THREE MONTHS ENDING SEPTEMBER 30, 2024, WITH COMPARATIVE TOTALS FOR THE THRE MONTTHS ENDING SEPTEMBER 30, 2023						
Account Name	**Budgeted**	**FY 2025 Expense**	**Remaining**	**Percent Remaining**	**FY 2024 Expense**	**Percent Difference**
PERSONNEL						
Staff						
Salaries/Wages	$21,138,000	$5,117,359	$16,020,641	75.79%	$4,444,515	15.14%
Wages (Overtime)	310,000	49,207	260,793	84.13%	62,121	(20.79)%
Emp Paid FICA	1,641,000	309,883	1,331,117	81.12%	322,894	(4.03)%
Emp Paid Retirement	10,511,000	2,209,602	8,301,398	78.98%	2,955,059	(25.23)%
Emp Paid Health Ins	2,875,000	1,145,844	1,729,156	60.14%	635,718	80.24%
Emp Paid Sick Leave	250,000	-	250,000	100.00%	40,221	(100.00)%
Adoption Assistance Benefit	10,000	-	10,000	100.00%	-	0.00%
Escrow for Admin Fees	-	-	-	(100.00)%	-	0.00%
Workers Compensation	15,000	12,485	2,515	16.76%	11,116	12.32%
Unemployment	10,000	2,007	7,993	79.93%	-	100.00%
Emp Paid Life Ins	3,000	772	2,228	74.27%	744	3.76%
Employee Training	25,000	2,676	22,324	89.30%	2,830	(5.44)%
Tuition Assistance	10,000	-	10,000	100.00%	-	0.00%
Bonds	-	-	-	0.00%	-	0.00%
Staff Subtotal	**36,798,000**	**8,849,836**	**27,948,164**	**74.95%**	**8,475,218**	**4.42%**
LEGAL & AUDITING SERVICES						
Legal Hearing Officers	270,000	38,569	231,431	85.72%	48,450	(20.39)%
Legal (Stoll, Keenon)	250,000	-	250,000	100.00%	1,210	(100.00)%
Frost Brown	1,000,000	88,932	911,068	91.11%	26,868	231.00%
Reinhart	50,000	-	50,000	100.00%	-	0.00%
Ice Miller	300,000	116,000	184,000	61.33%	84,540	37.21%
Johnson, Bowman, Branco LLC	100,000	34,942	65,058	65.06%	8,488	311.66%
Dentons Bingham & Greenebaum	50,000	-	50,000	100.00%	-	0.00%
Legal Expense	10,000	16,166	(6,166)	(61.66)%	-	100.00%
Auditing	300,000	40,251	259,749	86.58%	-	100.00%
Total Legal & Auditing Services	**2,330,000**	**334,859**	**1,995,141**	**85.63%**	**169,555**	**97.49%**
CONSULTING SERVICES						
Medical Reviewers	1,800,000	258,085	1,541,915	85.66%	339,790	(24.05)%
Escrow for Actuary Fees	-	-	-	0.00%	-	0.00%
Total Consulting Services	**1,800,000**	**258,085**	**1,541,915**	**85.66%**	**339,790**	**(24.05)%**
CONTRACTUAL SERVICES						
Miscellaneous Contracts	425,000	51,533	373,467	87.87%	73,888	(30.26)%
Human Resources Consulting	10,000	-	10,000	100.00%	-	0.00%
Actuarial Services	525,000	-	525,000	100.00%	-	0.00%
Facility Security Charges	75,000	15,907	59,093	78.79%	9,156	73.73%
Contractual Subtotal	**1,035,000**	**67,440**	**967,560**	**93.48%**	**83,044**	**(18.79)%**
PERSONNEL SUBTOTAL	**$41,963,000**	**$9,510,219**	**$32,452,781**	**77.34%**	**$9,067,608**	**4.88%**

OPERATIONAL						
Natural Gas	45,000	1,408	43,592	96.87%	1,566	(10.09)%
Electric	130,000	32,721	97,279	74.83%	31,232	4.77%
Rent-Non State Building	80,000	-	80,000	100.00%	-	0.00%
Building Rental - PPW	1,000,000	240,492	759,508	75.95%	240,493	(0.00)%
Copier Rental	90,000	4,431	85,569	95.08%	21,708	(79.59)%
Rental Carpool	5,000	1,487	3,513	70.26%	1,147	29.64%
Vehicle/Equip. Maint.	1,300	-	1,300	100.00%	-	0.00%

