COUNTY EMPLOYEES' RETIREMENT FUND
ANNUAL COMPREHENSIVE FINANCIAL REPORT
FISCAL YEAR ENDED DECEMBER 31, 2023

Helping you build a brighter tomorrow.

Michael Ruff
Executive Director

Kelly Schwartze, CPA
Deputy Director

County Employees' Retirement Fund
2121 Schotthill Woods Drive
Jefferson City, MO 65101
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CERF

COUNTY EMPLOYEES' RETIREMENT FUND

June 3, 2024

To the Board of Directors and CERF Participants
County Employees' Retirement Fund
Jefferson City, MO 65101

We are pleased to provide this Annual Comprehensive Financial Report (Annual Report) of the County Employees' Retirement Fund (CERF), for the fiscal year ended December 31, 2023. Responsibility for both the accuracy of the data and the completeness and fairness of the presentation in this Annual Report rests with the management of CERF. To the best of management's knowledge and belief, the enclosed data is accurate in all material respects and is reported in a manner designed to present fairly the financial position and results of operations of CERF.

Background Information

CERF was established by an act of the Missouri General Assembly effective August 28, 1994. CERF is a mandatory cost-sharing multiple employer retirement system for each county in the state of Missouri, except any city not within a county and counties of the first classification with a charter form of government, other than any county adopting a charter form of government after January 1, 2008. CERF covers county elective or appointive officers or employees whose position requires the actual performance of duties not less than 1,000 hours per year and does not cover circuit clerks, deputy circuit clerks, county prosecuting attorneys, and county sheriffs. CERF is a defined benefit plan providing retirement and death benefits to its members. Retirement benefits vest after 8 years of creditable service.

As of year-end 2023, CERF served over 21,700 members, including approximately 6,600 retirees and beneficiaries.

Mission Statement

CERF's mission statement is to provide an accountable, financially sound system which promotes retirement security and rewards members with comprehensive benefits.

Accounting System and Reports

Management of CERF is responsible for establishing and maintaining internal controls designed to ensure that CERF's assets are protected from loss, theft, or misuse. Responsibility for the accuracy, completeness, and fair presentation of information, and all disclosures in this Annual Report and in CERF's records, rests with CERF's management. Williams-Keepers, LLC, a certified public accounting firm, has audited the financial statements and related disclosures. The financial statement audit provides reasonable assurance that CERF's financial statements are presented in conformity with U.S. generally accepted accounting principles and are free from material misstatements. The internal controls are designed to provide reasonable, but not absolute, assurance that these objectives are met. The concept of reasonable assurance recognizes that the cost of a control should not exceed the benefits likely to be derived, and that the assessment of costs and benefits requires estimates and judgments by management.

This report has been prepared in accordance with generally accepted accounting principles (GAAP) as promulgated by the Governmental Accounting Standards Board (GASB). GAAP requires that management provide a narrative introduction, overview, and analysis to accompany the basic financial statements in the form of management's discussion and analysis (MD&A). This letter of transmittal is designed to complement the MD&A and should be read in conjunction with it. CERF's MD&A can be found immediately following the independent auditors' report.

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to CERF for its Annual Report for the fiscal year ended December 31, 2022. This was the seventh year CERF had applied to receive this prestigious award for its Annual Report. The Certificate of Achievement is the highest form of recognition for excellence in state and local government financial reporting. To be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized Annual Report. This report must satisfy both generally accepted accounting principles and applicable legal and GFOA reporting requirements.

A Certificate of Achievement is valid for a period of one year. We believe this report continues to conform to the Certificate of Achievement Program requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

Fiscal Year 2023 Highlights

Fiscal highlights and major initiatives during 2023 were as follows:

- CERF staff implemented a major upgrade to the member and county portals to improve security;
- CERF's investment portfolio experienced a positive double digit return and recovered most of the investment losses from 2022;
- CERF added Roth contributions as an option for members who choose to defer compensation into the 457 Savings Plan;
- CERF continued to focus on member outreach through newsletters, association presentations, and county visits. Pre-retirement seminars and employee benefits fairs were offered virtually and in-person throughout the year;
- CERF established and implemented a defined benefit pension plan for the employees of the CERF Board of Directors.

Funded Status

The funded status measures the progress of accumulating the funds necessary to meet future obligations. As of December 31, 2023, the funded ratio (based on the actuarial value of assets) of CERF increased from 80% to 81%, primarily as a result of a strong investment market during 2023. A detailed discussion of funding is provided in the Actuarial Section of this report.

Investments

CERF's total investment return for 2023 was 12.43% (net of fees), greater than the expected rate of return of 7.25%. In addition, over long periods of time, CERF continues to produce investment returns that exceed CERF's expected rate of return. The annualized investment return for CERF is 7.20% over the last ten years and is 8.64% since inception.

A complete discussion of CERF's investment returns, activities, asset allocation strategy, and policies governing those activities can be found in the Investment Section.

Professional Services

Professional consultants are selected by the Board of Directors to perform professional services that are essential to the effective and efficient operation of CERF. An opinion of the certified public accountant and the actuary are included in this report. The consultants appointed by the Board are listed on page 5 of this report.

Acknowledgments

This report, prepared by CERF's executive director and staff, is intended to provide comprehensive and reliable information about CERF, to demonstrate compliance with legal provisions, and to allow for the evaluation of responsible stewardship of CERF's funds.

This report is being provided electronically to all participant counties of the system. These county offices form the link between CERF and its membership, and their cooperation contributes significantly to the success of CERF. We hope all readers of this report find it informative and useful. An electronic version of this report is available on CERF's website at **www.mocerf.org**.

We express our gratitude to the members of the Board, the staff, the consultants, and the many people who have worked so diligently to assure the continued successful operation of CERF.

Respectfully submitted,

Michael Ruff
Executive Director

Kelly Schwartze
Kelly Schwartze, CPA
Deputy Director

Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

County Employees' Retirement Fund

Missouri

For its Annual Comprehensive Financial Report For the Fiscal Year Ended

December 31, 2022

Christopher P. Morrill

Executive Director/CEO

ADMINISTRATIVE STRUCTURE

CERF
BOARD OF DIRECTORS

CERF
Administrative Office

Michael Ruff
Executive Director

The Penman Group
Legislative Consultant

Cavanaugh Macdonald Consulting LLC
Actuary

Asset Consulting Group, Inc.
Investment Consultant

Williams-Keepers LLC
Auditor

Bryan Cave Leighton Paisner LLP
Legal Counsel

Northern Trust
Large Cap Equity Manager

William Blair & Company
Small/Mid-Cap Growth Equity Manager

Baird Advisors
Core-Plus Fixed Income Manager

Brandes Investment Partners, L.P.
International Value Equity Manager

JP Morgan Asset Management
Real Estate Manager

ABS Investment Management
Equity Long/Short Manager

Burgundy Asset Management Ltd.
Small-Cap Value Equity Manager

Barings Asset Management
International Growth Equity

BlackRock Strategic Opportunities Fund
Core Fixed Income Manager

Loomis, Sayles & Company, L.P.
Core-Plus Fixed Income Manager

Portfolio Advisors, LLC
Private Equity Manager

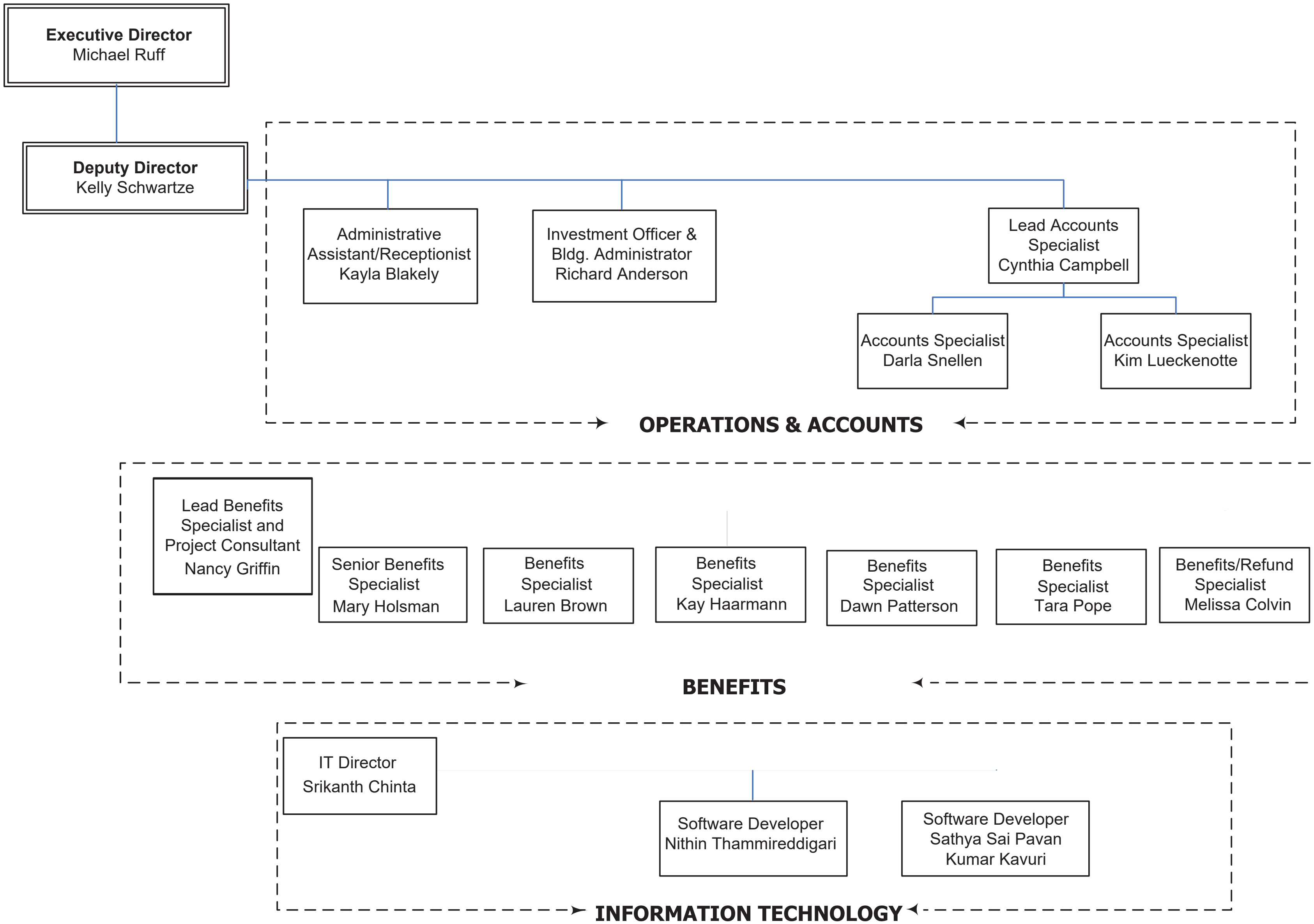
The Schedule of Advisor Fees and Schedule of Brokerage Commissions can be found on page 49.

2023 Board of Directors

Mark Price – Chair
Ted Nichols – Vice Chair
Rick Watson – Secretary
Sid Conklin – Member
Collin Follis – Member

Daniel Franks – Member
Sandy Jung – Member
June Pitchford – Member
Jim Platt – Member

CERF Administrative Office



FINANCIAL SECTION

WILLIAMS KEEPERS LLC
CERTIFIED PUBLIC ACCOUNTANTS & CONSULTANTS

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OFFICE (573) 442-6171 FAX (573) 777-7800
3220 West Edgewood, Suite E, Jefferson City, MO 65109
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INDEPENDENT AUDITORS' REPORT

To the Board of Directors of the
County Employees' Retirement Fund

Opinions

We have audited the financial statements of the County Employees' Retirement Fund (CERF) as of and for the year ended December 31, 2023, and the related notes to the financial statements, which collectively comprise CERF's basic financial statements as listed in the table of contents.

In our opinion, the accompanying financial statements present fairly, in all material respects, the fiduciary net position of CERF as of December 31, 2023, 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 (GAAP).

Basis for Opinions

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of CERF and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with GAAP, 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 these are conditions or events, considered in the aggregate, that raise substantial doubt about CERF'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.

Auditors' 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 auditors' report that includes our opinions. 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 GAAS 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 judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment 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 CERF'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 judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about CERF'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

GAAP requires that the management's discussion and analysis, the schedule of changes in the net pension liability, the schedule of net pension liability, the schedule of employer contributions, the schedule of investment returns, and the notes to required supplementary information as listed in the table of contents 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 GAAS, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audit was conducted for the purpose of forming opinions on the financial statements and related notes to the financial statements that collectively comprise CERF's basic financial statements. The schedule of administrative expenses and the schedule of investment expenses 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 to 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 GAAS. In our opinion, the schedule of administrative expenses and the schedule of investment expenses are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Other Information

Management is responsible for the other information included in the annual comprehensive financial report. The other information comprises of the introductory, investments, actuarial, and statistical sections, but does not include the basic financial statements and our auditors' report thereon. Our opinion on the basic financial statements does not cover the other information, and we do not express an opinion or any form of assurance thereon. In connection with our audit of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements, or the other information otherwise appears to be materially misstated. If, based on work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

Williams Keepers LLC

Jefferson City, Missouri
June 3, 2024

COUNTY EMPLOYEES' RETIREMENT FUND
MANAGEMENT'S DISCUSSION AND ANALYSIS

The following Management's Discussion and Analysis (MD&A) of the County Employees' Retirement Fund's (CERF) financial performance provides an introduction to the financial statements of CERF for the year ended December 31, 2023. Since the MD&A is designed to focus on current activities, resulting changes and current known facts, please read it in conjunction with the financial statements.

Required Financial Statements

CERF, a public employees' retirement plan, administers two trust funds: the overall CERF Plan and the CERF Administrative Office Defined Benefit Plan ("Staff Pension Plan"). The CERF Plan accounts for the resources available for the benefits of the CERF system. The Staff Pension Plan accounts for the resources available for the pension benefits of the employees of the CERF Board of Directors. The following is a summary of the basic financial statements:

- The Statement of Fiduciary Net Position presents the assets available for future payments of benefits to members, retirees, and beneficiaries and current liabilities owed as of December 31, 2023.

- The Statement of Changes in Fiduciary Net Position includes the annual additions and deductions for the year ended December 31, 2023. Additions include investment income and contributions made by members and employers. Deductions include benefit payments and administrative expenses.

- The Notes to Financial Statements provide additional information that is essential to a full understanding of the data in the basic financial statements.

- The Required Supplementary Information includes the Schedule of Changes in the Net Pension Liability, Schedule of Net Pension Liability, Schedule of Employer Contributions, and Schedule of Investment Returns for the CERF Plan and Staff Pension Plan.

- The Supplementary Information includes a Schedule of Administrative Expenses and Schedule of Investment Expenses for the CERF Plan for the year ended December 31, 2023.

These financial statements and required disclosures are prepared in accordance with Generally Accepted Accounting Principles (GAAP) and reporting guidelines set forth by the Governmental Accounting Standards Board (GASB).

Financial Analysis of CERF

During 2023, the CERF Board of Directors established the Staff Pension Plan for the employees of the Board who administer the CERF Plan. As the Staff Pension Plan has no comparative data to present, it is not included in the analysis below. A discussion regarding results in comparison with the prior year will be included in future MD&As.

Fiduciary Net Position

The fiduciary net position is essentially the GASB accounting term for the fair value of assets. On a fair value of assets basis, the Fund's investment performance for the year ended December 31, 2023 was above the assumed long-term return. On that basis the calculated return for the January 1, 2023 – December 31, 2023 fiscal year was 12.4% compared to (11.9)% for the prior year. That performance resulted in an investment gain of approximately $3 million.

Total Pension Liability

The total pension liability (TPL) refers to the actuarial accrued liability as calculated under the Entry Age Normal actuarial cost method in accordance with the GASB accounting standards. TPL increased from $900,595,694 as of December 31, 2022 to $954,805,083 as of December 31, 2023. Of the increase, $40 million is attributable to the normal operation of the plan over the year, benefit accruals plus interest minus benefit payments. The remainder of the increase was due to approximately $14 million in actuarial losses from demographic experience differing from the assumptions.

Net Pension Liability

The net pension liability (NPL) is equal to the total pension liability minus the net fiduciary position. The net result of the investment gains relative to the expected long term rate of return was an increase in the funded percentage (on the market value of assets) from 74% as of December 31, 2022 to 78% as of December 31, 2023. The NPL decreased from $225 million to $193 million.

Actuarially Determined Contribution

Differences between the actuarial liabilities and the assets can be made up through (1) future contributions in excess of the normal costs to amortize the shortfall and/or (2) the excess of actual investment returns over assumed returns. An actuarial valuation sets out a schedule of future contributions that will deal with this deficiency in a systematic manner if future experience follows the assumptions. Since CERF's actual contributions are a combination of member contributions and county collected fees, penalties, and interest, the actuarially determined contribution (ADC) is more of a measuring stick to assess the sufficiency of the current sources of contributions to CERF.

For 2023, the County portion of ADC was $36,315,120, net of both member and County-paid employee contributions. The actual County contributions for 2023 totaled $39,696,685, for an excess of $3,381,565, prior to the granting of the defined contribution match.

Net Position

To begin the financial analysis, a summary of CERF's net position is as follows:

	2023	2022	Dollar Change	Percent Change
Cash and cash equivalents	$ 7,292,008	$ 4,458,568	$ 2,833,440	64%
Receivables	5,868,949	5,315,926	553,023	10%
Investments	749,017,925	667,440,722	81,577,203	12%
Capital assets, net	4,255,535	4,509,270	(253,735)	-6%
Total assets	766,434,417	681,724,486	84,709,931	12%
Liabilities	5,895,592	5,626,818	268,774	5%
Deferred inflows of resources	16,538	-	16,538	100%
Total fiduciary net position	$ 760,522,287	$ 676,097,668	$ 84,424,619	12%

Net position increased by $84,424,619 or 12%, in 2023. This increase was a result of investment gains experienced during 2023, which is also the reason for the increase in the December 31, 2023 investment balance. Receivables increased by $553,023 from the prior year due to timing of fee and contribution remittances at year end and an overall growth in fee and contribution revenue.

Condensed Statements of Changes in Fiduciary Net Position - CERF

	2023	2022	Dollar Change	Percent Change
Additions:				
Contributions:				
Counties receipts	$ 39,696,685	$ 35,156,316	$ 4,540,369	13%
By members	18,980,084	17,695,915	1,284,169	7%
For members, paid by counties	3,865,496	2,996,601	868,895	29%
Members, purchase of prior service	43,061	50,946	(7,885)	-15%
Total contributions	62,585,326	55,899,778	6,685,548	12%
Net investment income (loss)	84,110,745	(91,053,221)	175,163,966	192%
Other income	7,239	3,109	4,130	133%
Total additions (loss)	146,703,310	(35,150,334)	181,853,644	517%
Deductions:				
Benefits	48,422,425	44,922,409	3,500,016	8%
Refunds	5,314,335	5,029,458	284,877	6%
Defined contribution plan match	3,781,992	4,373,834	(591,842)	-14%
Pension expense	854,005	-	854,005	100%
Administrative expenses	3,905,934	3,576,018	329,916	9%
Total deductions	62,278,691	57,901,719	4,376,972	8%
Net increase (decrease)	84,424,619	(93,052,053)	177,476,672	191%
Net position - restricted for pension benefits				
Beginning of year	676,097,668	769,149,721	(93,052,053)	-12%
End of year	$ 760,522,287	$676,097,668	$ 84,424,619	12%

Additions

Additions needed to fund benefits are accumulated through contributions, which include both county fee receipts and employee contributions, and returns on invested funds. Contributions for 2023 totaled $62,585,326, which was 12% above those received in 2022. County fee receipts may fluctuate from year to year. Senate Bill 62 (2017) went into effect in 2018 and increased various CERF fees. In addition, due to the legislation which took effect in 2003, employee contributions are expected to increase as new employees who contribute a higher percentage of compensation replace employees hired prior to February 25, 2002.

Overall, 2023's investment market was more favorable compared to 2022. CERF performed at or slightly below the benchmark in almost all categories. As a result, CERF experienced an approximate $175,164,000 increase in net investment income. The total gross rate of return for the CERF portfolio in 2023 was 13.38%, as compared to (11.73)% in 2022. For 2023, the S&P 500 Index return was 26.29%, the BloomBar U. S. Aggregate Index was 5.53%, the Russell 2500 was 17.42%, the HFRI Equity Hedge was 11.36%, and the MSCI EAFE Index was 18.24%.

When comparing returns, it is important to note that CERF's investment objectives should be pursued as long-term goals designed to maximize return while reducing exposure to undue risk, as set out in the Board's investment policy. At a minimum, it is the objective of CERF to meet its actuarial interest assumption on an ongoing basis. Effective with the January 1, 2020 actuarial valuation, the actuarial assumption for investment return was changed from 7.50% to 7.25%. The desired objective on a long-term basis is to achieve an excess return over the actuarial assumption, net of investment management fees and transaction costs. "Long-term" is defined as greater than 10 years.

Some of the results for the total fund (net of fees) are:

Period	Returns	Other Public Funds
One Year	12.82%	46th Percentile
Three Years	4.40%	25th Percentile
Five Years	9.33%	8th Percentile
Ten Years	6.64%	25th Percentile
Since Inception	8.31%	

Deductions

The expenses paid by CERF include benefit payments, refunds, a defined contribution plan match, and administrative expenses.

Expenses for 2023 totaled $62,278,691, an increase of $4,376,972 over 2022. The increase in benefit payments to members and beneficiaries of $3,500,016 resulted primarily from growth in the number of annuitants to 6,561 in 2023 from 6,294 in 2022 (an increase of 267 payees). The amount of contributions refunded to terminated non-vested employees increased by 6% compared to 2022; this amount will fluctuate year to year based on employee turnover at the county level. The amount needed to fund the defined contribution plan match decreased by approximately $592,000 or 14% from the prior year due to a change in the matching formula. Administrative expenses increased by $329,916 or 9% compared to 2022 due to the addition of a staff member, building repairs, and information technology purchases. Pension expense of approximately $854,000 was incurred in 2023 due to the creation of the CERF Staff Pension Plan.

Economic Outlook

CERF's estimated investment return for the four months ended April 30, 2024, is approximately 1.12%. CERF's investments as of April 30, 2024, total approximately $753,735,000, an increase of $4,717,000 since December 31, 2023, due to investment gains the first four months of the year. For the first four months of 2024, the S&P 500 Index return was 6.04%, the BloomBar U. S. Aggregate Index was (3.28)%, the Russell 2500 was (0.24)%, the NFI ODCE Index was (2.37)%, and the MSCI EAFE Index was 3.08%.

Requests for Information

This financial report is designed to provide the Board of Directors, our members, and other users of our financial report with a general overview of CERF's finances and to demonstrate CERF's accountability for the money it receives. If you have any questions about this report or need additional financial information, contact County Employees' Retirement Fund (CERF), 2121 Schotthill Woods Drive, Jefferson City, MO 65101.

COUNTY EMPLOYEES' RETIREMENT FUND

STATEMENT OF FIDUCIARY NET POSITION
December 31, 2023

	CERF	Staff Pension Plan
ASSETS		
Cash	$ 7,292,008	$ -
Receivables:		
Member contributions	576,526	-
Member prior service contributions	72,075	-
Employer contributions	5,167,602	-
Accrued interest and dividends	52,746	177
Total receivables	5,868,949	177
Investments, at fair value:		
Common stocks	88,689,229	-
Fixed income mutual funds	175,077,237	93,597
Equity mutual funds	-	147,883
Hedge funds	68,297,258	-
Domestic equity fund	172,810,945	-
International equities funds	136,440,742	-
Real estate fund	46,476,088	-
Private equity	52,062,648	-
Cash equivalents	9,163,778	10,355
Total investments	749,017,925	251,835
Capital assets, net of accumulated depreciation of $3,297,958	4,255,535	-
Total assets	766,434,417	252,012
LIABILITIES AND DEFERRED INFLOWS		
Accounts payable	539,741	91
Accrued defined contribution plan funding	3,781,992	-
Other accrued expenses	358,343	-
Unearned revenue	378,049	-
Net pension liability	837,467	-
Total liabilities	5,895,592	91
Deferred inflows of resources - pension	16,538	-
Net position - restricted for pension benefits	$ 760,522,287	$ 251,921

The notes to financial statements are an integral part of these statements.

COUNTY EMPLOYEES' RETIREMENT FUND

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
For the Year Ended December 31, 2023

	CERF	Staff Pension Plan
ADDITIONS:		
Contributions:		
County receipts	$ 39,696,685	$ -
By members	18,980,084	10,140
Employer contribution	-	215,000
For members, paid by counties	3,865,496	-
Members, purchase of prior service	43,061	-
Total contributions	62,585,326	225,140
Investment income:		
Investing activities:		
Net appreciation in fair value of investments	76,020,709	21,150
Fixed income securities	6,472,379	1,314
Equity securities	4,964,889	4,408
Other miscellaneous loss	(228,158)	-
Total investment income	87,229,819	26,872
Investment expenses	(3,119,074)	(91)
Total net investment income	84,110,745	26,781
Other income	7,239	-
Total additions	146,703,310	251,921
DEDUCTIONS:		
Benefits	48,422,425	-
Refunds of member contributions	5,314,335	-
Defined contribution plan matching contribution	3,781,992	-
Pension expense	854,005	-
Administrative expense	3,905,934	-
Total deductions	62,278,691	-
Net increase	84,424,619	251,921
Net position - restricted for pension benefits		
Beginning of year	676,097,668	-
End of year	$ 760,522,287	$ 251,921

The notes to financial statements are an integral part of these statements.

1. PLAN DESCRIPTION

The County Employees' Retirement Fund ("CERF") was established by an act of the Missouri General Assembly effective August 28, 1994. Laws governing the retirement fund are found in Sections 50.1000-50.1300 of the Missouri Revised Statutes (RSMo). The Board of Directors consists of eleven members, nine of whom are county employee or retiree participants. Two members, who have no beneficiary interest in CERF, are appointed by the Governor of Missouri. The Board of Directors has the authority to adopt rules and regulations for administering the system.

CERF administers two trust funds: the overall CERF Plan and the CERF Administrative Office Defined Benefit Plan ("Staff Pension Plan"). The CERF Plan accounts for the resources available for the benefits of the CERF system. The Staff Pension Plan accounts for the resources available for the pension benefits of the employees of the CERF Board of Directors. See Note 7 for further information regarding the Staff Pension Plan.

CERF is a mandatory cost-sharing multiple employer retirement system for each county in the state of Missouri, except any city not within a county (which excludes the City of St. Louis) and counties of the first classification with a charter form of government before January 1, 2008. CERF covers county elective or appointive officers or employees whose position requires the actual performance of duties not less than 1,000 hours per year; including employees of circuit courts located in a first class, non-charter county which is not participating in the Local Government Employees Retirement System (LAGERS); and does not cover circuit clerks, deputy circuit clerks, county prosecuting attorneys, and county sheriffs. Until January 1, 2000, employees hired before January 1, 2000, could opt out of the system.

CERF is a defined benefit plan providing retirement and death benefits to its members. All benefits vest after 8 years of creditable service. Employees who retire on or after age 62 are entitled to a retirement allowance for life based on the form of payment selected. The normal form of payment is a single life annuity. Optional joint and survivor annuity and 10-year certain and life annuity payments are also offered to members in order to provide benefits to a named survivor annuitant after their death. Employees who have a minimum of 8 years of creditable service and who terminated employment after December 31, 1999 may retire with an early retirement benefit and receive a reduced allowance after attaining age 55. Annual cost-of-living adjustments, not to exceed 1%, are provided for eligible retirees and survivor annuitants, up to a lifetime maximum of 50% of the initial benefit which the member received upon retirement. Benefit provisions are fixed by state statute and may be amended only by action of the Missouri Legislature. Administrative expenses for the operation of CERF are paid out of the funds of the system.

Contributions: Prior to January 1, 2003, participating county employees, except for those who participated in LAGERS, were required to make contributions equal to 2% of gross compensation. Effective January 1, 2003, participating county employees hired on or after February 25, 2002 are required to make contributions of 4% if they are in a LAGERS county and contributions of 6% if they are in a non-LAGERS county. If an employee leaves covered employment before attaining 8 years of creditable service, accumulated employee contributions are refunded to the employee. The contribution rate is set by state statute and may be amended only by action of the Missouri Legislature.

Counties may elect to make all or a portion of the required 4% contribution on behalf of employees. Total county-paid member contributions for the year ended December 31, 2023 were $3,865,496.

In addition, the following fees, penalties, and interest prescribed under Missouri law are required to be collected and remitted to CERF by counties covered by the plan:

- Late fees on filing of real estate and personal property tax declarations,
- Twenty dollars on each merchants and manufacturers license issued,
- Six dollars on each document recorded or filed with county recorders of deeds, with an additional one dollar on each document recorded,
- Five-ninths of the fee on delinquent property taxes, and
- Interest earned on investment of the above collections prior to remittance to CERF.

The fees, penalties, and interest collected and remitted to CERF by counties covered by the plan for the year ended December 31, 2023, were as follows:

Delinquent property tax fees	$ 18,626,343	46.92%
Assessor late assessment filing fees	14,078,888	35.47%
Recorder document fees	4,224,405	10.64%
Merchants and manufacturers licenses	1,003,274	2.53%
Delinquent land list fees	1,526,147	3.84%
Interest on the above fees	237,628	0.60%
	$ 39,696,685	100.00%

Members: CERF members include eligible employees of 111 counties in the State of Missouri. The number of members and benefit recipients served by the system at December 31, 2023 was:

Retirees and beneficiaries receiving benefits	6,561
Terminated employees entitled to but not yet receiving benefits	2,775
Current active plan members	12,404
Total	21,740

Tax status: The Internal Revenue Service has determined and informed CERF by letter dated September 28, 2011, that the plan as amended through November 1, 2010, is in a form acceptable under the Internal Revenue Code.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of accounting: CERF's financial statements are prepared using the accrual basis of accounting. Member and employer contributions are recognized in the period in which the contributions are due. Benefits are recognized when due and payable in accordance with the terms of the plan. Expenses are recorded when the corresponding liabilities are incurred, regardless of when payment is made.

Method used to value investments: Investments are reported at fair value. Short-term investments are reported at cost, which approximates fair value. Bonds and stocks traded on a national or international exchange are valued at the last reported sales price at current exchange rates as reported by independent pricing services. The values of real estate included in the real estate investment fund are based upon annual independent appraisals, updated quarterly, as provided by the fund manager. Investments that do not have an established market are reported at estimated fair value or net asset value as provided by investment or fund managers.

Property and equipment: Property and equipment, including computer software programs, are stated at cost less accumulated depreciation. Depreciation is calculated using the straight-line method over the estimated lives of the assets ranging from three to fifty years.

Estimates: The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

3. DEPOSITS AND INVESTMENTS

Custodial credit risk for deposits: Custodial credit risk is the risk that in the event of a bank failure, CERF's deposits may not be returned to it. At December 31, 2023, CERF's bank balances were secured by a combination of federal depository insurance and pledged collateral held in CERF's name by an agent of the depository bank.

Investments: Funds are invested by outside managers under policies established by the Board of Directors. The Board requires that its investment managers invest CERF's assets with the care, skill, and diligence a prudent person familiar with such matters acting in a like capacity would use in a similar enterprise with like objectives.

The following table summarizes CERF investments by type at December 31, 2023:

Common stocks	$ 88,689,229
Fixed income mutual funds	175,077,237
Hedge funds	68,297,258
Domestic equity fund	172,810,945
International equities funds	136,440,742
Real estate fund	46,476,088
Private equity	52,062,648
Cash equivalents	9,163,778
Total	$ 749,017,925

CERF's investment policy permits investments in equity and fixed income (debt) securities and real estate, with guidelines for the percentage of the total for each category and for the type of investments within each category.

With respect to debt securities, the policy permits fixed and variable rate securities issued or guaranteed by the U.S. government, its agencies or instrumentalities; and U.S. government sponsored and other corporation securities. To manage interest rate and credit risks, two investment managers are used for debt securities, each operating under specific guidelines with respect to approved securities, duration, diversification, and minimum quality ratings by Moody's or Standard and Poor's.