KPPA ADMINISTRATIVE BUDGET 2024-25
BUDGET-TO-ACTUAL ANALYSIS
FOR THE THREE MONTHS ENDING SEPTEMBER 30, 2024, WITH COMPARATIVE TOTALS FOR THETHREE MONTHS ENDING SEPTEMBER 30, 2023

Account Name	Budgeted	FY 2025 Expense	Remaining	Percent Remaining	FY 2024 Expense	Percent Difference
Postage	450,000	32,299	417,701	92.82%	77,249	(58.19)%
Freight	200	-	200	100.00%	-	0.00%
Printing (State)	15,000	50	14,950	99.67%	-	100.00%
Printing (non-state)	85,000	-	85,000	100.00%	-	0.00%
Insurance	7,500	12,692	(5,192)	(69.23)%	5,066	150.53%
Garbage Collection	7,000	1,646	5,354	76.48%	1,745	(5.67)%
Conference Expense	45,000	16,576	28,424	63.16%	8,180	102.64%
Conference Exp. Investment	2,000	-	2,000	100.00%	-	0.00%
Conference Exp. Audit	3,000	-	3,000	100.00%	-	0.00%
MARS Usage	50,000	14,678	35,322	70.64%	6,775	116.65%
COVID-19 Expenses	-	-	-	0.00%	-	0.00%
Office Supplies	90,000	9,275	80,725	89.69%	9,914	(6.45)%
Furniture & Office Equipment	30,000	85	29,915	99.72%	-	100.00%
Travel (In-State)	15,500	3,226	12,274	79.19%	5,250	(38.55)%
Travel (In-State) Investment	-	-	-	#DIV/0!	-	0.00%
Travel (In-State) Audit	1,000	-	1,000	100.00%	-	0.00%
Travel (Out of State)	77,000	20,673	56,327	73.15%	17,841	15.87%
Travel (Out of State) Investment	135,000	-	135,000	100.00%	9,286	(100.00)%
Travel (Out of State) Audit	3,000	-	3,000	100.00%	-	0.00%
Dues & Subscriptions	69,000	13,618	55,382	80.26%	13,757	(1.01)%
Dues & Subscriptions Invest	15,000	6,360	8,640	57.60%	4,470	42.28%
Dues & Subscriptions Audit	1,000	-	1,000	100.00%	-	0.00%
Miscellaneous	55,000	449	54,551	99.18%	15,075	(97.02)%
Miscellaneous Investment	-	-	-	0.00%	-	0.00%
Miscellaneous Audit	-	-	-	0.00%	-	0.00%
COT Charges	40,000	3,267	36,733	91.83%	3,049	7.15%
Telephone - Wireless	10,000	1,790	8,210	82.10%	2,151	(16.78)%
Telephone - Other	90,000	47,694	42,306	47.01%	19,154	149.00%
Telephone - Video Conference	15,000	973	14,027	93.51%	-	100.00%
Computer Equip./Software	4,120,000	833,858	3,286,142	79.76%	614,709	35.65%
Comp. Equip./Software Invest	-	-	-	0.00%	-	0.00%
Comp. Equip/Software Audit	20,000	-	20,000	100.00%	-	0.00%
OPERATIONAL SUBTOTAL	**$6,802,500**	**$1,299,749**	**$5,502,751**	**80.89%**	**$1,102,949**	**17.84%**
SUB-TOTAL	**$48,765,500**	**$10,809,968**	**$37,955,532**	**77.83%**	**$10,170,557**	**6.29%**
Reserve	**216,000**	**-**	**216,000**	**100.00%**	**-**	**0.00%**
TOTAL	**$48,981,500**	**$10,809,968**	**$38,171,532**	**77.93%**	**$10,170,557**	**6.29%**

Differences due to rounding

Plan	Budgeted	FY 2025 Expense	% of Total KPPA FY 2025 Expense
CERS Nonhazardous	**$28,899,085**	**$6,377,881**	**59.00%**
CERS Hazardous	**2,527,445**	**557,794**	**5.16%**
KERS Nonhazardous	**15,436,030**	**3,406,653**	**31.514%**
KERS Hazardous	**1,771,661**	**390,997**	**3.617%**
SPRS	**347,279**	**76,643**	**0.709%**
TOTAL	**$48,981,500**	**$10,809,968**	**100.00%**

JP MORGAN CHASE CREDIT EARNINGS AND FEES
FOR THE FISCAL YEAR ENDING JUNE 30, 2025

	Earnings	Fees	Net Earnings
July-24	$-	$(7,337)	$(7,337)
August-24	-	(7,646)	$(7,646)
September-24		(7,733)	$(7,733)
October-24			$-
November-24			$-
December-24			$-
January-25			$-
February-25			$-
March-25			$-
April-25			$-
May-25			$-
June-25			$-
Total	**$-**	**$(22,716)**	**$(22,716)**

JP MORGAN CHASE HARD INTEREST EARNED
FOR THE FISCAL YEAR ENDING JUNE 30, 2025

	Clearing Account	CERS	KERS	SPRS	Total
July-24	$25,823	$15,119	$7,930	$348	$49,220
August-24	27,262	20,476	10,633	1,081	$59,451
September-24	34,046	16,441	8,353	262	$59,101
October-24					$-
November-24					$-
December-24					$-
January-25					$-
February-25					$-
March-25					$-
April-25					$-
May-25					$-
June-25					$-
Total	**$87,131**	**$52,035**	**$26,916**	**$1,690**	**$167,773**

Kentucky Public Pensions Authority

Division of Internal Audit

Kentucky Public Pensions Authority

To: County Employees Retirement Systems Board of Trustees

From: Kristen N. Coffey, CICA
KPPA Chief Auditor

Date: December 2, 2024

Subject: Update on CERS 2025 Election

The term for the current elected CERS trustees expires on March 31, 2025.

Steps completed as of December 2, 2024

1. July 31, 2024 – Nine individuals submitted applications to be placed on the CERS Trustee ballot.
2. August 15, 2024 – Information meeting held with individuals who submitted an application.
3. September 9, 2024 – CERS Board voted to place all candidates who submitted an application on the official ballot.
4. September 19, 2024 – Background checks received requested on CERS Trustee candidates.
5. October 10, 2024 – CERS Trustee candidates invited to CERS Board meeting to give a presentation pertaining to why they would like to serve on the CERS Board of Trustees.
6. November 18, 2024 – Attorney General provided an opinion on the constitutional compatibility of CERS Trustee candidates. All candidates were deemed to be constitutionally compatible (attached)

Remaining items to be completed

1. December 4, 2024 – Candidate and ballot information due to vendor (draft version attached)
2. December 20, 2024 – First member file to be provided to vendor. This file included all eligible voters as of November 30, 2024.
3. January 15, 2025 – Second member file to be provided to vendor. This will only include changes to eligible vendors that occurred during December 2024.
4. January 21, 2025 – Ballots will be provided to members. The administrative regulation and CERS Election policy indicates that ballots will be provided on January 20. However, the regulation specifies that if that date falls on a weekend or holiday, then ballots can be provided the next business day. Martin Luther King Jr. Day is January 20, 2025.
5. March 1, 2025 – Election closes.
6. March 15, 2025 – Vendor will provide results of the election.
7. April 1, 2025 – Term begins for new members; individuals are typically sworn in at the first CERS Board meeting that takes place after April 1.

COMMONWEALTH OF KENTUCKY
OFFICE OF THE ATTORNEY GENERAL

RUSSELL COLEMAN
ATTORNEY GENERAL

1024 CAPITAL CENTER DRIVE
SUITE 200
FRANKFORT, KY 40601
(502) 696-5300

November 18, 2024

Via email
Kristian N. Coffey
Chief Auditor
Kentucky Public Pensions Authority
Division of Internal Audit
trustee.election@kyret.ky.gov
kristen.coffey@kyret.ky.gov

RE: Request Concerning Constitutional Eligibility for Election to CERS Board

Dear Ms. Coffey:

By letter dated October 2, 2024, you asked this Office to provide an opinion as to whether any of the following applicants for election to the County Employees Retirement System (CERS) Board of Trustees currently serve in a position that is constitutionally incompatible with serving as a Trustee on said board.

Applicant	**Employer**	**Position**
Obe Everett, Jr.	Louisville Water Company	Director
Shawn Fry	Gallatin County Public Library	Director
Miriam Fisher	Louisville Metro Sewer District	Human Resource Admin
Steven Webb, Jr.	City of Covington	Director
Kenneth Ray Reynolds	Calloway County	Deputy Coroner

Having reviewed the list of applicants and relying on the employer and position information provided in your letter, the Office has identified no constitutional, statutory, or common law incompatibility issue that would arise from any of the named individuals serving as a Trustee while simultaneously holding the positions identified on the chart above.