Investment income in the statement of changes in fiduciary net position displays the realized and unrealized investment gains and losses from all investment types on the line item "Net depreciation in fair value of investments". Totals for interest, dividends, and other types of investment income are presented by broad categories of investments.

Interest rate risk: Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. CERF did not have any fixed income investments other than fixed income mutual funds as of December 31, 2023. As of December 31, 2023, the Baird Core Plus Bond Fund had a balance of $52,033,425 and an average effective maturity of 6.00 years. The BlackRock Strategic Income Opportunities Fund had a balance of $70,768,241 and an effective maturity of 3.33 years. The Loomis Sayles Fund had a balance of $52,275,571 and an effective maturity of 6.81 years.

Credit risk: Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligation to the plan. CERF's fixed income mutual funds were unrated as of December 31, 2023.

Concentration of credit risk: Concentration of credit risk is the risk of loss attributed to the magnitude of a plan's investment in a single issuer. CERF's investment guidelines require diversified portfolios with no single issue, excluding U.S. government securities, being greater than 5% of each manager's total portfolio value at cost or 7% at fair value. As of December 31, 2023, no single issue exceeded the thresholds.

Money-Weighted Rate of Return: The annual money-weighted rate of return on pension plan investments, net of pension plan investment expenses, was 12.47% for the year ended December 31, 2023. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for changing amounts actual invested.

Foreign currency risk: Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment. The following is a summary of CERF's international equities funds showing the exposure to foreign currency risk as of December 31, 2023:

Australian Dollar	$ 2,251,366
Brazilian Real	3,885,271
China Yuan Renminbi	2,134,984
Denmark Danish Krone	1,656,503
Euro	44,982,610
Hong Kong Dollar	479,109
Japanese Yen	22,670,233
Korean Won	1,865,875
Mexican Peso	3,759,606
Norwegian Krone	1,059,176
South Korean Won	3,578,342
Swedish Krona	1,145,389
Swiss Franc	7,439,020
Taiwan New Dollar	1,810,671
United Kingdom Pound	30,720,237
United States Dollar	7,002,350
Total	$ 136,440,742

CERF categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset and give the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements).

- Level 1 – unadjusted quoted prices for identical instruments in active markets.
- Level 2 – quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations for which all significant inputs are observable.
- Level 3 – valuations derived from valuation techniques in which significant inputs are unobservable.

Investments that are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient are not classified in the fair value hierarchy.

The categorization of investments within the hierarchy is based upon the pricing transparency of the instrument and should not be perceived as the particular investment's risk.

In instances where inputs used to measure fair value fall into different levels in the fair value hierarchy, fair value measurements in their entirety are categorized based on the lowest level input that is significant to the valuation. CERF's assessment of the significance of particular inputs to these fair value measurements requires judgment and considers factors specific to each asset or liability.

Equities within all asset classes that are classified in Level 1 are valued using prices quoted in active markets for those securities. Equity securities classified in Level 2 are securities whose values are derived daily from associated traded securities. Equity securities classified in Level 3 are valued with last trade data having limited trading volume.

Fixed income securities within all asset classes that are classified in Level 2 are valued using either a bid evaluation or a matrix pricing technique. Bid evaluations may include market quotations, yields, maturities, call features and ratings. Matrix pricing is used to value securities based on the securities relationship to benchmark quoted prices. Level 2 fixed income securities have non-proprietary information that was readily available to market participants, from multiple independent sources, which are known to be actively involved in the market.

The fair values of investments in certain funds are based on the investments' net asset value (NAV) per share (or its equivalent) and are presented in the above table. Investments that are measured at fair value using the net asset value (or its equivalent) as a practical expedient are not classified in the fair value hierarchy.

Investments by Fair Value	Total	Level 1	Level 2	Level 3
Equity securities				
Domestic common stock				
Communication services	$ 3,409,685	$ 3,409,685	$ -	$ -
Consumer discretionary	14,279,299	14,279,299	-	-
Consumer staples	2,467,992	2,467,992	-	-
Energy	1,202,003	1,202,003	-	-
Financials	16,516,552	16,516,552	-	-
Healthcare	11,588,224	11,588,224	-	-
Industrials	19,657,330	19,657,330	-	-
Information technology	12,985,357	12,985,357	-	-
Materials	1,508,928	1,508,928	-	-
Real estate	2,590,662	2,590,662	-	-
Total domestic common stock	86,206,032	86,206,032	-	-
International common stock				
Energy	1,013,360	1,013,360	-	-
Materials	292,578	292,578	-	-
Industrials	499,167	499,167	-	-
Information Technology	261,034	261,034	-	-
Real estate	417,058	417,058	-	-
Total international common stock	2,483,197	2,483,197	-	-
Fixed income mutual funds	122,801,666	122,801,666	-	-
Total investments at fair value	211,490,895	$ 211,490,895	$ -	$ -
Investments exempt from fair value hierarchy				
Short term investments	9,163,778			
Investments measured at net asset value (NAV)				
Commingled international equity funds	136,440,742			
Commingled domestic equity fund	172,810,945			
Commingled fixed income fund	52,275,571			
Commingled real estate investment fund	46,476,088			
Hedge funds	68,297,258			
Private equity limited partnership funds	52,062,648			
Total investments measured at NAV	528,363,252			
Total	$ 749,017,925			

Investments Measured at Net Asset Value	Total	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Commingled international equity funds	$ 136,440,742	$ -	Daily, monthly	1-7 days
Commingled domestic equity fund	172,810,945	-	Daily	1 day
Commingled fixed income fund	52,275,571	-	Daily	1 day
Commingled real estate investment fund	46,476,088	-	Quarterly	45 days
Hedge funds				
Long/short equity fund	68,297,258	-	Quarterly	45 days
Private equity limited partnership funds	52,062,648	13,896,866	Not eligible	N/A
Total investments measured at NAV	$ 528,363,252	$ 13,896,866		

Commingled international equity funds, commingled domestic equity fund, fixed income fund, and real estate investment funds: Consisting of two international equity funds (long-term capital appreciation), one domestic equity fund (long-term capital appreciation), one fixed income fund (high total investment return through current income and capital appreciation), one real estate investment fund (high level of current income with moderate appreciation), and one real estate investment fund (moderate level of current income with a higher level of appreciation), these funds are considered commingled in nature. These funds are valued at NAV of units held at the end of period based upon the fair value of the underlying investments.

Long/short equity hedge fund: Consisting of one fund, this strategy invests in both long and short in global equity marketable securities and can be both long and short in its positioning. This fund seeks to provide diversification by holding a number of funds within a single fund structure. This investment is valued at NAV and is redeemable quarterly.

Private equity limited partnership funds: Consisting of three funds, these investments are valued at NAV. The funds are not eligible for redemption. Distributions are received as underlying investments within the funds are liquidated, which on average can occur over the span of 10 years.

4. CAPITAL ASSETS

Capital assets consist of the following as of December 31, 2023:

	December 31, 2022	Additions	Disposals	December 31, 2023
Capital assets not being depreciated:				
Land	$ 932,050	$ -	$ -	$ 932,050
Total capital assets, not being depreciated	932,050	-	-	932,050
Capital assets being depreciated:				
Building	3,105,935	-	-	3,105,935
Equipment, furnishings and software	3,482,929	49,575	(16,996)	3,515,508
Total capital assets, being depreciated	6,588,864	49,575	(16,996)	6,621,443
Less accumulated depreciation for:				
Building	1,202,174	70,674	-	1,272,848
Equipment, furnishings and software	1,809,470	232,636	(16,996)	2,025,110
Total accumulated depreciation	3,011,644	303,310	(16,996)	3,297,958
Total capital assets being depreciated, net	3,577,220	(253,735)	-	3,323,485
Total capital assets, net	$ 4,509,270	$ (253,735)	$ -	$ 4,255,535

5. NET PENSION LIABILITY OF EMPLOYERS

The components of the net pension liability of employers as of December 31, 2023 are as follows:

Year Ended	Total Pension Liability (TPL) (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (NPL) (a - b)	Plan Fiduciary Net Position as a % of TPL (b/a)	Covered Payroll (c)	NPL as a % of Covered Payroll ((a-b)/c)
12/31/2023	$ 954,805,083	$ 761,376,292	$ 193,428,791	79.74%	$ 536,204,101	36.07%

Actuarial assumptions

Actuarial valuations of the Plan involve estimates of the reported amount and assumptions about probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality and future compensation increases. Amounts determined regarding the net pension liability are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future.

The purpose of the schedule of net pension liability is to present multi-year trend information about whether the Plan's fiduciary net position is increasing or decreasing over time relative to the total pension liability. This schedule is presented in the required supplementary information following the notes to the financial statements. Until a full 10-year trend is completed, the multi-year information will be added as it becomes available.

The total pension liability as of December 31, 2023, was based on the most recent actuarial valuation as of January 1, 2023, rolled forward to December 31, 2023, using the following actuarial assumptions. An actuarial experience study is performed every 5 years. The most recent actuarial experience study covered the period 2014 through 2019.

Actuarial cost method	Entry age normal
Investment rate of return	7.25%
Inflation	2.5%
Compensation increases	2.91% to 11.05% (2.7%, plus merit)
Mortality rates	Pub-2010 General Annuitant Below Median Table, no adjustment for males and 110% scaling for females, and a one-year age set forward for both males and females. Future mortality improvements assumed using 75% of the MP-2018 Scale

Sensitivity of the net pension liability

The sensitivity of the net pension liability of employers to changes in the discount rate is presented below.

As of December 31, 2023, the net pension liability calculated using the discount rate of 7.25% is presented as well as what the employers' net pension liability would be using a discount rate that is 1% lower (6.25%) or 1% higher (8.25%) than the current rate.

	1% Decrease (6.25%)	Current Rate (7.25%)	1% Increase (8.25%)
Net pension liability	$318,360,408	$193,428,791	$ 90,004,074

Long-term expected rate of return

The long-term expected rate of return on the Plan's investments was determined using a building-block method in which best-estimate ranges of expected future real rates of returns (expected returns, net of investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Plan's target allocations for 2023 are summarized below along with the long term geometric return. Geometric return (also referred to as the time weighted return) is considered standard practice within the investment management industry. Geometric returns represent the compounded rate of growth of a portfolio. The method eliminates the effects created by cash flows.

Asset Class	Target Asset Allocation	Long-Term Arithmetic Basis: Expected Real Return	Long-Term Arithmetic Basis: Weighted Expected Real Return
U.S. Large Cap Equity	20.00%	7.15%	1.43%
U.S. Small Cap Equity	12.00%	8.58%	1.03%
Non-U.S. Equity	18.00%	8.26%	1.49%
U.S. Core Plus Fixed Income	15.00%	2.87%	0.43%
Core Real Estate	5.00%	6.49%	0.32%
Opportunistic Real Estate	5.00%	9.49%	0.47%
Private Equity	5.00%	10.51%	0.53%
Absolute Return	10.00%	3.25%	0.33%
Long/Short Equity	10.00%	5.55%	0.56%
Total	100.00%		6.58%
		Inflation	2.75%
	Long-term expected geometric return		9.33%

The discount rate used to measure the total pension liability as of December 31, 2023 was 7.25%. The projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the current statutory rates and that contributions from employers will be made based on the Plan's revenue sources (various fees and penalties paid to the counties). Such revenue was assumed to increase at the rate of 2% per year. This increase assumption has been used by the Plan in prior funding status projections. Historically, revenue increase has averaged more than 1% per year. Based on the assumptions, the Plan's fiduciary net position was projected to be available to make projected future benefit payments of current plan members. The projections covered an 80-year period into the future. The long-term expected rate of return on the Plan's investments was applied to projected benefit payments.

6. PRIOR SERVICE CONTRIBUTIONS

An eligible county employee who was employed prior to CERF's inception on August 28, 1994, is considered to have prior service. If the employee was working on June 10, 1999, and worked through January 1, 2000, the prior service is awarded. This means the employee does not have to purchase the service to have it deemed creditable. If the employee did not work continually from June 10, 1999, through January 1, 2000, the prior service must be purchased to become creditable. The prior service is calculated at the time of retirement and can be paid in one lump sum or over a period of up to 48 months. The monthly pension benefit is reduced by the buyback amount until the prior service has been paid in full.

An eligible county employee who was employed on January 1, 1990, but not employed on August 28, 1994, and who had at least eight years of service is classified as a special consultant. A special consultant can elect to purchase eight years or more of their service in order to receive a CERF benefit. Since a special consultant would have terminated employment prior to CERF's inception, they are required to make a larger buyback and must pay at least 50% of this amount up front. The remaining amount is deducted from the monthly pension benefit for up to 48 months.

An eligible county employee who opted out of the system prior to January 1, 2000, had the option to become a member within three months of the three year anniversary of the decision to opt out. Upon deciding to opt in to the system, such employee either purchased in total or began payroll deductions to purchase all or part of their prior creditable service plus interest over a maximum period of four years. Such amounts were recognized as contributions when received by CERF.

The receivables for member prior service contributions shown on the accompanying statements of fiduciary net position represent the total amount, as of December 31, 2023, that are due in future periods from retirees who have elected to purchase prior service.

7. RETIREMENT PLANS FOR FUND EMPLOYEES

Defined Contribution Plan

All full-time employees of the CERF Board of Directors are eligible for participation in a defined contribution plan. CERF contributes 6% of a participating employee's monthly gross salary to the plan. The contribution requirements of the plan are governed by the plan document, which may be amended by the Board of Directors. Employees do not contribute to the retirement plan. Employees become vested in contributions made by CERF after 5 years of creditable service. Total contributions for the year ended December 31, 2023 were $97,560.

All full-time employees are eligible for participation in an Internal Revenue Code (IRC) 457 deferred compensation plan upon their eligibility in the defined contribution plan.

Defined Benefit Pension Plan

Summary of Significant Accounting Policies

For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the Staff Pension Plan and additions to/deductions from the Staff Pension Plan fiduciary net position have been determined on the same basis as they are reported by the CERF plan. For this purpose, benefit payments are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

Plan Membership and Benefits Provided

All full-time employees of the CERF Board of Directors participate in a single-employer defined benefit pension plan administered by the CERF Board of Directors. Employees become vested after 5 years of creditable service. Employees who retire on or after age 60 with five or more years of service are entitled to an allowance for life. Employees may retire with an early retirement benefit with a minimum of 10 years of credited service after attaining age 55 and receive a reduced allowance. A cost of living adjustment is provided subsequent to the member's retirement date. This annual adjustment is based on the increase in the Consumer Price Index and is limited to 1% annually.

As of December 31, 2023, the following employees were covered by the benefit terms:

Retirees and beneficiaries receiving benefits	-
Terminated employees entitled to but not yet receiving benefits	1
Current active plan members	17
Total	18

Contributions

The contribution requirements of the plan are governed by the plan document, which may be amended by the Board of Directors. CERF is required to contribute an amount at least equal to the actuarially determined rate. The actuarially determined rate is the estimated amount necessary to finance the cost of benefits earned by employees during the year, with an additional amount to finance an unfunded accrued liability. Employees contribute $45 per month to the plan.

Net Pension Liability

The total pension liability as of December 31, 2023 was based on the most recent actuarial valuation as of January 1, 2024 and plan asset information for the fiscal year ending December 31, 2023, using the following actuarial assumptions. An actuarial experience study will be performed every 5 years.

	Increase (Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Balances as of December 31, 2022:	$ -	$ -	$ -
Changes for the year:			
Service Cost	-	-	-
Interest	-	-	-
Benefit term changes	1,089,388	-	1,089,388
Difference between expected and actual experience	-	-	-
Assumption Changes	-	-	-
Contributions - employer		215,000	(215,000)
Contributions - employee	-	10,140	(10,140)
Net investment income	-	26,781	(26,781)
Benefit payments, including refunds	-	-	-
Net changes	1,089,388	251,921	837,467
Balances as of December 31, 2023	$ 1,089,388	$ 251,921	$ 837,467

Actuarial Assumptions

Actuarial cost method	Entry age normal
Investment rate of return	5.5%
Inflation	2.5%
Mortality rates	*Actives:* Pub-2010 General Employee Median Mortality Table projected generationally using the MP-2020 Scale. *Retirees:* Pub-2010 General Retirees Median Mortality Table projected generationally using the MP-2020 Scale. *Beneficiaries:* Pub-2010 General Contingent Survivor Median Mortality Table projected generationally using the MP-2020 Scale.

The components of the net pension liability as of December 31, 2023 were as follows:

Year Ended	Total Pension Liability (TPL) (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (NPL) (a - b)	Plan Fiduciary Net Position as a % of TPL (b/a)	Covered Payroll (c)	NPL as a % of Covered Payroll ((a-b)/c)
12/31/2023	$ 1,089,388	$ 251,921	$ 837,467	23.13%	$ 1,651,280	50.72%

Sensitivity of the Net Pension Liability

The sensitivity of the net pension liability of employers to changes in the discount rate is presented below. As of December 31, 2023, the net pension liability calculated using the discount rate of 5.50% is presented as well as what the employer's net pension liability would be using a discount rate that is 1% lower (4.50%) or 1% higher (6.50%) than the current rate.

	1% Decrease (4.50%)	Current Rate (5.50%)	1% Increase (6.50%)
Net pension liability	$ 1,060,489	$ 837,467	$ 661,088

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended December 31, 2023, pension expense of $1,069,005 was recognized. At December 31, 2023, deferred outflows and deferred inflows of resources related to pensions were from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference in experience	$ -	$ -
Assumption changes	-	-
Net difference of investment returns	-	16,538
	$ -	$ 16,538

Amounts reported as deferred outflows and inflows of resources related to pensions will be recognized in pension expense as follows:

Year ending December 31:	
2024	$ 4,135
2025	4,135
2026	4,135
2027	4,133
2028	-
Thereafter	-
	$ 16,538

Investments and Rate of Return

Funds are invested by outside managers under policies established by the Board of Directors. The Board requires that its investment managers invest CERF's assets with the care, skill, and diligence a prudent person familiar with such matters acting in a like capacity would use in a similar enterprise with like objectives. CERF's investment policy permits investments in equity and fixed income (debt) securities, with guidelines for the percentage of the total for each category and for the type of investments within each category.

The long-term expected rate of return on plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of returns (expected returns, net of investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Plan's target allocations for 2023 are summarized below along with the long term geometric return. Geometric return (also referred to as the time weighted return) is considered standard practice within the investment management industry. Geometric returns represent the compounded rate of growth of a portfolio. The method eliminates the effects created by cash flows.

		Long-Term Arithmetic Basis	
Asset Class	Target Asset Allocation	Expected Real Return	Weighted Expected Real Return
U.S. Large Cap Equity	27.00%	7.15%	1.93%
U.S. Small Cap Equity	14.00%	8.58%	1.20%
Non-U.S. Equity	17.00%	8.26%	1.40%
U.S. Core Plus Fixed Income	27.50%	2.87%	0.79%
Liquid Absolute Return	14.50%	3.25%	0.47%
Total	100.00%		5.80%
		Inflation	2.75%
	Long-term expected geometric return		8.55%

The discount rate used to measure the total pension liability as of December 31, 2023 was 5.50%. The projection of cash flows used to determine the discount rate assumed that contributions will be made at the current contribution rates in effect on the measurement date, that contributions from the employer will be made at the actuarially determined rate, and that the Fund only allocates direct investment fees to the Staff Pension Plan. Based on the assumptions, the pension plan's fiduciary net position was projected to be available to make projected future benefit payments of current plan members. The projections covered a 100-year period into the future. The long-term expected rate of return on the Plan's investments was applied to projected benefit payments.

The Staff Pension Plan categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset.

Investments by Fair Value	Total	Level 1	Level 2	Level 3
Fixed income mutual funds	$ 93,597	$ 93,597	$ -	$ -
Equity mutual funds	147,883	147,883	-	-
Total investments at fair value	241,480	$ 241,480	$ -	$ -
Investments exempt from fair value hierarchy				
Short term investments	10,355			
Total	$ 251,835			

Fixed income and equity mutual funds classified in Level 1 of the fair value hierarchy are valued using unadjusted quoted prices for identical instruments in active markets.

Interest rate risk: Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. The Staff Pension Plan did not have any fixed income investments other than fixed income mutual funds as of December 31, 2023. As of December 31, 2023, the Baird Core Plus Bond Fund had a balance of $30,441 and an average effective maturity of 6.00 years. The BlackRock Strategic Income Opportunities Fund had a balance of $32,984 and an effective maturity of 3.33 years. The Loomis Sayles Fund had a balance of $30,172 and an effective maturity of 6.89 years.

Credit risk: Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligation to the plan. The Staff Pension Plan's fixed income mutual funds were unrated as of December 31, 2023.

Concentration of credit risk: Concentration of credit risk is the risk of loss attributed to the magnitude of a plan's investment in a single issuer. The Staff Pension Plan's investment guidelines do not place limits on the amount that may be invested in a single issuer. However, disclosure is required for any investment in any one issuer that represents 5% or more of total investments. As of December 31, 2023, the following investments exceeded 5% of total investments:

	% of Total Investments
Vanguard 500 Index Fund	28.2%
Vanguard Small Cap Index Fund	14.4%
Vanguard Total International Index Fund	16.2%
Baird Core Plus Bond Fund	12.1%
Loomis Sayles Core Plus Bond Fund	12.0%
Blackrock Strategic Income Opportunities Portfolio	13.1%

Money-Weighted Rate of Return: The annual money-weighted rate of return on pension plan investments, net of pension plan investment expenses, was 16.49% for the year ended December 31, 2023. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for changing amounts actually invested.

8. DEFINED CONTRIBUTION AND DEFERRED COMPENSATION PLANS

Plan description: Effective January 1, 2000, CERF also administers a defined contribution plan and an IRC Section 457 deferred compensation plan. Members of the pension plan are eligible to participate.
The plans were established to provide an opportunity for members of the pension plan to have additional retirement benefits. The plans' provisions and contribution requirements are established and may be amended only by action of the Missouri Legislature.

Contributions: Pension plan members who are not members of LAGERS are required to contribute 0.7% of gross compensation to the defined contribution plan. Contributions of $1,877,453 were made during the year ended December 31, 2023. Participation in the 457 plan is voluntary. The level of contributions to the 457 plan is elected by the employee, subject to the limitations of IRC Sections 401(a) and 457. CERF's Board of Directors determines if matching contributions from the pension plan trust funds for a calendar year will be made to the defined contribution plan accounts of those who contributed to the 457 plan and met the applicable service criteria during the plan year. The amount of any matching contribution is limited to an amount not needed to keep the pension plan actuarially sound. The maximum amount of matching contribution the Board may make is limited to 50% of a member's voluntary contributions to the 457 plan, up to 3% of the member's compensation. Members vest in the matching portion of contributions allocated to their respective accounts after five years of creditable service. Matching contributions for the year ended December 31, 2023 were $3,781,992.

Administration: Maintenance of individual member accounts and custody of assets have been contracted to a third party administrator and investment custodian, respectively. Member contributions are sent directly to the third party administrator by the counties. Members can self-direct investments of their contributions and their respective share of matching contributions in a number of investment options. Separate trust funds are maintained for the defined contribution and 457 plan assets.

Because CERF does not hold the plans' assets and does not have significant administrative responsibilities, the plans' assets and changes in net assets are not reported in CERF's financial statements.

9. RISK MANAGEMENT

CERF is exposed to various risks of loss related to natural disasters, errors and omission, loss of assets, torts, etc. CERF has chosen to cover such losses through the purchase of commercial insurance. There have been no significant insurance claims filed or paid during the past three years.

COUNTY EMPLOYEES' RETIREMENT FUND

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY - CERF
For the Years Ended December 31,

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total pension liability										
Service cost	$ 28,444,845	$ 26,512,339	$ 25,505,363	$ 24,777,108	$ 20,789,409	$ 19,941,921	$ 19,108,969	$ 18,004,559	$ 17,052,205	$ 13,595,040
Interest cost	65,441,564	62,449,985	59,871,185	57,222,200	55,747,889	53,188,413	50,835,611	47,131,401	44,726,570	41,986,362
Difference between actual and expected experience	14,059,739	2,179,528	(2,049,384)	(951,098)	6,965,886	(774,315)	(3,400,101)	(14,041,749)	9,248,266	(1,804,223)
Benefit payments, including refunds of member contributions	(53,736,759)	(49,951,867)	(47,617,950)	(42,941,338)	(40,972,463)	(37,249,168)	(34,808,444)	(31,460,383)	(29,901,257)	(27,411,906)
Effect of assumption changes or inputs	-	-	-	-	427,253	-	-	30,295,003	33,428,440	-
Net change in total pension liability	54,209,389	41,189,985	35,709,214	38,106,872	42,957,974	35,106,851	31,736,035	49,928,831	74,554,224	26,365,273
Total pension liability - beginning of year	900,595,694	859,405,709	823,696,495	785,589,623	742,631,649	707,524,798	675,788,763	625,859,932	551,305,708	524,940,435
Total pension liability - end of year	$ 954,805,083	$ 900,595,694	$ 859,405,709	$ 823,696,495	$ 785,589,623	$ 742,631,649	$ 707,524,798	$ 675,788,763	$ 625,859,932	$ 551,305,708
Plan fiduciary net position										
Employer contributions	$ 39,696,685	$ 35,156,316	35,587,161	$ 33,334,303	$ 31,109,986	$ 28,517,335	$ 21,006,080	$ 20,329,625	$ 19,968,537	$ 19,781,514
Member contributions	22,888,641	20,743,462	18,894,796	17,919,385	16,291,609	15,698,324	14,415,927	13,799,759	13,115,748	11,899,932
Net investment return (loss)	84,117,984	(91,050,112)	101,727,064	78,922,419	96,095,624	(16,373,659)	64,596,939	21,571,995	99,571	17,958,335
Benefit payments, including refunds of member contributions	(53,736,760)	(49,951,867)	(47,617,950)	(42,941,338)	(40,972,463)	(37,249,168)	(34,808,444)	(31,460,383)	(29,901,257)	(27,411,906)
Administrative and other expenses	(3,905,934)	(3,576,018)	(3,304,645)	(3,253,867)	(3,150,622)	(3,121,552)	(3,249,395)	(2,841,954)	(2,522,685)	(2,125,444)
Defined contribution plan match	(3,781,992)	(4,373,834)	(4,335,081)	(4,341,806)	(4,117,722)	(3,698,619)	(3,200,949)	(3,133,484)	(2,861,751)	(2,696,164)
Net change in Plan fiduciary net position	85,278,624	(93,052,053)	100,951,345	79,639,096	95,256,412	(16,227,339)	58,760,158	18,265,558	(2,101,837)	17,406,267
Plan fiduciary net position - beginning of year	676,097,668	769,149,721	668,198,376	588,559,280	493,302,868	509,530,207	450,770,049	432,504,491	434,606,328	417,200,061
Plan fiduciary net position - end of year	761,376,292	676,097,668	769,149,721	668,198,376	588,559,280	493,302,868	509,530,207	450,770,049	432,504,491	434,606,328
Net pension liability - end of year	$ 193,428,791	$ 224,498,026	$ 90,255,988	$ 155,498,119	$ 197,030,343	$ 249,328,781	$ 197,994,591	$ 225,018,714	$ 193,355,441	$ 116,699,380

COUNTY EMPLOYEES' RETIREMENT FUND

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY - STAFF PENSION PLAN
For the Year Ended December 31, 2023

Total pension liability		
Service cost	$	-
Interest cost		-
Benefit term changes		1,089,388
Difference between actual and expected experience		-
Effect of assumption changes or inputs		-
Benefit payments, including refunds of member contributions		-
Net change in total pension liability		1,089,388
Total pension liability - beginning of year		-
Total pension liability - end of year	$	1,089,388
Plan fiduciary net position		
Employer contributions	$	215,000
Member contributions		10,140
Net investment return		26,781
Benefit payments, including refunds of member contributions		-
Administrative and other expenses		-
Net change in Plan fiduciary net position		251,921
Plan fiduciary net position - beginning of year		-
Plan fiduciary net position - end of year		251,921
Net pension liability - end of year	$	837,467

Note: This schedule is intended to show information for ten years. Additional years will be displayed as they become avaialable.

COUNTY EMPLOYEES' RETIREMENT FUND

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF NET PENSION LIABILITY - CERF

Year Ended	Total Pension Liability (TPL) (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (NPL) (a - b)	Plan Fiduciary Net Position as a % of TPL (b/a)	Covered Payroll (c)	NPL as a % of Covered Payroll ((a-b)/c)
12/31/2023	$ 954,805,083	$ 761,376,292	$ 193,428,791	79.74%	$ 536,204,101	36.07%
12/31/2022	900,595,694	676,097,668	224,498,026	75.07%	492,172,734	45.61%
12/31/2021	859,405,709	769,149,721	90,255,988	89.50%	471,684,856	19.13%
12/31/2020	823,696,495	668,198,376	155,498,119	81.12%	460,722,845	33.75%
12/31/2019	785,589,623	588,559,280	197,030,343	74.92%	433,125,201	45.49%
12/31/2018	742,631,649	493,302,868	249,328,781	66.43%	414,454,785	60.16%
12/31/2017	707,524,798	509,530,207	197,994,591	72.02%	401,037,836	49.37%
12/31/2016	675,788,763	450,770,049	225,018,714	66.70%	391,801,920	57.43%
12/31/2015	625,859,932	432,504,491	193,355,441	69.11%	372,165,232	51.95%
12/31/2014	551,305,708	434,606,328	116,699,380	78.83%	371,471,731	31.42%

COUNTY EMPLOYEES' RETIREMENT FUND

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF NET PENSION LIABILITY - STAFF PENSION PLAN
For the Year Ended December 31, 2023

Year Ended	Total Pension Liability (TPL) (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (NPL) (a - b)	Plan Fiduciary Net Position as a % of TPL (b/a)	Covered Payroll (c)	NPL as a % of Covered Payroll ((a-b)/c)
12/31/2023	$ 1,089,388	$ 251,921	$ 837,467	23.13%	$ 1,651,280	50.72%

Note: This schedule is intended to show information for ten years. Additional years will be displayed as they become available.

COUNTY EMPLOYEES' RETIREMENT FUND

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF EMPLOYER CONTRIBUTIONS - CERF PLAN

Year Ended December 31	Actuarially Determined Contribution	Actual Employer Contributions	401a Matching Contributions	Net Defined Benefit Contributions	Contribution Excess/ (Deficiency)	Actual Covered Member Payroll	Actual Contribution as a % of Covered Payroll
2014	$ 18,623,038	$ 19,781,514	$ 2,696,164	$ 17,085,350	$ (1,537,688)	$ 366,151,670	4.67%
2015	22,051,507	19,968,537	2,861,751	17,106,786	(4,944,721)	372,165,232	4.60%
2016	25,608,251	20,329,625	3,133,484	17,196,141	(8,412,110)	391,801,920	4.39%
2017	26,677,238	21,006,080	3,200,949	17,805,131	(8,872,107)	401,037,836	4.44%
2018	28,267,433	28,517,335	3,698,619	24,818,716	(3,448,717)	414,454,785	5.99%
2019	30,817,130	31,109,986	4,117,722	26,992,264	(3,824,866)	433,125,201	6.23%
2020	35,813,436	33,334,303	4,341,806	28,992,497	(6,820,939)	460,722,845	6.29%
2021	35,509,573	35,587,161	4,335,081	31,252,080	(4,257,493)	471,684,856	6.63%
2022	34,234,780	35,156,316	4,373,834	30,782,482	(3,452,298)	492,172,734	6.25%
2023	36,315,120	39,696,685	3,781,992	35,914,693	(400,427)	536,204,101	6.70%

COUNTY EMPLOYEES' RETIREMENT FUND

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF EMPLOYER CONTRIBUTIONS - STAFF PENSION PLAN
For the Year Ended December 31, 2023

Year Ended December 31	Actuarially Determined Contribution	Actual Employer Contributions	Contribution Excess/ (Deficiency)	Actual Covered Member Payroll	Actual Contributions as a % of Covered Payroll
2023	$ 179,535	$ 215,000	$ 35,465	$ 1,651,280	13.02%

Note: This schedule is intended to show information for ten years. Additional years will be displayed as they become available.

COUNTY EMPLOYEES' RETIREMENT FUND

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF INVESTMENT RETURNS - CERF PLAN

	Investment Returns, Net of Investment Expenses	
Year Ended December 31	Time Weighted	Money Weighted
2014	4.30%	4.34%
2015	0.00%	0.00%
2016	5.03%	5.06%
2017	14.42%	14.55%
2018	-3.21%	-3.24%
2019	19.50%	19.62%
2020	13.40%	13.47%
2021	15.23%	15.27%
2022	-11.85%	-11.89%
2023	12.43%	12.47%

COUNTY EMPLOYEES' RETIREMENT FUND

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF INVESTMENT RETURNS - STAFF PENSION PLAN
For the Year Ended December 31, 2023

	Investment Returns, Net of Investment Expenses	
Year Ended December 31	Time Weighted	Money Weighted
2023	9.59%	16.49%

Note: This schedule is intended to show information for ten years. Additional years will be displayed as they become available.

COUNTY EMPLOYEES' RETIREMENT FUND

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION
CERF PLAN

The information presented in the required supplementary information was determined as part of the most recent actuarial valuation as of December 31, 2022, rolled forward to December 31, 2023. Additional information as of these actuarial valuations follows.

Changes in benefit terms: On October 1, 2007, significant benefit improvements were made for members retiring on or after that date. The cost impact of the improvements was first incorporated in 2008.

Actuarial methods and assumptions: The actuarially determined contribution rates in the schedule of employers' contributions are calculated as of January 1 of the respective calendar year.

The following actuarial methods and assumptions were used to determine contribution rates reported in the schedule as of December 31, 2023.

Actuarial cost method	Entry age normal
Amortization method:	
Level percent or dollar	Level percent
Closed, open, or layered periods	Layered
Amortization period	20 years
Amortization growth rate	2%
Asset valuation method	Actuarial value of assets with 5 years smoothing of gains and losses
Investment rate of return	7.25%
Inflation	2.5%
Compensation increases	2.91% to 11.05% (2.7%, plus merit)
Cost of living adjustments	1.0% per annum; 50% cap on initial benefit
Retirement age	Rates vary by age as shown in Appendix C of the January 1, 2024 Actuarial Valuation Report
Turnover	Select and ultimate rates based on age and service as shown in Appendix C of the January 1, 2024 Actuarial Valuation
Mortality rates	Pub-2010 Tables, no adjustment for males and 110% scaling for females, and a one-year age set forward for both males and females. Future mortality improvements assumed using 75% of the MP-2018 Scale

COUNTY EMPLOYEES' RETIREMENT FUND

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION
STAFF PENSION PLAN

The information presented in the required supplementary information was determined as part of the most recent actuarial valuation as of January 1, 2024 and plan asset information for the fiscal year ending December 31, 2023. Additional information as of these actuarial valuations follows.

Actuarial methods and assumptions: The actuarially determined contribution rates in the schedule of employers' contributions are calculated as of January 1 of the respective calendar year.

The following actuarial methods and assumptions were used to determine contribution rates reported in the schedule as of December 31, 2023.

Actuarial cost method	Entry age normal
Amortization method:	
Level percent or dollar	Level dollar
Closed, open, or layered periods	Layered
Amortization period	15 years
Amortization growth rate	N/A
Asset valuation method	Actuarial value of assets with 5 years smoothing of gains and losses
Investment rate of return	5.5%
Inflation	2.5%
Compensation increases	N/A
Cost of living adjustments	1.0% per annum; 50% cap on initial benefit
Retirement age	Rates vary by age as shown in Appendix C of the January 1, 2024 Actuarial Valuation Report
Turnover	Select and ultimate rates based on age and service as shown in Appendix C of the January 1, 2024 Actuarial Valuation
Mortality rates	*Actives:* Pub-2010 General Employee Median Mortality Table projected generationally using the MP-2020 Scale. *Retirees:* Pub-2010 General Retirees Median Mortality Table projected generationally using the MP-2020 Scale. *Beneficiaries:* Pub-2010 General Contingent Survivor Median Mortality Table projected generationally using the MP-2020 Scale.

COUNTY EMPLOYEES' RETIREMENT FUND

SCHEDULE OF ADMINISTRATIVE EXPENSES
For the Year Ended December 31, 2023

Personnel services	
Staff salaries and retirement	$ 1,970,937
Payroll taxes	115,199
Insurance	241,745
Total personnel services	2,327,881
Professional services	
Actuarial	69,199
Audit	82,180
Legal counsel	158,400
Legislative consultant	100,000
Management consultant	100,000
Plan design and implementation consultants	414,239
Total professional services	924,018
Communication	
Printing	19,283
Postage	29,883
Telephone and internet	37,744
Total communication	86,910
Rentals	
Equipment leasing and maintenance	41,048
Total rentals	41,048
Depreciation	303,310
Miscellaneous	
Utilities	25,664
Board of directors expenses	8,791
County visits and association conferences	7,562
Business risk insurance premiums	85,138
Staff development and Board education	15,281
Office	80,331
Total miscellaneous	222,767
Total administrative expenses	$ 3,905,934

COUNTY EMPLOYEES' RETIREMENT FUND

SCHEDULE OF INVESTMENT EXPENSES
For the Year Ended December 31, 2023

Investment management expenses		
Domestic stocks	$	818,119
International stocks		807,411
Bonds		145,278
Private equity		204,912
Real estate		672,295
Total investment management expenses		2,648,015
Other investment expenses		
Investment consultants		356,920
Investment custodian		113,193
Bank depository		946
Total other investment expenses		471,059
Total investment expenses	$	3,119,074

INVESTMENT SECTION

CERF

COUNTY EMPLOYEES'
RETIREMENT FUND

June 3, 2024

Dear Board of Directors and CERF members:

CERF's investment portfolio for the fiscal year ended December 31, 2023, had a gross return of 13.38% as calculated using a time-weighted rate of return methodology based upon fair values. All of the plan's underlying asset class pools had positive returns, with the exception of Real Assets. The returns across the three major asset classes were dispersed, illustrating the impact of asset allocation to help reduce the volatility of annual returns while focusing on the long-term performance objectives.

US Large Cap stocks outperformed all other major asset classes in 2023, primarily driven by strong performance of the "Magnificent 7" stocks (Microsoft, Apple, Amazon, Meta, Alphabet, Nvidia & Tesla). CERF's US Large Cap portfolio is passively invested in the S&P 500 Index and achieved returns in line with the benchmark of 26.29%.

The US Small/Mid Cap Equity portfolio returned 21.02% compared to the benchmark of 17.42%. While the small cap growth index outperformed the small cap value index during the year, exceptional relative performance from the value allocation of the portfolio boosted overall relative returns.

Non-US Equity returned 24.30% compared to the benchmark of 18.24%. International stock performance favored value over growth, with the International Value manager contributing returns of 31.40% for the year – over 1300 basis points ahead of the MSCI EAFE NetDiv Index. Outperformance was mainly attributed to strong stock selection across a handful of sectors.

The Global Equity portfolio had a return of 9.08% compared to the HFRI Equity Hedge Index returns of 11.36% and the HFRI FOF Strategic Index returns of 8.12%. During the third quarter, the Board voted to eliminate exposure to equity long/short manager ABS. The Board will redeploy these global equity assets across existing equity and fixed income allocations while bringing the overall fixed income target up to 30% from 25%. These transactions are anticipated during the first quarter of 2024.

Private Equity returned 2.31% compared to the benchmark S&P 500 returns of 26.29%. Such underperformance was anticipated as these assets are valued on a lag relative to public equities, which had a difficult year in 2022. Private Equity valuations were negatively impacted in 2023 by the higher interest rate environment coupled with a slowdown in investment activity across the private sector.

CERF's Fixed Income portfolio returned 7.28%, compared to the fixed income benchmark of 5.53%. Exposure to non-core fixed income instruments and an overweight to the lower end of investment grade credit contributed to relative outperformance throughout the year.

CERF's Real Assets portfolio is comprised of allocations to core and opportunistic real estate. The Core Real Estate portfolio declined 14.34% while the Opportunistic Real Estate Portfolio fell 22.50% during the year; both underperforming the NFI ODCE index 2023 declines of 12.02%. The office sector was the primary detractor for both allocations, with the Opportunistic manager having nearly double the allocation to the space relative to the Core manager.

These returns were calculated by CERF's investment consultant, Asset Consulting Group.

The success of the investment program is defined by its adherence to the investment policy guidelines, and its performance compared to the stated return objectives and risk parameters.

The following chart shows the pension fund's annualized performance and risk since its inception compared to the stated objectives:

Total Pension Fund Performance vs. Objectives
December 31, 1994 - December 31, 2023

Return Objectives	Benchmark	CERF
At a minimum, it is the objective of CERF to exceed its actuarial interest rate assumption on an ongoing basis.	7.25%	8.64%
The pension fund's annualized total return should equal or exceed the annualized rate of inflation as indicated by the Consumer Price Index by 5%	7.61%	8.64%

Risk Objective	Benchmark	CERF
The pension fund's total return should exceed the total return of the Policy Index.	8.21%	8.64%
The pension fund's level of risk, as measured by Standard Deviation, should be consistent with the risk of the Policy Index.	10.09%	9.75%

The Policy Index consists of 65% MSCI ACWI, 25% Bloomberg US Aggregate, and 10% NFI ODCE.

As reflected above, CERF is meeting or exceeding its performance objectives. The pension plan's assets will continue to be managed with a long term focus, as it is expected that over shorter time periods, investment performance will remain volatile. CERF will also continue to manage investments with a belief that asset allocation remains the most significant driver of investment performance and the consistent execution of the investment process will have a significant influence on achieving the plan's objectives.

Respectfully submitted,

Pam Mayfield

Pam Mayfield
Investment Officer

Kelly Schwartze

Kelly Schwartze, CPA
Deputy Director

Investment Objectives

CERF's investment program exists for the purpose of providing retirement income to the plan's participants. The pension plan's assets are invested in a manner that is consistent with its investment policy – a formal document that articulates the fund's goals, objectives, and risk parameters, and states the importance of diversification, risk management and a long-term, strategic investment time horizon.

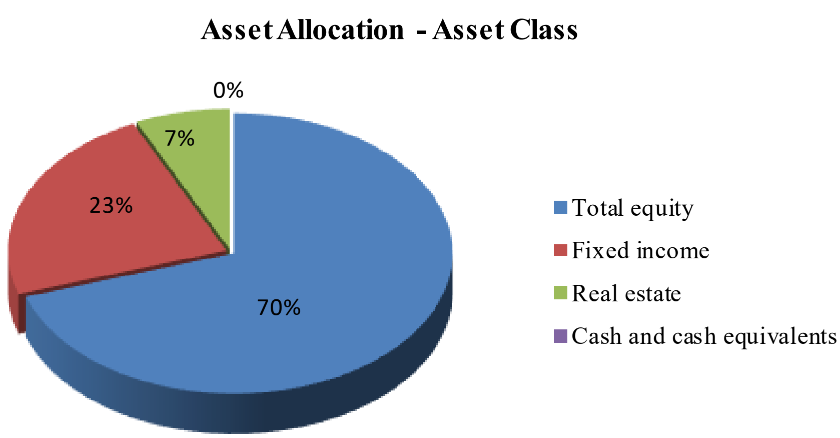
CERF's investment portfolio has exposures to each of the broad investment categories (stocks, bonds, and real estate), sub-asset classes (large cap stocks, small cap stocks, etc.) and geographic regions (U.S., non-U.S.). There are three major asset categories used – equity, fixed income, and real assets. CERF has established a target allocation for each of these categories, which includes a variance of up to 5%.

The following table summarizes the fair value of investments as of December 31, 2023, along with the target allocations as set forth in the investment policy:

Asset Allocation

Asset Class *	Fair Value	% of Total Fair Value	Target Allocation
Equity			
U.S. Large Cap equity	$ 172,810,945	23%	20%
U.S. Small/Mid Cap equity	94,225,324	13%	12%
Non-U.S. equity	136,440,742	18%	18%
Global equity	68,297,258	9%	10%
Private equity	52,062,648	7%	5%
Total equity	523,836,917	70%	65%
Fixed income	175,077,237	23%	25%
Real estate	50,076,088	7%	10%
Cash and cash equivalents	3,627,684	0%	0%
Total investments	$ 752,617,926	100%	100%

*Certain investments have been reclassified for investment management purposes. As such, classifications may not agree with the audited financial statements.



Investment Policy

CERF's portfolio structure is regularly monitored by the investment consultant, CERF's internal staff, and its Board of Directors. The portfolio is rebalanced when appropriate to keep allocations to various investments within the stated ranges defined in the investment policy. New asset classes are periodically added to the mix to enhance diversification. Although long-term focused, the portfolio is adjusted as needed to take into consideration near-term risks and opportunities.

Equity Investments

CERF invests in different types of equities (stocks) for the growth opportunities they provide. CERF's portfolio currently has exposure to domestic stocks, international stocks, hedged equity funds, and private equity in different size categories (small, mid, and large capitalization), in different styles (value and growth), and with different investment management organizations.

Fixed Income Investments

CERF's fixed income (bond) portfolio is in place to enhance diversification and provide liquidity and downside protection. The fixed income portfolio is also diversified and invested across the fixed income markets, with an emphasis on high quality bonds. The portfolio has exposure to various quality, sector, geography, and security types.

Real Assets Investments

Real estate investments provide an additional layer of diversification to the portfolio, as they behave differently than stocks and bonds.

CERF's current allocation to real estate is achieved through diversified real estate funds. These funds have exposure to different geographic locations and property types, while maintaining strict quality requirements for each property, including leverage limits and occupancy rates.

The following investment results were prepared by CERF's consultant using a time-weighted rate of return methodology based upon market values and are gross of fees.

Investment Results
For the Year Ended December 31, 2023

Total Returns

Asset Class *	Fair Value	1 Year	3 Years	5 Years	10 Years	Since Inception Performance
		Annualized Rate of Return				
Equity						
U.S. Large Cap equity	**$ 172,810,945**	**26.29%**	**10.38%**	**17.20%**	**11.91%**	**9.83%**
S&P 500		*26.29%*	*10.00%*	*15.69%*	*12.03%*	*8.16%*
U.S. Small/Mid Cap equity	**94,225,324**	**21.02%**	**7.26%**	**15.28%**	**10.88%**	**9.68%**
Russell 2500		*17.42%*	*4.24%*	*11.67%*	*8.36%*	*9.11%*
Non-U.S. equity	**136,440,742**	**24.30%**	**6.77%**	**8.47%**	**5.15%**	**8.24%**
MSCI EAFE		*18.24%*	*4.02%*	*8.16%*	*4.28%*	*6.96%*
Global equity	**68,297,258**	**9.08%**	**0.83%**	**6.25%**	**4.00%**	**3.74%**
HFRI Equity Hedge		*11.36%*	*3.78%*	*8.42%*	*5.30%*	*4.58%*
Private equity	**52,062,648**	**2.31%**	**11.77%**	**14.67%**	**13.93%**	**12.36%**
S&P 500		*26.29%*	*10.00%*	*15.69%*	*12.03%*	*13.58%*
Fixed income	**175,077,237**	**7.28%**	**-1.04%**	**3.03%**	**2.34%**	**4.31%**
Bloomberg US Aggregate		*5.53%*	*-3.31%*	*1.10%*	*1.81%*	*3.28%*
Real estate	**50,076,088**	**-14.34%**	**2.73%**	**2.80%**	**6.43%**	**5.06%**
NFI ODCE		*-12.02%*	*4.92%*	*2.80%*		*5.50%*
Cash and cash equivalents	**3,627,684**	**4.97%**	**2.19%**	**1.80%**	**1.19%**	**1.08%**
Total Fund	**$ 752,617,926**	**13.38%**	**4.90%**	**9.89%**	**7.20%**	**8.64%**
*Total Fund Policy Index ***		**14.24%**	**2.86%**	**8.22%**	**7.17%**	**8.21%**

* Certain investments have been reclassified for investment management purposes. As such, classifications may not agree with the audited financial statements.

** Effective August 2022, the index consists of 65% MSCI ACWI, 25% Bloomberg US Aggregate, and 10% NFI ODCE. From 2017 to 2022, it was comprised of 65% MSCI ACWI, 30% Bloomberg US Aggregate, and 5% NFI ODCE. Prior to 2017, it was comprised of 65% S&P 500 and 35% Bloomberg US Aggregate.

Performance calculations in the above schedule were prepared using time-weighted rates of return.

2023 Year in Review

The US economy defied recession calls in 2023, weathering a banking crisis, the restart of student loan payments, dwindling consumer savings, labor disputes, and geopolitical conflicts. The economic forces which fueled inflation in 2022 eased in 2023, causing the Federal Reserve to slow the pace of interest rate increases. Market participants expect the Federal Reserve to begin lowering interest rates in 2024 due to easing inflation and the risk of higher-for-longer rates tipping the economy into a recession.

After a disappointing 2022, Global Equities rebounded sharply in 2023, with an approximately 22% increase for the MSCI ACWI. Declining inflation, a resilient economy, and declining interest rate expectations were contributing factors. US Equity returns favored US Large Caps, with the S&P 500 outperforming the Russell 2000 index by 936 basis points in 2023. US Large Caps experienced a wide divergence in style returns; the Russell 1000 Growth outperformed the Value index by over 31 percentage points (3100 basis points). Just two of the S&P 500's eleven sectors were negative in 2023, Energy (-1.3%) and Utilities (-7.1%). However, in 2022, these were the only two positive sectors. Developed International Equity lagged US Large Caps as economic growth has been more muted overseas and geopolitical forces continue to impact some regions. Despite this, the MSCI EAFE increased approximately 18% in 2023. Emerging Markets lagged their developed peers, with markets increasing approximately 10%.

The US economy's growth remained resilient in 2023 after positive, but anemic growth in 2022. Real GDP increased 3.1% in 2023, led by strong consumer spending as excess pandemic savings were drawn down and real wage gains were realized in the second half of the year. Despite high interest rates and layoffs in the tech sector, the labor market also remained strong, with the unemployment rate ending the year at 3.7% from 3.5% in 2022.

US inflation continued its downward trajectory in 2023, and ended the year at 3.3%, well below the peak of 9.1% in June 2022 but stubbornly above the Fed's target of 2%. Due to the lagged effect of interest rate increases on the economy, the Fed kept the federal funds rate steady at a range of 5.25%-5.50% from July through the end of the year as they wait to see the total impact of interest rate increases. Market participants and Fed officials expect the Federal Reserve to begin lowering interest rates in 2024.

Largest Equity Holdings (Non-Commingled Funds)
December 31, 2023

	Security	Fair Value		Shares
1)	Primerica Inc.	$	3,422,818	16,635
2)	Houlihan Lokey Inc.		2,981,083	24,861
3)	SS&C Tech Holding Inc.		2,780,322	45,497
4)	CBIZ Inc.		2,163,173	34,561
5)	Emcor Group Inc.		2,008,238	9,322
6)	Gentex Corp		1,891,569	57,917
7)	American Homes 4 Rent		1,845,683	51,326
8)	Openlane Inc.		1,783,168	120,403
9)	Kennametal Inc.		1,739,922	67,465
10)	Penske Auto Group Inc.		1,730,619	10,782

Note: A complete list of holdings is available upon request.

Schedule of Advisor Fees
For the Year Ended December 31, 2023

Investment management expenses		
Domestic stocks	$	818,119
International stocks		807,411
Bonds		145,278
Private equity		204,912
Real estate		672,295
Total investment management expenses		2,648,015
Other investment expenses		
Investment consultants		356,920
Investment custodian		113,193
Bank depository		946
Total other investment expenses		471,059
Total investment expenses	$	3,119,074

Schedule of Brokerage Commissions
For the Year Ended December 31, 2023

Broker name	Shares	Commissions	Per Share
William Blair	654,872	$ 14,069	0.02
Burgundy Asset Management	452,771	6,455	0.01
Total commissions	1,107,643	$ 20,524	$ 0.04

ACTUARIAL SECTION

Cavanaugh Macdonald
CONSULTING, LLC
The experience and dedication you deserve

Actuary's Certification Letter

June 3, 2024

The Board of Trustees
County Employees' Retirement Fund
2121 Schotthill Woods Drive
Jefferson City, MO 65101

We conducted the annual actuarial valuation of the County Employees' Retirement Fund (CERF) as of January 1, 2024, for assessing plan funded status and calculating the actuarially determined contribution for the 2024 plan year. The major findings of the valuation are contained in an actuarial valuation report dated June 2024.

In preparing this report, we relied, without audit, on information supplied by CERF and Williams Keepers, LLC. This information includes, but is not limited to, statutory provisions, member census data, and financial information. We found this information to be reasonably consistent and comparable with information in prior years. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

Actuarial assumptions, including discount rates, mortality tables, and others identified in this report, and actuarial cost methods are prescribed by CERF's Board. The Board is responsible for selecting the plan's funding policy, actuarial valuation methods, the asset valuation method, and the actuarial assumptions. The policies, methods and assumptions used are those that have been so prescribed and are described in the Actuarial Section of this report. In our opinion, the assumptions and methods used for funding purposes meet the parameters set by Actuarial Standards of Practice.

The valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Actuarial computations presented in the funding valuation report are for the purpose of evaluating the sufficiency of CERF's funding sources (employee contributions and county revenues) to meet the long term funding needs of the System. The calculations in the January 1, 2024 valuation report have been made on a basis consistent with the System's funding policy and goals.

Cavanaugh Macdonald Consulting LLC's work is prepared solely for the use and benefit of the County Employees' Retirement Fund ("System"). No third party should rely upon Cavanaugh Macdonald Consulting LLC's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

In addition to the annual actuarial funding valuation report, a separate report is issued to provide financial reporting information in accordance with Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68.

The following schedules in the Actuarial and Financial Sections of the ACFR were prepared based upon certain information presented in the previously mentioned funding and financial reporting valuation reports:

Actuarial:

- Summary of Actuarial Methods and Assumptions
- Retirees and Beneficiaries Added and Removed
- Financial Experience
- Summary of Plan Provisions
- Schedule of Active Member Valuation Data
- Employer Schedule of Funding Progress
- Short-Term Solvency Test

Financial:

- Schedule of Changes in Net Pension Liability
- Schedule of Employer Contributions
- Schedule of Net Pension Liability

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

The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

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

Sincerely,

Larry Langer ASA, MAAA, EA
Principal and Consulting Actuary

Patrice Beckham
Patrice Beckham FSA, MAAA, EA
Consulting Actuary

The defined benefit pension actuarial information presented in this *2023 Annual Comprehensive Financial Report* (Annual Report) is based on CERF's most current actuarial valuation data as of December 31, 2023. The Financial Section of the Annual Report presents additional actuarial valuation information on a financial reporting basis, or accounting basis, as required by GASB 67. This section presents actuarial valuation information on a funding basis, and has been updated to reflect pension funding results as of December 31, 2023. The actuarial assumptions in this section are applicable to 2023, unless otherwise noted.

Summary of Actuarial Methods and Assumptions

Actuarial cost method: Entry age cost method. Entry age is the age of the members' hire date. Normal cost and actuarial accrued liability are calculated on an individual basis and are based on costs allocated as a level percent of compensation, as if the current benefit formulas have always been in effect.

Amortization method: Layered, with payments increasing with the expected growth in revenue each year. The Unfunded Actuarial Accrued Liability (UAAL) is amortized with payments that increase each year in an effort for expected revenue to be sufficient to make the payments over the specified amortization period if future experience follows the assumption.

New UAAL arises each year when each new actuarial valuation is published. The newly arising UAAL can be either positive or negative, and can be due either to experience varying from assumptions or to changes in the actuarial accrued liability from modifications to assumptions, plan provisions or actuarial methods. Each year's newly arising UAAL is currently amortized over a closed 20-year period with increasing payments.

Amortization period: 20 years

Amortization payment growth rate: 2.0%

Asset valuation method: The actuarial value of assets is based on a five-year smoothing method and is determined by spreading the effect of each year's investment return in excess of or below the expected return. The fair value of assets as of the valuation date is reduce by the sum of the following:

i. 80% of the prior year gain/loss
ii. 60% of the second preceding year's gain/loss
iii. 40% of the third preceding year's gain/loss
iv. 20% of the fourth preceding year's gain/loss

Actuarial assumptions:

Investment rate of return:	7.25%, net of investment expenses
Inflation:	2.5%
Compensation increases:	2.91% to 11.05% (2.7%, plus merit)
Cost of living adjustments:	1.0% per annum, 50% cap on initial benefit
Mortality rates:	Pub-2010 General Annuitant Below Median Table with no adjustment for males and with 110% scaling for females and a one-year age set forward for both males and females. Future mortality improvements assumed using 75% of the MP-2018 Scale.
Retirement age:	Rates vary by age as shown below

Retirement Age	Rate
< 55	0.00
55 - 58	0.05
59	0.08
60	0.10
61	0.17
62	0.25
63	0.18
64	0.20
65	0.35
66 - 69	0.25
70	1.00

Turnover:	Select and ultimate rates based on age and service as shown below:

Select rate during the first 4 years of employment:

Years of Service	Non-LAGERS	LAGERS
0	0.30	0.30
1	0.27	0.25
2	0.20	0.20
3	0.18	0.15
4	0.18	0.14

Ultimate rate for members with more than 4 years of service:

Withdrawal
Males and Females
LAGERS

Age	5-7 Yrs	8+ Yrs	Age	5-7 Yrs	8+ Yrs	Age	5-7 Yrs	8+ Yrs	Age	5-7 Yrs	8+ Yrs
< 20	0.00	0.00	32	0.13	0.10	45	0.08	0.06	58	0.08	0.07
20	0.23	0.16	33	0.12	0.10	46	0.08	0.06	59	0.08	0.07
21	0.22	0.15	34	0.11	0.09	47	0.08	0.05	60	0.08	0.08
22	0.21	0.15	35	0.11	0.08	48	0.08	0.05	61	0.08	0.08
23	0.20	0.15	36	0.11	0.08	49	0.07	0.05	62	0.10	0.08
24	0.19	0.15	37	0.10	0.07	50	0.07	0.05	63	0.12	0.09
25	0.18	0.15	38	0.10	0.07	51	0.07	0.05	64	0.15	0.09
26	0.17	0.15	39	0.09	0.07	52	0.07	0.05	65	0.15	0.10
27	0.17	0.15	40	0.09	0.07	53	0.07	0.05	66	0.15	0.10
28	0.16	0.15	41	0.09	0.07	54	0.07	0.07	67	0.20	0.10
29	0.15	0.12	42	0.09	0.07	55	0.07	0.07	68	0.20	0.10
30	0.14	0.12	43	0.08	0.07	56	0.07	0.07	69	0.20	0.10
31	0.13	0.10	44	0.08	0.06	57	0.07	0.07	70 +	0.20	0.10

Withdrawal
Males and Females
Non-LAGERS

Age	5-7 Yrs	8+ Yrs	Age	5-7 Yrs	8+ Yrs	Age	5-7 Yrs	8+ Yrs	Age	5-7 Yrs	8+ Yrs
< 20	0.00	0.00	32	0.16	0.11	45	0.11	0.08	58	0.08	0.07
20	0.25	0.19	33	0.15	0.10	46	0.11	0.07	59	0.08	0.07
21	0.24	0.18	34	0.15	0.10	47	0.10	0.07	60	0.08	0.07
22	0.23	0.17	35	0.15	0.10	48	0.10	0.07	61	0.09	0.07
23	0.22	0.16	36	0.14	0.10	49	0.10	0.07	62	0.09	0.08
24	0.21	0.16	37	0.14	0.10	50	0.10	0.07	63	0.09	0.08
25	0.21	0.16	38	0.13	0.09	51	0.10	0.07	64	0.10	0.08
26	0.21	0.16	39	0.13	0.09	52	0.10	0.07	65	0.10	0.09
27	0.20	0.15	40	0.12	0.08	53	0.10	0.07	66	0.12	0.09
28	0.20	0.14	41	0.12	0.08	54	0.09	0.07	67	0.12	0.10
29	0.19	0.13	42	0.12	0.08	55	0.08	0.07	68	0.12	0.10
30	0.17	0.12	43	0.12	0.08	56	0.08	0.07	69	0.12	0.10
31	0.16	0.11	44	0.11	0.08	57	0.08	0.07	70 +	0.15	0.11

Schedule of Active Member Valuation Data

Valuation Date	Number of Members	Annual Payroll	Average Annual Salary	% Increase	Average Age	Average Years of Service
12/31/2023	12,404	$ 600,002,218	$ 48,372	9.6%	44.6	7.6
12/31/2022	12,146	536,204,101	44,147	7.6%	44.6	7.7
12/31/2021	11,994	492,172,734	41,035	3.1%	44.9	7.9
12/31/2020	11,849	471,684,856	39,808	2.6%	44.8	8.1
12/31/2019	11,879	460,722,845	38,785	4.0%	45.0	8.2
12/31/2018	11,616	433,125,201	37,287	3.5%	44.9	8.3
12/31/2017	11,500	414,454,785	36,040	1.6%	45.0	8.4
12/31/2016	11,303	401,037,836	35,481	2.2%	45.2	8.7
12/31/2015	11,291	391,801,920	34,700	2.7%	45.3	8.7
12/31/2014	11,010	372,165,232	33,802	1.7%	45.3	9.1

Retirees and Beneficiaries Added and Removed

	Number of Retired Members and Beneficiaries		Annual Benefit of Retired Members and Beneficiaries					
Fiscal Year	Added During the Year	Removed During the Year	Added During the Year	Removed During the Year	Total Number of Retired Members and Beneficiaries	Total Annual Benefit	Percentage Increase in Total Annual Benefits	Average Annual Benefit
2023	514	247	$ 4,275,720	$ 1,156,620	6,561	$ 48,207,194	8.41%	$ 7,348
2022	383	173	3,124,848	1,045,596	6,294	44,466,917	6.48%	7,065
2021	659	268	3,910,764	1,066,380	6,084	41,762,412	8.07%	6,864
2020	329	165	2,738,436	1,059,636	5,693	38,643,215	5.93%	6,788
2019	483	169	3,963,048	940,068	5,529	36,480,147	10.49%	6,598
2018	347	136	2,468,400	759,108	5,321	33,017,109	6.91%	6,205
2017	476	152	3,469,824	776,892	5,086	30,881,826	9.60%	6,072
2016	329	117	2,069,760	578,325	4,774	28,175,645	6.48%	5,902
2015	376	114	3,025,143	533,604	4,519	26,460,002	10.48%	5,855
2014	334	96	2,644,864	562,560	4,303	23,950,417	8.57%	5,566

Employer Schedule of Funding Progress

CERF uses the entry-age normal actuarial cost method which allocates the actuarial present value of each member's projected benefits on a level basis over the member's pensionable compensation between the entry age of the member and assumed exit ages. A ten-year schedule of actuarially determined and actual contributions is provided as required supplementary information on page 35.

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability (AAL) Entry Age	Unfunded AAL (UAAL)	Funded Ratio	Covered Payroll	UAAL as a % of Covered Payroll
12/31/2014	$ 422,283,987	$ 593,982,414	$ 171,698,427	71.1%	$ 372,165,232	46.1%
12/31/2015 *	448,784,038	640,399,679	191,615,641	70.1%	391,801,920	48.9%
12/31/2016	477,065,373	672,625,878	195,560,505	70.9%	401,037,836	48.8%
12/31/2017	507,132,934	706,804,505	199,671,571	71.8%	414,454,785	48.2%
12/31/2018	529,029,220	748,838,283	219,809,063	70.6%	433,125,201	50.7%
12/31/2019 *	563,619,328	784,702,819	221,083,491	71.8%	460,722,845	48.0%
12/31/2020	619,226,387	821,785,647	202,559,260	75.4%	471,684,856	42.9%
12/31/2021	691,876,733	861,437,903	169,561,170	80.3%	492,172,734	34.5%
12/31/2022	735,030,072	913,705,008	178,674,936	80.4%	536,204,101	33.3%
12/31/2023	792,653,687	974,910,780	182,257,093	81.3%	600,002,218	30.4%

** New assumptions and/or methods adopted*

Financial Experience

Actual experience will never coincide exactly with assumed experience (except by coincidence). Gains and losses may offset each other over a period of years, but sizeable year-to-year variations from assumed experience are common. Detail on the analysis of the financial experience gain (loss) is shown below.

UAAL Beginning of Year at January 1, 2023	$ 178,674,936
Normal Cost	31,706,843
Contributions (net 401(a) match)	(58,803,334)
Interest	13,227,491
Change in UAAL due to Actuarial Assumption Changes	-
Change in UAAL due to Change in Actuary	-
Expected UAAL as of December 31, 2023	164,805,936
Actual UAAL as of December 31, 2023	182,257,093
Gain/(Loss) for Plan Year Ending December 31, 2023	(17,451,157)

Short-Term Solvency Test

Actuarial Valuation Date		Actuarial Accrued Liability for: Member Contributions (1)	Retirees and Beneficiaries (2)	Active and Inactive Members (3)	Actuarial Value of Assets	Percentage of Actuarial Liabilities Covered by Net Assets for: (1)	(2)	(3)	Total
12/31/2014		$ -	$ 221,786,947	$ 372,195,467	$ 422,283,987	100%	100%	53.9%	71.1%
12/31/2015	*	-	255,947,474	384,452,205	448,784,038	100%	100%	50.2%	70.1%
12/31/2016		-	270,475,166	402,150,712	477,065,373	100%	100%	51.4%	70.9%
12/31/2017		-	302,124,758	404,679,747	507,132,934	100%	100%	50.7%	71.8%
12/31/2018		-	320,463,405	428,374,878	529,029,220	100%	100%	48.7%	70.6%
12/31/2019	*	-	338,258,572	446,444,247	563,619,328	100%	100%	50.5%	71.8%
12/31/2020		-	357,161,218	464,624,429	619,226,387	100%	100%	56.4%	75.4%
12/31/2021		-	388,118,647	473,319,256	691,876,733	100%	100%	64.2%	80.3%
12/31/2022		-	408,082,065	505,622,943	735,030,072	100%	100%	64.7%	80.4%
12/31/2023		-	442,084,294	532,826,486	792,653,687	100%	100%	65.8%	81.3%

** New assumptions and/or methods adopted*

Summary of Plan Provisions

Summarized below are the major provisions of CERF, as established by Sections 50.1000-50.1300 of the Missouri Revised Statutes (RSMo).

Eligibility

CERF is a mandatory cost-sharing multiple employer retirement system for each county in the state of Missouri, except any city not within a county (which excludes the City of St. Louis) and counties of the first classification with a charter form of government, other than any county adopting a charter form of government after January 1, 2008. CERF covers county elective or appointive officers or employees whose position requires the actual performance of duties not less than 1,000 hours per year; including employees of circuit courts located in a first class, non-charter county which is not participating in the Local Government Employees Retirement System (LAGERS); and does not cover circuit clerks, deputy circuit clerks, county prosecuting attorneys, and county sheriffs. Until January 1, 2000, employees hired before January 1, 2000 could opt out of the system.

Contributions

Member contributions are required, the amount of which is based on the member's most recent date of hire as well as if the member is also participating in LAGERS. The amount of the required member contribution is summarized in the table below:

Most Recent Date of Hire	Percent of Compensation: Non-LAGERS	LAGERS
Before February 25, 2002	2.0%	0.0%
On or After February 25, 2002	6.0%	4.0%

Employer contributions are a combination of certain fees, penalties, and interest as provided by Sections 50.1020, 50.1190, 50.1200, 52.290, 59.321, 140.140 and 150.150 RSMo. In addition, some counties have elected to contribute a portion of or all of the required member contribution up to 4% for employees hired on or after February 25, 2002, in lieu of payroll deductions. Nearly all of the funding for CERF comes from county receipts in the form of contributions, fees, penalties, and interest.

Vesting

A participant is vested after eight years of continuous creditable service during which pay is earned and received for at least 1,000 hours in each of those eight years.

Prior Service

Employees who were employed on June 10, 1999, and remained employed through January 1, 2000, do not have to purchase prior service. Members who terminated vested or retired prior to January 1, 2000, must purchase any service accrued prior to August 28, 1994, in order to include that service in their retirement benefit.

Average Final Compensation

Average final compensation represents the average of the two highest years of compensation from the county. Lump sum payments for unused sick leave, unused vacation, and other types of back pay attributed to prior years of employment are excluded from the calculation of average final compensation.

Early Retirement

Members have the option of retiring as early as age 55 (with eight years of continuous creditable service) and receiving an actuarially-reduced benefit. To be eligible for early retirement, a participant must terminate employment on or after January 1, 2000, and meet other eligibility requirements.

Normal Retirement Eligibility

Participants are eligible to retire at age 62 with eight years of credited service.

The Normal Retirement Benefit is the greater of A, B, and C below:

A) Frozen Minimum Benefit as of 12/31/1999
B) Flat $29 per month times years of Credited Service (maximum of 29 years)
C) Replacement Ratio Formula (i + ii as defined below)
  i) Average Final Compensation times the replacement ratio from the table below minus the age 62 Social Security Primary Insurance Amount. The result is then multiplied by service (up to 25 years) and divided by 25.
  ii) Average Final Compensation times 1% times service in excess of 25 years but no more than 29 years.

Average Final Compensation	**Replacement Ratio**
$36,000 or less	80%
$36,000.01 - $48,000	77%
Over $48,000	72%

For LAGERS service, the resulting benefit is multiplied by two-thirds.

Survivor Benefits

Active employees: If a participant dies while actively employed, his or her named beneficiary will receive a lump-sum death benefit of $10,000.

Non-vested members: Senate Bill 625, effective August 28, 2012, allows a refund of contributions to the beneficiary(ies) of active members who die after December 31, 2002, and before becoming vested.

Married, vested members: If a vested participant dies before his or her pension begins, his or her surviving spouse can apply for a 50% spousal pension benefit.

Single, vested members: House Bill 795, effective August 28, 2004, allows a refund of contributions to the beneficiary(ies) of a single, vested member who dies on or after August 28, 2004.

Retired members: Depending on which option the member chooses, the designated survivor will receive the appropriate amount of benefits under the survivor option selected on his or her benefit calculation. Members who terminated employment or retired on or after January 1, 2000, have the option to designate someone other than a spouse as the beneficiary of their retirement annuity.

STATISTICAL SECTION

Statistical Summary

The objectives of the statistical section are to provide additional historical perspective, context, and relevant details to assist readers in using information in the financial statements, notes to the financial statements, and required supplementary information in order to understand and assess CERF's overall financial condition. All non-accounting data in this section was derived from internal sources and the annual actuarial valuation reports.

The schedules and graphs beginning on page 61 show financial trend information about the change in CERF's financial position for the past 10 years. The financial trend schedules presented are:

- Change in Fiduciary Net Position
- County Fee Receipts
- Schedule of Contributions
- Benefits Paid
- Comparison of Actuarial Assets and Total Actuarial Liabilities

The schedules and graphs beginning on page 66 show demographic and economic information of CERF's membership. This data includes the number of members, average compensation, average age, and average monthly benefits.

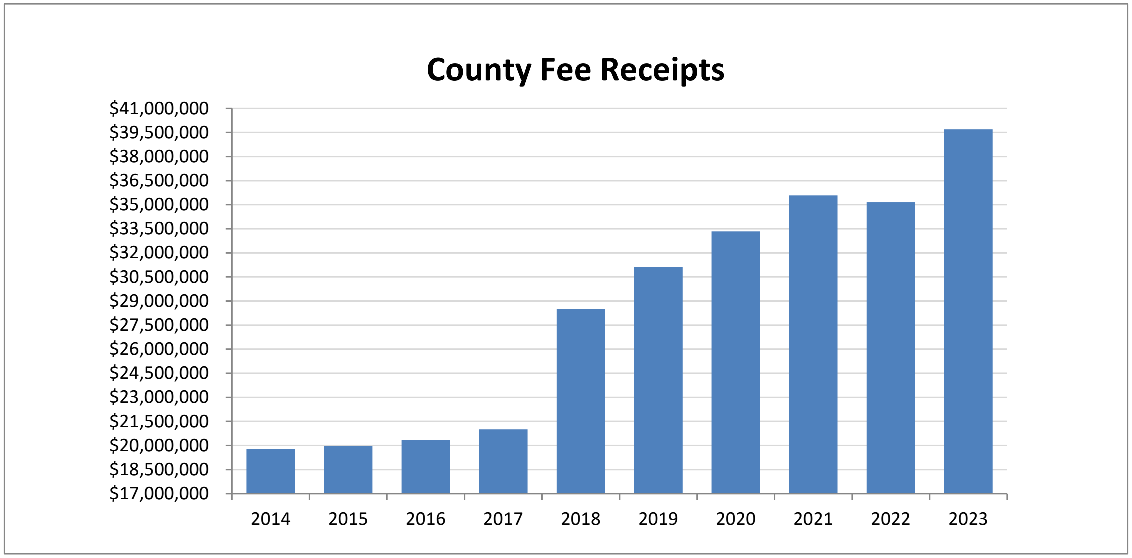
The map on page 69 reflects the 2023 payments made to retirees and beneficiaries by county. The map identifies all the counties in Missouri that are participating employers in CERF.

County Employees' Retirement Fund
Statements of Changes in Fiduciary Net Position
Last Ten Fiscal Years

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Additions:										
County receipts	$ 19,781,514	$ 19,968,537	$ 20,329,625	$ 21,006,080	$ 28,517,335	$ 31,109,986	$ 33,334,303	$ 35,587,161	$ 35,156,316	$ 39,696,685
Member contributions	10,599,321	11,519,437	11,588,772	12,366,187	13,303,261	13,959,900	14,894,316	15,942,275	17,695,915	18,980,084
Member contributions, paid by counties	1,235,779	1,517,407	2,142,332	1,977,497	2,300,484	2,255,331	2,958,650	2,890,369	2,996,601	3,865,496
Other contributions and income	70,024	83,849	73,942	78,684	103,387	81,471	72,794	68,183	54,055	50,300
Net investment income (loss)	17,958,335	94,626	21,566,708	64,590,498	(16,382,467)	96,090,531	78,916,044	101,721,033	(91,053,221)	84,110,745
Total additions	49,644,973	33,183,856	55,701,379	100,018,946	27,842,000	143,497,219	130,176,107	156,209,021	(35,150,334)	146,703,310
Deductions:										
Retirement benefits	24,242,805	26,758,453	28,423,305	31,129,540	33,439,139	36,768,803	39,129,276	42,193,421	44,922,409	48,422,425
Refunds of member contributions (separation)	3,145,465	3,064,166	2,983,709	3,647,499	3,718,122	4,102,264	3,596,135	5,190,254	4,857,414	5,198,660
Refunds of member contributions (death)	23,636	78,638	53,369	31,405	91,907	101,396	215,927	234,275	172,044	115,675
Defined contribution plan matching contribution	2,696,164	2,861,751	3,133,484	3,200,949	3,698,619	4,117,722	4,341,806	4,335,081	4,373,834	3,781,992
Pension expense	-	-	-	-	-	-	-	-	-	854,005
Administrative expense	2,130,636	2,522,685	2,841,954	3,249,395	3,121,552	3,150,622	3,253,867	3,304,645	3,576,018	3,905,934
Total deductions	32,238,706	35,285,693	37,435,821	41,258,788	44,069,339	48,240,807	50,537,011	55,257,676	57,901,719	62,278,691
Change in fiduciary net position	$ 17,406,267	$ (2,101,837)	$ 18,265,558	$ 58,760,158	$ (16,227,339)	$ 95,256,412	$ 79,639,096	$ 100,951,345	$ (93,052,053)	$ 84,424,619

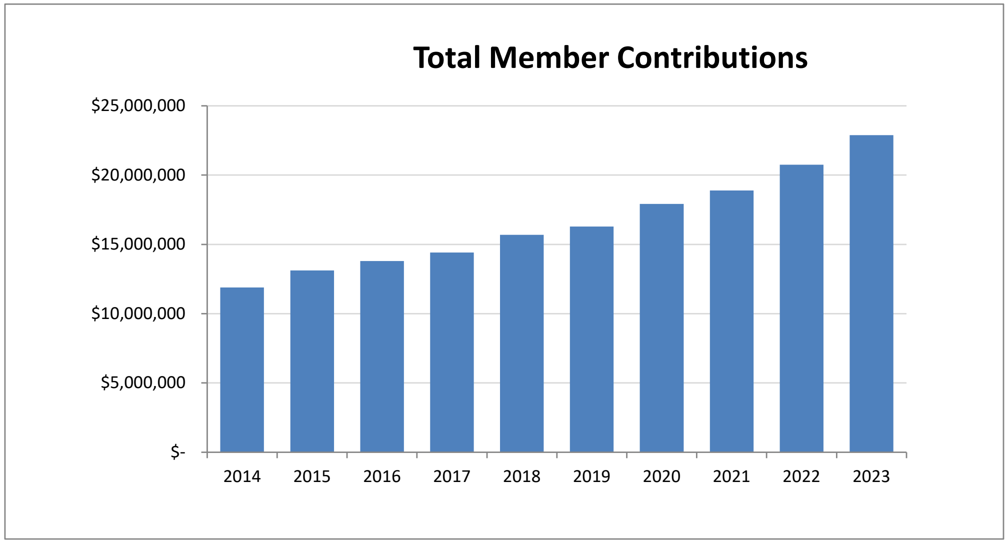
County Employees' Retirement Fund
County Fee Receipts
Last Ten Fiscal Years

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Delinquent property tax fees	$ 8,055,102	$ 7,916,205	$ 7,792,473	$ 8,141,782	$ 13,827,358	$ 14,599,160	$ 15,000,833	$ 15,397,498	$ 15,781,670	$ 18,626,343
Assessor late assesment filing fees	5,874,232	6,066,688	6,472,823	6,851,017	7,767,778	9,149,069	9,788,929	11,106,885	11,594,002	14,078,888
Recorder document fees	4,657,422	4,857,464	4,955,962	4,890,231	4,843,494	4,811,847	5,707,974	6,277,156	5,165,813	4,224,405
Merchants licenses fees	1,133,720	1,069,838	1,046,869	1,057,071	1,042,619	1,024,158	998,772	1,057,341	995,584	1,003,274
Delinquent land list fees	-	-	-	-	948,285	1,405,814	1,719,434	1,636,387	1,497,393	1,526,147
Interest on above fees	61,038	58,342	61,498	65,979	87,801	119,938	118,361	111,894	121,854	237,628
Total	$ 19,781,514	$ 19,968,537	$ 20,329,625	$ 21,006,080	$ 28,517,335	$ 31,109,986	$ 33,334,303	$ 35,587,161	$ 35,156,316	$ 39,696,685



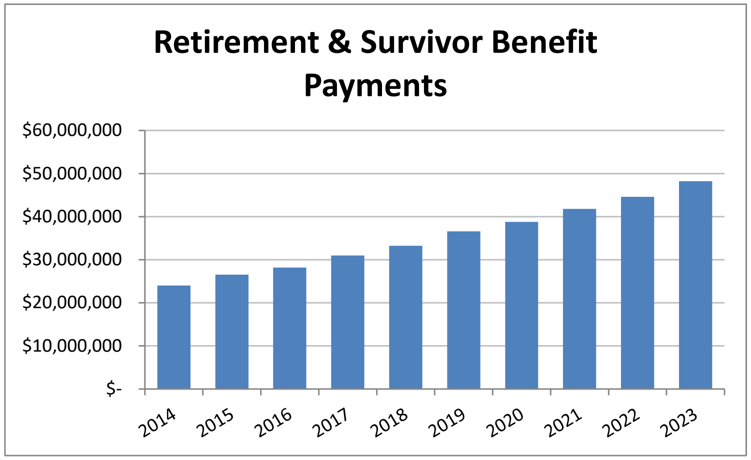
County Employees' Retirement Fund
Schedule of Contributions
Last Ten Fiscal Years

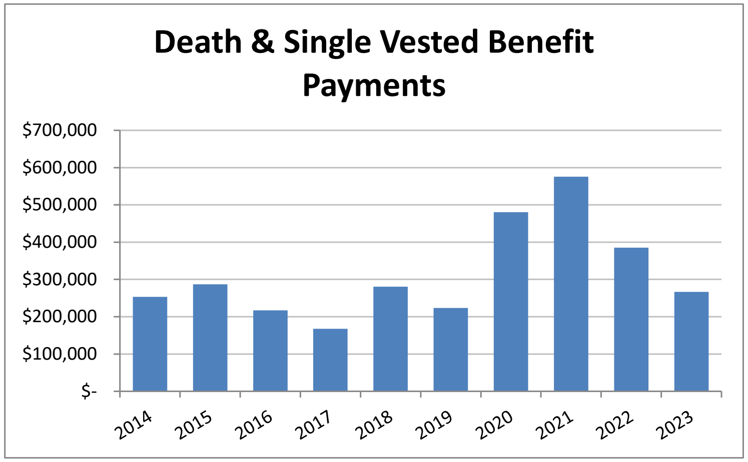
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Member contributions	$ 10,599,321	$ 11,519,437	$ 11,588,772	$ 12,366,187	$ 13,303,261	$ 13,959,900	$ 14,894,316	$ 15,942,275	$ 17,695,915	$ 18,980,084
Member contributions, paid by counties	1,235,779	1,517,407	2,142,332	1,977,497	2,300,484	2,255,331	2,958,650	2,890,369	2,996,601	3,865,496
Member contributions, purchase of prior service	64,832	78,904	68,655	72,243	94,579	76,378	66,419	62,152	50,946	43,061
	$ 11,899,932	$ 13,115,748	$ 13,799,759	$ 14,415,927	$ 15,698,324	$ 16,291,609	$ 17,919,385	$ 18,894,796	$ 20,743,462	$ 22,888,641



County Employees' Retirement Fund
Benefits Paid
Last Ten Fiscal Years

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Normal retirement benefits	$ 22,352,319	$ 24,695,932	$ 26,165,898	$ 28,731,165	$ 30,717,503	$ 33,777,998	$ 35,843,625	$ 38,517,848	$ 41,046,513	$ 44,311,716
Survivor retirement benefits	1,660,486	1,824,522	2,047,407	2,258,375	2,501,636	2,820,805	2,925,651	3,255,571	3,575,896	3,900,709
Death benefits	230,000	250,000	208,519	162,000	220,000	170,000	360,000	420,000	300,000	210,000
Single vested death benefits *	23,636	37,131	8,885	5,768	60,816	53,481	120,805	155,840	85,090	56,948
Total	$ 24,266,441	$ 26,807,585	$ 28,430,709	$ 31,157,308	$ 33,499,955	$ 36,822,284	$ 39,250,081	$ 42,349,259	$ 45,007,499	$ 48,479,373

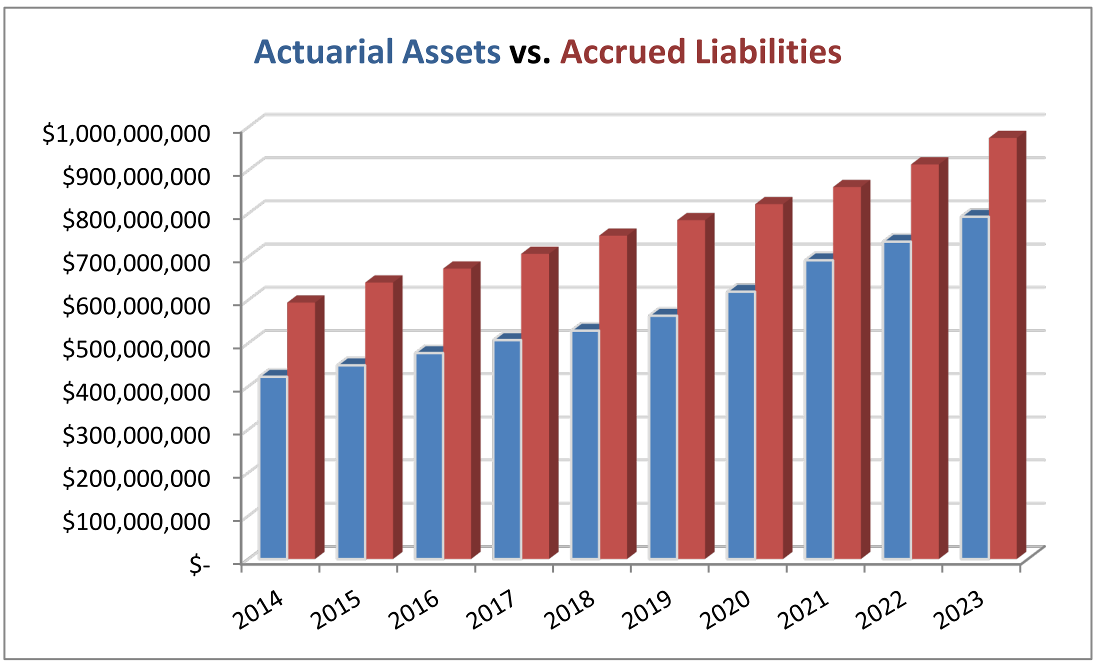




Note: All benefit amounts above are reflected at gross.
* Single vested death benefits are recorded as refunds of member contributions on the Statements of Changes in Fiduciary Net Position.

County Employees' Retirement Fund
Comparison of Actuarial Assets and Total Actuarial Liabilities
Last Ten Fiscal Years

Fiscal Year	Actuarial Assets	Unfunded Liabilities	Accrued Liabilities	Funded Ratios
2014	$ 422,283,987	$ 171,698,427	$ 593,982,414	71.1%
2015	448,784,038	191,615,641	640,399,679	70.1%
2016	477,065,373	195,560,505	672,625,878	70.9%
2017	507,132,934	199,671,571	706,804,505	71.8%
2018	529,029,220	219,809,063	748,838,283	70.6%
2019	563,619,328	221,083,491	784,702,819	71.8%
2020	619,226,387	202,559,260	821,785,647	75.4%
2021	691,876,733	169,561,170	861,437,903	80.3%
2022	735,030,072	178,674,936	913,705,008	80.4%
2023	792,653,687	182,257,093	974,910,780	81.3%



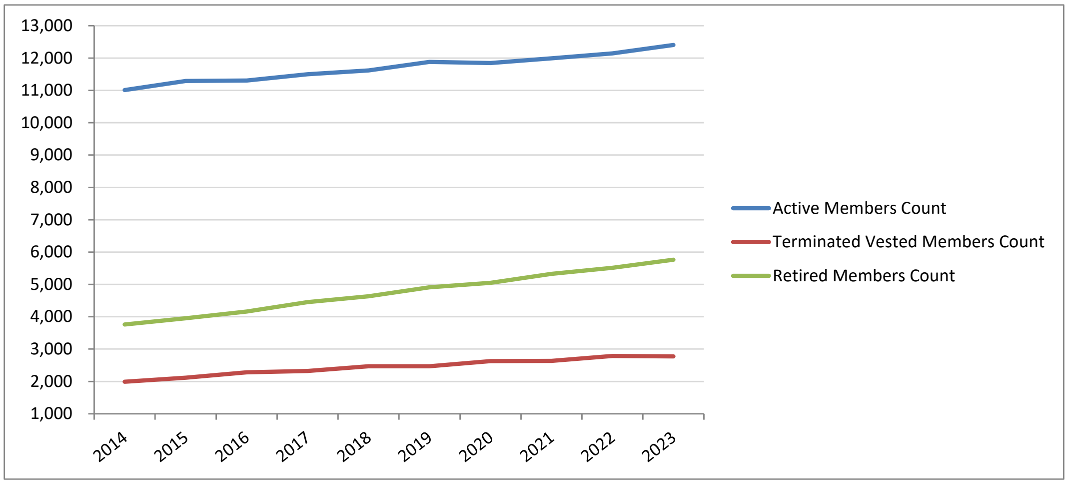
County Employees' Retirement Fund
Average Monthly Benefit Payments
Last Ten Fiscal Years

	Years of Service					
	5-10	11-15	16-20	21-25	26-30	31 +
2023						
Average monthly benefit	$ 277	$ 417	$ 594	$ 775	$ 954	$ 901
Average final average salary	$ 30,285	$ 31,953	$ 36,706	$ 40,547	$ 44,594	$ 57,618
Number of retirees	1,172	1,519	1,424	952	656	1,079
2022						
Average monthly benefit	$ 267	$ 406	$ 579	$ 755	$ 920	$ 865
Average final average salary	$ 29,418	$ 31,219	$ 35,872	$ 39,884	$ 44,111	$ 56,805
Number of retirees	1,118	1,457	1,391	927	633	1,004
2021						
Average monthly benefit	$ 261	$ 401	$ 568	$ 740	$ 885	$ 849
Average final average salary	$ 28,983	$ 30,714	$ 35,597	$ 39,415	$ 43,299	$ 55,530
Number of retirees	1,060	1,417	1,361	889	626	948
2020						
Average monthly benefit	$ 282	$ 387	$ 561	$ 729	$ 876	$ 829
Average final average salary	$ 28,230	$ 29,921	$ 34,581	$ 38,628	$ 42,152	$ 54,570
Number of retirees	1,017	1,345	1,273	841	603	863
2019						
Average monthly benefit	$ 252	$ 386	$ 558	$ 727	$ 845	$ 793
Average final average salary	$ 27,933	$ 29,635	$ 34,151	$ 38,125	$ 40,958	$ 53,448
Number of retirees	1,005	1,315	1,247	815	571	808
2018						
Average monthly benefit	$ 243	$ 372	$ 546	$ 700	$ 816	$ 766
Average final average salary	$ 27,506	$ 29,166	$ 33,638	$ 37,507	$ 40,434	$ 52,549
Number of retirees	949	1,254	1,178	745	541	736
2017						
Average monthly benefit	$ 242	$ 366	$ 542	$ 684	$ 811	$ 748
Average final average salary	$ 27,021	$ 28,679	$ 33,217	$ 36,848	$ 39,974	$ 51,413
Number of retirees	921	1,222	1,132	707	520	689
2016						
Average monthly benefit	$ 239	$ 362	$ 527	$ 654	$ 769	$ 721
Average final average salary	$ 26,610	$ 28,130	$ 32,773	$ 36,289	$ 39,824	$ 51,493
Number of retirees	863	1,120	1,052	664	474	643
2015						
Average monthly benefit	$ 237	$ 364	$ 513	$ 638	$ 768	$ 711
Average final average salary	$ 26,118	$ 27,799	$ 32,493	$ 35,906	$ 40,049	$ 51,810
Number of retirees	809	1,050	1,006	641	463	619
2014						
Average monthly benefit	$ 237	$ 356	$ 506	$ 620	$ 730	$ 685
Average final average salary	$ 25,705	$ 27,335	$ 32,176	$ 35,435	$ 38,925	$ 50,343
Number of retirees	763	983	938	603	419	584

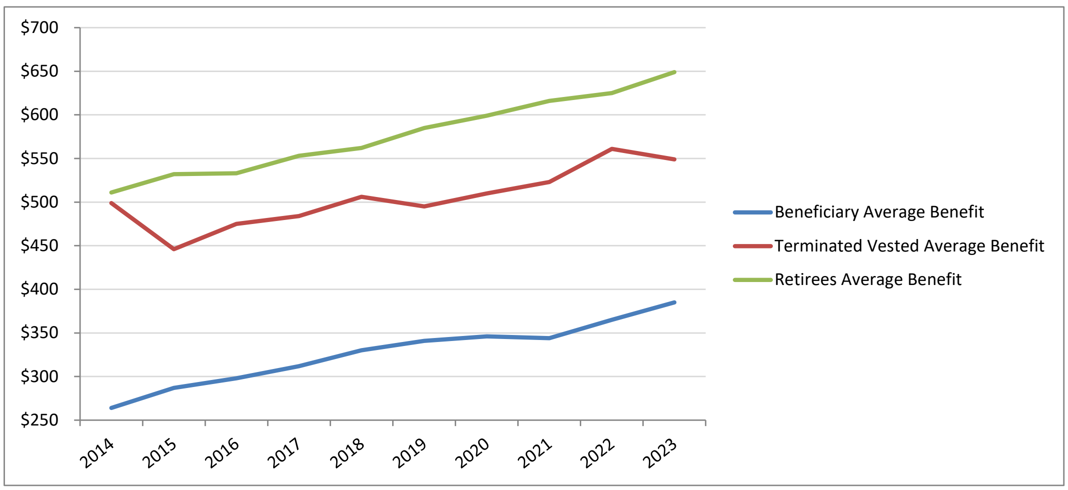
County Employees' Retirement Fund
Member Data
Last Ten Fiscal Years

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Active Members										
Count	11,010	11,291	11,303	11,500	11,616	11,879	11,849	11,994	12,146	12,404
Average Compensation	$33,802	$34,700	$35,481	$36,040	$37,287	$38,785	$39,808	$41,035	$44,147	$48,372
Average Age	45.3	45.3	45.2	45.0	44.9	45.0	44.8	44.9	44.6	44.6
Average Service	9.1	8.7	8.7	8.4	8.3	8.2	8.1	7.9	7.7	7.6
Terminated Vested Members										
Count	1,991	2,115	2,280	2,324	2,468	2,472	2,629	2,637	2,788	2,775
Average Age	49.8	49.2	50.1	49.5	50.1	50.2	51.2	50.6	50.9	50.5
Average Monthly Benefits	$499	$446	$475	$484	$506	$495	$510	$523	$561	$549
Retired Members										
Count	3,761	3,951	4,163	4,454	4,636	4,909	5,047	5,325	5,517	5,764
Average Age	71.0	71.2	71.4	71.4	71.6	71.6	71.8	71.8	72.0	72.1
Average Monthly Benefits	$511	$532	$533	$553	$562	$585	$599	$616	$625	$649
Beneficiaries										
Count	542	568	611	632	685	620	646	759	777	797
Average Age	69.8	71.2	71.5	71.9	71.9	73.4	73.6	73.9	74.2	74.6
Average Monthly Benefits	$264	$287	$298	$312	$330	$341	$346	$344	$365	$385

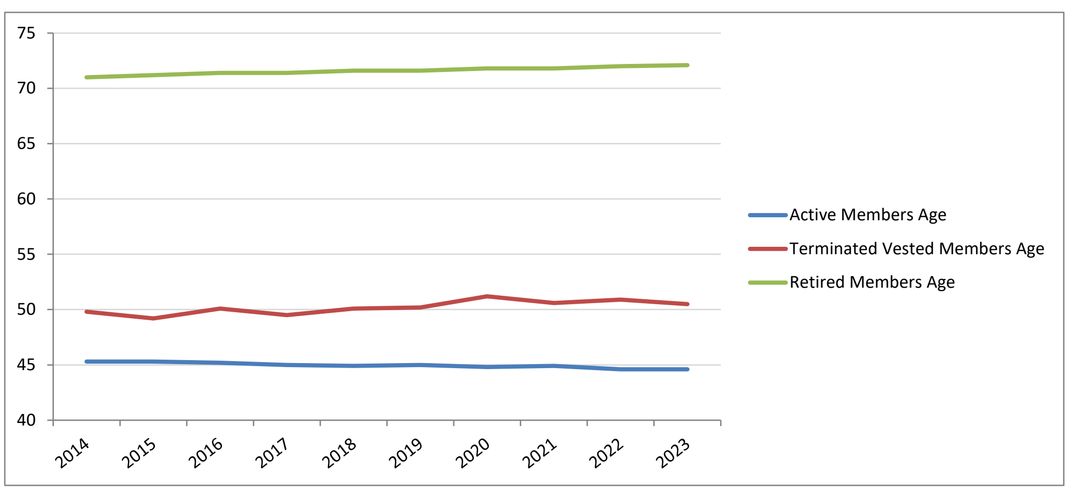
Growth in Membership



Average Monthly Benefit



Average Age



CERF

2023 Retiree and Beneficiary Benefit Payments by County

>$1,000,000	$500,000 - $999,999	$250,000 - $499,999	$100,000 - $249,999	$1 – $99,999	Non-CERF Counties