Kristian N. Coffey
November 18, 2024
Page 2

If you have any questions or need any additional assistance, please do not hesitate to contact me at (502) 696-5570 or by email at christopher.thacker@ky.gov.

Sincerely,

Russell Coleman
Attorney General

Christopher Thacker

Christopher L. Thacker
General Counsel

CERS Non-Hazardous Candidates

Dr. Patricia Carver, Ph.D – Current CERS Trustee

CERS Position (retired): Chief Internal Auditor, Louisville Jefferson County Metropolitan Sewer District

Residence: Prospect, Kentucky

Education: B.S. Accounting – Louisville, MBA – Bellarmine, Ph.D Leadership in Higher Education – Bellarmine

Certifications: CPA, MBA

Other Professional Associations: Louisville Urban League (Treasurer), Metro United Way Board, Bellarmine University Alumni Board

Reason individual would like to serve on CERS Board:

Obe Everett, Jr. MBA

CERS Position (current): Director and Business Systems Support, Louisville Water Company

Residence: Louisville, Kentucky

Education: B.S. Computer Science – Hawaii Pacific University, MBA Technology Management – University of Phoenix

Certifications: Project Management Professional

Reason individual would like to serve on CERS Board:

Shawn Fry

CERS Position (current): Director, Gallatin County Public Library

Residence: Fort Thomas, Kentucky

Education: B.S. Marketing – South Carolina, Master's Administrative Leadership – Saginaw Valley State University, Master of Library and Information Science – Kent State University

Certifications: Professional Certificate – Librarian

Other Professional Associations: Unites States Air Force 2002 – 2006

Reason individual would like to serve on CERS Board:

Miriam Fisher

CERS Position (current): Human Resources Administrator, Louisville Jefferson County Metropolitan Sewer District

Residence: New Albany, Indiana

Education: B.S. Psychology – University of Evansville (Summa Cum Laude)

Reason individual would like to serve on CERS Board: I would like to serve as a CERS trustee to learn more about how CERS works and to help CERS provide the best possible retirement system to its members.

Steven Webb

CERS Position (current): Finance Director, City of Covington

Residence: Florence, KY

Education: B.S. Business Management – West Lafayette (with Distinction)

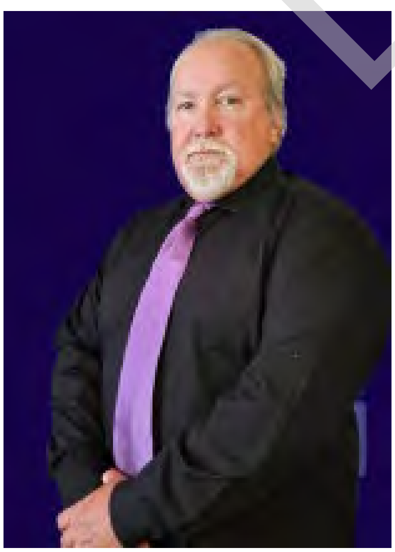
Other Professional Associations: Kentucky GFOA (President), Kentucky League of Cities Board of Directors, Purdue for Life Foundation Cincinnati Chapter (Treasurer)

Reason individual would like to serve on CERS Board:

CERS HAZARDOUS County Employees Retirement System

CERS Hazardous Candidates

Kenneth Ray Reynolds, Sr



CERS Position (retired): Assistant Fire Chief, City of Murray Fire Department

Residence: Murray, KY

Education: GED – Calloway County High School

Certifications: Deputy Coroner – Calloway County

Other Professional Associations: Kentucky FOP

Reason individual would like to serve on CERS Board:

Captain Tommy McGraw

CERS Position (retired): Captain, City of Hopkinsville Fire Department

Residence: Hopkinsville, KY

Education: Christian County High School, Hopkinsville Community College

Certifications: Multiple International Fire Service Accreditation Congress certifications including Leadership and Haz-Mat Operations, 2022 Fire Officer of the Year

Other Professional Associations: Kentucky FOP

Reason individual would like to serve on CERS Board: I want to be on the Board to lobby for Cost of Living Raises and hopefully enhance other benefits.

Major James Gibson

CERS Position (retired): Major/Firefighter/Emergency Medical Technician, City of Somerset Emergency Medical Services

Residence: Somerset, KY

Education: High School

Certifications: Certified Firefighter, Certified Emergency Medical Technician, Emergency Medical Technician Training/Instructor,

Reason individual would like to serve on CERS Board: