ALAMEDA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

A Pension Trust Fund of the County of Alameda, Oakland, CA

Annual Comprehensive Financial Report

For the Year Ended December 31, 2022

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Annual Comprehensive Financial Report

for the Year Ended: **DECEMBER 31, 2022**

Issued By:

David Nelsen — CHIEF EXECUTIVE OFFICER

Erica Haywood — FISCAL SERVICES OFFICER

Alameda County Employees' Retirement Association

475 14th Street, Suite 1000, Oakland, CA 94612

A Pension Trust Fund of the County of Alameda

(State of California)

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Introduction

ALAMEDA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

475 14th Street, Suite 1000, Oakland, CA 94612 800/838-1932 510/628-3000 fax: 510/268-9574 www.acera.org

Letter of Transmittal

Dear Board of Retirement Members:

I am pleased to submit this *Annual Comprehensive Financial Report of the Alameda County Employees' Retirement Association for the Year Ended December 31, 2022*.

This report presents the financial condition of the Pension Plan, the Other Postemployment Medical Benefits (OPEB), and Non-OPEB, as well as, investment results for the year ended December 31, 2022.

It also includes information from the current actuarial valuations as of December 31, 2021. The information presented is accurate and reliable. It conforms to generally accepted accounting principles and is free of material misstatements.

ACERA 2022 – Overview

Mission

ACERA provides members and employers with flexible, cost-effective, participant-oriented benefits through prudent investment management and superior member services. Under the supervision and direction of the Board of Retirement (the Board), ACERA deploys competent, professional, impartial, and open procedures designed to treat all members fairly and with courtesy and respect. ACERA manages investments by balancing the need for financial security of its members with superior performance.

ACERA and its Services

ACERA was established by the Alameda County Board of Supervisors in 1947, under the County Employees Retirement Law of 1937 (CERL or 1937 Act), to provide retirement allowances and other benefits for County employees. ACERA's membership is composed of the following participating employers:

- Alameda County
- Alameda Health System
- First 5 Alameda County
- Housing Authority of the County of Alameda
- Livermore Area Recreation and Park District
- The Superior Court of California for the County of Alameda

In accordance with the CERL and ACERA's investment policies, ACERA collects and invests employer and member contributions to fund member benefits (including lifetime retirement, disability, and death benefits), pay administration expenses, and offer non-vested benefit programs for select medical and supplemental COLA benefits (subject to annual Board approval under CERL Article 5.5).

Investment Performance

After a bull market that lasted for more than a decade since the Global Financial Crisis of 2008-09, markets experienced a massive pullback in 2022. Volatility was a defining feature of the markets in 2022, as higher interest rates and inflation, Russia's war in Ukraine, and recession fears sent markets tumbling. 2022 was just one of five in the last 100 years where both U.S. Treasuries and the S&P 500 finished in the red.

The total fund had an -11.48% gross rate of return, and the fund ranked in the 55 percentile of comparable pension funds for the year ended December 31, 2022. The fair value of ACERA's net position decreased by $1.5 billion, to $10.3 billion. ACERA's annualized gross rate of return over the last five and ten year spans was 5.7% and 7.91%, ranking ACERA's fund in the 53 and 28 percentiles, respectively. ACERA's investment goal is to operate at a level of performance in the upper quartile of comparable pension funds on a risk adjusted basis.

Financial Reporting

ACERA management is responsible for the accuracy, completeness, and fair presentation of the information in this report. Williams, Adley & Company-CA, LLP provides external audit services to determine whether the financial statements are presented in conformity with generally accepted accounting principles. The Management's Discussion and Analysis (MD&A) Section starting on page 13 provides a thorough analysis of ACERA's operations and financial status.

Internal Controls

Management employs an annual risk assessment to design, implement, and maintain effective internal controls. Recognizing that even sound internal controls have inherent limitations, management is developing a risk profile by applying an Enterprise Risk Management (ERM) framework. The ERM framework will be applied in strategy-setting to identify potential events that may affect the organization to better assess risk potential and provide reasonable, rather than absolute, assurance that the financial statements are free of any material misstatements.

Common risk considerations include safeguarding pension assets, maintaining accurate and reliable accounting records, protecting member privacy, preventing fraud, and ensuring compliance with laws and regulations. The Board of Retirement oversees management's performance, and is ultimately responsible for confirming that management fulfills its duty in this regard. In addition, ACERA's Office of Internal Audit independently assesses whether the organization's risk management, control, and governance processes are adequate.

Actuarial Funding Status

ACERA engages an independent firm to conduct an annual actuarial valuation. The pension plan's actuarial accrued liability increased from $10.48 billion in 2020 to $10.93 billion as of December 31, 2021.

The plan's valuation value of assets increased from $7.98 billion in 2020 to $9.45 billion as of December 31, 2021. The Unfunded Actuarial Accrued Liability (UAAL) decreased from $2.50 billion in 2020 to $1.48 billion as of December 31, 2021, with the funded ratio increasing from 76.2% to 86.5%, respectively. The increase in the plan's valuation value of assets, decrease in UAAL, and increase in funding ratio was boosted by an extraordinary advance of UAAL contributions of $800.0 million and $12.6 million made by the County of Alameda and Livermore Area Recreation and Park District, respectively, in 2021.

The Actuarial Section of this report starting on page 99 contains a more detailed discussion of the funding requirements.

Supplemental Retiree Benefits Reserve

ACERA administers a Supplemental Retiree Benefits Reserve (SRBR) funded by regular earnings and a 50/50 share of gains above the assumed actuarial investment rate of 7.00%. As of December 31, 2021, the SRBR held $1.13 billion in actuarial value of assets, of which, $1.08 billion will fund the current benefit structure until the year 2046 for postemployment medical benefits and $51.92 million will fund the current non-OPEB benefit structure until the year 2043, even if no new earnings above the assumed investment rate of return are allocated to the SRBR.

Membership

In 2022, ACERA's active membership increased from 11,287 to 11,290. The number of retired members and beneficiaries receiving pension benefits increased from 10,507 to 10,764. Deferred membership increased from 3,216 to 3,439. Total membership increased from 25,010 to 25,493.

2022 Accomplishments

COVID-19 Response

ACERA closed its office to the public on March 17, 2020, transitioning nearly all staff to working from home. To ensure the safety of members, employees, and families amid the pandemic, ACERA's office continued to be closed to the public through 2022 with limited in-person counseling appointments available Tuesdays through Thursdays. In response to the governor lifting the state emergency order, ACERA reopened its office five days a week on March 1, 2023 while continuing to offer remote and hybrid work to staff members where responsibilities of the position allow.

ACERA is asking members to continue connecting virtually with ACERA through a virtual call center and through Zoom for counseling appointments, seminars, and the virtual health fair. ACERA returned to in-person/virtual Board and Committee meetings at the end of the state emergency order, and continues utilizing Zoom to allow members of the public to attend virtually, as well as some

Board members under specific circumstances. ACERA has continued to process all retirements and make all retirement payments on schedule throughout the pandemic.

Organization-Wide Accomplishments

Utilizing considerable resources from all departments across the organization, ACERA continued its project to replace its pension administration system, Pension Gold Version 2, with Pension Gold Version 3 by 2024. ACERA:

- Completed benefit calculation automation.
- Developed and successfully tested Final Average Salary detail capability.
- Kicked off V3 training project to prepare staff for 6/24 go-live.
- Developed first case manager in OnBase using integration with PGV2-V3 data to track benefit estimate and service audit activity.

Administration Accomplishments

Administratively, ACERA:

- Developed a five-year strategic plan with 4 strategic goals: 1) Financial Position; 2) People Transition; 3) Technology and Operational Optimization; and 4) Cost-Effective Service Improvement.
- Recruited an Assistant CEO, Benefits.
- Conducted an election for 3 seats and 2 alternate seats on the Board of Retirement.
- Completed its transition of commercial banking service provider from Wells Fargo to JP Morgan Chase.
- Completed a Felony Forfeiture Participating Employer Audit.
- Organized a public Board discussion with CalPERS CEO Marcie Frost as part of a series of Board education sessions in lieu of annual retreats.
- Adopted a policy allowing new members' certifications to ACERA to be made more efficiently through the employer's transmittal file in lieu of a sworn statement.
- Hired Cavanaugh Macdonald to audit Segal's 2021 valuation and upcoming triennial experience study.

Investments Accomplishments

In 2022, ACERA:

- Updated the General Investment Guidelines, Policies, and Procedures to reflect the Board's decisions since 2018 (the last time the policy was updated) including asset-allocation, asset-class structure, and benchmark changes in the Total Fund.
- Amended its Emerging Investment Manager (EIM) Policy, expanding it to all ACERA asset classes, newly including absolute return and private credit asset classes in the policy. ACERA raised the targeted goal from 5% of the total fund currently to 10% over the next 10 years. For private equity, private real assets, and private credit, ACERA expanded the number of funds to include up to fund III in addition to funds II and I.
- Hired its first Investment Operation Officer.
- Kicked off a General Investment Consultant (GIC) search.
- Updated the investment plans for Real Assets and Private Equity asset classes.
- Hired Parametric as its rebalancing consultant.
- Approved a restructure of the International Equity asset class to 62% developed markets (of which 33% is passively managed and 29% actively managed), 28% emerging markets (all actively managed), and 10% international small cap (all actively managed).
- Completed the search for a second custom fund of hedge funds (FOHF) with the Board selecting Morgan Stanley for the mandate. With the conclusion of the search and onboarding of Morgan Stanley, the new structure of the Absolute Return Asset Class (80% FOHF/20% Other Alternatives/Opportunistic), which was approved in 2021, was fully implemented in 2022.
- Expanded the Total Fund's investments in 8 privately placed funds worth $624 million, continuing to approach target allocations in the Private Equity, Real Estate, and Absolute Return asset classes. ACERA also conducted an Emerging Markets Equity Manager search and replaced its Emerging

Market Equity manager in the International Equity asset class worth $263.4 million. Broken down by asset class, this represents:

  - 4 new commitments to Private Equity totaling $194 million.
  - 2 increased commitments to Real Estate totaling $100 million.
  - 1 new commitment to Absolute Return totaling $330 million.
  - 1 new commitment to International Equity totaling $263.4 million.

- As of December 31, 2022, ACERA's total fund returned -11.62% (net) for 2022. The value of the total fund was $10.25 billion.

Benefits Accomplishments

ACERA continued to enhance its customer service and benefits administration, though Benefits Department staff spent the bulk of their available development time on the pension administration system replacement. In the past year, ACERA:

- Conducted an RFI for Medical Advisor / Disability Case Manager for evaluating disability retirement applications and management of disability claims, and retained incumbent Managed Medical Review Organization (MMRO).
- Enhanced its dental PPO for plan year 2023 by waving diagnostic and preventive services from counting against the annual dental PPO maximum. ACERA also increased the annual dental PPO benefit maximum from $1,000 to $1,300 for non-contracted providers for parity with in-network providers.
- Enhanced its vision plans by adding coverage for UV coating and polycarbonate lenses, and increasing the frame allowance.
- Promoted a trial Kaiser Permanente free-gym membership program called Silver&Fit in 2022 for Medicare enrollees, and adopted continuation of the Silver&Fit benefit for 2023.
- Conducted a study of hearing aid benefits, and adopted a $1,000 hearing aid benefit per ear every 36 months to Kaiser Permanente non-Medicare enrollees for parity with the plan for Medicare enrollees.
- Conducted a non-vested benefits survey studying the possibility of increasing its lump-sum death benefit (which was reduced in 2013) and re-establishing the Active Death Equity Benefit (a benefit eliminated in 2013).
- Completed redesign of the Web Member Services Benefit Estimate, which now includes a salary table to help members understand their salary projections.

Certificate of Achievement

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to ACERA for its Annual Comprehensive Financial Report for the year ended December 31, 2021 (See page 6). This has been the twenty fifth year ACERA has received this prestigious award.

Acknowledgments

The compilation of this report reflects the combined efforts of ACERA's management and staff under the leadership of the Board of Retirement. This report and the corresponding Popular Annual Financial Report are available to members and the general public on ACERA's website at www.acera.org.

The dedication of ACERA staff forms the nucleus of our service mission, and I wish to express deep gratitude to them for the success of our operation.

Respectfully submitted,

David Nelsen
Chief Executive Officer
June 23, 2023

Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Alameda County Employees' Retirement Association California

For its Annual Comprehensive Financial Report For the Fiscal Year Ended

December 31, 2021

Christopher P. Morrill

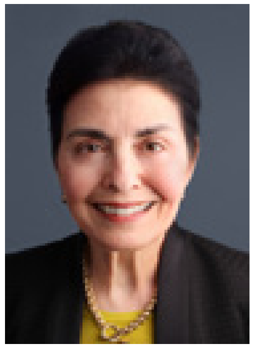
Executive Director/CEO

Also awarded each year from 1996 through 2010 and 2012 through 2021

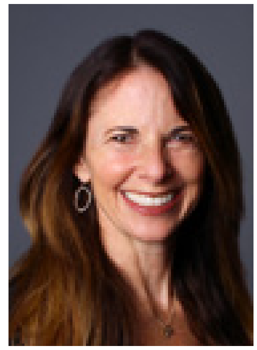
Members of the Board of Retirement

As of January 1, 2023

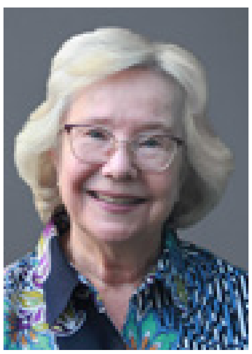
Jaime Godfrey
Chair
Appointed by the Board of Supervisors



Ophelia B. Basgal
First Vice-Chair
Appointed by the Board of Supervisors



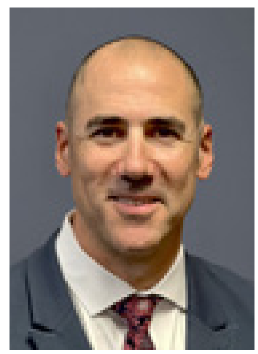
Kellie Simon
Second Vice-Chair
Elected by General Members



Cynthia Baron
Alternate Elected by Retired Members

Kevin Bryant
Alternate Elected by Safety Members

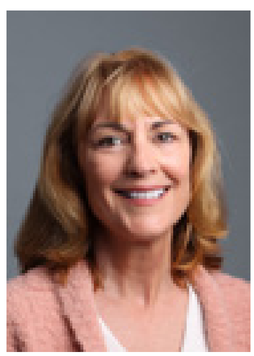
Keith Carson
Appointed by and member of the Board of Supervisors



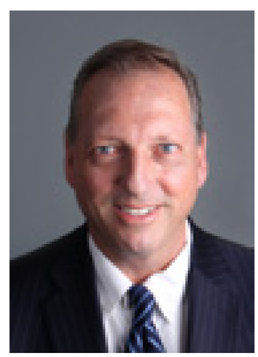
Ross Clippinger
Elected by Safety Members

Tarrell V. Gamble
Appointed by the Board of Supervisors

Henry C. Levy
Ex-Officio Member Treasurer-Tax Collector



Elizabeth Rogers
Elected by Retired Members



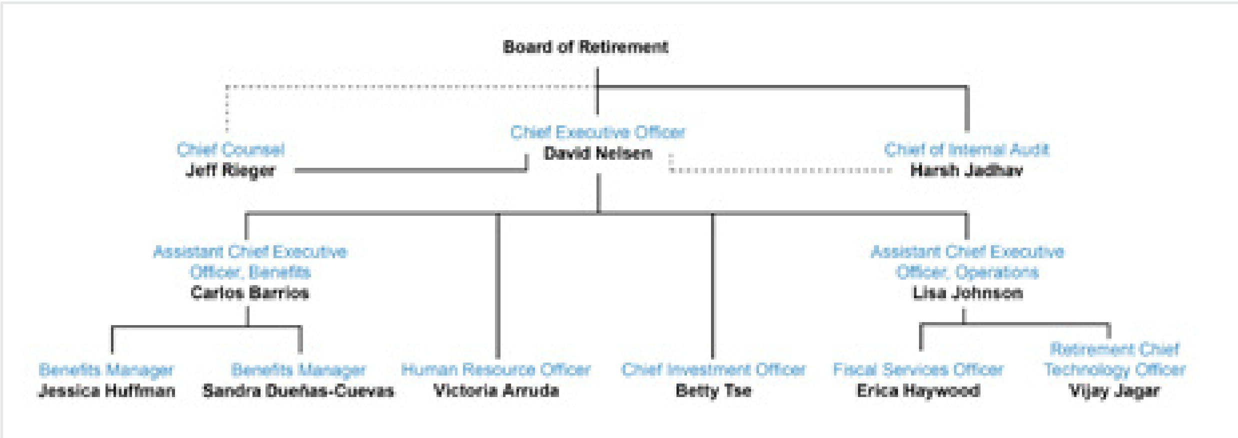
George Wood
Elected by General Members

2022 Board of Retirement

Jaime Godfrey **(Chair)**, Liz Koppenhaver **(First Vice-Chair)**, Ophelia B. Basgal **(Second Vice-Chair)**, Dale E. Amaral, Keith Carson, Tarrell V. Gamble, Henry C. Levy, Kellie Simon, George Wood, Nancy Reilly **(Alternate Retiree)**, Darryl L. Walker **(Alternate Safety)**

Administrative Organizational Chart

As of December 31, 2022



Professional Consultants[1]

Actuary

Segal[2]

Benefits

Segal[2]

Fiscal Services

Armanino LLP

Human Resources

Lakeside Group[3]

Independent Auditors

Williams, Adley & Company-CA, LLP

Information Technology

Digital Deployment
Levi, Ray & Shoup Consulting
Segal[2]
Maverick Networks Inc.
Naviant

Legal

Hanson Bridgett LLP
K&L Gates
Meyers Nave Professional Law Corporation
Nossaman, LLP
Reed Smith, LLP

Other Specialized Services

American Arbitration Association
Manager Medical Review Org, Inc.
Willis Towers Watson

1 The listing of Investment Professionals found page 95 provided services to the total fund which includes the pension plan and postemployment medical benefits. Also, the schedule of Brokerage Commissions and schedule of Investment Managers' Fees are reported on page 96 and page 97, respectively. Not all of the professional consultants listed above are required to file a Statement of Economic Interests (Form 700) under ACERA's Conflict of Interest Policy.

2 Segal provides actuarial consulting, benefit consulting and pension administration system project oversight services.

3 The Lakeside Group is a division of the Alameda County Human Resource Services Department.

Financial

WILLIAMS ADLEY

Independent Auditor's Report

Board of Retirement
Alameda County Employees' Retirement Association
Oakland, California

Report on the Audit of the Financial Statements

Opinion

We have audited the accompanying financial statements of the Alameda County Employees' Retirement Association (ACERA), as of and for the year ended December 31, 2022, and the related notes to the financial statements, which collectively comprise ACERA's basic financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of ACERA as of December 31, 2022, and the change in its fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

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

Emphasis of Matters

Net Pension Liability of Employers

As described in note 5, based on the most recent actuarial valuation as of December 31, 2022, ACERA's independent actuaries determined that, at December 31, 2022, the total pension liability exceeded the pension plan's fiduciary net position by $2.2. billion.

Net OPEB Liability of Employers

As described in note 7, based on the most recent actuarial valuation as of December 31, 2022, ACERA's independent actuaries determined that, at December 31, 2022, the total OPEB liability exceeded the OPEB plan's fiduciary net position by $191.3 million.

Investment Valuation

As described in Note 8, the financial statements include investments valued at $3,144,399,000 (which represents 30.5 percent of total fiduciary net position) at December 31, 2022, whose fair values have been estimated by management in the absence of readily determinable market values. Given that publicly listed prices are not available, management uses alternative sources of information, including audited financial statements, unaudited capital statements, independent appraisals, and other similar sources of information, to determine the fair value of investments.

Our opinion is not modified with respect to these matters.

Responsibilities of Management for the Financial Statements

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

WILLIAMS, ADLEY & COMPANY-CA, LLP
Certified Public Accountants / Management Consultants
7677 Oakport Street, Suite 1000 • Oakland, CA 94621 • (510) 893-8114 • Fax: (510) 893-2603
http://ca.williamsadley.com

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

Auditor's Responsibilities for the Audit of the Financial Statements

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

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

- Exercise professional 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 ACERA'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 ACERA'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.

Report on Summarized Comparative Information

We have previously audited ACERA's 2021 financial statements, and our report dated June 27, 2022, expressed an unmodified opinion on those audited financial statements. In our opinion, the summarized comparative information presented herein as of and for the year ended December 31, 2021, is consistent, in all material respects, with the audited financial statements from which it has been derived.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, schedule of changes in the net pension liability and related ratios, schedule of employer contributions for the pension plan and non-OPEB, schedule of investment returns, schedule of changes in the net OPEB liability and related ratios, and the schedule of employer contributions for OPEB, 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 auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's

WILLIAMS ADLEY

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 an opinion on the financial statements that collectively comprise ACERA's basic financial statements. The schedules of administration expense, investment expenses, and payments to other consultants are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statement themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is 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 report. The other information comprises the introduction, investment, actuarial, and statistical sections, but does not include the basic financial statements and our auditor's 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 the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated June 23, 2023, on our consideration of ACERA's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of ACERA's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering ACERA's internal control over financial reporting and compliance.

Williams, Adley & Company-CA, LLP

Oakland, California
June 23, 2023

Management's Discussion and Analysis

Management's Discussion and Analysis (MD&A) presents the financial activities of the Alameda County Employees' Retirement Association (ACERA) for the year ended December 31, 2022. It provides an overview of the financial position and the combined results of operations for the pension plan and non-OPEB and Other Postemployment Benefits (OPEB). The narrative, in conjunction with the financial statements starting on page 21 and the notes to the financial statements beginning on page 24, presents ACERA's overall financial position, and the results of its operations. ACERA's funding is a combination of participating employer and member contributions and earnings on invested assets. The Chief Executive Officer's Letter of Transmittal starting on page 2 of this Annual Comprehensive Financial Report (ACFR) should be read along with the MD&A narrative.

(Note: Amounts in this section are rounded and may not agree to other sections of this ACFR.)

Financial Highlights

As of December 31, 2022, ACERA's net position, which represents funds restricted for paying current and long-term pension benefit obligations and non-vested non-OPEB and OPEB for plan members and their beneficiaries, was $10.3 billion, a $1.5 billion decrease compared to December 31, 2021. This decrease was primarily attributable to the $1.6 billion decrease in fair value of ACERA's investment portfolio during 2022 somewhat offset by a slight increase in current assets.

As of December 31, 2022, the Net Pension Liability (NPL) was $2,231.3 million, compared to $792.3 million as of December 31, 2021. The $1,439.0 million increase was primarily as a result of unfavorable investment return during calendar year 2022.

As of December 31, 2022, the Net OPEB Liability (Asset) NOL/(NOA) was $191.3 million, compared to $(420.6) million as of December 31, 2021. The $611.9 million increase from a surplus to liability was primarily the result of the unfavorable investment return during calendar year 2022. The investment result allocations to the Supplemental Retiree Benefits Reserve (SRBR), are credited by semiannual transfers to the reserve as defined by Article 5.5 of the County Employees' Retirement Law of 1937 (1937 Act).

As of December 31, 2021, the date of the pension plan actuarial funding and the SRBR sufficiency actuarial valuations used for the 2022 ACFR, the actuarial investment rate of return assumption used was 7.00%. The inflation rate assumption was 2.75% with assumed payroll growth increase of 3.25%.

As of December 31, 2021, ACERA had $1.1. billion in net deferred investment gains based on the actuarial value of assets. These deferred gains represent 9.6% of the fair value[1] of assets, as of the December 31, 2021, actuarial valuation date. Unless offset by future investment losses or other unfavorable experience, the recognition of the $1.1 billion deferred market gains is expected to have a favorable impact on the Association's future funded percentage and contribution rate requirements.

Overview of the Financial Statements

This discussion and analysis serves as an introduction to ACERA's Basic Financial Statements, which comprise the following five components:

- Statement of Fiduciary Net Position
- Statement of Changes in Fiduciary Net Position
- Notes to the Basic Financial Statements
- Required Supplementary Information (RSI) and Notes to RSI
- Supplemental Schedules

The basic financial statements report the components of the fiduciary net position held in trust for benefits, the components of the changes in the fiduciary net position (additions and deductions), along with explanatory notes to the basic financial statements.

ACERA's basic financial statements have two reporting columns. The first column reports the pension plan and non-OPEB, and the second column reports the postemployment medical benefits. ACERA's pension benefits and the non-OPEB are valued together for the purpose of determining and reporting the NPL. In addition to the basic financial statements, this report contains required supplementary information and supplemental schedules intended to assess the historical context of ACERA's progress in meeting benefit obligation through funding of contributions and investment income.

The Statement of Fiduciary Net Position on page 21 provides a snapshot of account balances at year's end. It includes the assets available for future benefit payments as well as liabilities outstanding at year's end.

ACERA did not have any transactions that met the criteria for deferred outflows of resources or deferred inflows of resources as defined in GASB Statement No. 63 and GASB Statement No. 65. As a result, those line items are not displayed on the 2022 Statement of Fiduciary Net Position.

The Statement of Changes in Fiduciary Net Position starting on page 22 provides a summary view of the additions to and deductions from the fiduciary net position that occurred over the course of the 2022 financial year.

The *Basic Financial Statements* include all assets and liabilities, using the accrual basis of accounting, in compliance with generally accepted accounting principles, similar to the accounting method used by most private-sector companies. All of the year's asset additions and deductions are taken into account regardless of when the corresponding cash is received or paid. All investment purchases and sales are reported as of the trade date. Investments are reported at current fair value and in accordance with GASB Statement No. 31. Both realized and unrealized investment gains and losses are recognized. Each depreciable component of capital assets is depreciated over its useful life.

Notes to the Basic Financial Statements starting on page 24 provide additional information essential for a complete understanding of the basic financial statements.

1 Fair value replaced "market value", as originally written by actuary.

Required Supplementary Information and Notes to Required Supplementary Information starting on page 60 illustrate the GASB Statement No. 67 financial reporting requirements in the Schedule of Changes in Net Pension Liability and Related Ratios, Schedule of Employer Contributions, Schedule of Investment Returns, and Notes to Required Supplementary Information for the Pension Plan and Non-OPEB. Also reported are the requirements of GASB Statement No. 74 in the Schedules of Changes in Net OPEB Liability and Related Ratios and Schedule of Employer Contributions, along with the Notes to the Required Supplementary Information for Postemployment Medical Benefits.

Supplemental Schedules of administrative expenses, investment expenses and payments to other consultants are presented on page 67.

Tables 1 and 2 starting below, present condensed information about ACERA's financial position and results of operations for the current year in comparison to the preceding year, and form the basis for this financial discussion.

Table 1: Fiduciary Net Position (Condensed)

As of December 31, 2022 and 2021 (Dollars in Millions)

	2022	2021	Increase (Decrease) Amount	Percent Change
ASSETS				
Current Assets	$ 191.8	$ 179.7	$ 12.1	7%
Investments at Fair Value	10,279.1	11,832.5	(1,553.4)	-13%
Capital Assets, net	7.6	6.2	1.4	23%
Total Assets	**10,478.5**	**12,018.4**	**(1,539.9)**	**-13%**
LIABILITIES				
Current Liabilities	180.0	177.4	2.6	1%
Long-term Lease Liabilities	-	0.1	(0.1)	N/A
Total Liabilities	**180.0**	**177.5**	**2.5**	**1%**
NET POSITION				
Restricted - Held in Trust for Benefits	**$10,298.5**	**$11,840.9**	**$ (1,542.4)**	**-13%**

Table 2: Changes In Fiduciary Net Position (Condensed)

For the Years Ended December 31, 2022 and 2021 (Dollars in Millions)

	2022	2021	Increase (Decrease) Amount	Percent Change
ADDITIONS				
Member Contributions	$ 120.7	$ 111.1	$ 9.6	9%
Employer Contributions	281.6	1,116.6	(835.0)	-75%
Net Investment Income (Loss)	(1,289.8)	1,601.2	(2,891.0)	-181%
Miscellaneous Income	0.1	1.0	(0.9)	-90%
Transfer to Employers' Advance Reserve from SRBR for Employer Contributions to 401(h) Account	47.5	46.8	0.7	1%
Transfer to Employers' Advance Reserve from SRBR for Implicit Subsidy	5.6	7.5	(1.9)	-25%
Transfer from Employers' Advance Reserve to SRBR for OPEB Related Administrative Expenses	1.7	1.5	0.2	13%
Total Additions	**(832.6)**	**2,885.7**	**(3,718.3)**	**-129%**
DEDUCTIONS				
Retirement Benefit Payments	577.6	546.6	31.0	6%
Postemployment Medical Benefits	46.7	45.9	0.8	2%
Member Refunds	13.7	9.7	4.0	41%
Administration	17.0	16.6	0.4	2%
Transfer from SRBR to Employers' Advance Reserve for Employer Contributions to 401(h) Account	47.5	46.8	0.7	1%
Transfer from SRBR to Employers' Advance Reserve for Implicit Subsidy	5.6	7.5	(1.9)	-25%
Transfer to SRBR from Employers' Advance Reserve for OPEB Related Administrative Expenses	1.7	1.5	0.2	13%
Total Deductions	**709.8**	**674.6**	**35.2**	**5%**
CHANGE IN NET POSITION	**(1,542.4)**	**2,211.1**	**(3,753.5)**	**-170%**
NET POSITION - JANUARY 1	**11,840.9**	**9,629.8**	**2,211.1**	**23%**
NET POSITION - DECEMBER 31	**$ 10,298.5**	**$ 11,840.9**	**$ (1,542.4)**	**-13%**

Analysis of Financial Position

Fiduciary net position held in trust for benefits equals assets less liabilities. Table 1, on page 15, displays the condensed information of the fiduciary net position, which as of December 31, 2022, totaled approximately $10.3 billion. This is a $1.5 billion or a 13% decrease from the prior year, primarily a result of a decrease in the fair value of ACERA's invested assets. The Investment Section, starting on page 69, provides further details about ACERA's investment performance.

Current Assets

The components of current assets are detailed on the Statement of Fiduciary Net Position on page 21. Total current assets increased by $12.1 million from $179.7 million in 2021 to $191.8 million in 2022. This 7% increase was primarily due to increases in cash of $5.2 million and securities lending cash collateral of $6.4 million.

Investments at Fair Value

ACERA's investments at fair value decreased 13% from $11.8 billion in 2021 to $10.3 billion in 2022. The $1.6 billion decrease was net of ACERA's $266.0 million cash draw in 2022 on the portfolio to pay retirement benefits and administrative costs.

Capital Assets, Net

Capital assets include equipment, furniture, information systems, leasehold improvements, and right-to-use assets. The value of capital assets increased from $6.2 million in 2021 to $7.6 million in 2022. The net increase of $1.4 million or 23% was due to the increase in capital expenditures for the pension administration system upgrade.

Total Assets

In all, total assets experienced a net decrease of $1.5 billion, from $12.0 billion in 2021 to $10.5 billion in 2022. The decrease in total investments at fair value accounted for almost all of the decrease in total assets.

Liabilities

The components of ACERA's current liabilities are detailed in the Statement of Fiduciary Net Position on page 21. Current liabilities increased by $2.6 million or 1% from $177.4 million in 2021 to $180.0 million in 2022. The net increase is mainly attributed to the $6.4 million increase in securities lending liability partially offset by the decreases in unsettled trades-investments purchased and investment-related payables.

As of December 31, 2022, the long-term lease liability totaled less than $0.1 million.

Analysis of Results of Operations

The change in fiduciary net position equals total additions less total deductions. Table 2, on page 16, displays the condensed information about ACERA's 2022 financial activity. From January 1 to December 31, 2022, ACERA's fiduciary net position decreased by $1.5 billion. The decrease was mainly due to depreciation in the fair value of ACERA's invested assets.

Additions to Fiduciary Net Position

The primary funding sources for ACERA's member benefits are member contributions, employer contributions, and net investment income. Additions to and deductions from fiduciary net position include transfers to and from the employers' advance reserve and the supplemental retiree benefits reserve.

Total additions to ACERA's fiduciary net position for the years ended December 31, 2022, and 2021, were ($0.8) billion and $2.9 billion, respectively. ACERA's net investment income (loss) for 2022 was ($1.3) billion, compared to $1.6 billion in investment income in 2021. See the Net Investment Income (Loss) section on page 18 for a more comprehensive discussion of this increase.

The December 31, 2021, actuarial valuation report recommended a contribution rate increases for members and employers. The Board of Retirement approved the increase to be in effect by September 2022. The aggregate member contribution rate increased from 9.98% to 10.00% of payroll. The rate increase was mainly due to changes in demographic assumptions.

The aggregate employer contribution rate decreased from

31.45% to 23.41% of payroll. This change was primarily due to (a) the contribution rate credit from additional voluntary safety and LARPD general contributions to reduce their UAAL and associated contribution rates, (b) higher than expected return on investments (after smoothing), (c) the effect of amortizing the prior year's UAAL over a larger than expected total projected payroll, offset somewhat by (d) actual contributions lower than expected, (e) higher than expected cost-of-living adjustments for continuing retirees, and (f) higher than expected salary increases for active members.

Member Contributions

Total member contributions for 2022 were $120.7 million, up $9.6 million or 9% over 2021 total member contributions of $111.1 million. As previously stated, 2021 actuarial valuation contribution rates went into effect September 1, 2022.

Employer Contributions

Total employer contributions collected for 2022 were $281.6 million, a decrease of 75% or $835.0 million over the $1.1 billion in total contributions collected in 2021. The $835.0 million decrease was mainly due to $812.6 million voluntary advance UAAL contribution payments received in 2021. The County safety and LARPD employer contribution rates decreased as a result of the employer contribution rate credits they received for their respective advance UAAL contribution payments, which resulted in the remaining decrease of employer contributions collected in 2022.

Net Investment Income (Loss)

Net investment income (loss) for 2022 was ($1.3) billion. The $2.9 billion decrease in net investment income was primarily due to depreciation in the fair value of invested assets. The 2022 net depreciation of investments was $1.4 billion compared to a 2021 net appreciation of $1.5 billion.

Miscellaneous Income

Miscellaneous income for 2022 totaled $0.1 million, down $0.9 million or 90% from 2021. This decrease is mainly due to a decrease of class action securities litigation settlements.

Transfers between Employers' Advance Reserve and SRBR

Postemployment medical benefits are paid from employers' 401(h) accounts. Participating employers identify a portion of their contributions as 401(h) contributions. Employers funded $47.5 million and $46.8 million to their 401(h) accounts for years 2022 and 2021, respectively. See 401(h) Postemployment Medical Benefits Account on page 34.

In July 2011, ACERA applied the provisions of the 1937 Act (Section 31596.1) and allocated a portion of the 401(h) contributions towards administrative costs. As a result, $1.7 million and $1.5 million were transferred from the employers' advance reserve to SRBR for 2022 and 2021, respectively.

There was a $5.6 million transfer from the SRBR to the employers' advance reserve in 2022 to compensate Alameda County for the 2021 blended rate health care implicit subsidy. The implicit subsidy transfer decreased by $1.9 million or 25% from the $7.5 million implicit subsidy transfer in 2021. This decrease was primarily due to lower difference between the County's blended and unblended medical insurance rates for 2021 versus 2020.

Deductions from Fiduciary Net Position

Total deductions are composed of four main categories, i.e., retirement benefits (including service retirement and disability payments, death benefits, non-OPEB burial benefits and supplemental COLA), postemployment medical benefits, member refunds, and administration expenses of the retirement system.

Total deductions from the fiduciary net position for 2022 were $709.8 million. This is $35.2 million or a 5% increase over the $674.6 million in total deductions for 2021. Service retirement and disability benefit payments alone increased 6% or $31.0 million over 2021. The member refunds increased by $4.0 million or 41% for 2022.

Retirement Benefit Payments

Retirement benefit payments in 2022 totaled $577.6 million, a $31.0 million or 6% increase over $546.6

million in 2021. The increase in benefit payments is primarily due to higher average benefits of retirees added to the retirement payroll compared to the lower average retirement allowance of those retirees removed from the retirement payroll.

Postemployment Medical Benefits

Postemployment medical benefits paid from the 401(h) account in 2022 were $46.7 million, an increase of $0.8 million over the $45.9 million paid from the 401(h) account in 2021. This increase was due to increase in Medicare Part-B premiums, offset by a slight premium decrease in Kaiser Senior Advantage plan and more retirees aging out of the higher premium HMO plans and enrolling in lower premium Medicare or senior advantage plans. ACERA's maximum monthly medical benefit for 2022 was $596.73 per member. For retirees 65 years and older, enrolled in the Medicare Exchange individual plans, ACERA utilized Health Reimbursement Accounts (HRAs). Retirees 65 years and older, who were on the Medicare Exchange, received a maximum of $457.13 Monthly Medical Allowance (MMA).

Member Refunds

Member refunds originate from either a member separation from service (termination) or an active member death. Member refunds increased by $4.0 million or 41% from $9.7 million in 2021 to $13.7 million in 2022. The increase was primarily due to increases in termination refunds.

Administration Expense

Total administration expense for 2022 increased to $17.0 million, from $16.6 million in 2021. Administration expenses cover the basic cost of operating the retirement system. Some expenses are subject to the statutory limit, as defined in the following paragraph, and others are excluded from the statutory limit.

In accordance with legal spending restrictions outlined in the County Employee Retirement Law of 1937 (1937 Act), ACERA's Board of Retirement adopts an operating expense and administrative budget, effective for the following year. The annual amount of administrative budget is subject to legal and budgetary restrictions. Note 11 to the Basic Financial Statements, page 58, further describes the legal limitations. Consequently, the administrative budget for 2022 was kept in compliance with the "1937 Act" legal spending restrictions of 0.21% of the actuarial accrued liability of the retirement system.

Administrative expenses subject to the statutory limit increased by 4% or $0.6 million, from $13.7 million in 2021 to $14.3 million in 2022. The major categories of operating expenses subject to the statutory limit include personnel services, professional services, communications, and utilities, and other (i.e., depreciation, board of retirement operating expenses, insurance, miscellaneous, training, maintenance-equipment, and supplies).

Administrative expenses excluded from the statutory limit decreased slightly from $2.9 million in 2021 to $2.7million in 2022. The categories of operating expenses not subject to the statutory limit include legal, technology, actuarial, investment and business continuity expenses.

Currently Known Facts and Events

Litigation: In the AHS v. ACERA lawsuit (filed February 7, 2019), the Alameda Health System, a participating employer in ACERA, filed suit against ACERA and the County of Alameda (later dismissed from the lawsuit by AHS), objecting to ACERA's use of the percent of payroll method for calculating AHS' unfunded liabilities to ACERA. The lawsuit seeks to require ACERA to collect less contributions from AHS and more contributions from the County (and possibly other participating employers). On May 3, 2022, the Superior Court issued a ruling granting ACERA summary judgment and then entered judgment for ACERA on May 24, 2022. AHS appealed from that judgment and the appeal is pending.

Business Continuity: Since early March 2020, ACERA has been responding to a pandemic spreading from person to person caused by a novel (new) coronavirus. The disease was named "coronavirus disease 2019" (abbreviated "COVID-19"). Throughout 2020, the virus posed a serious public health risk; consequently, ACERA was required to comply with alternative work guidelines associated with state and county health and safety mandates. As health and safety restrictions eased in the latter half of 2020, ACERA sustained a work- from-home posture for a majority of its staff. In the early months of 2021, vaccines for the virus have become available. It was anticipated that by the end of the third quarter of 2021, enough people will be vaccinated for health and safety restrictions to ease to a level that businesses would reopen. Unfortunately, new variants of the virus that were highly transmittable emerged towards the latter part of 2021 and derailed reopening plans. ACERA's management maintained a hybrid work arrangement throughout 2021 and 2022, while most of the staff continued to work from home. In October 2022, the Governor of California announced that the COVID-19 state of emergency would end on February 28, 2023. As a result, ACERA management is actively formulating a new hybrid work arrangement for implementation in 2023.

Fiduciary Responsibilities

ACERA's Board of Retirement and management are fiduciaries of the retirement plan. Under the California Constitution and the 1937 Act, assets of the retirement plan can be used only for the exclusive benefit of the plan participants and their beneficiaries.

Requests for information

This report is designed to provide the Board of Retirement, the membership, participating employers, taxpayers, investment managers, vendors, and other stakeholders or interested parties with a general overview of ACERA's financial condition, financial activities, and funding status. Questions regarding any of the information provided in this report or requests for additional information should be addressed to:

ACERA
Fiscal Services Department
475 14th Street, Suite 1000
Oakland, California 94612-1900

You can also contact us by e-mail at info@acera.org or by phone at (510) 628-3000 during normal business hours. Our website www.acera.org contains a wealth of information and is always accessible.

Respectfully submitted,

Erica Haywood
Fiscal Services Officer
May 10, 2023

Basic Financial Statements

Statement of Fiduciary Net Position

As of December 31, 2022, with Comparative Totals as of December 31, 2021 (Dollars in Thousands)

	Pension Plan & Non-OPEB	Postemployment Medical Benefits	Total 2022	Total 2021
ASSETS				
Cash	$ 6,915	$ -	$ 6,915	$ 1,754
Securities Lending Cash Collateral	133,699	-	133,699	127,313
Receivables				
Contributions	23,162	-	23,162	22,027
Investment Receivables	21,208	-	21,208	19,624
Unsettled Trades - Investments Sold	3,240	-	3,240	7,653
Futures Contracts	40	-	40	161
Foreign Exchange Contracts	2,477	-	2,477	0
Other Receivables	227	-	227	350
Total Receivables	**50,354**	**-**	**50,354**	**49,815**
Prepaid Expenses	805	-	805	803
Total Current Assets	**191,773**	**-**	**191,773**	**179,685**
Investments at Fair Value				
Short-Term Investments	220,268	-	220,268	263,950
Domestic Equity	512,795	-	512,795	679,810
Domestic Equity Commingled Funds	2,013,410	-	2,013,410	2,645,585
International Equity	1,103,928	-	1,103,928	1,417,146
International Equity Commingled Funds	1,379,259	-	1,379,259	1,618,474
Domestic Fixed Income	1,327,238	-	1,327,238	1,714,638
International Fixed Income	84,556	-	84,556	82,608
International Fixed Income Commingled Funds	75,541	-	75,541	85,023
Real Estate - Separate Properties	55,578	-	55,578	72,113
Real Estate - Commingled Funds	780,660	-	780,660	641,674
Real Assets	620,459	-	620,459	749,497
Absolute Return	851,556	-	851,556	764,772
Private Equity	993,108	-	993,108	938,688
Private Credit	260,764	-	260,764	158,511
Total Investments	**10,279,120**	**-**	**10,279,120**	**11,832,489**
Non-OPEB Assets	54,901	-	54,901	51,921
Due from Pension Plan	(1,177,588)	1,122,687	(54,901)	(51,921)
Capital Assets at Cost (Net of Accumulated Depreciation and Amortization)	7,584	-	7,584	6,185
Total Assets	**9,355,790**	**1,122,687**	**10,478,477**	**12,018,359**
LIABILITIES				
Securities Lending Liability	133,699	-	133,699	127,313
Unsettled Trades - Investments Purchased	22,508	-	22,508	25,746
Futures Contracts	1,041	-	1,041	589
Foreign Exchange Contracts	0	-	0	913
Investment-Related Payables	12,107	-	12,107	13,516
Accrued Administration Expenses	2,933	-	2,933	2,624
Members Benefits & Refunds Payable	7,252	-	7,252	6,379
Retirement Payroll Deductions Payable	371	-	371	314
Current Lease Liability	51	-	51	48
Long-term Lease Liability	3	-	3	54
Total Liabilities	**179,965**	**-**	**179,965**	**177,496**
NET POSITION - Held in Trust for Benefits	**$ 9,175,825**	**$ 1,122,687**	**$ 10,298,512**	**$ 11,840,863**

The accompanying Notes to the Basic Financial Statements are an integral part of these Basic Financial Statements.

Statement of Changes in Fiduciary Net Position

For the Year Ended December 31, 2022, with Comparative Totals for the Year Ended December 31, 2021 (Dollars in Thousands)

	Pension Plan & Non-OPEB	Postemployment Medical Benefits	Total 2022	Total 2021
ADDITIONS				
Contributions				
Member	$ 120,673	$ -	$ 120,673	$ 111,091
Employer	234,170	47,477	281,647	1,116,576
Total Contributions	**354,843**	**47,477**	**402,320**	**1,227,667**
Investment Income				
From Investment Activities:				
Net Appreciation (Depreciation) in Fair Value of Investments	(1,407,721)	-	(1,407,721)	1,492,161
Dividends, Interest, & Other Investment Income	159,534	-	159,534	188,075
Total Income (Loss) from Investment Activities	**(1,248,187)**	**-**	**(1,248,187)**	**1,680,236**
Total Investment Expenses	(42,148)	-	(42,148)	(79,725)
Net Income (Loss) from Investment Activities	**(1,290,335)**	**-**	**(1,290,335)**	**1,600,511**
From Securities Lending Activities:				
Securities Lending Income	3,070	-	3,070	914
Securities Lending Expenses				
Borrower Rebates	(2,294)	-	(2,294)	(24)
Management Fees	(155)	-	(155)	(178)
Total Securities Lending Activity Expenses	**(2,449)**	**-**	**(2,449)**	**(202)**
Net Income from Securities Lending Activities	**621**	**-**	**621**	**712**
Earnings Allocated to Non-OPEB	4,164	-	4,164	11,433
Earnings Allocated	(90,799)	86,635	(4,164)	(11,433)
Total Net Investment Income (Loss)	**(1,376,349)**	**86,635**	**(1,289,714)**	**1,601,223**
Miscellaneous Income	117	-	117	969
Transfer to Employers' Advance Reserve from SRBR for Employer Contributions to 401(h) Account	47,477	-	47,477	46,772
Transfer to Employers' Advance Reserve from SRBR for Implicit Subsidy	5,594	-	5,594	7,484
Transfer from Employers' Advance Reserve to SRBR for OPEB Related Administrative Expense	-	1,657	1,657	1,537
Total Additions	**$ (968,318)**	**$ 135,769**	**$ (832,549)**	**$ 2,885,652**

The accompanying Notes to the Basic Financial Statements are an integral part of these Basic Financial Statements.

Statement of Changes in Fiduciary Net Position (Continued)

For the Year Ended December 31, 2022, with Comparative Totals for the Year Ended December 31, 2021 (Dollars in Thousands)

	Pension Plan & Non-OPEB	Postemployment Medical Benefits	Total 2022	Total 2021
DEDUCTIONS				
Benefits				
Service Retirement and Disability Benefits	$ 573,320	$ -	$ 573,320	$ 542,022
Death Benefits	3,120	-	3,120	3,414
Burial Benefits - Non-OPEB	241	-	241	257
Supplemental Cost of Living Allowance - Non-OPEB	943	-	943	932
Post Employment Medical Benefits	-	46,711	46,711	45,917
Total Benefit Payments	**577,624**	**46,711**	**624,335**	**592,542**
Member Refunds	13,713	-	13,713	9,644
Administration				
Administrative Expenses	12,669	1,657	14,326	13,731
Legal Expenses	839	-	839	855
Technology Expenses	927	-	927	904
Actuarial Expenses	382	-	382	459
Business Continuity Expenses	552	-	552	628
Total Administration	**15,369**	**1,657**	**17,026**	**16,577**
Transfer from SRBR to Employers' Advance Reserve for Employer Contributions to 401(h) Account	-	47,477	47,477	46,772
Transfer from SRBR to Employers' Advance Reserve for Implicit Subsidy	-	5,594	5,594	7,484
Transfer to SRBR from Employers' Advance Reserve for OPEB Related Administrative Expense	1,657	-	1,657	1,537
Total Deductions	**608,363**	**101,439**	**709,802**	**674,556**
CHANGE IN NET POSITION	**(1,576,681)**	**34,330**	**(1,542,351)**	**2,211,096**
NET POSITION - JANUARY 1	**10,752,506**	**1,088,357**	**11,840,863**	**9,629,767**
NET POSITION - DECEMBER 31	**$ 9,175,825**	**$ 1,122,687**	**$10,298,512**	**$ 11,840,863**

The accompanying Notes to the Basic Financial Statements are an integral part of these Basic Financial Statements.

Notes to the Basic Financial Statements

(an integral part of the Basic Financial Statements)

1. Summary of Significant Accounting Policies

Reporting Entity

ACERA is an independent, public employees' retirement system with its own governing board. ACERA's financial statements are included in the County of Alameda's financial statements as a pension and other employee benefit fiduciary trust fund.

Basis of Accounting

ACERA follows generally accepted accounting principles in the United States and reporting guidelines set forth by the Governmental Accounting Standards Board (GASB).

ACERA's (fiduciary trust fund) financial statements are prepared on the accrual basis of accounting. Employer and employee contributions are recognized when due, pursuant to formal commitments, as well as statutory or contractual requirements. Security purchases and sales are recognized in the financial statements as of the trade date. Retirement benefits and member refunds are recognized as liabilities when due and payable in accordance with the terms of the plan. Other expenses are recognized when the corresponding liabilities are incurred.

Investments

Investments are reported at fair value. Fair value for investments of publicly traded stocks and bonds and issues of the U.S. Government and its agencies is based on the last reported sale price as of the fiscal year-end. Fair value of securities denominated in a foreign currency reflects exchange rates in effect at fiscal year-end. The fair value of ACERA's short-term investments held in external investment pools managed by the master custodian and securities lending agent is provided by the pool manager and is reported at net asset per share value for the pool. Fair value of investments in commingled funds of debt securities, equity securities, and real estate is based on the fund share price provided by the fund manager, which is based on net asset value. Fair value of investments in real estate separate properties is based on prices in a competitive market as determined by the investment manager relying on periodic appraisals and is reported net of the outstanding balance of associated mortgages. The fair value of private equity, private credit, absolute return, and real assets is based on ACERA's pro rata share and deter- mined by the fund's general partner based on a variety of valuation methods including current market multiples for comparable companies, recent sales of comparable companies, net present value of expected cash flows, appraisals and adjustments to prevailing public market prices based on control and/or liquidity, as appropriate. All funds are audited annually by the funds' independent auditors.

Investment Income

Interest income is recognized as it accrues. Dividend income is recognized when the dividends are declared. Realized and unrealized gains and losses on investments are combined and reported together as the net appreciation (depreciation) in the fair value of investments.

Securities Lending Activity

Securities lending transactions are short-term collateralized loans of ACERA's securities for the purpose of generating additional investment income. For each lending transaction, ACERA receives either cash collateral or non-cash collateral.

The underlying securities out on loan are reported on the Statement of Fiduciary Net Position as if the lending transaction had not occurred.

Cash collateral held (or any security that can be sold or pledged without a default by the borrower) is separately reported on the Statement of Fiduciary Net Position in current assets. A corresponding liability of an equal amount (the obligation to return the cash collateral) is reported as a liability.

Non-cash collateral held is not reported on the Statement of Fiduciary Net Position nor is there a corresponding liability reported on this statement.

Derivative Instruments

ACERA's investments include the following types of investment derivative instruments: futures, forwards, spot contracts, swaps and warrants. ACERA enters into derivative instrument contracts for investment purposes and to manage risks associated with its investment portfolio.

The fair value of exchange traded derivative instruments such as futures, swaps, spot contracts, and warrants are based on quoted market prices. The fair value of non-exchange traded derivative instruments such as forward contracts and certain futures contracts is determined by an external pricing service using various proprietary methods.

The fair value of derivative instrument contracts is reported in investments as assets or liabilities on the Statement of Fiduciary Net Position.

Collateral and Margin Account

For the equity index futures, there is an initial margin requirement to open a contract position as well as a collateral maintenance requirement that must be kept until the position is closed out.

ACERA reports the collateral for the equity index futures in short-term investments.

Capital Assets

Capital assets are carried at cost, net of accumulated depreciation or amortization. ACERA's capitalization threshold is an initial cost of $5,000 and two years of useful life. Depreciation and amortization are calculated using the straight-line method over the estimated useful lives of the depreciable assets or over the term of the lease.

For each asset, ACERA recognizes one-half year of expense in the year the asset is placed in service and one-half year of expense in the year of retirement.

The estimated useful lives for the assets in each category are as follows:

	Years
Leasehold Improvements	27.5
Information System - Retirement	7.0
Office Furniture	7.0
Business Continuity Assets	5.0
Computer Hardware	5.0
Offsite Office Equipment	5.0
Electronic Document Management System	5.0
Information System - Accounting	3.0
Computer Software	3.0

Estimates

The preparation of financial statements in accordance with generally accepted accounting principles in the United States requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Naturally, actual results may differ from estimates.

Income Taxes

ACERA operates as a Defined Benefit Pension Plan, qualified under section 401(a) of the Internal Revenue Code and is not subject to tax under current income tax laws. All assets accumulated for the payment of benefits may legally be used to pay benefits, including refunds of member contributions to any of the plan members or beneficiaries, as defined by the terms of the plan.

New Accounting Pronouncements

GASB Statement No. 93, *Replacement of Interbank Offered Rates*, was issued in March 2020. The objective of this Statement is to address the accounting and financial reporting implications that result from replacement of the IBOR (Inter Bank Offered Rate). The global reference to LIBOR (the London Inter Bank Offered Rate) will cease at the end of 2021. Statement No. 93, removes LIBOR as an appropriate benchmark interest rate and identifies a Secured Overnight Financing Rate and the Effective Federal Funds Rate as appropriate benchmark interest rates. The Statement also provides exceptions for hedge accounting termination provisions of Statement No, 53 and lease modification guidance in Statement No, 87, which will result from replacement of the reference rate. The provisions of Statement No. 93, are effective for reporting periods beginning after June 15, 2021. This Statement did not have an impact on ACERA.

GASB Statement No. 96, *Subscription-Based Information Technology Arrangements*, was issued in May 2020. This Statement provides guidance on accounting and financial reporting for subscription-based information technology arrangements (SBITAs). The guidance requires the recognition of a right-to-use subscription asset and a corresponding subscription liability for contracts that convey control of the right-to-use another party's information technology software alone or in conjunction with tangible capital assets for a specified time period in an exchange or exchange-like transaction. The requirements of this statement are similar to those of Statement No. 87, Leases. The provisions of this Statement are effective with fiscal years beginning after June 15, 2022. ACERA will implement the provisions of this Statement for the fiscal year ending December 31, 2023.

GASB Statement No. 99, *Omnibus*, was issued in April 2022. The objective of this Statement is to address practice issues that have been identified during implementation and application of certain GASB Statements and accounting and financial reporting for financial guarantees. The practice issues addressed with this Statement that are applicable to ACERA are as follows: 1) clarification of provisions in Statement No. 87, *Leases*, as amended, related to the determination of the lease term, classification of a lease as a short-term lease, recognition and measurement of a lease liability and a lease asset, and identification of lease incentives, 2) clarification of provisions in Statement No. 96, *Subscription-Based Information Technology Arrangements*, related to the subscription-based information technology arrangement (SBITA) term, classification of a SBITA as a short-term SBITA, and recognition and measurement of a subscription liability, and 3) extension of the period during which the London Interbank Offered Rate (LIBOR) is considered an appropriate benchmark interest rate for the qualitative evaluation of the effectiveness of an interest rate swap that hedges the interest rate risk of taxable debt. The requirements related to extension of the use of LIBOR, effective upon issuance. The requirements related to leases and SBITAs are effective for fiscal years beginning after June 15, 2022, and all reporting periods thereafter. Except for the requirements related to the use of LIBOR, ACERA will implement the applicable provision of this Statement for the fiscal year ending December 31, 2023.

GASB Statement No. 100, *Accounting Changes and Error Corrections-an amendment of GASB Statement No. 62*, was issued in June 2022. The primary objective of this Statement is to enhance accounting and financial reporting requirements for accounting changes and error corrections to provide more understandable, reliable, relevant, consistent, and comparable information for making decisions or assessing accountability. This Statement requires that (a) changes in accounting principles and error corrections be reported retroactively by restating prior periods, (b) changes to or within the financial reporting entity be reported by adjusting beginning balances of the current period, and (c) changes in accounting estimates be reported prospectively by recognizing the change in the current period. The requirements of this Statement for changes in accounting principles apply to the implementation of a new pronouncement in absence of specific transition provisions in the new pronouncement. This Statement also requires that the aggregate amount of adjustments to and restatements of beginning net position, fund balance, or fund net position, as applicable, be displayed by reporting unit in the financial statements. This Statement also requires disclosure in notes to financial statements of descriptive information about accounting changes and error corrections, such as their nature and quantitative effects should be disclosed by reporting unit in a tabular format to reconcile beginning balances as previously reported to beginning balances as restated. The requirements of this Statement are effective with fiscal years beginning after June 15, 2023, and reporting periods thereafter. ACERA will implement the applicable provision of this Statement for the fiscal year ending December 31, 2024.

GASB Statement No. 101, *Compensated Absences*, was issued in June 2022. The objective of this Statement is to better meet the information needs of financial statement users by updating the recognition and measurements guidance for compensated absences. This Statement requires that liabilities for compensated absences be recognized for (1) leave that has not been used and (2) leave that has been used but not yet paid in cash or settled through noncash means. A liability should be recognized for leave that has not been used if (a) the leave is attributable to services already rendered, (b) the leave accumulates, and (c) the leave is more likely than not to be used for time off or otherwise paid in cash or settled through noncash means. This Statement also requires that a liability for certain types of compensated absences including parental leave, military leave, and jury duty leave not be recognized until the leave commences. The requirements of this Statement are effective with fiscal years beginning after December 15, 2023, and reporting periods thereafter. ACERA will implement the applicable provision of this Statement for the fiscal year ending December 31, 2024.

2. Plan Description

ACERA is an independent public employees' retirement system which operates a cost-sharing, multiple-employer defined benefit pension plan serving participating employers. In addition, ACERA administers a cost-sharing multiple-employer defined benefit Other Postemployment Medical Benefits (OPEB) and Non-OPEB even though there is no direct contribution made to fund these non-vested benefits. ACERA began operations in its present form on January 1, 1948.

ACERA is governed by the California constitution, and state and federal laws, including but not limited to the 1937 Act, beginning at California Government Code

Section 31450 et. seq., PEPRA and the bylaws and policies adopted by the Board of Retirement.

These laws and policies govern ACERA's plan structure and operation. The provisions of state and federal laws govern requirements concerning membership, governance, contributions, benefits, service, retirement eligibility, disability, cost-of-living adjustment, financial provisions, optional allowances, reciprocal benefits, administration expenses, etc.

ACERA is not affiliated with the California Public Employees' Retirement System (CalPERS).

ACERA meets member and beneficiary obligations through member contributions, participating employer contributions, and investment income. Contributions are prudently invested in accordance with the 1937 Act.

ACERA provides basic lifetime retirement, disability, and death benefits to members who meet the minimum age and length-of-service requirements. In addition, ACERA administers supplemental retiree postemployment medical, dental care, vision care, and cost-of-living adjustments programs. In this report, "basic" benefits refers to vested benefits provided for in accordance with the 1937 Act, whereas "supplemental" benefits refers to additional non-vested benefits paid at the discretion of the Board of Retirement and subject to available funds.

Board of Retirement

The Board of Retirement has sole and exclusive responsibility over plan assets and the administration of the retirement system to ensure prompt delivery of benefits and related services as provided in Article XVI of the California Constitution.

The Board of Retirement has nine members and two alternates. The Alameda County Board of Supervisors appoints four members, and four are elected by ACERA's membership. The County Treasurer serves as an ex-officio board member. One alternate member is elected by safety members and one alternate member is elected by retired members. The Board of Retirement is currently composed of the following members:

Board of Retirement

Type of Member	Elected / Appointed By	# Of Members
County Treasurer	Ex-Officio Member	1
County Resident	Appointed by Board of Supervisors	4
General Member	Elected by General Members	2
Safety Member	Elected by Safety Members	1
Retired Member	Elected by Retired Members	1
Alternate Retired Member	Elected by Retired Members	1
Alternate Safety Member	Elected by Safety Members	1

Board members, with the exception of the County Treasurer, serve a three-year term in office, with no term limits.

The Board of Retirement oversees the Chief Executive Officer in the performance of his duties in accordance with the law and ACERA's board policies.

Authority for Establishing and Amending Benefit Provisions

State and federal laws, as well as the California constitution, provide the authority for establishing ACERA's benefit provisions. In most cases, where the 1937 Act provides options concerning the allowance of credit for service, the offering of benefits, or the modification of benefit levels, the law generally requires approval of the employers' governing boards for the option to take effect.

Separately, in 1984, the Alameda County Board of Supervisors and the Board of Retirement approved the adoption of Article 5.5 of the 1937 Act. This adoption permitted the establishment of a Supplemental Retiree Benefits Reserve (SRBR) for ACERA.

Article 5.5 provides for the systematic funding of the SRBR and stipulates that its assets be used only for the benefit of retired members and their beneficiaries. The 1937 Act grants exclusive authority over the use of SRBR funds to the Board of Retirement. The SRBR provides funding for non-vested and non-pension benefits including supplemental COLA and retired member death benefit. Other non-vested retiree health benefits are provided in agreement with ACERA's participating employers through the use of Internal Revenue Code 401(h) accounts. These retiree health benefits include dental and vision care, Medicare Part B reimbursement, and the Monthly Medical Allowance (MMA). Employer contributions fund the 401(h) benefits. ACERA treats an equal amount of SRBR assets as employer contributions for pensions. The provision of all supplemental benefits is subject to annual review and authorization by the Board of Retirement.

Participating Employers

ACERA operates as a cost-sharing, multiple-employer, defined benefit plan for Alameda County (the "County"), and five other participating employers (which are special districts) located in the County, but not under the control of the County Board of Supervisors. In this report, the County and special districts are referred to as "participating employers". All risks and costs, including benefit costs, are shared by the participating employers.

The five other participating employers are:

- Superior Court of California for the County of Alameda
- Alameda Health System
- First 5 Alameda County
- Housing Authority of the County of Alameda
- Livermore Area Recreation and Park District

Alameda County Office of Education is no longer an active participating employer as the last active member under this employer retired on December 30, 2016. However, this employer still owes an unfunded actuarial accrued liability to ACERA as ACERA still pays retirement benefits to several of its retired members.

Plan Membership

With the exception of Alameda Health System, all full-time employees of participating employers who are appointed to permanent positions are statutorily required to become members of ACERA. With the passage of AB1008 in 2013, employees of newly acquired hospitals by Alameda Health System are not eligible for membership unless they are subject to an existing memorandum of understanding. Effective October 31, 2013, all newly hired unrepresented employees of any Alameda Health System facility are prohibited from membership.

Safety and General Members

ACERA has two membership types, Safety and General, which are based on job classifications:

- Safety members are employees working in active law enforcement, deferred firefighters, or positions that have been designated Safety positions by the Board of Retirement (e.g., Juvenile Hall Group Counselors and Probation Officers).
- General members are all other members.

Defined Benefit Pension Plan

ACERA's Membership

As of December 31, 2022

Members, Survivors, and Beneficiaries Now Receiving Benefits	
Service Retirement	8,463
Disability Retirement	1,003
Beneficiaries and Survivors	1,298
Subtotal	**10,764**
Active Members	
Active Vested Members	7,661
Active Non-vested Members	3,629
Subtotal	**11,290**
Deferred Members	3,439
Total Membership	**25,493**

Membership Status and Vesting

Members are considered to be active, as long as they remain employed full-time by a participating employer (or subsequently change to part-time employment).

Members become vested in retirement benefits upon completion of five years of credited service.

Service Retirement

ACERA's regular (service) retirement benefits are based on service credit, final average salary, and age at retirement, according to the applicable statutory formula. Members who qualify for service retirement are entitled to receive monthly service retirement benefits for life.

Non-Tier 4 vested General members may retire at age 50, with 5 years of service credit and a total of 10 years of qualifying membership, or at any age with 30 years of service, or at age 70, regardless of service credit.

Non-Tier 4 vested Safety members may retire at age 50, with 5 years of service credit and a total of 10 years of qualifying membership, or at any age, with 20 years of service, or at age 70, regardless of service credit.

Tier 4 General members may retire at age 52, with 5 years of service credit or at age 70, regardless of service credit.

Tier 4 Safety members may retire at age 50, with 5 years of service credit or at age 70, regardless of service credit.

Active Member Death Benefits

ACERA provides specified active member death benefits to beneficiaries and members' survivors.

The basic active member death benefit consists of a member's retirement contributions plus interest plus one month's pay for each full year of service (up to the maximum of six-month's pay). Other death benefits may be available based on years of service, marital status, and whether the member has minor children.

Tier 1, Tier 2, Tier 3, and Tier 4 Benefit Levels

The structure of the plan provides for four benefit levels or tiers within General membership and three tiers within Safety membership. The tiers differ mainly in the magnitude of contributions required and benefits received.

Generally, members with an entry date prior to July 1, 1983, belong to Tier 1, while those with an entry date on or after July 1, 1983, and before January 1, 2013, belong to Tier 2, and members with an entry date on or after January 1, 2013, belong to Tier 4.

Most active ACERA members belong to Tier 2. Alameda County Housing Authority members are mostly in Tier 1, but those hired between September 30, 2011, and January 1, 2013, belong to Tier 2. Relative to the Tier 1 members, active members in Tier 2 contribute somewhat less to the pension plan as a percent of compensation and will receive somewhat lower retirement benefits.

Effective October 1, 2008, Livermore Area Recreation and Park District (LARPD) implemented a General Tier 3 plan for current and new employees. Those LARPD members hired before October 1, 2008, who elect General Tier 3 membership, and those hired after October 1, 2008, but before January 1, 2013, will receive an enhanced benefit of 2.5% at 55, which is higher than the Tier 1 benefit (at most retirement ages) as a result of higher employer and employee contribution rates.

Effective October 17, 2010, and before January 1, 2013, there are three benefit formula options for Safety membership within Tier 2. Two benefit formulas of 2% at 50 and 3% at 55 were implemented for new Safety members with different contribution rates. The Safety members hired before October 17, 2010, are still under the benefit formula of 3% at 50.

In accordance with PEPRA, General and Safety members hired on or after January 1, 2013, belong to Tier 4. Tier 4 members are required to contribute at least 50% of the normal cost rate. Under the Tier 4 formulas, General members will receive a benefit of 2.5% at age 67 and Safety members will receive a benefit of 2.7% at age 57. Note 3, Contributions, starting on page 31 explains retirement plan contribution rates.

Integration with Social Security

The contributions and benefits associated with the federal Social Security program are completely separate from ACERA members' contributions and benefits. Most General members of ACERA are covered by Social Security, and most Safety members are not.

ACERA contributions and benefits are integrated with Social Security for non-Tier 4 members who are covered by Social Security. The purpose of integration is to reduce the degree in which ACERA's plan coverage overlaps Social Security coverage.

Basic Cost of Living Adjustment

Retirement allowances are indexed for inflation. Retirees receive automatic basic Cost-of-Living Adjustments (COLAs) based upon the Consumer Price Index (CPI) for the San Francisco Bay Area. The adjustments go into effect on April 1 each year. Under the 1937 Act, annual

COLA increases are capped at 3% for Tier 1 and Tier 3, and 2% for Tier 2 and Tier 4 members. The expected impact of future basic COLA is a factor in setting the contribution rates for members and employers. In any year that the basic COLA adjustment for a retiree falls short of the CPI increase for that year due to the statutory cap, the shortfall is carried over and applied in a future year to the extent that the CPI falls short of the statutory cap in the future year.

The CPI calculation for 2022 was 4.24% and was rounded to 4.00%, the nearest one-half percent, in accordance with California Government Code Section 31870 and 31870.1. There was a maximum of 3.0% COLA increase granted for all Tier 1 and Tier 3 members. A maximum COLA increase of 2.0% was granted to all Tier 2 and Tier 4 members. Tier 1 and Tier 3 members will bank 1.00% and Tiers 2 and 4 members will bank 2.00% in 2022, as the 2022 CPI exceeds the 3% maximum for Tiers 1 and 3 and 2% maximum for Tiers 2 and 4.

Postemployment Medical Benefits

ACERA administers a medical benefits program for eligible retired members. Benefits include monthly medical allowances and Medicare Part B premium reimbursements. Dental and vision coverages are also available for eligible retired members. These benefits are paid through a 401(h) account, in accordance with federal tax laws. The maximum levels of the monthly medical allowances are reviewed annually by the Board of Retirement.

Program Membership

Retired members with a minimum of ten years of service credit or those who retired due to a service connected disability are eligible to receive a monthly medical allowance benefit if they enroll in one of the ACERA-sponsored medical plans or Medicare exchange. Retired members eligible for the monthly medical allowance benefit may also be reimbursed for the lowest standard Medicare Part B premium with proof of enrollment in Medicare Part B.

Members receiving a service retirement or a non-service connected disability, with ten or more years of ACERA service credit will be eligible to receive dental and vision allowances. The following are exemptions of the years-of- service eligibility requirements: (a) non-service connected disability recipients with less than ten years of ACERA service credit and with a retirement date effective prior to February 1, 2014; and, (b) all service connected disability recipients, regardless of years of service.

Non-OPEB

ACERA also provides non-health, postemployment benefits, such as supplemental COLA and a lump sum retired member death benefit.

Separate from the basic COLA, the Board of Retirement implemented an ad-hoc supplemental Cost-of-Living Adjustment (supplemental COLA) program effective January 1, 1998. The supplemental COLA is structured to maintain each retiree's purchasing power at no less than 85% of the purchasing power of the original benefit. Under this program, each retiree's current allowance is adjusted, as necessary, so that the adjusted allowance becomes at least 85% of the original benefit amount indexed with the CPI.

A lump sum retired member death benefit of $1,000 is provided to beneficiaries.

Program Membership

All retired members are eligible to receive supplemental COLA and retired member death benefit.

Actuarial Valuation

An annual actuarial funding valuation is performed for the pension plan. In addition, there is a separate annual actuarial valuation performed for Postemployment Medical Benefits and Non-OPEB. Note 6, Actuarial Valuation, starting on page 38 provides additional information about this topic.

3. Contributions

Pension Plan

Authority for Establishing and Amending Obligations to Make Contributions

The California constitution, as well as state and federal laws, establishes the basic obligations for participating employers and active members to make contribution payments to the pension plan. Member and employer contribution rates are based on recommendations made by an independent actuary and adopted by the Board of Retirement. These rates are based on membership type (General and Safety) and tier (Tiers 1, 2, 3, and 4).

Funding Objective

One of the funding objectives of the pension plan is to establish member and participating employer contribution rates that will remain as level as possible over time as a percentage of payroll, unless plan benefit provisions are changed. The funding for retirement benefits arises from three sources: member contributions, employer contributions, and the earnings on invested assets.

Member Contributions and Refunds

Active members are required by statute to contribute toward pension plan benefits. The non-Tier 4 member contribution rates are formulated on the basis of age-at-date-of-entry and actuarially calculated benefits. The 1937 Act authorizes participating employers to pay all or a portion of an employee's retirement contribution obligation on the employee's behalf. These employer payments are called contribution offsets. Member contributions and credited interest are refundable upon termination of membership. Note 4, Reserves, starting on page 33 explains semi-annual interest crediting. The employer-paid contribution offsets may or may not be refundable.

Pursuant to PEPRA Section 7522.30, Tier 4 members are required to contribute 50% of the normal cost rate. The code also prohibits participating employers from paying any portion of the 50% share of member contributions on the employee's behalf.

Employer Contributions

The pension plan provides lifetime retirement and disability benefits to its members. Participating employers are required by statute to contribute the necessary amounts to fund these estimated benefits not otherwise funded by member contributions or expected investment earnings.

Employer contribution rates vary from year to year and depend on the established level of benefits, the rate of return on investments, and the cost of administering benefits.

Member Rates Based on Age-at-Date-of-Entry

The ranges of current non-Tier 4 member contribution rates based on age-at-date-of-entry are shown as follows (effective September 2022). Generally, each pair of percentages ranges from youngest to oldest within each category. In November 2012, the Board of Retirement approved the use of a single, flat contribution rate, regardless of the age-at-date-of-entry for Tier 4 members.

Current Member Contribution Rates

Effective September 2022

Tier 1: (entry date prior to July 1, 1983)	
General	8.00% - 16.63%
Safety 3% @ 50	14.84% - 22.62%
Tier 2: (entry date July 1, 1983, and before January 1, 2013)	
General	5.80% - 12.16%
Safety 3% @ 50	14.32% - 21.31%
Tier 2: (entry date October 17, 2010, and before January 1, 2013)	
Safety 2% @ 50	10.96% - 17.72%
Safety 3% @ 55 (with less than 5 years of vesting service)	16.24% - 23.18%
Safety 3% @ 55 (with 5 or more years of vesting service)	14.24% - 21.18%
Tier 3: (LARPD only - entry date prior to January 1, 2013)	
General	10.02% - 18.88%
Tier 4: (entry date January 1, 2013 or later)	
General	9.23%
Safety	17.01%

For non-Tier 4 members covered by Social Security, the contribution rates shown apply to biweekly salary over \$161 (a one-third reduction in the rates applies to the first \$161 of biweekly salary). The one-third reduction in the rates for the first \$161 of biweekly salary does not apply to Tier 4 member contributions.

Postemployment Medical Benefits and Contributions

In accordance with federal tax law, postemployment medical benefits and related administrative expenses are paid through a 401(h) account with contributions from the participating employers. There is no requirement and no guarantee that the employers will continue to contribute to the 401(h) account. If authorized by the Board of Retirement, ACERA treats an equal amount of SRBR assets as employer contributions available for paying pension benefits. ACERA's Board of Retirement has no authority to demand future payments from employers to fund the 401(h) account. Consequently, these benefits can only be paid as long as assets are available. When assets are fully depleted, no postemployment medical benefits will be paid by ACERA. In compliance with 1937 Act Section 31618.5, employers allocate a portion of their contribution to the 401(h) account for administrative costs related to providing benefits in addition to contributions for the postemployment medical benefits.

Pension Obligation Bonds

In 1995 and 1996, the County issued pension obligation bonds and contributed the net bond proceeds to the ACERA pension plan. ACERA received aggregate net proceeds of $591 million from these bonds. Alameda Health System, First 5 Alameda County, and the Superior Court of California for the County of Alameda were part of the County when the pension obligation bonds were issued. They subsequently separated and became discretely presented component units or special districts of the County. The net bond proceeds contributions allow ACERA to provide "pension obligation bond credits" to these employers (thus reducing contributions otherwise payable) over the period of time used by ACERA to amortize its Unfunded Actuarial Accrued Liability (UAAL). These employers received pension obligation bond credits of approximately $62.0 million in the year ended December 31, 2022.

Advance UAAL Contributions

On June 29, 2021, the County and LARPD made voluntary contributions. The County made an $800 million advance contribution to reduce a portion of the UAAL for its safety membership group. LARPD issued pension obligation bonds on June 22, 2021 and contributed $12.6 million to reduce a portion of its UAAL.

As a result of these advance UAAL payments, the County and LARPD received contribution rate credits effective September 1, 2021, when the contribution rates based on the December 31, 2020 actuarial valuation went into effect. These advance UAAL contribution payments are accounted for in a separate reserve account and amortized by applying the contribution rate credits for the respective participating employers at each semi-annual interest crediting period. The amortized amounts are transferred from the advance UAAL contribution reserve account to the employers' advance reserve and COLA reserve accounts in proportion with the applicable Basic and COLA contribution rate credit percentages. For the year ended December 31, 2022, the amortized balances were $84.4, million and $1.0 million for County Safety and LARPD, respectively.

4. Reserves

Reserves represent components of the fiduciary net position. The annual change in ACERA's reserves equals the annual change in the fiduciary net position.

While a member is active, member and employer contributions associated with that member are accumulated in two separate components of reserves—the member reserve and employers' advance reserve. When a member retires, ACERA makes a one-time transfer of the associated contributions plus credited interest from these two reserve components into the retired member reserve, of an amount equal to the estimated lifetime benefits.

Actuarial Asset Smoothing

Net investment income reported on the Statement of Changes in Fiduciary Net Position affects the reserves indirectly through an actuarial asset "smoothing" process approved by the Board of Retirement. This process is intended to minimize the impact of short-term investment gains or losses. Smoothing of asset gains or losses is conducted semi-annually in conjunction with interest crediting, with calculation periods ending June 30 and December 31. It involves spreading the difference between actual and expected market returns over ten successive semi-annual periods to determine the actuarial value of assets.

Semi-annual Interest Crediting

ACERA updates reserve balances on a semi-annual basis as of June 30 and December 31 each year. At these times, ACERA carries out a multi-step process to calculate new reserve balances as specified in Article 5.5 of the 1937 Act. The amount of "net earnings" to be credited for the semi-annual period is calculated based on the actuarial smoothing process described earlier. To the extent that net earnings are available, interest is credited to all components of the reserves, with the exception of the market stabilization reserve and the contingency reserve. Interest credited is based upon the actuarial assumed interest rate (or the actual rate if lower). This is defined as "Regular Earnings."

In June 2014, the Board of Retirement approved the use of the contingency reserve to fund the interest shortfall, whenever the Regular Earnings during the 6-month interest crediting period are less than the assumed rate of return, but not negative.

If there are investment earnings above the target investment return rate, 50% is credited to the SRBR and the remaining 50% is credited proportionally to all other reserves (except for the contingency reserve and the market stabilization reserve).

Components of Reserves

The Member Reserve represents the total accumulated member contributions of current active and inactive (deferred) members. Additions include member contributions and credited interest; and deductions include refunds of member contributions along with credited interest and transfers to the retired member reserve made when a member retires.

The Employers' Advance Reserve represents the total net accumulated employer contributions for future retirement payments to active and deferred members. Additions include contributions from the employers and credited interest; and deductions include transfers to the retired member reserve made when each member retires or payment of benefits upon the death of an active member. Employer contribution rates are actuarially determined taking into account other events such as a member electing a refund of contributions. Therefore, a refund of member contributions should not have an adverse impact on the accumulation of funds in the employers' advance reserve.

According to Section 31618.5 of the 1937 Act, to the extent that an employer contributes to the 401(h) account to pay the cost of administering postemployment medical benefits, there is an annual transfer from the employers' advance reserve to the supplemental retiree benefits reserve for an amount equal to the postemployment medical benefit related administrative expenses. For the year ended December 31, 2022, the transferred amount was $1.7 million.

The Retired Member Reserve represents funds accumulated to pay retirement benefits to retired members. This reserve represents the total net accumulated transfers from the member reserve and the employers' advance reserve (both made at the time a member retires), and credited interest, reduced by payments to retired members, beneficiaries, and survivors.

The Supplemental Retiree Benefits Reserve (SRBR) was established on January 1, 1985, under Article 5.5 of the 1937 Act. The SRBR represents funds required by statute to be set aside from regular earnings and investment earnings above the assumed rate of return to provide supplemental benefits to retirees. The reserves table on page 36 shows the amounts of the SRBR currently available to pay for non-vested benefits. The Board of Retirement decides on an annual basis what member benefits to pay from the SRBR.

When there are funds available in the SRBR, the Board of Retirement can approve a transfer of an amount equal to the participating employers' 401(h) contributions and 401(h) administrative cost contributions from the SRBR to the employers' advance reserve. The Board of Retirement may also approve a transfer from the SRBR to the employers' advance reserve to reimburse the employers' payment of implicit subsidy to pay the full cost of postemployment medical benefits. Non-vested benefits currently funded by the SRBR are described in the following two paragraphs.

The 401(h) Postemployment Medical Benefits Account is used to pay the medical allowances, Medicare Part B reimbursement, dental and vision, and the associated administrative cost. The account is set up under the provisions of Internal Revenue Code section 401(h), which provides for payment of benefits on a tax-free basis. Each year participating employers decide whether to contribute the needed funds and to identify them as 401(h) account contributions. For the year ended December 31, 2022, the employers funded $47.5 million of 401(h) contributions, including $45.8 million for estimated cost of postemployment medical benefits and $1.7 million for administrative cost of the 401(h) account.

The Non-OPEB Reserve is used to pay for the Supplemental COLA and the retired member death benefit. For the year ended December 31, 2022, $0.9 million of Supplemental COLA and $0.3 million of retired member death benefits were paid. The reserve is increased through interest crediting of regular earnings and investment earnings above the assumed rate of return.

The Advance UAAL Contribution Reserve represents reserves of voluntary contributions received from the County to reduce a portion of the UAAL balance for its safety membership group and LARPD to reduce a portion of its UAAL for its general membership. The advance UAAL payments of $800 million from the County and $12.6 million from LARPD were received on June 29, 2021. As a result, the balances were not eligible to share interest crediting from the net deferred gains accumulated in the Market Stabilization Reserve for the five-year interest crediting cycle through June 30, 2021. The balances in the advance UAAL contribution reserve were eligible for interest crediting of regular and excess earnings beginning with the December 31, 2021 semi-annual interest crediting cycle. The advance UAAL payments will be amortized over-time by multiplying the pensionable wages during a particular interest crediting period by the respective contribution rate credits received by the affected membership groups. The amortized balances get transferred to the employers' advance reserve and the COLA reserve accounts in proportion to the rate credit allocation or breakdown between the Basic and COLA contributions. From September 2021 through August 2022, the UAAL rate credit applied to the County safety membership was 42.85% and the rate credit for LARPD's general membership was 28.08%. Effective September 2022, the UAAL rate credit applied to the County safety membership is 41.89% and the rate credit for LARPD's general membership is 29.19%.

The Contingency Reserve represents reserves accumulated to satisfy the statutory requirement of establishing a reserve against deficiencies in future interest crediting. The size of the reserve is determined semi-annually by the Board of Retirement. The 1937 Act stipulates that the contingency reserve cannot exceed 3.0% of total assets and that, if the reserve falls below 1.0% of total assets, earnings from subsequent periods shall fund the reserve until the reserve level is at least 1.0% of total assets. Effective with the June 30, 2014, interest crediting cycle, the Board of Retirement set the contingency reserve to be a minimum of 1.0% of total assets, and authorized the use of funds in the contingency reserve to cover interest shortfalls whenever earnings during the 6-month interest crediting period are less than the assumed rate of return, but not negative.

The Market Stabilization Reserve Account represents the deferred balance of investment gains or losses not yet realized in the interest crediting process. This balance arises from the five-year actuarial smoothing process for investment earnings. The market stabilization reserve account balance thus represents the difference between (1) the aggregate amounts initially deferred (smoothed) from the ten most recent semi-annual periods, and (2) the amounts subsequently recognized for semi-annual interest crediting from these same ten periods.

Allocation of Earnings to Reserves for 2022

ACERA had $1.3 billion losses from investment activities net of administrative expenses for the year ended December 31, 2022. The Contingency Reserve was adjusted to 1% of total assets at December 31, 2022 and subsequently reduced to $0.0 or 0% of total assets to fund the interest crediting shortfall for the six month interest crediting period as of December 31, 2022.

The Market Stabilization Reserve account decreased by $1.9 billion during 2022 as a result of applying the actuarial five-year smoothing process and the actuarial value corridor limits. The advance UAAL contribution reserve accounts received interest crediting of approximately $31.5 million and all other reserve accounts (excluding the contingency and market stabilization reserves) received interest crediting of approximately $709.2 million.

Reserves

As of December 31, 2022 (Dollars in Thousands)

	Pension and Non-OPEB	Postemployment Medical Benefits	Total
Member Reserve	$ 1,822,516	$ -	$ 1,822,516
Employers' Advance Reserve	1,643,115	-	1,643,115
Retired Member Reserve	5,688,242	-	5,688,242
SRBR	54,901	1,113,708	1,168,609
401(h) Account	-	8,979	8,979
Subtotal of All Other Reserves	**9,208,774**	**1,122,687**	**10,331,461**
County Safety Membership - Adv. UAAL Reserve	748,929	-	748,929
LARPD General Membership - Adv. UAAL Reserve	12,236	-	12,236
Subtotal of Advance UAAL Contribution Reserve	**761,165**	**-**	**761,165**
Contingency Reserve	-	-	-
Market Stabilization Reserve Account	(794,114)	-	(794,114)
Total Reserves	**$ 9,175,825**	**$ 1,122,687**	**$ 10,298,512**

5. Net Pension Liability

The components of the Net Pension Liability were as follows:

Net Pension Liability

(Dollars in Thousands)

	December 31, 2022	December 31, 2021
Total Pension Liability	$ 11,489,051	$ 11,009,509
Plan's Fiduciary Net Position[1]	9,257,791	10,217,222
Net Pension Liability	**$ 2,231,260**	**$ 792,287**
Plan's Fiduciary Net Position as a Percentage of the Total Pension Liability	80.58%	92.80%

1 For 2022, the Plan's Fiduciary Net Position amount shown ($9,257,791) includes the net fair value of assets ($10,298,512) less OPEB-related SRBR assets ($1,040,721). The OPEB-related SRBR assets include $1,105,726 in the SRBR-OPEB reserve (after reducing the reserve by the $7,981 SRBR implicit subsidy transfer), and $8,979 in the 401(h) reserve, minus a proportionate share of the deferred market losses commensurate with the size of the OPEB to total SRBR and 401(h) reserve to valuation and 401(h) reserves ($73,984). For 2021, the Plan's Fiduciary Net Position amount shown ($10,217,222) includes the net fair value of assets ($11,840,863) less OPEB-related SRBR assets ($1,623,641). The OPEB-related SRBR assets include $1,073,475 in the SRBR-OPEB reserve (after reducing the reserve by the $5,653 SRBR implicit subsidy transfer), and $9,229 in the 401(h) reserve, plus a proportionate share of one half of the deferred market gains (after adjustment to replenish the balance in the Contingency Reserve, if any) commensurate with the size of the OPEB to total SRBR and 401(h) reserve to valuation and 401(h) reserves ($540,937).

The Net Pension Liability (NPL) for the plan was measured as of December 31, 2022 and 2021. The Plan's Fiduciary Net Position was valued as of the measurement dates and the Total Pension Liability was determined based upon rolling forward the Total Pension Liability (TPL) from actuarial valuations as of December 31, 2021 and 2020, respectively.

The Total Pension Liability and the Plan's Fiduciary Net Position include liabilities and assets for non-OPEB. The assets for non-OPEB are held in the SRBR to pay non-vested Supplemental COLA and the retired member death benefit.

Actuarial Assumptions

The actuarial assumptions used to develop the December 31, 2022 and December 31, 2021, TPLs are based on the results of an experience study for the period December 1, 2016 through November 30, 2019, applied to all periods included in the measurement. They are the same assumptions used in the December 31, 2022 and December 31, 2021 funding valuations for ACERA.

Key Assumptions Used in the Measurement

Valuation Date	December 31, 2022	December 31, 2021
Inflation	2.75%	2.75%
Salary Increases	General: 8.35% to 3.65% and Safety: 11.25% to 4.05%, vary by service, including inflation	General: 8.35% to 3.65% and Safety: 11.25% to 4.05%, vary by service, including inflation
Investment Rate of Return	7.00% , net of pension plan investment expense, including inflation	7.00% , net of pension plan investment expense, including inflation
Other Assumptions Based on Actuarial Experience Study of	December 1, 2016 through November 30, 2019	December 1, 2016 through November 30, 2019

Long-Term Expected Rate of Return

The long-term expected rate of return on pension plan investments[1] was determined in 2020 using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns 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, adding expected inflation and subtracting expected investment expenses and a risk margin. The target allocation (approved by the Board) and projected arithmetic real rates of return for each major asset class, after deducting inflation but before deducting investment expenses, are shown in the following table. This information was used in the derivation of the long-term expected investment rate of return assumption for the December 31, 2022 actuarial valuation. This information will be subject to change every three years based on the results of an actuarial experience study.

Target Asset Allocation and Projected Arithmetic Real Rate of Return

Asset Class	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return
Domestic Large Cap Equity	22.40%	5.43%
Domestic Small Cap Equity	2.50%	6.21%
International Developed Equity	17.00%	6.67%
International Small Cap Equity	3.00%	7.36%
Emerging Markets Equity	5.00%	8.58%
Core Plus Fixed Income	11.50%	1.10%
High Yield Bonds	1.60%	2.91%
Global Fixed Income	3.00%	-0.63%
Private Equity	10.50%	10.00%
Core Real Estate	8.00%	4.58%
Commodities	0.75%	3.46%
Infrastructure	1.75%	7.80%
Private Credit	4.00%	8.50%
Absolute Return	9.00%	3.70%
Total	**100.00%**	**5.56%**

Discount Rate

The discount rate used to measure the Total Pension Liability (TPL) was 7.00% as of December 31, 2022 and December 31, 2021. Article 5.5 of the Statute, which

1 Note that the investment return assumption for funding purposes was developed net of both investment and administrative expenses; however, the same investment return assumption was used for financial reporting purposes, and it was considered gross of administrative expenses for financial reporting purposes. (This resulted in an increase in the margin for adverse deviation when using that investment return assumption for financial reporting.)

authorizes the allocation of 50% of excess earnings to the SRBR, does not allow for the use of a different investment return assumption for funding than is used for interest crediting. In order to reflect the provisions of Article 5.5, future allocations to the SRBR have been treated as an additional outflow against the Plan's Fiduciary Net Position in the GASB crossover test[1]. It is estimated that the additional outflow would average approximately 0.65% of assets over time, based on the results of the actuarial stochastic modeling of the 50% allocation of future excess earnings to the SRBR.

The projection of cash flows used to determine the discount rate assumes plan member contributions will be made at the current contribution rates and that employer contributions will be made at rates equal to the actuarially determined contribution rates[2] plus additional future contributions that would follow from the future allocation of excess earnings to the SRBR. Projected employer contributions that are intended to fund the service costs for the future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the pension plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the Total Pension Liability as of both December 31, 2022 and December 31, 2021.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the Net Pension Liability as of December 31, 2022, calculated using the discount rate of 7.00%, as well as what the Net Pension Liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.00%) or 1-percentage-point higher (8.00%) than the current rate:

As of December 31, 2022 (Dollars in Thousands)

	1% Decrease	Current Discount Rate	1% Increase
Net Pension Liability	$ 3,710,532	$ 2,231,260	$ 1,012,686

Money-Weighted Rate of Return

The annual money-weighted rate of return expresses investment performance, net of investment expenses, adjusted for the changing amounts actually invested. For the year ended December 31, 2022, the annual money-weighted rate of return on the total investments (pension plan and OPEB) was -11.01%. For trend information, refer to the Schedule of Investment Returns under the RSI section on page 61.

6. Actuarial Valuation

ACERA retains an independent actuarial firm to conduct actuarial valuations of the pension plan, postemployment medical benefits, and non-OPEB to monitor ACERA's funding status and to establish the contribution rate requirements for the pension plan.

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and health care cost trends. Actuarially determined amounts are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future.

Pension Plan

The purpose of the valuation is to reassess the magnitude of ACERA's benefit commitments in comparison with the

1 The purpose of the GASB crossover test is to determine if the full expected return (or 7.00% in this case) can be used as the discount rate to determine the TPL and the NPL. That is, if there is no crossover point where the projected benefit payments would exceed the Plan's Fiduciary Net Position, then the full expected return assumption can be used. ACERA does pass the crossover test, which means that the full 7.00% investment rate of return assumption can be used as the discount rate to determine the TPL and the resulting NPL.

2 For this purpose, only employer contributions that are intended to fund benefits of current plan members and their beneficiaries are included.

assets currently available to support those commitments. As a result, employer and member contribution rates are adjusted accordingly. For the pension plan, the actuarial assumptions have been selected to estimate, as closely as possible, what the actual cost of the plan will be so as to permit an orderly method for setting aside contributions in the present to provide benefits in the future, and to maintain equity among generations of participants and taxpayers.

Contribution requirements are determined under the entry age cost method. This method is designed to collect contributions as a level percentage of pay. Any actuarial gains or losses that occur under this method are amortized as a level percentage of pay. To minimize the impact of short-term investment gains or losses, the Board of Retirement adopted an asset smoothing process described starting on page 33 under Actuarial Asset Smoothing.

There are no legal or contractual maximum contribution rates under the 1937 Act that would affect the projection of benefits for financial reporting purposes.

ACTUARIAL METHODS AND ASSUMPTIONS - Pension Plan

The status and funding progress for the pension plan is calculated based on the following actuarial methods and assumptions.

Valuation Date	12/31/2021
Actuarial Cost Method	Entry Age
Amortization Method	Level percent of compensation
Amortization of UAAL (Prior to January 1, 2012)	Closed 30 years decreasing period
Remaining Amortization Period (Prior to January 1, 2012)	11 years
Amortization of New UAAL (On or after January 1, 2012)	The voluntary County Safety UAAL contributions are amortized over a 13-year period effective July 1, 2021 (with 12.5 years remaining as of December 31, 2021). The voluntary LARPD General UAAL contributions are amortized over a 16-year period effective July 1, 2021 (with 15.5 years remaining as of December 31, 2021). Effective December 31, 2021, the existing LARPD General UAAL layers are amortized over 15.5 years. Plan amendments are amortized over separate decreasing 15-year periods. Early retirement incentive programs (ERIPs) are amortized over separate decreasing 5-year periods. Assumption and method changes are amortized over separate decreasing 20-year periods. Experience gains/losses are amortized over separate decreasing 20-year periods.
Asset Valuation Method	Actuarial Value of Assets is determined by phasing in any difference between actual and expected market return semi-annually over a five-year period.
Valuation Value of Assets	The Actuarial Value of Assets reduced by the value of the non-valuation reserves.
Actuarial Assumptions	Interest Rate: 7.00% Inflation Rate: 2.75% Across-the-Board Salary Increases: 0.50% Salary Increases: General 8.35% - 3.65% and Safety 11.25% - 4.05% Demographic: refer to page 112
Postemployment Benefit Increases	2.75% of Tier 1 and Tier 3 retirement income 2.00% of Tier 2 and Tier 4 retirement income

Postemployment Medical Benefits

If participating employers continue to make contributions to the 401(h) account, and the Board of Retirement continues to treat equal amounts of SRBR assets as contributions for pensions, then the postemployment medical benefits are 90.8% funded assuming that the current benefit continues in perpetuity.

Actuarial calculations reflect a long-term perspective and employ methods and assumptions that are designed to reduce short-term volatility.

Under the actuarial assumed rate of 7.00% per year for future investment earnings, it is anticipated that available assets will be sufficient to fund postemployment medical benefits through year 2046.

ACTUARIAL METHODS AND ASSUMPTIONS - Postemployment Medical Benefits

The status and funding progress for the postemployment medical benefits is calculated based on the following actuarial methods and assumptions.

Valuation Date	12/31/2021
Actuarial Cost Method	Entry Age
Asset Valuation Method	Same as Pension Plan
Actuarial Assumptions	Same as Pension Plan
Health Care Cost Trend Rates:	
Non-Medicare Plan	Graded down from 7.50% by 0.25% each year until it reaches 4.50%
Medicare Advantage Plan	Graded down from 6.50% by 0.25% each year until it reaches 4.50%
Dental[1]	0.00% for the first year and 4.00% each year thereafter
Vision[2]	0.00% for the first three years and 4.00% each year thereafter
Medicare Part B	4.50%
Postemployment Benefit Increases:	
Dental, Vision, and Medicare Part B	Subsidies are assumed to increase at 100% of the health care cost trend rates for these benefits.
Monthly Medical Allowance (MMA)	Subsidies are assumed to increase at 50% of the health care cost trend rates for MMA benefits or 3.125% from calendar year 2023 to 2024, graded down to the ultimate rate of 2.25% over 7 years.

1 Dental premiums fixed at 2021 levels for the first year to reflect a three-year rate guarantee.
2 Vision premiums fixed at 2021 levels for the first three years to reflect a five-year rate guarantee.

Non-OPEB

Actuarial calculations reflect a long-term perspective and employ methods and assumptions that are designed to reduce short-term volatility.

Under the actuarial assumed rate of 7.00% per year for future investment earnings, it is anticipated that available assets will be sufficient to fund the Supplemental COLA and retired member death benefit program through year 2043.

ACTUARIAL METHODS AND ASSUMPTIONS - Non-OPEB

The status and funding progress for the Non-OPEB is calculated based on the following actuarial methods and assumptions.

Valuation Date	12/31/2021
Actuarial Cost Method	Entry Age
Asset Valuation Method	Same as Pension Plan
Actuarial Assumptions	Same as Pension Plan
Postemployment Benefit Increases:	
Supplemental COLA Benefits	Payable when the current allowance from the pension plan drops below 85% of the original pension plan benefit indexed with CPI. Benefits are assumed to increase by the difference between inflation and the cost-of-living benefit guaranteed in the pension plan (3.00% for Tier 1 and Tier 3; and 2.00% for Tier 2, Tier 2C, Tier 2D, and Tier 4), subject to other limitations.

7. Postemployment Medical Benefits and Net OPEB Liability

Plan Description

ACERA administers a cost-sharing multiple-employer defined benefit non-vested medical benefits program for eligible retired members even though there is no direct contribution made to fund these non-vested benefits. Retirees can also purchase medical benefits for eligible dependents on an out-of-pocket basis. The postemployment medical, dental and vision benefits and the related administrative costs are paid through a 401(h) account funded by the participating employers' 401(h) account contributions.

The plan provides the following postemployment benefits:

- Health care subsidy in the form of monthly medical allowance,
- Medicare Part B reimbursement, and
- Dental and vision subsidies.

These benefits are paid in the form of a monthly medical allowance. The allowance is subject to annual reauthorization by the Board of Retirement.

Plan Membership

Demographic Data as of December 31, 2022	
Retired members receiving medical benefits	6,876
Retired members receiving dental and vision benefits	8,272
Vested terminated members entitled to, but not receiving benefits	508
Active members	11,346

Benefits Provided

The County negotiates the medical contracts with the providers covering both active and retired members. This arrangement results in "blended" medical premium rates that allow early retirees under 65 years of age, not yet Medicare-eligible, to purchase medical insurance from one of these providers at rates lower than otherwise available (an "implicit subsidy"). ACERA and the County collectively determined that the total amount of implicit subsidy for the blended medical premium rate for the year 2021 was $5.6 million. SRBR assets in this amount were treated as a pension contribution in 2022 upon the Board of Retirement's approval to compensate the County for the implicit subsidy. The estimated implicit subsidy amount for 2022 is $8.0 million. Outside of the County negotiated group plans, retirees over the age of 65 have the option to purchase individual Medicare insurance through a Medicare exchange. ACERA utilizes Health Reimbursement Accounts (HRAs) to facilitate the monthly medical allowance for these members.

Benefit Eligibility

Only ACERA's retirees are eligible to receive the medical, dental and vision subsidies; dependents are ineligible to receive these benefits. Retirees eligible for monthly medical allowance are also eligible for reimbursement of Medicare Part B premiums. The 2022 maximum monthly allowance for group plans and under age-65 members enrolled in individual insurance exchange was $596.73 and $457.13 for members enrolled in the individual plans through the Medicare exchange. The maximum monthly combined dental and vision subsidy was $48.12 in 2022.

The actual amount of the monthly medical allowance for each retiree depends on the retiree's number of years of service. A minimum of 10 years of service is required for service retirement and non-duty disability retirement. There is no minimum service requirement for duty disability retirees. The subsidies are 50% for retirees with 10-14 years of service, 75% for retirees with 15-19 years of service, and 100% for retirees with 20+ years of service.

Covered Retirees

Retirees currently enrolled in the medical, dental, and vision plans through the program are as follows:

As of December 31, 2022

Number of Subsidized Retirees	
Medical	5,247
Medicare Exchange	1,777
Medicare Part B	5,937
Dental and Vision	8,377

Contributions and Reserves

There are no legal or contractual contribution requirements for the OPEB plan. Please refer to Note 3 starting on page 31 for details.

Reserve requirements of the SRBR are disclosed under Note 4 starting on page 33.

Investments

ACERA's OPEB plan is unique in that there are no direct contributions to invest for this plan. Funding for the OPEB plan relies entirely on semi-annual earnings allocations from the total fund to the Supplemental Retiree Benefits Reserve (SRBR) as mandated by Article 5.5 of the 1937 Act. ACERA's total fund includes assets of the pension plan and SRBR. The OPEB assets are accumulated in the 401(h) account and the SRBR OPEB reserve account. Therefore, references to investment target allocations, long-term expected rate of return, and discount rate all apply to the total fund.

The total fund's annual money-weighted rate of return on investments, net of investment expenses is reported on page 61 of the RSI.

Net OPEB Liability

The components of the Net OPEB Liability (Asset) were as follows:

(Dollars in Thousands)

	December 31, 2022	December 31, 2021
Total OPEB Liability	$ 1,232,017	$ 1,203,078
Plan's Fiduciary Net Position[1]	1,040,721	1,623,641
Net OPEB Liability (Asset)	**$ 191,296**	**$ (420,563)**
Plan's Fiduciary Net Position as a Percentage of the Total OPEB Liability	84.47%	134.96%

1 *For 2022, the Plan's Fiduciary Net Position shown ($1,040,721) includes the OPEB-related SRBR reserve of $1,105,726 (after reducing the reserve by the SRBR implicit subsidy transfer of $7,981) and 401(h) reserve ($8,979), less the proportionate share of the net deferred investment loss that is commensurate with the size of the OPEB SRBR reserve to total SRBR and 401(h) reserve to valuation and 401(h) reserves ($73,984). For 2021, the Plan's Fiduciary Net Position shown ($1,623,641) includes the OPEB-related SRBR reserve of $1,073,475 (after reducing the reserve by the SRBR implicit subsidy transfer of $5,653) and 401(h) reserve ($9,229), plus the proportionate share of one half of the net deferred investment gain that is commensurate with the size of the OPEB SRBR reserve to total SRBR and 401(h) reserve to valuation and 401(h) reserve ($540,937).*

The Net OPEB Liability (Asset) was measured as of December 31, 2022 and 2021. The Plan's Fiduciary Net Position was valued as of the measurement date, while the Total OPEB Liability was determined by rolling forward the Total OPEB Liability as of December 31, 2021 and 2020, respectively.

Plan Provisions

The plan provisions used in the measurement of the Net OPEB Liability (Asset) as of December 31, 2022 and

2021 are the same as those used for the SRBR sufficiency valuation as of December 31, 2021 and 2020, respectively.

Actuarial Assumptions

The actuarial assumptions used for the December 31, 2022 and December 31, 2021 valuations were based on the results of the experience study for the period from December 1, 2016 through November 30, 2019 that were approved by the Board effective with the December 31, 2020 valuation and the health care trend assumptions recommended for the sufficiency study for the SRBR as of December 31, 2022. The assumptions used in the December 31, 2022 and December 31, 2021 SRBR OPEB actuarial valuations for ACERA were applied to all periods included in the measurement.

Key Assumptions Used in the Measurement

Valuation Date	December 31, 2022	December 31, 2021
Investment Rate of Return	7.00% , net of OPEB investment expense, including inflation	7.00% , net of OPEB investment expense, including inflation
Inflation	2.75%	2.75%
Health Care Premium Trend Rates	Used to project health care cost after calendar year 2023:	Used to project health care cost after calendar year 2022:
Non-Medicare medical plan	Graded from 7.50% in 2023 to ultimate 4.50% over 12 years	Graded from 7.50% in 2022 to ultimate 4.50% over 12 years
Medicare medical plan	Graded from 6.25% in 2023 to ultimate 4.50% over 7 years	Graded from 6.50% in 2022 to ultimate 4.50% over 8 years
Dental	4.00%	0.00% for the first year to reflect a three-year rate guarantee (premiums fixed at 2021 level for 2022 and 2023) and 4.00% thereafter.
Vision	0.00% for the first two years to reflect a five-year rate guarantee (premiums fixed at 2021 level for 2022, 2023, 2024 and 2025) and 4.00% thereafter.	0.00% for the first three years to reflect a five-year rate guarantee (premiums fixed at 2021 level for 2022, 2023, 2024 and 2025) and 4.00% thereafter.
Medicare Part-B[1]	4.50%	4.50%
Other Assumption Based on Actuarial Experience Study	December 1, 2016 through November 30, 2019	December 1, 2016 through November 30, 2019

1 The actual calendar year 2022 premium decrease of 3.06% reflecting the standard 2023 calendar year premium of $164.90 per month, consistent with actuary's Medicare Part B memo dated October 27, 2022 was reflected in the GASB 74 valuation with December 31, 2022 measurement date. The actual calendar year 2021 premium increase of 14.55% reflecting the standard 2022 calendar year premium of $170.10 per month, consistent with actuary's Medicare Part B memo dated November 19, 2021 was reflected in the GASB 74 valuation with December 31, 2021 measurement date.

Long-Term Expected Rate of Return

The long-term expected rate of return on OPEB plan investments[1] was determined in 2020 using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns 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, adding expected inflation and subtracting expected investment expenses and a risk margin. The target allocation (approved by the Board) and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before investment expenses are shown in the target asset allocation and projected arithmetic real rate of return

1 Note that the investment return assumption for SRBR sufficiency testing (and pension plan funding) purposes was developed net of both investment and administrative expenses; however, the same investment return assumption was used for financial reporting purposes, and it was considered gross of administrative expenses for financial reporting purposes. (This resulted in an increase in the margin for adverse deviation when using that investment return assumption for financial reporting.)

table. This information was used in the derivation of the long- term expected investment rate of return assumption for the December 31, 2022 actuarial valuation. This information will be subject to change every three years based on the results of an actuarial experience study.

The target asset allocation and projected arithmetic real rate of return table is shown on page 37 Note 05.

Discount Rate

The discount rate used to measure the Total OPEB Liability was 7.00% as of December 31, 2022 and December 31, 2021. The projection of cash flows used to determine the discount rate assumed benefits are paid out of the current OPEB SRBR assets. Based on those assumptions, the SRBR OPEB Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on the OPEB plan investments was applied to all periods of projected benefit payments to determine the Total OPEB Liability as of December 31, 2022 and December 31, 2021.

Sensitivity of the Net OPEB Liability to Changes in the Discount Rate

The following presents the Net OPEB Liability as of December 31, 2022, calculated using the discount rate of 7.00%, as well as what the Net OPEB Liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.00%) or 1-percentage-point higher (8.00%) than the current rate.

As of December 31, 2022 (Dollars in Thousands)

	1% Decrease	Current Discount Rate	1% Increase
	(6.00%)	(7.00%)	(8.00%)
Net OPEB Liability	$ 355,667	$ 191,296	$ 55,443

Sensitivity of the Net OPEB Liability to Changes in the Health Care Cost Trend Rate

The following presents the Net OPEB Liability as of December 31, 2022, calculated using the trend rate as well as what the Net OPEB Liability would be if it were calculated using a trend rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate.

As of December 31, 2022 (Dollars in Thousands)

	1% Decrease[1]	Current Trend Rates[1]	1% Increase[1]
Net OPEB Liability	$ 29,595	$ 191,296	$ 392,245

1 Current trend rates: 7.50% graded down to 4.50% over 12 years for Non-Medicare medical plan costs; 6.25% graded down to 4.50% over 7 years for Medicare medical plan costs, 4.00% for all years and after two years for Dental and Vision costs, respectively; and 4.50% for all years for Medicare Part B costs. The first two years of trend for vision were 0.00% to reflect five-year rate guarantee (premiums fixed at 2021 levels for 2022, 2023, 2024 and 2025).

8. Deposits and Investments

The 1937 Act gives the Board of Retirement exclusive control over ACERA's investment portfolio. Except as otherwise restricted by the California constitution or other laws, the 1937 Act allows the Board of Retirement to prudently invest, or delegate the authority to invest the investment portfolio through the purchase, holding, or sale of any form or type of investment, financial instrument, or financial transaction.

The Board of Retirement investment authority granted under the 1937 Act was also incorporated into the state constitution as the California Pension Protection Act of 1992 (Article 16, Section 17 of the California Constitution), which requires the Board, its officers, and employees to discharge their duties with respect to

ACERA and the investment portfolio under the following rules:

- "The members of the retirement board shall discharge their duties with respect to the system solely in the interest of, and for the exclusive purposes of providing benefits to participants and their beneficiaries, minimizing employer contributions thereto, and defraying reasonable expenses of administering the system.
- The members of the retirement board shall discharge their duties with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims.
- The members of the retirement board shall diversify the investments of the system so as to minimize the risk of loss and to maximize the rate of return, unless under the circumstances it is clearly not prudent to do so."

Deposits

Operational cash accounts held with a financial institution are swept daily into a pooled money market fund, which invests in repurchase agreements and U.S. treasury bills and notes.

Investments

ACERA's asset classes include domestic equity, international equity, domestic fixed income, international fixed income, real estate, private equity, absolute return, private credit and real assets. Investments in any asset class may be held in direct form, commingled/pooled form, or both.

As of December 31, 2022, fourteen investment managers managed the stock and fixed income securities portfolios, fourteen investment managers were used for real estate investments, thirty-three investment managers were used for private equity, five investment managers were used for absolute return, five investment managers were used for private credit and nine investment managers were used for real assets investments.

Available cash held by investment managers is swept daily into a pooled short-term investment fund managed by the custodial bank. This short-term investment fund holds short-term obligations and deposits, including U.S. treasury and agency obligations, corporate bonds, commercial paper, repurchase agreements, certificates of deposit, bankers' acceptances, time deposits, and floating-rate notes.

Likewise, cash collateral received in connection with the securities lending program in which ACERA participates is held in a separate short-term investment pool managed by State Street Global Advisors.

These two investment pools are each held in a trust fund sponsored by State Street Bank and Trust Company, the investment custodian, and the securities lending agent.

The value of the underlying instruments in these investments pools is adjusted to fair value. The fair value of ACERA's position in these investment pools is not materially different from the value of the pool shares.

Governmental Accounting Standards Board, Statement No. 72 (GASB 72), Fair Value Measurement and Application, generally requires investments to be measured at fair value, using the appropriate valuation techniques under the circumstances and for which sufficient data are available to measure the fair value. The three approaches to measuring fair value are:

1. Market Approach (actual market transactions for identical or similar items);
2. Cost Approach (the current cost to replace the service capacity of an asset); and
3. Income Approach (discounting the current value of the future cash flows).

The quality of the data (inputs) used to determine fair value can vary. Some inputs are directly or indirectly observable (independently verifiable). Other inputs are unobservable. GASB 72 establishes a three-tier hierarchy of inputs used to measure fair value consisting of:

1. Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that a government can access at the measurement date. Level 1 investments include public equity securities and other publicly traded securities such as widely held domestic and international stocks, certain derivative instruments and U.S. Treasury securities.
2. Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for an asset or liability, either directly or indirectly. These inputs can include quoted prices for similar assets or liabilities in active or inactive markets, or market-corroborated inputs. Fair values may be based on market multiples techniques and/or matrix pricing techniques. Level 2 investments include fixed or variable-income securities, commingled funds, certain derivative instruments and other assets that are valued using market information.
3. Level 3 inputs are unobservable inputs for an asset or liability. Included in this level are corporate bonds that are restricted and do not trade readily. The fair value of investments in real estate separate properties which is based on prices in a competitive market as determined by the investment manager relying on periodic appraisals is also included in Level 3 investments.

GASB 72 allows a government entity to use Net Asset Value (NAV) per share (or its equivalent) for an investment in a nongovernmental entity that does not have a readily determined fair value. Investments measured at NAV without determinable fair value are excluded from the level of fair value hierarchy. Selected additional disclosures are required for investments measured at NAV such as fair value measurement, government's unfunded commitments related to the investment type, general description of the terms and conditions upon which a government may redeem investments, and an estimate of when the redemption restriction might lapse for investments restricted from redemption. For investments in private vehicles (i.e. limited partnerships), such as those found in the real assets, private equity, private credit, absolute return, and real estate asset classes, ACERA relies on the audited financial statements, unaudited capital account statements from the partnerships, cash flows into the partnerships (i.e. capital calls), distributions from the partnerships (i.e. distributions), and appraisals. The inputs used by the general partner include some or all of the following: the original transaction price, recent private transactions in the same or similar instruments, completed or pending third-party transactions in comparable businesses, recapitalizations and other transactions across the capital structure, public market valuation multiples for similar offerings in the equity or debt capital markets, discounted cash-flow ("DCF") valuations based on projected cash flows, as well as changes in the investment's earnings before interest, taxes, depreciation and amortization, cash flows, implied yields and leverage ratios.

Investments and Derivative Instruments Measured at Fair Value - Pension Plan

As of December 31, 2022 (Dollars in Thousands)

Investments by Fair Value Level	Total	Fair Value Measurements Using Quoted Prices in Active Markets for Identical Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3
Cash Equivalents				
Government Issues	$ 26,668	$ 26,668	$ -	$ -
STIF-Type Instruments	170,032	-	170,032	-
Total Cash Equivalents	**196,700**	**26,668**	**170,032**	**-**
Fixed Income Securities				
Auto Loan Receivable	11,374	-	11,374	-
CMO	112,263	-	112,263	-
Convertible Bonds	15,109	-	15,109	-
Corporate Bonds	570,481	-	570,481	-
Credit Card Receivable	336	-	336	-
FHLMC	74,342	-	74,342	-
FNMA	166,589	-	166,589	-
GNMA I	637	-	637	-
GNMA II	40,561	-	40,561	-
Government Issues	380,279	220,188	160,091	-
Municipals	2,382	-	2,382	-
Mutual Funds	75,541	-	75,541	-
Other Asset Backed	37,370	(200)	37,570	-
Total Fixed Income Securities	**1,487,264**	**219,988**	**1,267,276**	**-**
Equity Securities				
Non-U.S. Equity	1,103,928	1,103,928	-	-
Pooled Investments	3,392,669	2,013,410	1,379,259	-
U.S. Equity	512,795	511,553	1,242	-
Total Equity Securities	**5,009,392**	**3,628,891**	**1,380,501**	**-**
Real Assets				
Mutual Funds	362,148	-	362,148	-
Total Real Assets	**362,148**	**-**	**362,148**	**-**
Real Estate				
Properties	55,578	-	-	55,578
Total Real Estate	**55,578**	**-**	**-**	**55,578**
Collateral from Securities Lending	133,699	-	133,699	-
Total Investments by Fair Value Level	**7,244,781**	**$ 3,875,547**	**$ 3,313,656**	**$ 55,578**
Investments Measured at Net Asset Value (NAV)				
Real Assets	258,311			
Private Equity	993,108			
Private Credit	260,764			
Absolute Return	851,556			
Real Estate	780,660			
Total Investments Measured at NAV	**3,144,399**			
Total Investments	**$ 10,389,180**	**$ 3,875,547**	**$ 3,313,656**	**$ 55,578**
Derivative Instruments				
Futures	$ (1,001)	$ (1,001)	$ -	$ -
Forwards and Spot Contracts	2,476	2,476	-	-
Total Derivative Instruments	**$ 1,475**	**$ 1,475**	**$ -**	**$ -**

Investments Measured at the NAV

As of December 31, 2022 (Dollars in Thousands)

	Fair Value	Unfunded Commitments	Redemption Frequency (If Currently Eligible)	Redemption Notice Period
Real Assets[1]	$ 258,311	$ 80,394	Not Eligible	N/A
Private Equity[2]	993,108	366,673	Not Eligible	N/A
Absolute Return[3]	851,556	7,241	Not Eligible, or Between Daily and Quarterly	N/A or Between 1 Day and 90 Days
Real Estate[4]	780,660	128,143	Not Eligible or Quarterly	N/A or up to 90 Days
Private Credit[5]	260,764	120,841	Not Eligible	N/A
Total Investments Measured at NAV	**$ 3,144,399**	**$ 703,292**		

1 *Real Assets – The Real Assets portfolio consists of 11 funds which include 10 limited partnerships and 1 separately managed account. The 10 limited partnerships are commingled vehicles that invest in private infrastructure and natural resources. These limited partnerships are valued at net asset value on a quarterly basis and, due to contractual limitations, none of these vehicles are eligible for redemption but rather distribute capital proceeds over the funds' lifespans, which are up to 12 years. The one separately managed account holds shares in three commingled vehicles. These commingled vehicles invest in publically traded infrastructure and natural resources equities, commodity futures, and total return swaps. This separately managed account is not measured at net asset value and classified as level 2 in fair value hierarchy.*

2 *Private Equity – The Private Equity portfolio consists of 61 funds, which invest primarily in buyout, debt-related, special situations, and venture capital opportunities. The fair value of these funds is determined using net asset value represented in the audited financial statements plus/minus the latest quarterly cash flows. These funds are not eligible for redemption but rather distribute capital proceeds over the funds' lifespans in either cash or "in-kind" shares of the funds' portfolio companies. Distributions to the funds' investors occur over the span of approximately 8 to 15 years.*

3 *Absolute Return – The Absolute Return portfolio consists of 6 funds that include a variety of commingled, liquid and illiquid idiosyncratic strategies and two fund of hedge funds account. Three of the funds are illiquid limited partnerships, which are valued at net asset value on a quarterly basis. Due to contractual limitations, these vehicles are not eligible for redemption for up to 6 years. The fourth fund is a limited liability company, which is valued daily at net asset value and is subject to daily liquidity. The two custom fund of hedge funds includes one that is a limited liability company and one that is a limited partnership. Valuations for these accounts occur monthly, and redemptions can occur quarterly.*

4 *Real Estate – The Real Estate portfolio consists of 18 funds and a separate building (1), which also serves as ACERA's headquarters. The Real Estate funds in the portfolio invest primarily in U.S. commercial real estate (office, industrial, retail, multi-family, and other). These funds are designed as open-end commingled funds or as limited partnerships (private equity structure). The investments that are structured as limited partnerships are not eligible for redemption but rather distribute proceeds over the funds' lifespan as distributions or return of capital. The primary objectives of the real estate portfolio are income and appreciation; distribution income is typically made on a quarterly basis throughout the lives of the funds. The fair value of these funds is determined using third-party appraisals every three years or an internal appraisal. Net asset values are typically reported one quarter in arrears, plus/minus the latest quarter's cash flows (capital calls, management fees, and distributions). The open-end commingled funds are eligible for redemption, typically, with up to 90 days' notice. These open-end commingled funds may also be subject to a withdrawal queue.*

5 *Private Credit – The Private Credit Portfolio is comprised of 5 Funds. The funds are illiquid limited partnerships and are valued at net asset value on a quarterly basis. Due to contractual limitations, the funds are not eligible for redemption but rather distribute capital proceeds over the funds' lifespans, which are up to nine years. Private Credit investments are typically performing senior secured, first or second lien loans secured against the assets of a company.*

Derivative Instruments

ACERA has the following types of derivative instruments: futures contracts, currency forward contracts, spot contracts, swap contracts, and warrants. A futures contract represents an agreement to purchase or sell a particular asset for a given price at a specified future date. Currency forward contracts generally serve to hedge or offset, the impact of foreign currency exchange rate fluctuations on the reported U.S. dollar fair value of investments denominated in foreign currencies. A swap is a derivative contract through which two parties exchange the cash flows or liabilities from two different financial instruments. Warrants allow the holder the right, but not the obligation, to buy or sell a security for a given price within a specified time period.

The following Investment Derivative Instruments schedule reports the fair value balances, changes in fair value, and notional amounts of derivative instruments outstanding as of and for the year ended December 31, 2022, classified by type. For financial reporting purposes, all ACERA derivative instruments are classified as investment derivative instruments.

Investment Derivative Instruments

For Year Ended December 31, 2022 (Dollars in Thousands)

Derivative Instruments Type	Classification	Notional Value/Shares	Fair Value	Changes in Fair Value[1]
Fixed Income Futures Long	Futures	$ 57,200	$ -	$ (13,637)
Fixed Income Futures Short	Futures	-	-	2,782
Foreign Currency Futures Long	Futures	4,400	-	(310)
Currency Forward Contracts	Long Term Instrument[2]	123,699	2,477	(12,132)
Index Futures Long	Futures	34	-	(15,071)
Warrants	Common Stock	15	12	(12)
Total			**$ 2,489**	**$ (38,380)**

1 *Changes in fair value includes realized and unrealized gains and losses on derivative instruments and are reported as Net Appreciation (Depreciation) in Fair Value of Investments on the Statements of Changes in ACERA's Fiduciary Net Position.*

2 *Currency forward contracts are reported in Foreign Exchange Contracts, which includes spot contracts which are not derivative instruments.*

Securities Lending Activity

The Board of Retirement policies authorize ACERA to participate in a securities lending program. Securities lending transactions are short-term collateralized loans of ACERA's securities for the purpose of generating additional investment income. ACERA has a securities lending agreement in place that authorizes the securities lending agent to lend ACERA's securities to broker-dealers and banks pursuant to a loan agreement. For securities on loan, ACERA receives either cash or non-cash collateral. ACERA invests the cash collateral in a pooled short-term investment fund maintained by the securities lending agent and receives earnings on it in exchange for paying a loan rebate fee to the borrower. In the case of non-cash collateral, the borrower pays ACERA a loan premium.

For the year ended December 31, 2022, on behalf of ACERA, the securities lending agent lent ACERA's securities (government bonds, corporate stocks, corporate bonds, international equities, and international fixed income) to borrowers under the securities lending agreement and ACERA received cash (U.S. and foreign currency), securities issued or guaranteed by the United States government, and sovereign debt or irrevocable bank letters-of-credit as collateral.

ACERA did not have the ability to pledge or sell collateral securities delivered absent a borrower default (therefore, such non-cash collateral is not reported on the Statement of Fiduciary Net Position).

Borrowers were required to deliver collateral for each loan equal to:

- Loaned securities denominated in U.S. dollars or sovereign debt issued by foreign governments, with a margin of at least 102% of the fair value of the loaned securities; or
- Loaned securities not denominated in U.S. dollars, or whose primary trading market was not located in the United States, with a margin of at least 105% of the fair value of the loaned securities.

Moreover, borrowers were required to maintain the designated margin percentage of collateral on a daily basis.

ACERA did not impose any restrictions for the year ended December 31, 2022, on the amount of the loans that the securities lending agent made on its behalf. In the event the borrower failed to return the loaned securities, the securities lending agent indemnified ACERA by agreeing to purchase replacement securities. If the collateral was inadequate to replace the securities lent, the securities lending agent supplemented the amount of cash collateral. If the borrower failed to pay ACERA for any income distributions on loaned securities, the securities lending agent will also supplement the income amount due to ACERA. There were no losses during the year ended December 31, 2022, resulting from a default of the borrowers or the securities lending agent.

For the year ended December 31, 2022, ACERA and the borrowers maintained the right to terminate securities lending transactions upon notice. The cash collateral received on each loan was invested, together with the cash collateral of other qualified tax-exempt plan lenders in a collective investment fund comprised of a liquidity pool. As of December 31, 2022, the Quality D Short–Term investment fund liquidity pool had an average duration of 3.29 days and an average weighted final maturity of 96.01 days for U.S. dollars collateral. For the year ended December 31, 2022, ACERA had no credit risk exposure to borrowers because, for each borrower, the value of borrower collateral held exceeded the value of the securities on loan to the borrower.

As of December 31, 2022, ACERA had securities on loan with a total fair value of $171.76 million; however, the fair value of collateral held against the loaned securities was $176.77 million which is more than the total fair value of loaned securities by $5.01 million.

Deposit, Investment, and Derivative Instrument Risks

GASB Statements No. 40 (GASB 40) and No. 53 (GASB 53) require the disclosure of specific risks that apply to ACERA's deposits, investments, and derivative instruments. They identify the following risks:

- Custodial Credit Risk—Deposits and Investments;
- Concentration of Credit Risk;
- Credit Risk—Investments and Derivative Instruments;
- Interest Rate Risk;
- Fair Value Highly Sensitive to Changes in Interest Rates; and,
- Foreign Currency Risk

Investment Policies

GASB 40 requires the disclosure of deposit or investment policies (or the lack thereof) that relate to investment and custodial risks.

ACERA has chosen to manage the investment risks described by GASB 40 and GASB 53 by contractually requiring each portfolio investment manager to abide by restrictive investment guidelines specifically tailored to that individual manager rather than adopting across-the-board investment policies with respect to these investment risks. The guidelines stipulate the investment style, performance objective, performance benchmarks, and portfolio characteristics.

For example, in the case of foreign currency risk, the policy guidelines for the U.S. dollars equity portfolios differ from those for the non-U.S. dollars equity portfolios. Likewise, in the case of credit risk, the guidelines for one fixed income manager stipulate a minimum acceptable credit rating for each debt instrument while the guidelines for a different fixed income portfolio merely require that the average credit ratings for a certain fair value percentage of the portfolio meet a minimum requirement.

Each separate account manager is likewise subject to a "manager standard of care" that establishes a fiduciary relationship requiring the manager to act prudently and solely in the best interest of ACERA.

Separately, ACERA's guidelines also require each manager's investment return performance to compare favorably with the performance of the relevant passive market index such as the Barclays Capital Aggregate Bond Index.

ACERA's investment staff continually monitors all investment managers for compliance with the respective guidelines.

Custodial Credit Risk—Deposits

Custodial credit risk for deposits is the risk that, in the event of the failure of a depository financial institution, ACERA will not be able to recover deposits nor be able to recover collateral securities that are in the possession of an outside party. ACERA has no general policy on custodial credit risk for deposits.

By necessity, ACERA maintains operational cash deposits to support day-to-day cash management requirements. As of December 31, 2022, cash held with a financial institution in a pooled money market fund amounted to $8.39 million, of which $0.50 million was insured and $7.89 million was uninsured and uncollateralized subject to custodial credit risk.

Custodial Credit Risk—Investments

The custodial credit risk for investments is the risk that, in the event of the failure of a counterparty to a transaction, ACERA will not be able to recover the value of investment securities that are in the possession of an outside party. The individual investment guidelines for each investment manager require that managed investments be held and maintained with the master custodian in the name of ACERA. The master custodian may rely on sub-custodians. The custodial requirement does not apply to real estate investments, investments in commingled pools, private equity, absolute return, private credit and real assets. As of December 31, 2022, ACERA had no investments that were exposed to custodial credit risk.

Custodial Credit Risk—Derivative Instruments

ACERA's investments include collateral associated with derivative instruments. As of December 31, 2022, net collateral for derivative instruments was $5.94 million. Each account was uninsured and uncollateralized, and subject to custodial credit risk.

Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of ACERA's investment in a single issuer of securities. The individual investment guidelines for each fixed income manager restrict concentrations greater than 5% in the securities of any one issuer (excluding direct obligations of the U.S. and/or eligible foreign governments, and those explicitly guaranteed by the U.S. and/or eligible foreign governments). As of December 31, 2022, ACERA had no investments in a single issuer that equaled or exceeded 5% of the fiduciary net position.

Credit Risk—Investments

Credit risk is the risk that the issuer of a debt security or other counterparty to an investment will not fulfill its obligations. The individual investment guidelines for each fixed income investment manager describe applicable restrictions on credit risk. The credit risk restrictions by investment portfolio are as follows:

The credit quality ratings of a security, (e.g., from Moody's or S&P) give an indication of the degree of credit risk for that security.

The Credit Risk Analysis schedule on page 52 discloses credit ratings of ACERA's debt investments by type and for each external investment pool as of December 31, 2022.

Credit Risk Analysis

As of December 31, 2022 (Dollars in Thousands)

		Adjusted Moody's Credit Rating[1]								
Debt Investments By Type	**Total**	**Aaa**	**Aa**	**A**	**Baa**	**Ba**	**B**	**Caa**	**Ca and Below**	**Not Rated**
Collateralized Mortgage Obligations	$ 112,263	$ 78,978	$ 407	$ 1,027	$ 766	$ 2,096	$ 1,019	$ 570	$ 46	$ 27,354
Convertible Bonds	15,109	-	-	-	1,213	-	-	3,851	-	10,045
Corporate Bonds	570,481	-	1,715	53,229	404,336	73,170	27,551	5,566	-	4,914
Federal Home Loan Mortgage Corp.[2]	74,342	-	-	-	-	-	-	-	-	74,342
Federal National Mortgage Assn.[2]	166,589	-	-	-	-	-	-	-	-	166,589
Government National Mortgage Assn. I, II[2]	41,198	-	-	-	-	-	-	-	-	41,198
Government Issues[3]	380,279	310,494	3,767	10,141	9,286	1,776	-	129	-	44,686
Municipal	2,382	62	197	2,123	-	-	-	-	-	-
Other Asset Backed Securities	49,280	40,429	228	303	2,044	756	-	405	2,303	2,812
Subtotal Debt Investments	**1,411,923**	**429,963**	**6,314**	**66,823**	**417,645**	**77,798**	**28,570**	**10,521**	**2,349**	**371,940**
Securities Lending Cash Collateral Fund										
Liquidity Pool[4]	133,728	-	-	-	-	-	-	-	-	133,728
Master Custodian Short-Term Investment Fund[4]	170,032	-	-	-	-	-	-	-	-	170,032
Subtotal External Investment Pools	**303,760**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**303,760**
Total	**$1,715,683**	**$429,963**	**$ 6,314**	**$ 66,823**	**$ 417,645**	**$ 77,798**	**$ 28,570**	**$10,521**	**$ 2,349**	**$675,700**

1 *Adjusted Moody's Credit Rating: This schedule displays the fair value of investments by credit rating in increasing magnitude of risk. Investments are classified by Moody's credit rating, or by the Moody's rating that corresponds to the Standard & Poor's (S&P) credit rating if the investment has a S&P rating but not a Moody's rating. Also whenever both ratings for an investment exist and the S&P rating for the investment indicates a greater degree of risk than the Moody's rating, then the investment's Moody's credit rating is adjusted, solely for the purpose of this disclosure, to the Moody's rating corresponding to the greater degree of risk.*

2 *The investments in the following debt instruments --i.e., Federal Home Loan Mortgage Corp., Federal National Mortgage Assn., and Government National Mortgage Assn., that are Not Rated are implicity guaranteed by the U.S. Government.*

3 *In Government Issues, the domestic investments that are Not Rated are guaranteed by the U.S. Government and the foreign investments that are Not Rated are guaranteed by the foreign governments issuing the debt.*

4 *The external investment pools are not rated.*

Credit Risk—Derivative Instruments

ACERA is exposed to credit risk on investment derivative instruments that are traded over the counter and are reported in asset positions. Derivative instruments exposed to credit risk include currency forward contracts, and synthetic futures (which are included in futures contracts). To minimize credit risk exposure, ACERA's investment managers continually monitor credit ratings of counterparties. Should there be a counterparty failure, ACERA would be exposed to the loss of the fair value of derivative instruments that are in asset positions and any collateral provided to the counterparty, net of the effect of applicable netting arrangements. ACERA has no general investment policy with respect to netting arrangements or collateral requirements. Netting arrangements legally provide ACERA with a right of set-off in the events of bankruptcy or default by the counterparty. ACERA's investment managers may have collateral posting provisions associated with currency forward contracts. In the event of counterparty failure, ACERA would be exposed to loss of collateral provided to the counterparty. Collateral provided by the counter-party to ACERA reduces its credit risk exposure. The collateral associated with investment derivative instruments is disclosed on page 51 under Custodial Credit Risk—Derivative Instruments.

The following Credit Risk—Derivative Instruments schedule discloses the counterparty credit ratings of ACERA's investment derivative instruments in asset positions by type, as of December 31, 2022. These amounts represent the maximum loss that would be recognized if all counterparties fail to perform as contracted, without respect to any collateral or other security, or netting arrangement.

Credit Risk Analysis – Investment Derivative Instruments Subject to Credit Risk

As of December 31, 2022 (Dollars in Thousands)

Adjusted Moody's Credit Rating[1]	Fair Value	%
A	$ 3,516	100%
Subtotal Derivative in Asset Position	**3,516**	100%
Derivative in Liability Position	(1,040)	
Total Derivative Instruments in Asset/(Liability) Position	**$ 2,476**	

1 See footnote 1 on page 52.

As of December 31, 2022, the $3.52 million maximum exposure of derivative instruments credit risk was reduced by ($1.04) million of liabilities included in netting arrangements, resulting in a net exposure to credit risk of $2.48 million (rounded).

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. For example, interest rate risk affects valuations based on cash flows for bonds, dividend discount on corporate earnings, and cost of capital for alternatives private placements.

ACERA has investments in three fixed income portfolios containing individual debt securities as well as investments in external investment pools containing debt securities. All of these investments are subject to interest rate risk. ACERA has no general policy on interest rate risk for the fixed income portfolios or for the investments in external pools. ACERA manages interest rate risk for the three fixed-income portfolios by setting limits on portfolio duration for each portfolio. The duration restrictions by investment portfolio (with portfolio style) are as follows:

The following Interest Rate Risk Analysis—Duration schedule discloses the duration of ACERA's debt investments by type and the duration of each of the external investment pools of debt securities. Duration is a measure of a debt investment's exposure to fair value changes arising from changing interest rates. It uses the present values of cash flows, weighted for those cash flows as a percentage of the investment's full price. The Master Custodian Short- Term Investment Fund had an average weighted maturity of 14 days as of December 31, 2022.

Interest Rate Risk Analysis – Duration

As of December 31, 2022 (Dollars in Thousands)

Debt Investments by Type	Fair Value	Duration in Years
Collateralized Mortgage Obligations	$ 112,263	3.5
Convertible Bonds	15,109	0.5
Corporate Bonds	570,481	5.4
Federal Home Loan Mortgage Corp.	74,342	5.1
Federal National Mortgage Assn.	166,589	5.3
Government National Mortgage Assn. I, II	41,198	4.9
Government Issues	380,279	8.8
Municipal Bonds	2,382	4.8
Other Asset Backed Securities	49,280	3.0
Total of Debt Investments	**$ 1,411,923**	
External Investment Pools of Debt Securities	**Fair Value**	**Duration**
Securities Lending Cash Collateral Fund		
Liquidity Pool	$ 133,728	3 days
Master Custodian Short-Term Investment Fund	170,032	-
Total External Investment Pools	**$ 303,760**	

Fair Value Highly Sensitive to Changes in Interest Rates

The Interest Rate Risk Analysis table below discloses the degree to which ACERA's investments are sensitive to interest rate changes due simply to the remaining term to maturity. In contrast, ACERA's investments with fair values that are highly sensitive to interest rates due to other factors are disclosed on the Interest Rate Risk Analysis - Highly Sensitive schedule below. ACERA has no general investment policy with respect to investments with fair values that are highly sensitive to changes in interest rates.

Interest Rate Risk Analysis – Highly Sensitive

As of December 31, 2022 (Dollars in Thousands)

Investment Type	Investment Description	Interest Rates	Fair Value
Corporate Bonds	Various debt related Securities	4.50% to 6.50%	$ 4,013
Government Issues	Various debt related Securities	0.75% to 8.00%	931

Foreign Currency Risk

Foreign currency risk is the risk that changes in foreign exchange rates will adversely affect the fair value of an investment or deposit. ACERA has no general investment policy with respect to foreign currency risk.

Foreign Currency Risk—Investments

The Foreign Currency Risk Analysis schedule on page 56 shows the fair value of investments that are exposed to this risk by currency denomination and investment type. This provides an indication of the magnitude of foreign currency risk for each currency.

Foreign Currency Risk—Swap and Futures Contracts

Swap and futures contracts are derivative instruments. A swap is a derivative contract through which two parties exchange the cash flows or liabilities from two different financial instruments. A futures contract represents an agreement to purchase or sell a particular asset for a given price at a specified future date.

For those swap and futures contracts which are dollar-denominated securities issued by foreign countries, there is an exposure to a foreign currency risk.

Foreign Currency Risk—Foreign Exchange Contracts

Foreign exchange contracts are subject to foreign currency risk. Foreign exchange contracts include currency forward contracts and spot contracts. Currency forward contracts are derivative instruments and are described in the derivative instruments section of this note. Spot contracts are generally used when ACERA is required to make or receive payments in a foreign currency. Spot contracts are agreements to buy or sell a certain amount of foreign currency at the current market rate, for settlement in two business days.

The dollar impact that foreign exchange contracts have on foreign currency risk is equal to the foreign currency settlement amounts translated in the same manner as the investments (i.e. spot exchange rate at the end of the year). The impact appears in the column labeled Foreign Currency on the schedule on page 56. The Net Exposure column of the schedule indicates the net foreign currency risk, i.e., the gross risk associated with the investments less the risk hedged by the outstanding foreign exchange contracts.

Foreign Currency Risk Analysis

Fair Value of Investments Exposed to Foreign Currency Risk by Currency

As of December 31, 2022 (Dollars in Thousands)

	Investment Type											
Trade Currency Name	**Collateralized Mortgage Obligations**	**Common Stock**	**Corporate Bonds**	**Depository Receipts**	**Foreign Currency**	**Government Issues**	**Preferred Stock**	**Currency Swap**	**Real Estate Inv. Trst**	**Limited Partnership/Mutual Funds**	**Warrants**	**Net Exposure**
Argentine Peso	$ -	$ -	$ -	$ -	$ 42	$ 128	$ -	$ -	$ -	$ -	$ -	$ 170
Australian Dollar	-	9,230	-	-	6,796	3,767	-	10	-	7,947	-	27,750
Brazilian Real	-	11,446	-	-	22	2,626	1,646	(30)	-	-	-	15,710
Canadian Dollar	-	20,576	-	-	89	-	-	-	481	-	-	21,146
Chilean Peso	-	-	-	-	-	-	-	498	-	-	-	498
Czech Koruna	-	49	-	-	4	-	-	-	-	-	-	53
Danish Krone	-	39,695	-	-	491	-	-	-	-	-	-	40,186
Euro Currency	288	309,782	412	325	1,239	20,176	1,125	1,231	-	43,253	-	377,831
Hong Kong Dollar	-	75,498	-	-	26	-	-	-	-	-	-	75,524
Hungarian Forint	-	210	-	-	-	-	-	-	-	-	-	210
Indonesian Rupiah	-	3,410	-	-	-	-	-	-	-	-	-	3,410
Japanese Yen	-	234,879	-	-	71	-	-	1,238	134	-	-	236,322
Malaysian Ringgit	-	282	-	-	11	3,136	-	2	-	-	-	3,431
Mexican Peso	-	3,158	-	-	-	9,287	-	(304)	-	-	-	12,141
New Israeli Sheqel	-	277	-	-	1	-	-	-	-	-	-	278
New Taiwan Dollar	-	14,242	-	-	3	-	-	-	-	-	-	14,245
New Zealand Dollar	-	736	-	-	18	-	-	-	-	-	-	754
Norwegian Krone	-	6,762	-	-	92	-	-	(108)	-	-	-	6,746
Philippine Peso	-	913	-	-	1	-	-	-	-	-	-	914
Polish Zloty	-	161	-	-	-	7,005	-	(278)	-	-	-	6,888
Pound Sterling	-	148,637	-	-	508	-	-	-	487	-	-	149,632
Russian Ruble	-	2,807	-	-	-	-	-	-	-	-	-	2,807
Singapore Dollar	-	28,398	-	-	61	-	-	-	-	-	-	28,459
South African Rand	-	6,099	-	-	67	1,776	-	(30)	-	-	-	7,912
South Korean Won	-	5,762	-	-	70	12,949	-	(263)	-	-	-	18,518
Swedish Krona	-	32,522	-	-	18	-	-	509	-	-	-	33,049
Swiss Franc	-	46,362	-	-	282	-	-	-	-	-	12	46,656
Thailand Baht	-	1,673	-	-	-	-	-	-	-	-	-	1,673
Turkish Lira	-	78	-	-	1	-	-	-	-	-	-	79
UAE Dirham	-	770	-	-	-	-	-	-	-	-	-	770
Yuan Renminbi	-	4,520	-	-	-	-	-	-	-	-	-	4,520
Grand Total	**$ 288**	**$1,008,934**	**$ 412**	**$ 325**	**$ 9,913**	**$60,850**	**$ 2,771**	**$2,475**	**$ 1,102**	**$ 51,200**	**$ 12**	**$1,138,282**

Real Estate

Real Estate Investment Income – Separate Properties

For the Year Ended December 31, 2022
(Dollars in Thousands)

Real Estate Investment Income	$	3,919
Less Operating Expenses		(2,584)
Real Estate Net Income	**$**	**1,335**

There is no outstanding real estate related debt associated with the separate properties as of December 31, 2022.

9. Capital Assets

ACERA's capital assets include equipment and furniture, right-to-use leased office equipment, electronic document management system, information systems, leasehold improvements, and construction-in-progress. See the following table for details.

Capital Assets and Accumulated Depreciation/Amortization

For the Year Ended December 31, 2022 (Dollars in Thousands)

	January 1, 2022	Additions	Deletions / Transfers	December 31, 2022
CAPITAL ASSETS - DEPRECIABLE				
Equipment and Furniture	$ 3,108	$ -	$ -	$ 3,108
Right-to-Use Leased Office Equipment	213	-	-	213
Electronic Document Management System	4,172	-	-	4,172
Information Systems	10,484	-	-	10,484
Leasehold Improvements	2,585	-	-	2,585
Subtotal	**20,562**	**-**	**-**	**20,562**
CAPITAL ASSETS - NON DEPRECIABLE				
Construction-in-Progress	4,862	1,563	-	6,425
Total Capital Assets (Cost)	**25,424**	**1,563**	**-**	**26,987**
ACCUMULATED DEPRECIATION AND AMORTIZATION				
Equipment and Furniture	(3,062)	(15)	-	(3,077)
Right-to-Use Leased Office Equipment	(129)	(43)	-	(172)
Electronic Document Management System	(4,166)	(2)	-	(4,168)
Information Systems	(10,462)	(9)	-	(10,471)
Leasehold Improvements	(1,420)	(95)	-	(1,515)
Total Accumulated Depreciation and Amortization	**(19,239)**	**(164)**	**-**	**(19,403)**
CAPITAL ASSETS - NET OF ACCUMULATED DEPRECIATION AND AMORTIZATION	**$ 6,185**	**$ 1,399**	**$ -**	**$ 7,584**

Separate disclosures have been provided for leases that meet the requirements of GASB 87 and those that do not fall under the provisions of GASB 87.

ACERA has two leases that fall under GASB 87 and the details of these leases are as follows:

ACERA entered into a five-year lease for photocopiers and printers on December 1, 2018. The payments are due monthly in arrears. The monthly payment of $6,254 included a lease portion of $4,405 and a non-lease/ service portion of $1,849 at the beginning of a lease. The lessor increased the rental amount by 2.14% after year one of the lease term. ACERA estimated the same percentage increase over the lease term in the lease liability calculation. However, per the terms of the contract, the lessor can increase the rental payment by up to 10% annually over the term of the lease. ACERA estimated an annual interest rate of 12.05% was charged on this lease based on the total market value of leased assets provided by the lessor. Currently, ACERA does not plan to extend this lease after the completion of the lease term on November 30, 2023.

ACERA entered into a five-year lease for a postage machine on August 1, 2020. The payments are due quarterly in advance. The quarterly payment of $944 included a lease portion of $473 and a non-lease/service portion of $471 at the beginning of a lease. As per the lease agreement, there will not be any increase in lease payments except for taxes. ACERA estimated an annual interest rate of 10.76% was charged on this lease based on the total market value of leased assets provided by the lessor. Currently, ACERA does not plan to extend this lease after the completion of the lease term on July 31, 2025.

Future Lease Payment Maturity Schedule under GASB 87

As of December 31, 2022 (Dollars in Thousands)

Year	Principal	Interest	Total Payment
2023	$ 51	$ 3	$ 54
2024*	2	-	2
2025*	1	-	1
2026	-	-	-
Total	**$ 54**	**$ 3**	**$ 57**

* Interest amounts in 2024 and 2025 are not reported in the table as the rounded amounts are less than $1,000.

No variable and other payments were recognized during the year which was not previously included in lease liability. There are no outstanding lease commitments and no impairment losses were recognized.

10. Leases

ACERA leases office space from Oakland 14th St. Office, a title holding corporation formed by ACERA. The lease term expires on December 31, 2028. Under the terms of the lease agreement, ACERA's base rent is abated. However, ACERA is required to pay its proportionate share of building operating expenses as defined in the lease.

ACERA actual building operating expenses declined, in comparison to the projected building operating expenses for the year. As a result, ACERA experienced a surplus of $9,701 for the year ended December 31, 2022.

11. Administration Expense

ACERA's Board of Retirement annually adopts an operating expense budget covering expenses to be incurred in the following fiscal year. The operating budget includes the administration expense budget which is subject to the statutory limit based on exclusions specified in the 1937 Act.

ACERA has adopted the provisions of the 1937 Act which allows ACERA to exclude actuarial, investment, legal, business continuity and technology direct costs from administration expenses. Since investment related expenses were offset against investment income, the remaining exclusions totaled $2.7 million for 2022.

ACERA also conforms to the provision of the 1937 Act that limits the administration cap to 0.21 percent of the Accrued Actuarial Liability (AAL). ACERA uses the AAL as of December 31 of the year in which the budget is adopted for this purpose.

A schedule of Administration Expense is included in the Supplemental Schedules on page 67.

Application of Statutory Limit on Administration Expense

For the Year Ended December 31, 2022 (Dollars in Thousands)

Total Actuarial Accrued Liability as of December 31, 2021	$	12,256,685
Limit: Maximum Allowable fraction of Total Actuarial Accrued Liability (0.21%) times Total Actuarial Accrued Liability	$	25,739
Portion of Administrative Expenses for the Fiscal Year subject to the Statutory Limit		14,326
Excess of Limit over Portion of Administration Expense Subject to Limit	$	11,413
Portion of Administration Expense Subject to Limit as a Percentage of Actuarial Accrued Liability		0.12%

12. Related Party Transactions

By necessity, ACERA is involved in various business transactions with the County, the primary plan sponsor. These include reimbursement to the County for the salary and benefits of ACERA staff members paid through the County and reimbursement to the Alameda County Human Resources Department for personnel consulting services and for administering ACERA's retired members' health benefits. Also, under the Board of Retirement policy, ACERA reimburses the County for a portion of the salary and benefits of each County employee elected to the Board of Retirement. Lastly, ACERA reimburses the County for the cost of services provided in the following areas: insurance/risk management, information technology, and telecommunications.

Also, ACERA leases office space from Oakland 14th St. Office, a title holding company controlled by ACERA. Note 10—Leases describes this arrangement.

Related Party Transactions

For the Year Ended December 31, 2022
(Dollars in Thousands)

Reimbursed Cost of ACERA		
Staff Members	$	15,267
Reimbursed Costs of County Services		565
State Mandated Benefit Replacement Program IRC 415(m)		835
County Personnel Services		77
Partial Salary/Benefits Reimbursement for Elected Board Members		345
Total	**$**	**17,089**

13. Subsequent Events

Management has evaluated subsequent events through June 23, 2023, the date the financial statements were issued, and has determined that no adjustments are necessary to the amounts reported in the accompanying financial statements.

Required Supplementary Information (RSI)

Pension Plan and Non-OPEB

Schedule of Changes in Net Pension Liability and Related Ratios

For the Years Ended December 31 (Dollars in Thousands)

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Total Pension Liability (TPL)										
Service Cost[1]	$ 245,467	$ 235,099	$ 221,824	$ 215,625	$ 209,890	$ 187,409	$ 175,642	$ 172,585	$ 167,120	$ 166,639
Interest	767,151	741,739	718,927	688,655	659,592	636,556	603,168	579,500	542,377	522,203
Changes of benefit terms	-	-	-	-	-	-	-	-	-	-
Differences between expected and actual experience	58,261	(50,360)	33,007	24,548	13,710	17,516	(68,176)	(31,965)	(85,379)	(61,362)
Changes of assumptions	-	-	236,513	-	-	316,728	150,677	-	431,863	-
Benefit payments, including refunds of member contributions	(591,337)	(556,269)	(530,763)	(504,185)	(471,943)	(445,288)	(422,223)	(401,298)	(378,689)	(359,938)
Net Change in Total Pension Liability	**479,542**	**370,209**	**679,508**	**424,643**	**411,249**	**712,921**	**439,088**	**318,822**	**677,292**	**267,542**
Total Pension Liability - Beginning	**11,009,509**	**10,639,300**	**9,959,792**	**9,535,149**	**9,123,900**	**8,410,979**	**7,971,891**	**7,653,069**	**6,975,777**	**6,708,235**
Total Pension Liability - Ending (a)	**$ 11,489,051**	**$ 11,009,509**	**$ 10,639,300**	**$ 9,959,792**	**$ 9,535,149**	**$ 9,123,900**	**$ 8,410,979**	**$ 7,971,891**	**$ 7,653,069**	**$ 6,975,777**
Plan's Fiduciary Net Position (FNP)										
Contributions - employer[2]	$ 281,647	$ 1,116,576	$ 309,753	$ 298,527	$ 269,684	$ 247,064	$ 241,729	$ 224,607	$ 213,255	$ 191,180
Contributions - member	120,673	111,091	106,104	103,117	94,736	89,326	85,736	82,949	79,714	76,230
Net investment income	(755,045)	1,115,980	755,501	1,165,767	(216,308)	1,065,908	423,718	49,021	318,245	736,914
Benefit payments, including refunds of member contributions	(591,337)	(556,269)	(530,763)	(504,185)	(471,943)	(445,288)	(422,223)	(401,298)	(378,689)	(359,938)
Administrative expense	(15,369)	(15,040)	(14,810)	(15,274)	(15,246)	(14,571)	(14,618)	(14,262)	(13,855)	(13,634)
Other	-	-	-	-	-	-	-	-	-	-
Net Change in Plan's Fiduciary Net Position	**(959,431)**	**1,772,338**	**625,785**	**1,047,952**	**(339,077)**	**942,439**	**314,342**	**(58,983)**	**218,670**	**630,752**
Plan's Fiduciary Net Position[3] - Beginning	**10,217,222**	**8,444,884**	**7,819,099**	**6,771,147**	**7,110,224**	**6,167,785**	**5,853,443**	**5,912,426**	**5,693,756**	**5,063,004**
Plan's Fiduciary Net Position[3] - Ending (b)	**$ 9,257,791**	**$ 10,217,222**	**$ 8,444,884**	**$ 7,819,099**	**$ 6,771,147**	**$ 7,110,224**	**$ 6,167,785**	**$ 5,853,443**	**$ 5,912,426**	**$ 5,693,756**
Net Pension Liability (NPL) - Ending (a) - (b)	**$ 2,231,260**	**$ 792,287**	**$ 2,194,416**	**$ 2,140,693**	**$ 2,764,002**	**$ 2,013,676**	**$ 2,243,194**	**$ 2,118,448**	**$ 1,740,643**	**$ 1,282,021**
FNP as a Percentage of the TPL	**80.58%**	**92.80%**	**79.37%**	**78.51%**	**71.01%**	**77.93%**	**73.33%**	**73.43%**	**77.26%**	**81.62%**
Covered Payroll[4]	**$ 1,198,970**	**$ 1,153,918**	**$ 1,111,849**	**$ 1,081,587**	**$ 1,046,034**	**$ 995,178**	**$ 947,568**	**$ 945,858[5]**	**$ 886,925**	**$ 853,350**
NPL as a Percentage of Covered Payroll	**186.10%**	**68.66%**	**197.37%**	**197.92%**	**264.24%**	**202.34%**	**236.73%**	**223.97%**	**196.26%**	**150.23%**

1 The service cost is based on the previous year's valuation, meaning the December 31, 2022 measurement date value is based on the valuation as of December 31, 2021.

2 Employer contributions are on a net basis after (i) considering the total cash contributions made by the employers, (ii) reducing by the employer contributions made to the 401(h) account, and (iii) increasing by the amount of transfer from the SRBR to the employers' advance reserve for employer contribution made to the 401(h) account in (ii). Also, the County and LARPD made voluntary contributions of $800 million (County Safety) and $12.61 million (LARPD General), respectively in 2021.

3 For 2022, the Plan's Fiduciary Net Position amount shown ($9,257,791) includes the net fair value of assets ($10,298,512) less OPEB-related SRBR assets ($1,040,721). The OPEB-related SRBR assets include $1,105,726 in the SRBR-OPEB reserve (after reducing the reserve by the $7,981 SRBR implicit subsidy transfer), and $8,979 in the 401(h) reserve, minus a proportionate share of the deferred market losses commensurate with the size of the OPEB to total SRBR and 401(h) reserve to valuation and 401(h) reserves ($73,984). For 2021, the Plan's Fiduciary Net Position amount shown ($10,217,222) includes the net fair value of assets ($11,840,863) less OPEB-related SRBR assets ($1,623,641). The OPEB-related SRBR assets include $1,073,475 in the SRBR-OPEB reserve (after reducing the reserve by the $5,653 SRBR implicit subsidy transfer), and $9,229 in the 401(h) reserve, plus a proportionate share of one half of the deferred market gains (after adjustment to replenish the balance in the Contingency Reserve, if any) commensurate with the size of the OPEB to total SRBR and 401(h) reserve to valuation and 401(h) reserves ($540,937).

4 For years ended December 31, 2017 and later, covered payroll represents Compensation Earnable and Pensionable Compensation and is defined as the payroll on which contributions to the pension plan are based. For the years ended before December 31, 2017, covered payroll was referred to as covered-employee payroll and only Compensation Earnable and Pensionable Compensation that would possibly go into the determination of retirement benefits are included.

5 The covered payroll for the year 2015 includes 1 additional pay period.

Schedule of Employer Contributions

Last Ten Fiscal Years (Dollars in Thousands)

Year Ended December 31	Actuarially Determined Contributions (ADC)	Contributions in Relation to ADC	Contribution Deficiency (Excess)	Covered Payroll[1]	Contributions as a Percentage of Covered Payroll
2013	$ 191,180	$ 191,180	$ -	$ 853,350	22.40%
2014	213,255	213,255	-	886,925	24.04%
2015	224,607	224,607	-	945,858[2]	23.75%
2016	241,729	241,729	-	947,568	25.51%
2017	247,064	247,064	-	995,178	24.83%
2018	269,684	269,684	-	1,046,034	25.78%
2019	298,527	298,527	-	1,081,587	27.60%
2020	309,759	309,753	6[3]	1,111,849	27.86%
2021	303,965	1,116,576	(812,611)[4]	1,153,918	96.76%[5]
2022	281,647	281,647	-	1,198,970	23.49%

1 For years ended December 31, 2017 and later, covered employee payroll represents Compensation Earnable and Pensionable Compensation and is defined as the payroll on which contributions to the pension plan are based. For the years ended before December 31, 2017, covered payroll was referred to as covered-employee payroll and only Compensation Earnable and Pensionable Compensation that would possibly go into the determination of retirement benefits are included.

2 The covered payroll for the year 2015 includes 1 additional pay period.

3 Actuarially Determined Contribution for the Alameda County Office of Education of $78 less actual contribution paid of $72.

4 Voluntary County Safety contributions of $800.0 million and LARPD General contributions of $12.6 million to reduce their UAAL contribution rates.

5 Contributions as a percentage of covered payroll is 26.34% if excluding the voluntary County Safety and LARPD General contributions.

Schedule of Investment Returns

Last Ten Fiscal Years (As of December 31)

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Annual Money-Weighted Rate of Return, net of Investment Expense	-11.01%	16.12%	11.70%	18.10%	-4.44%	19.02%	7.16%	-0.10%	4.27%	19.87%

Postemployment Medical Benefits

Schedule of Changes in Net OPEB Liability and Related Ratios

For the Years Ended December 31 (Dollars in Thousands)

	2022	2021	2020	2019	2018	2017
Total OPEB Liability[1]						
Service Cost[2]	$ 33,756	$ 33,440	$ 31,511	$ 27,678	$ 31,577	$ 26,991
Interest	84,971	84,144	79,142	73,843	73,427	69,879
Changes of benefit terms	-	-	-	-	-	-
Differences between expected and actual experience	(27,434)	(24,112)	(13,871)	(41,706)	(27,712)	(21,627)
Changes of assumptions	(15,643)	(36,048)	57,696	12,524	(11,430)	58,973
Benefit payments	(46,711)	(45,917)	(46,021)	(43,562)	(40,879)	(37,904)
Net Change in Total OPEB Liability	**28,939**	**11,507**	**108,457**	**28,777**	**24,983**	**96,312**
Total OPEB Liability - Beginning	**1,203,078**	**1,191,571**	**1,083,114**	**1,054,337**	**1,029,354**	**933,042**
Total OPEB Liability - Ending (a)	**$ 1,232,017**	**$ 1,203,078**	**$ 1,191,571**	**$ 1,083,114**	**$ 1,054,337**	**$ 1,029,354**
Plan's Fiduciary Net Position (FNP)						
Contributions - employer[3]	N/A	N/A	N/A	N/A	N/A	N/A
Contributions - member	N/A	N/A	N/A	N/A	N/A	N/A
Net investment income	$ (534,552)	$ 486,212	$ 262,140	$ 193,656	$ (138,333)	$ 243,189
Benefit payments	(46,711)	(45,917)	(46,021)	(43,562)	(40,879)	(37,904)
Administrative expense	(1,657)	(1,537)	(1,416)	(1,354)	(1,224)	(1,204)
Other	-	-	-	-	-	-
Net Change in Plan's Fiduciary Net Position	**(582,920)**	**438,758**	**214,703**	**148,740**	**(180,436)**	**204,081**
Plan Fiduciary Net Position[4] - Beginning	**1,623,641**	**1,184,883**	**970,180**	**821,440**	**1,001,876**	**797,795**
Plan Fiduciary Net Position[4] - Ending (b)	**$ 1,040,721**	**$ 1,623,641**	**$ 1,184,883**	**$ 970,180**	**$ 821,440**	**$ 1,001,876**
Net OPEB Liability (Asset) NOL/(NOA) - Ending (a) - (b)	**$ 191,296**	**$ (420,563)**	**$ 6,688**	**$ 112,934**	**$ 232,897**	**$ 27,478**
FNP as a Percentage of the Total OPEB Liability	**84.47%**	**134.96%**	**99.44%**	**89.57%**	**77.91%**	**97.33%**
Covered-Employee Payroll[5]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Net OPEB Liability as a Percentage of Covered-Employee Payroll	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

1 Total OPEB liability is not available for years prior to December 31, 2017. Information will be presented in future years as it becomes available.

2 The service cost is based on the previous year's valuation, meaning the December 31, 2022 measurement date value is based on the valuation as of December 31, 2021.

3 Employer contributions are on a net basis. Benefits are funded by employer contributions to the 401(h) account and similar amounts are transferred from the SRBR to the employers' advance reserve to backfill the employer contributions that would have otherwise been made to the Retirement Plan.

4 For 2022, the Plan's Fiduciary Net Position shown ($1,040,721) includes the OPEB-related SRBR reserve of $1,105,726 (after reducing the reserve by the SRBR implicit subsidy transfer of $7,981) and 401(h) reserve ($8,979), less the proportionate share of the net deferred investment loss that is commensurate with the size of the OPEB SRBR reserve to total SRBR and 401(h) reserve to valuation and 401(h) reserves ($73,984). For 2021, the Plan's Fiduciary Net Position shown ($1,623,641) includes the OPEB-related SRBR reserve of $1,073,475 (after reducing the reserve by the SRBR implicit subsidy transfer of $5,653) and 401(h) reserve ($9,229), plus the proportionate share of one half of the net deferred investment gain that is commensurate with the size of the OPEB SRBR reserve to total SRBR and 401(h) reserve to valuation and 401(h) reserve ($540,937).

5 Covered-employee payroll is not shown as contributions to the OPEB plan are not based on a measure of pay. Covered-employee payroll represents Compensation Earnable and Pensionable Compensation. Only Compensation Earnable and Pensionable Compensation that would go into the determination of retirement benefits would otherwise be included.

Schedule of Employer Contributions - OPEB

Last Ten Fiscal Years (Dollars in Thousands)

Year Ended December 31	Actuarially Determined Contributions (ADC)[1]	Contributions in Relation to ADC[1]	Contribution Deficiency (Excess)	Covered-Employee Payroll[2]	Contributions as a Percentage of Covered-Employee Payroll
2013	N/A	N/A	$ -	N/A	N/A
2014	N/A	N/A	-	N/A	N/A
2015	N/A	N/A	-	N/A	N/A
2016	N/A	N/A	-	N/A	N/A
2017	N/A	N/A	-	N/A	N/A
2018	N/A	N/A	-	N/A	N/A
2019	N/A	N/A	-	N/A	N/A
2020	N/A	N/A	-	N/A	N/A
2021	N/A	N/A	-	N/A	N/A
2022	N/A	N/A	-	N/A	N/A

1 *Benefits are funded by employer contributions to the 401(h) account and similar amounts are transferred from the SRBR to the employers' advance reserve to backfill the employer contributions that would have otherwise been made to the Retirement Plan.*

2 *Covered-employee payroll is not shown as contributions to the OPEB plan are not based on a measure of pay. Covered-employee payroll represents Compensation Earnable and Pensionable Compensation. Only Compensation Earnable and Pensionable Compensation that would go into the determination of retirement benefits would otherwise be included.*

The Schedule of Investment Returns for the total fund is reported on page 61 of the RSI.

Notes to Required Supplementary Information

PENSION PLAN AND NON-OPEB

Actuarial Assumptions

The Total Pension Liabilities (TPLs) as of the measurement dates were calculated by rolling forward the liabilities from prior years' actuarial valuations. The actuarial assumptions used to develop the TPLs are the same assumptions used for the respective funding valuations. The key assumptions used for rolling forward the TPL to December 31, 2022, are as follows:

Inflation	2.75%
Salary Increases	General: 8.35% to 3.65% and Safety: 11.25% to 4.05%, vary by service, including inflation
Investment Rate of Return	7.00%, net of pension plan investment expense, including inflation

Methods and Assumptions Used to Establish Actuarially Determined Contribution (ADC) Rates

Actuarially determined contribution rates for the first six months of calendar year 2022 (or the second half of fiscal year 2021-2022) are calculated based on the December 31, 2020, valuation. Actuarially determined contribution rates for the last six months of calendar year 2022 (or the first half of fiscal year 2022-2023) are calculated based on the December 31, 2021, valuation.

Valuation Date	December 31, 2021	December 31, 2020
Actuarial Cost Method	Entry Age Actuarial Cost Method	Entry Age Actuarial Cost Method
Amortization Method	Level percentage of payroll (3.25% payroll growth assumed)	Level percentage of payroll (3.25% payroll growth assumed)
Remaining Amortization Period	Prior to January 1, 2012, the total UAAL was amortized on a 30-year decreasing period, with 21 years remaining as of December 31, 2011 (and 11 years remaining as of December 31, 2021). On or after January 1, 2012, any new UAAL resulting from plan amendments are amortized over separate decreasing 15-year periods. Early retirement incentive programs (ERIPs) are amortized over separate decreasing 5-year periods. Assumption and method changes are amortized over separate decreasing 20-year periods. Experience gains/losses are also amortized over separate decreasing 20-year periods. The voluntary County Safety UAAL contributions are amortized over a 13-year period effective July 1, 2021 (with 12.5 years remaining as of December 31, 2021). The voluntary LARPD General UAAL contributions are amortized over a 16-year period effective July 1, 2021 (with 15.5 years remaining as of December 31, 2021). Effective December 31, 2021, the existing LARPD General UAAL layers are amortized over 15.5 years.	Prior to January 1, 2012, the total UAAL was amortized on a 30-year decreasing period, with 21 years remaining as of December 31, 2011 (and 12 years remaining as of December 31, 2020). On or after January 1, 2012, any new UAAL resulting from plan amendments are amortized over separate decreasing 15-year periods. Early retirement incentive programs (ERIPs) are amortized over separate decreasing 5-year periods. Assumption and method changes are amortized over separate decreasing 20-year periods. Experience gains/losses are also amortized over separate decreasing 20-year periods. The County made voluntary County Safety contributions of $800 million on June 29, 2021 to reduce their Safety UAAL and associated contribution rates. LARPD also made voluntary LARPD General contributions of $12.6 million on June 29, 2021 to reduce their General UAAL and associated contribution rates. The contribution rate credits associated with these voluntary contributions, determined using bases in the December 31, 2020 valuation, are provided effective July 1, 2021. The voluntary County Safety UAAL contributions are amortized over a 13-year period effective July 1, 2021. The voluntary LARPD General UAAL contributions are amortized over a 16-year period effective July 1, 2021.
Asset Valuation Method	The actuarial value of assets is determined by recognizing any difference between the actual and the expected market return over 10 six-month interest crediting periods. The actuarial value of assets is further adjusted, if necessary, to be within 40% of the market value of assets. The valuation value of asset is the actuarial value of assets reduced by the value of the non-valuation reserves.	

Actuarial Assumptions:	December 31, 2021	December 31, 2020
Investment rate of return	7.00%, net of pension plan investment expense, including inflation	7.00%, net of pension plan investment expense, including inflation
Inflation rate	2.75%	2.75%
Real across-the-board salary increases	0.50%	0.50%
Projected salary increases	General: 8.35% to 3.65% and Safety: 11.25% to 4.05%, vary by service, including inflation	General: 8.35% to 3.65% and Safety: 11.25% to 4.05%, vary by service, including inflation
Cost of living adjustments	2.75% of retirement income for General Tiers 1 and 3, and Safety Tier 1. 2.00% of retirement income for General Tiers 2 and 4, and Safety Tiers 2, 2C, 2D, and 4.	2.75% of retirement income for General Tiers 1 and 3, and Safety Tier 1. 2.00% of retirement income for General Tiers 2 and 4, and Safety Tiers 2, 2C, 2D, and 4.
Other assumptions	Same as those used in the December 31, 2021 funding actuarial valuation	Same as those used in the December 31, 2020 funding actuarial valuation

Postemployment Medical Benefits

The actuarial assumptions used for the postemployment medical benefits valuation were consistent with those applied to the pension plan with the exception of Health Care Cost Trend Rate assumptions which are specific to the postemployment medical benefits.

The Total OPEB Liabilities as of the measurement dates were calculated by rolling forward the liabilities from prior years' sufficiency valuation. The key assumptions used for rolling forward the total OPEB liability to December 31, 2022, are as follows:

Investment Rate of Return	7.00% net of OPEB plan investment expense, including inflation
Inflation	2.75%
Health Care Premium Trend Rates	
Non-Medicare medical plan	Graded from 7.50% to ultimate 4.50% over 12 years
Medicare medical plan	Graded from 6.25% to ultimate 4.50% over 7 years
Dental	4.00%
Vision	0.00% for the first two years to reflect a five-year rate guarantee and 4.00% thereafter.
Medicare Part B reimbursement	4.50%
Other Assumptions	Based on the experience study for the period December 1, 2016 through November 30, 2019.

Supplemental Schedules

Administration Expense

For the Year Ended December 31, 2022
(Dollars in Thousands)

Personnel Services	
Staff Wages	$ 7,894
Fringe Benefits	3,926
Temporary Services	276
Total Personnel Services	**12,096**
Professional Services	
Consultant Fees	424
Audit	102
Total Professional Services	**526**
Communications	
Printing	60
Postage	64
Communication	120
Total Communications	**244**
Office Space and Utilities	
Office Space and Utilities[3]	(7)
Total Office Space and Utilities	**(7)**
Lease Expenses	
Interest on Lease Liabilities	8
Amortization of Right-to-use Assets	33
Total Lease Expenses	**41**
Other	
Depreciation and Amortization	84
Board Operating Expenses	348
Insurance	422
Miscellaneous	343
Training	157
Equipment Leases[2]	2
Equipment Maintenance	57
Supplies	13
Total Other	**1,426**
Subtotal: Administrative Expense Subject to Statutory Limit	**14,326**
Actuarial Expenses	382
Business Continuity	552
Legal Expenses	839
Technology Expenses	927
Subtotal: Administration Expense Excluded from Statutory Limit[1]	**2,700**
TOTAL ADMINISTRATION EXPENSE	**$ 17,026**

[1] *Legal expenses, business continuity, and technology include an allocation of administration overhead expenses.*

[2] *Lease expenses that do not fall under GASB 87.*

3 *Includes a credit adjustment from 2021 for office escalation charges.*

Investment Expenses

For the Year Ended December 31, 2022
(Dollars in Thousands)

Investment Manager Fees[1]	$ 36,307
Brokerage Commissions	628
Investment Allocated Costs	3,139
Investment Consultants	1,250
Other Investment Expenses/(Income)	266
Investment Custodians	558
Total Investment Expenses	**$ 42,148**

[1] *The Investment Section of this report provides details of Investment Manager Fees by type of investment manager.*

Payments to Other Consultants[1]

For the Year Ended December 31, 2022
(Dollars in Thousands)

Actuarial & Audit Services	$ 562
Human Resources Consulting	77
Legal Services	137
Other Specialized Services	497
Total Payments to Consultants	**$ 1,273**

Note: These are payments to outside consultants other than related to investments.

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Investments

Chief Investment Officer's Report

2022 CALENDAR YEAR PERFORMANCE HIGHLIGHTS OF ACERA'S INVESTMENT FUND (TOTAL FUND)

By the end of the 4th quarter in 2022, ACERA's Total Fund declined to $10.25 billion. ACERA's portfolio returned -11.5% on a gross basis in 2022, as shown in the table below, which includes Asset Class detail. Over the 2018 – 2022 period, the Total Fund's annualized return is 5.7%[1].

YEAR ($ Values in Billions/ Asset Allocation Weight)	2022	$ Value	Actual %	Target %
Total Fund Return (as of 12/31/22)[1]	-11.5%	$ 10.3	100.0%	100.0%
Policy Index	-10.1%	N/A	N/A	N/A
Median	-11.1%	N/A	N/A	N/A
Domestic Equity	-19.5%	$ 2.5	24.6%	24.0%
International Equity	-18.7%	$ 2.5	24.7%	24.0%
Fixed Income	-13.5%	$ 1.6	15.2%	14.0%
Real Estate	6.6%	$ 0.8	7.9%	9.0%
Private Equity	-2.0%	$ 1.0	9.6%	11.0%
Absolute Return	6.2%	$ 0.9	8.3%	8.0%
Real Assets	7.5%	$ 0.6	6.1%	6.0%
Private Credit	4.0%	$ 0.3	2.6%	4.0%
Cash	1.4%	$ 0.1	0.9%	0.0%
Overlay	-0.1%	$ 0.0	0.2%	0.0%
Year-End Total Fund (as of 12/31/22)	-	$ 10.3	-	-
Beginning Total Fund (as of 12/31/21)	-	$ 11.9	-	-
Total Change in Fund Value	**-**	**$ -1.6**	**-**	**-**

Source: Verus[2] (Gross of Fees)

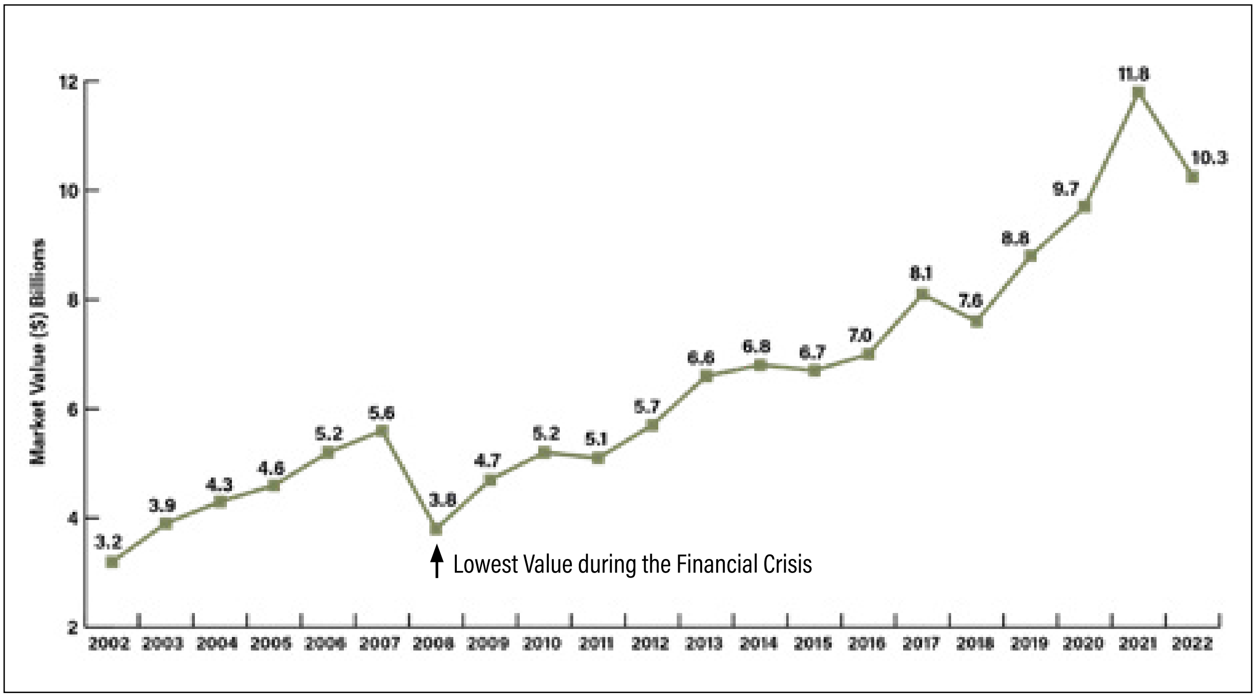
1 *All returns are gross. Total Fund Return (net of fees) for 2022 is -11.6%.*

2 *Verus Advisory, Inc. ("Verus") is ACERA's General Investment Consultant.*

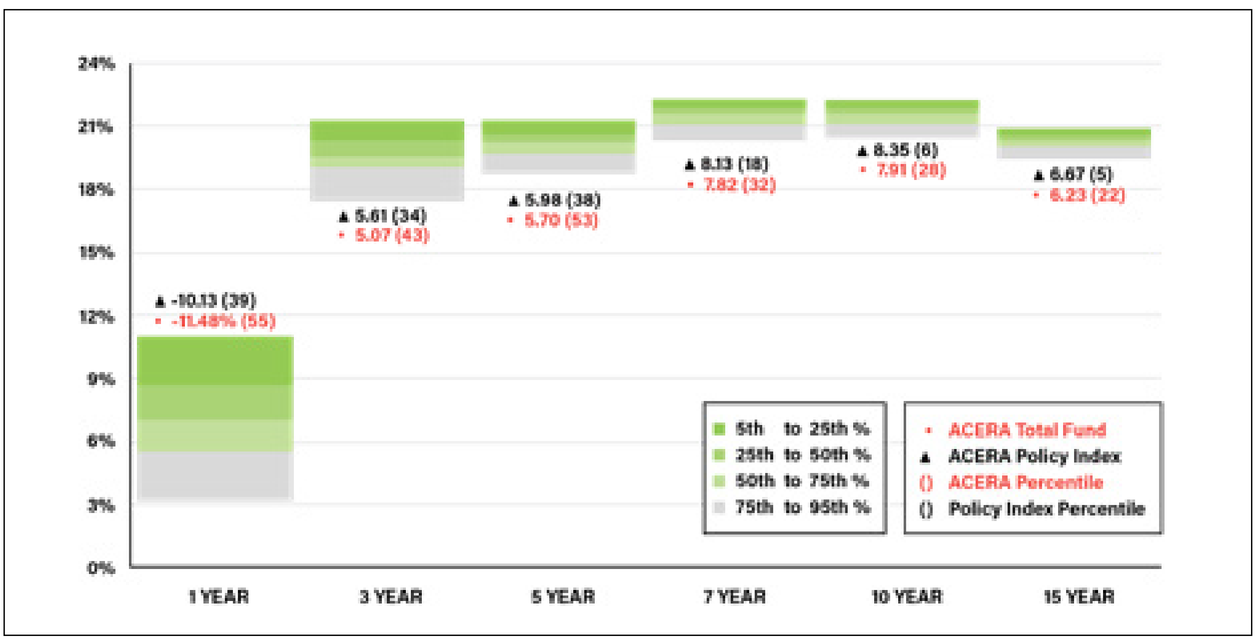
NOTE: Returns for periods greater than one year are annualized. Monthly return calculations are time-weighted, and market value based. Results of all publicly traded investments are presented in a format consistent with the CFAI Global Investment Performance Standards®.

1 The fund generated the following annual returns (gross of fees): 2018: -4.1%; 2019: +18.7%.; 2020: +12.5%; 2021: +16.2%; 2022: –11.5%.

ACERA Year-End Market Values 2002-2022



ACERA TOTAL FUND RETURNS VS. TOTAL PUBLIC FUNDS ANNUALIZED RETURNS



ACERA TOTAL FUND ANNUALIZED RETURNS VS. TOTAL PUBLIC FUNDS ANNUALIZED RETURNS[1]

	1 Year		3 Years		5 Years		7 Years		10 Years		15 Years	
	Return %	Rank	Return %	Rank	Return %	Rank	Return %	Rank	Return %	Rank	Return %	Rank
ACERA	-11.5%	55	5.1%	43	5.7%	53	7.8%	32	7.9%	28	6.2%	22
Policy Index	-10.1%	39	5.6%	34	6.0%	38	8.1%	18	8.4%	6	6.7%	5
Median	-11.1%	50	4.9%	50	5.8%	50	7.5%	50	7.6%	50	5.9%	50

Source: Verus (Gross of Fees)

Note: Percentage returns in this document have been rounded to one decimal place for simplistic and visual purposes; however, rankings, specifically in this table above, are displayed based on actual complete percentage returns.

"The Board's primary goals in managing the Fund are:

1. To ensure that sufficient funds are available to pay vested benefits and maintain supplemental benefits;
2. To comply with all applicable fiduciary standards; and
3. To add marginal value that will help reduce the costs of the plan and/or to increase benefits for the beneficiaries[2]."

ACERA believes that prudent management of risk is a central element of the investment function and that diversification among asset classes will reduce risk and enhance returns of the overall investment portfolio over the long-term. ACERA has strong controls in place to monitor and manage portfolio risks and to ensure compliance with all relevant fiduciary standards. It is important to remember that pension plan investments should be viewed over the long term and that past performance is not indicative of future results.

PERFORMANCE HIGHLIGHTS FOR 2022

After the Total Fund increased 16.2% gross in 2021 (outperformed its Benchmark, the Policy Index, 15.0%, and the Median Fund, 14.9%), the Total Fund declined –11.5%, underperforming the Policy Index, -10.1% and the Median Fund, -11.1%. Relative to the Peer Group of Public Funds larger than $1 billion, the Total Fund's percentile ranking was 55th, while the Policy Index was 39th.

In the first half of 2022, ACERA's Total Fund declined -11.7% gross, which ranked in the 45th percentile of the named Peer Group above. During this time period, the Total Fund outperformed the Median Fund, -12.0% but underperformed the Policy Index, -10.7%, 43rd percentile.

In the second half of 2022, ACERA's Total Fund returned 0.2% gross, which ranked in the 82nd percentile of the named Peer Group above. During this time period, the Total Fund relatively lagged both the Median Fund, 0.9% and the Policy Index, 0.7%, 66th percentile.

With the performance results noted above, the Total Fund's annualized gross returns through 2022 over a 3-year, 5-year, and 10-year period are 5.1%, 5.7%, and 7.9%, respectively. The longer-term period return of 10-years is above the Board-approved actuarial return assumption of 7.0%, while the shorter-term 3-year and 5-year periods are below.

FACTORS AFFECTING ACERA'S PORTFOLIO IN 2022

The Board's Actions - Highlights

During 2022, the Board achieved the following:

- Updated the General Investment Guidelines, Policies, and Procedures to reflect the Board's decisions since 2018 (the last time the Policy was updated) including

1 Total Fund and asset class composites are ranked against the InvMetrics universe. A ranking of 1 is a top percentile ranking and a ranking of 100 is a bottom percentile ranking. The InvMetrics Public DB Funds > $1B Gross universe consists of 94 members and $1.209 trillion. Effective 1/1/2017, only traditional asset classes (public equity, public fixed income, public real estate) investment management fees will be excluded in the gross of fee return calculation.

2 ACERA General Guidelines, Policies, and Procedures, amended May 19, 2022, P.7.

asset-allocation, asset-class structure, and benchmark changes in the Total Fund.

- Amended its Emerging Investment Manager (EIM) Policy, expanding it to all ACERA asset classes, newly including absolute return and private credit asset classes in the policy. ACERA raised the targeted goal from 5% of the total fund currently to 10% over the next 10 years. For private equity, private real assets, and private credit, ACERA expanded the number of funds to include up to fund III in addition to funds II and I.
- Kicked off a General Investment Consultant (GIC) search.
- Updated the investment plans for Real Assets and Private Equity asset classes.
- Hired Parametric as our rebalancing consultant.
- Completed the search for a second custom fund of hedge funds (FOHF) with the Board selecting Morgan Stanley for the mandate. With the conclusion of the search and onboarding of Morgan Stanley, the new structure of the Absolute Return Asset Class (80% FOHF/20% Other Alternatives/Opportunistic), which was approved in 2021, was fully implemented in 2022.

During 2022, ACERA's Board expanded the Total Fund's investment in 7 privately placed funds worth $624 million, thus continuing to approach target asset allocations in Private Equity, Real Estate, and Absolute Return. ACERA's Board also replaced a public fund investment totaling $263.4 million. Broken down by asset class, this expansion represents:

- 4 new commitments to Private Equity totaling $194 million.
- 2 increased commitments to Real Estate totaling $100 million.
- 1 new commitment to Absolute Return totaling $330 million.
- 1 new commitment to International Equity totaling $263.4 million.

The Board is comprised of eleven appointed or elected members, including two alternates. All Board members are members of the Investment Committee. Both the Board and the Investment Committee meet monthly. An experienced group of fiduciaries, they work closely with Staff and ACERA's consultants to carry out their fiduciary responsibilities. Committee meeting agendas and minutes can be found on ACERA's website, www.acera.org.

ACERA'S PORTFOLIO - DETAIL

ACERA's portfolio is diversified among eight major asset classes and strategies: Domestic Equities, International Equities, Fixed Income (U.S. and Global), Real Estate, Private Equity, Absolute Return, Real Assets, and Private Credit. The purpose of diversification is to reduce risk while maximizing potential long-term return. Statistically speaking, effective asset allocation policy and implementation drive 90% of total fund return and risk experience. The portfolio is constructed such that its volatility (defined as a measure of risk, i.e., standard deviation) is less than that of a traditional long-only, equity-only portfolio. ACERA's Total Fund is positioned to weather various market conditions and provide steady growth and income (net return) over the long term.

Asset Class Review - 2022

U.S. Equity	
Asset Class Allocation – Target	24.0%
Asset Class Allocation – Actual	24.6%
Return	-19.5%
Benchmark (Russell 3000 Index)	-19.2%
Over (Under)- Performance - relative to Benchmark	-0.3%
InvMetrics[1] U.S. Equity (Gross) - Median	-18.1%

Source: Verus Advisory, Inc.

Numbers may not add up due to rounding

Following over a decade of strong performance in the U.S. Equity asset class that supported a 10-year annualized gross return of 16.4% at the end of 2021, the asset class gave some of those returns back in 2022, with the asset class registering its worst decline since the Great Financial Crisis in 2008. Indeed, in response to a sharp

1 As of 12/31/21, InvMetrics Public DB Funds > $1B Gross universe consists of 94 members and $1.029 Trillion.

interest-rate hiking cycle and concerns about economic growth, the U.S. Equity asset class lost 19.5% gross and underperformed the Russell 3000 Index, the asset-class benchmark, by 0.3%. Approximately 80.0% of the U.S. Equity asset class is passively invested in a large-cap-core Russell 1000 Index managed by Blackrock. This passive exposure returned –19.1% gross, which was in-line with the Russell 1000's 2022 return. Beyond the passive Russell 1000 index exposure, the U.S. Equity asset class is actively managed with approximately 5% weightings each to Growth/Value active-manager pairings in both Large Cap and Small Cap. (Combined with the Russell 1000 passive exposure, these four 5% exposures sum to approximate the weightings of large/mid cap and small cap in the Russell 3000 asset-class benchmark.) ACERA's two Large Cap, active managers underperformed their Large Cap Style benchmarks with TCW's 2022 return coming in at –35.5% gross (versus –29.1% for the Russell 1000 Growth benchmark) and Aristotle's 2022 return coming in at –14.2% gross (versus –7.5% for the Russell 1000 Value benchmark). Meanwhile, the relative performance of ACERA's small-cap, active managers were mixed against their Small Cap Style benchmarks with William Blair returning –20.1% (versus –26.4% for the Russell 2000 Growth benchmark) and Kennedy returning –17.2% (versus –14.5% for the Russell 2000 Value benchmark). Despite the 2022 losses, the 10-year annualized return for the asset class closed out 2022 at a still-strong 12.2% gross (versus 12.1% for the Russell 3000 benchmark).

International Equity	
Asset Class Allocation – Target	24.0%
Asset Class Allocation – Actual	24.7%
Return	-18.7%
Benchmark (MSCI ACWI IMI – ex U.S. Index)	-16.2%
Over/(Under) Performance – relative to Benchmark	-2.5%
InvMetrics All DB ex-U.S. Equity (Gross) - Median	-16.7%

Source: Verus Advisory, Inc.
Numbers may not add up due to rounding

After a positive, mid-single digit return in 2021, the international equity markets reversed course in 2022 as the International Equity Benchmark, the MSCI ACWI ex-U.S. IMI Index, declined -16.2%. Not surprisingly, ACERA's long-only International Equity (IE) portfolio declined: by 2022 year-end, ACERA's IE portfolio declined -18.7% gross on a weighted basis and -18.4% gross on average. Relative to the named benchmark, Mondrian (Active Developed Markets Large Cap Value) outperformed its benchmark, while the rest of the IE managers underperformed. The largest International Equity allocation, BlackRock MSCI World ex-U.S. fell -13.8% (Passive Mandate); accordingly, this Manager's performance is in-line with the benchmark. The next two largest allocations each have an Active Large Cap IE Developed Market Mandate, Mondrian and Capital Group. However, they are stylistically complementary, Mondrian with a Value tilt and Capital Group, with a Growth tilt, and thus, there was some performance dispersion to be expected. Both are benchmarked against the MSCI ACWI ex USA which returned -15.6% in 2022. Whereas Mondrian only decreased -12.3% and thus outperformed the benchmark, Mondrian underperformed its style benchmark, MSCI ACWI ex USA Value, -7.9%. After years of outperformance, Capital Group declined -25.8%, underperforming the asset class benchmark and its style benchmark, MSCI ACWI ex USA Growth, -22.8%. The fourth largest allocation, Newton (Active All-Cap Emerging Market Mandate), experienced organizational turnover and ACERA addressed the issue by replacing this Manager with a seasoned investment team and strategy, William Blair Emerging Market Growth CIT. By year-end, the combined allocation to the redeemed Manager, Newton, and the incumbent Manager, William Blair Emerging Market declined -27.1% vs. the benchmark, -19.6%. The fifth largest allocation, Franklin Templeton, manages an Active IE Developed Small Cap Value Mandate; in 2022 Franklin Templeton underperformed its benchmark, MSCI ACWI ex US Small Cap, -22.3% vs -19.6%. The smallest allocation, Bivium (Active All-Cap Core Mandate), is an Emerging Investment Manager (EIM); on behalf of ACERA, this EIM invests through a Fund-of-Fund structure. In this particular case, ACERA invests in an EIM that invests in other underlying EIMs (who then directly invest in International Stocks). Before fees, Bivium underperformed, -17.8% vs. the benchmark, MSCI ACWI ex USA, -15.6%.

In late 2022 and into 2023, in an ongoing effort to address the IE portfolio's underperformance, the Board approved changing the IE structure to 62% Developed Markets (33% Passive, 29% Active), 28% Emerging Markets (all Active) and 10% International Small Cap (all Active). This simplified structure reflects the IE benchmark, MSCI ACWI Ex-US IMI and the weightings to Market Cap, and Developed and Emerging Markets.

Fixed Income	
Asset Class Allocation – Target	14.0%
Asset Class Allocation – Actual	15.2%
Return	-13.5%
Benchmark (75% BBgBarc US Agg/15% FTSE WGBI-ex U.S./10% BBgBarc US Corp HY)	-14.2%
Over/(Under) Performance – relative to Benchmark	0.7%
InvMetrics Fixed Income (Gross) - Median	-11.4%

Source: Verus Advisory, Inc.
Numbers may not add up due to rounding

A sharp rise in interest rates caused by persistently high inflation along with increased credit risks, and a strong U.S. Dollar conspired to generate large losses in ACERA's Fixed Income asset class in 2022. The asset class lost 13.5% gross but outperformed its blended benchmark (75% Bloomberg U.S. Aggregate Bond Index, 15% FTSE World Government Bond Index ex-U.S., and 10% Bloomberg U.S. Corporate High Yield Index), which lost 14.2%. Both the domestic and international fixed-income portfolios experienced losses last year, with U.S. fixed income (approximately 85% of the total fixed-income portfolio) losing 13.0% gross and International fixed income losing 18.1% gross.

Relative to their respective benchmarks, U.S. fixed income performed in-line with its benchmark (Bloomberg U.S. Aggregate Bond Index) while international fixed income slightly outperformed its benchmark (FTSE World Government Bond Index) by 0.2%. Within U.S. fixed-income, ACERA's "core" fixed income manager, Baird, produced a –13.0% return, which was in-line with its benchmark (Bloomberg U.S. Aggregate Bond Index), while the U.S. credit manager, Loomis Sayles, outperformed its benchmark (Bloomberg U.S. Credit BAA Index) -12.5% gross versus –15.9%, respectively. In addition to the sharp rise in interest rates, credit spreads also widened – a reflection of heightened credit risks - amplifying losses in lower-quality U.S. credits. Within International fixed income, the only manager that comprises this sub-asset class, Brandywine, slightly outperformed its benchmark (FTSE World Government Bond Index Ex-U.S.) -18.1% versus –18.3%, respectively. In addition to sharply higher rates and widening credit spreads, international fixed income losses were worsened by a strong U.S. dollar, with the DXY U.S. Dollar Index rising 8.9%, which lowered the returns of non-U.S. denominated debt.

Real Estate	
Asset Class Allocation – Target	9.0%
Asset Class Allocation – Actual	7.9%
Return	6.6%
Benchmark (NCREIF ODCE Property Index)	7.5%
Over/(Under) Performance – relative to Benchmark	-0.9%
InvMetrics Real Estate (Gross) - Median	6.9%

Source: Verus Advisory, Inc.
Numbers may not add up due to rounding

In 2022, ACERA's Real Estate portfolio returned 6.6%. The ACERA Real Estate portfolio underperformed its benchmark, the National Council of Real Estate Investment Fiduciaries Open-End Diversified Core Property Index (NCREIF ODCE, 7.5%) by 0.9%.

The Real Estate portfolio contains 18 active institutional funds and the ACERA building located in downtown Oakland. The sub-asset classes within the Real Estate portfolio include Core, Core-Plus, Value-Added, and Opportunistic. The Real Estate portfolio remains diversified across the sub-asset classes (please see ACERA's Real Estate Policy for portfolio composition targets). Real Estate continues to be an important, diversifying asset class for the Total Fund, as it has low correlation with other asset classes, generates stable income with some price appreciation, and serves as a hedge against inflation. As of December 31, 2022, ACERA's Real Estate active portfolio has called approximately $595.1 million and distributed approximately $346.6 million. There is roughly $124.2 million of uncalled capital based on total commitments as of year-end 2022.

Private Equity	
Asset Class Allocation – Target	11.0%
Asset Class Allocation – Actual	9.6%
Return	-2.0%
Benchmark (Refinitiv C|A Global All PE Index), 1 Qtr Lag	-3.8%
Over/(Under) Performance – relative to Benchmark	1.8%

Source: Verus, No Private Equity Median
Numbers may not add up due to rounding

ACERA's Private Equity portfolio performed as expected in 2022. It returned –2.0% for the year, outperforming its benchmark, the Refinitiv C|A Global All PE Index (1-Quarter Lag), by 1.8%. The Private Equity portfolio is currently invested across 61 funds and is segregated into three sub-asset classes: buyouts, venture capital, and debt-related/special situations (please see ACERA's Private Equity Policy for portfolio composition targets). Private Equity continues to be an important asset class to the Fund, providing strong consistent returns, additional diversification, and cash flow in the form of distributions. Because the target of the Private Equity asset class was revised upwards to 11% from the previous 8% in 2021 as part of the asset allocation study, the Private Equity is under-funded compared to its target allocation. As of December 31, 2022, ACERA's Private Equity portfolio has called approximately $1.4 billion in capital and distributed approximately $1.2 billion (excluding dissolved/completed funds). There is roughly $392.2 million of uncalled capital based on total current commitments as of the end of 2022.

Absolute Return	
Asset Class Allocation – Target	8.0%
Asset Class Allocation – Actual	8.3%
Return	6.2%
Benchmark (HFRI Fund of Funds Composite Index)	-5.3%
Over/(Under) Performance – relative to Benchmark	11.5%
InvMetrics All DB Hedge Funds (Gross) Median	-5.7%

Source: Verus
Numbers may not add up due to rounding

In 2022, ACERA's Absolute Return (AR) portfolio continued its favorable absolute and relative performances following a strong 2021. Amid large losses in traditional equity and fixed-income asset classes last year, the AR portfolio produced a positive 6.2% return compared to a 5.3% loss for its benchmark, the HFRI Fund of Funds Composite Index.

2022 was a transitional year for the AR portfolio with the asset-class structural change approved by the Board in 2021 implemented in the third quarter of 2022. The main structural change involved the replacement of the alternative premia strategies (Two Sigma and CFM, combined approximate pre-transition 30% AR portfolio weighting) with a second custom fund of hedge funds (approximate post-transition weighting of 40%), managed by Morgan Stanley. Prior to the transition (i.e., divestment of the alternative premia strategies), the alternative premia strategies outperformed the asset-class benchmark over the first six months of the year (estimated 3% gain versus a 6.6% benchmark loss). Then, once the new custom fund of hedge funds was initially funded in August, it outperformed the asset class benchmark for the remainder of 2022 +3.1% versus +0.6%, respectively. Thus, the timing of the transition worked well with both the replaced and new exposures helping the asset class outperform.

The static positions in the AR portfolio also contributed to the asset class's outperformance in 2022. The legacy custom fund of hedge funds (Lighthouse - approximate 50% and 40% pre- and post-transition weightings, respectively) delivered attractive, mid-single-digit, positive returns. In addition, each of the remaining, smaller exposures produced flat to positive returns in 2022. Because the AR Portfolio is designed to produce returns with limited equity-market beta (roughly 0.1) and correlation (<0.4), the AR Portfolio was effective at providing a diversifying return when the equity markets fell in 2022. By comparison, the asset-class benchmark has a historical beta and correlation to global equities of 0.3 and 0.8, respectively, making its returns much more sensitive to the performance of the equity markets.

Real Assets	
Asset Class Allocation – Target	6.0%
Asset Class Allocation – Actual	6.1%
Return	7.5%
Benchmark (60% Nat Res/35% Infra/5% BCOM)	5.9%
Over/(Under) Performance – relative to Benchmark	1.6%

Source: Verus, No Real Assets Median

Numbers may not add up due to rounding

The objective of the Real Assets (RA) portfolio is to generate a positive, domestic inflation-sensitive return in excess of its blended benchmark, which consists of 60% S&P Global LargeMidCap Commodity and Resources Index, 35% S&P Global Infrastructure Index, and 5% Bloomberg Commodity Index. In 2022, inflation proved much stickier and stronger than many anticipated, helping to support positive returns in the asset class. Core CPI, which excludes food and energy inflation, began 2022 at 6.1%, peaked at 6.6% in September and ended the year at 5.7%. Headline CPI (which includes food and energy inflation), started 2022 at 7.6%, peaked at 8.9% in June and finished at 6.4%. The inflationary environment drove diversifying returns for ACERA's RA portfolio that outperformed its benchmark return with the portfolio generating a 7.5% gross return versus the benchmark return of 5.9%.

The RA Portfolio has had a large weighting to a liquid strategy that seeks to replicate the RA asset-class benchmark. This strategy invests in publicly traded equities in infrastructure (i.e. S&P Global Infrastructure Index) and natural resources (i.e., S&P Global LargeMidCap Commodity and Resources Index), along with exchange-traded commodity futures (i.e., similar to the Bloomberg Commodity Index) in weightings that correspond to their weightings in the asset-class benchmark. Beyond this strategy, the asset class is invested in ten illiquid, private investments including seven for private infrastructure and three for private natural resources. 2022 began with the benchmark replication strategy representing approximately 80% of the asset class with the remainder in the private investments. As more of ACERA's committed capital to the private vehicles were called to be invested into these vehicles, the liquid replication strategy was used as a source of capital for the capital calls. Furthermore, the aggregate performance of the private investments outperformed the benchmark replication strategy. As a result, the asset class's percentage weightings to the benchmark replication strategy and the private investments shifted to approximately 60% and 40%, respectively, by the end of 2022. This is by design as the private side of the RA portfolio continues to be built out towards its ultimate target weighting of 75% of the RA asset class that will ultimately result in only a 25% weighting to the benchmark-replication strategy.

In 2022, the benchmark-replication strategy generated a 6.0% gross return, slightly outperforming the RA asset class benchmark return of 5.9%. Looking more in-depth in this strategy, the natural resources component (35% weighting in the strategy) and the commodities component (5%) combined to drive the total strategy's gross return with the natural resources and commodity components delivering 15.2% and 15.0% gross returns, respectively. On the other hand, the infrastructure component of the benchmark-replication strategy (60%) was slightly down in 2022, losing 0.7%.

Meanwhile, the aggregate return of the private infrastructure and natural resources strategies outperformed the RA asset class benchmark, Private natural resources strategies (approximately 20% of private investment market value) posted strong gains with the private infrastructure strategies (80%) producing solid, positive returns. These results helped the total RA portfolio generate a diversifying 7.5% gross return despite the turmoil in the traditional asset classes of U.S. and International Equity and Fixed Income.

Going forward, ACERA will continue to make new commitments to private infrastructure and natural resources investments and existing private investments will continue to call capital for investment into them. Moreover, as these new commitments are made and capital is called into the private investments, the capital needed will be sourced from the benchmark-replication strategy. These factors, over the next few years, are expected to evolve the mix of private investments in the RA portfolio towards its target of 75% of the RA asset class.

Private Credit	
Asset Class Allocation – Target	4.0%
Asset Class Allocation – Actual	2.6%
Return	4.0%
Benchmark (S&P/LSTA US Leveraged Loan 100 Index + 1.75%)	1.1%
Over/(Under) Performance – relative to Benchmark	2.9%

Source: Verus Advisory, Inc.

Numbers may not add up due to rounding

ACERAs Private Credit ("PC") asset class, incepted in 2019, is comprised of direct-lending strategies or strategies that provide loans to corporations that are typically floating-rate, senior-secured, first- or second-lien loans. In 2022, ACERA's PC Asset Class continued to be built out. At the beginning of the year, ACERA had investment commitments to five strategies that were initially invested in over the 2019-2021 period. Combined, the market value of these strategies was $159.0 million (1.3% of the Total Fund) at the beginning of 2022. Throughout the year, each of these strategies called and invested an increasing amount of ACERA's committed capital to these funds. By the end of the year, the market value of the PC asset class was $262.0 (2.6% of the Total Fund), with approximately $113 million in uncalled capital remaining of the $375 million total capital committed to these funds.

The PC Portfolio generated a return of 4.0% in 2022, versus a benchmark (S&P/LSTA U.S. Leveraged Loan 100 Index +175 basis points) return of 1.1%. Conservatively invested primarily in first-lien, senior secured, floating rate loans, the PC portfolio weathered the capital market volatility and interest-rate increases well in 2022. Because of this safe investment profile, the underlying loans in the portfolio did not incur any realized losses and did not require material markdowns. However, because valuations of these private loans are in part, based on pricing in the traded leveraged loan market and there was pricing pressure in this market amid the broader capital market volatility, the PC portfolio did experience a marginal amount of unrealized valuation markdowns. Offsetting these markdowns was the income generated from these floating-rate loans, which increased as interest rates rose. Moreover, while there was some price pressure on these loans, the pressure was not as severe as experienced in the fixed-rate debt market (such as in ACERA's Fixed Income Portfolio) that were materially pressured by rising interest rates. All told, the PC portfolio's positive 4.0% return was reflective of its income generation (income is typically paid to investors quarterly) which offset marginal loan-valuation markdowns that were primarily driven by pressure in public-market equivalents and not a meaningful deterioration in the credit quality of the PC portfolio's investments.

Going forward, ACERA will continue to increase investment commitments to this asset class. These future commitments, along with the investment of the existing investments' uncalled capital, is projected to increase the asset class's market value towards its 4% target value in the Total Fund in the coming 2-3 years.

GENERAL ECONOMY AND INVESTMENT MARKETS IN 2022

The year of 2022 brought investors many surprises: record inflation; aggressive interest rate hikes unseen in decades; the biggest sell off in bonds in four decades; just to name a few. Investors such as ACERA were still absorbing the consequences of some of these surprises as we entered into the second quarter of 2023 when we penned this report. The longest running bull market that we all had assumed would last, despite the disruptions caused by COVID-19, ended abruptly in the first quarter of 2022. While the pandemic lingered, inflation soared. Consumers faced shortages and high prices. Senseless violence erupted in Ukraine and consequent supply-chain entanglements continued. Manufacturing disruptions occurred as the China mandated lockdowns under its Zero-Covid policies came into effect.

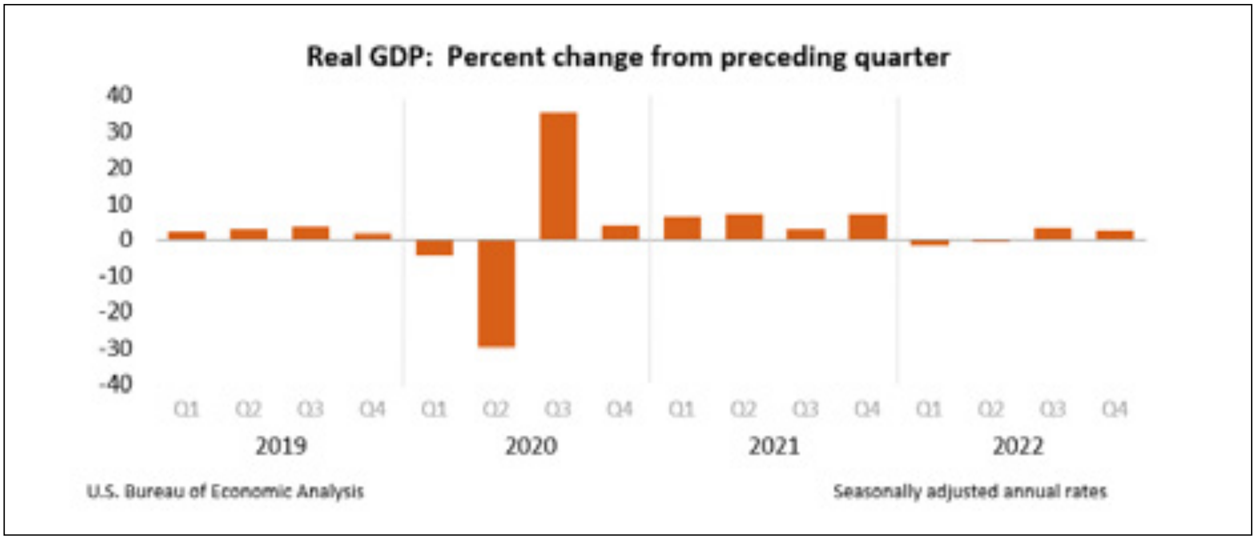
Consumer sentiment appeared stable for the most part of 2022 but began to signal concerns as core CPI for daily essentials took a larger portion of family paychecks. Corporate earnings expectations were also reset, reflecting the higher rate environment. Amid war and inflation, stocks posted their worst quarterly performance in two years, as March came to a close. 401(k) statements reflected losses, as high hopes for risky technology equities were dashed. Other markets, including international markets, had recorded some of the most extreme moves on record. All three major stock indexes suffered double digit declines for the year. (e.g., the S&P 500 which represented the broader stock market lost well over 19% for the calendar year 2022). All public equities, large and small, as well as fixed income fell victims to, amongst many threats, the intensifying Federal Reserve efforts to employ monetary policy as a tool to tame record inflation. As the year ended, most investors like ACERA had suffered investment losses for at least three out of the four quarters of the year. Yet, by this time, the general economy appeared to be stabilizing.

Real GDP in the U.S., which measured the growth of products and services, grew a minimal 1% year-over-year. (Please see GDP chart below). The bulk of the growth happened in the last quarter of 2022, when it logged a positive 2.9%. Similarly, in the EU, real GDP shrank from 5.4% in 2021 to 3.5% in 2022. China's real GDP growth contracted significantly from an 8.1% growth rate in 2021 to a 2.9% rate in 2022. The primary risks threatening Western economies including the U.S. were all alike; while the detrimental risk casting a dark shadow over the Chinese economy was her Government's zero-tolerance Covid lockdown policy. This ended up hampering not only her economic growth but also productivity and consumption.

Consumer spending in 2022 was remarkably stable even though the household savings rate dropped to 2.3%, a depressed level not seen since the mid-2000s. This low rate suggested that household budgets were being hit by higher prices for day-to-day spending at gasoline stations and grocery markets. In the second half of the year, we noted some relief to these areas, but a full retreat did not occur. Unemployment in the U.S. remained low during the year, 3.5% at year-end. While this official figure suggested a strong and resilient job market, the workforce remained much smaller than pre-pandemic times as more than two million workers did not participate in the active work force.

All of these pressure points such as the lower savings and the lower workforce participation, coupled with record high inflation, touching on 9% in the earlier part of 2022, and the reactive intense interest rate increases, caused panic to many investors. Valuations of all public market assets sank. ACERA's public markets assets, representing over 50% of the Total Fund, were no exception. Our U.S. and International Equities dropped 19.5% and 18.7%, respectively. Even our fixed income portfolio showed a significant loss, 13.5%. (Please refer to our chart on p.70 for the detailed investment results of all of our asset classes.) Contrary to the widely held views that fixed income prices hold up better in tough market environments, bonds were decimated by rising interest rates. While it is hard to believe, the 10-year Treasury note has registered its worst performance in more than a couple of centuries.

The silver lining in this especially bad investment year was that our investments in private assets, totaling about 30%, paid off. For example, our Absolute Return assets had returned 6.17% while its relative benchmark had a -5.3% return – an impressive outperformance of 11.47%! In 2023, ACERA will continue to explore private investments opportunistically to help our Total Fund to navigate the ever-changing investment market landscape.



Equity Markets - Domestic and International

Going into 2022, the U.S. equity markets had been on a tear since the Great Financial Crisis in 2008. Over 2009-2021 (i.e., 13 years), the Russell 3000 only had one down year in 2018 (-5.2% return) while the other twelve up years averaged an 18.4% annual gain. A combination of solid earnings growth and expansion of the equity-market valuation multiples, brought on by extremely loose monetary policies in the U.S., supported this remarkably strong period of U.S. Equity performance. One of the key characteristics of this decade-plus stock-market rally was the outperformance of growth stocks versus value stocks, particularly in large caps. Indeed, for the 10 years ended 2021, the Russell 1000 Growth (i.e., large-cap growth) produced a 19.8% annualized return versus 13.0% for the Russell 1000 Value (i.e., large-cap value). This return differential was driven by the dominance of large growth companies, particularly in the Technology sector, that grew strongly throughout the period and benefitted from the extremely low interest-rate environment that supported their high valuations. (Low interest rates benefit the valuation of high-growth companies because the present value of their future growth is discounted to the present at a lower discount rate, thereby increasing the value of this future growth. However, when the discount rate increases due to a rise in interest rates, the value of the future growth declines as it is discounted to the present at a higher discount rate and the valuation of high-growth companies therefore declines.)

In 2022, due to higher interest rates that lowered stock valuations particularly for growth stocks and a decline in earnings, the Russell 3000 lost 19.2%, its largest calendar-year loss since 2008. The valuation compression was most acutely felt among growth companies with the Russell 1000 Growth declining 29.1% compared to a decline of 7.5% for the Russell 1000 Value. Despite this one-year reversal in the performance of growth versus value stocks, 2022 ended with the 10-year annualized return of the Russell 1000 Growth still far outpacing the Russell 1000 Value 14.1% versus 10.3%, respectively. The growth versus value performance also favored small-cap value stocks versus small cap growth stocks last year with the Russell 2000 Value declining a smaller 14.5% versus 26.4% for the Russell 2000 Growth.

Earnings growth also turned negative in 2022 with operating earnings for companies in the S&P 500 Index (an index of the largest 500 companies in the U.S.) declining 5.4% compared to 70.2% earnings growth in 2021 and a 22.1% decline in earnings in 2020 due to the impacts of COVID-19. With earnings growth of approximately 11% expected for S&P 500 companies in 2023, the valuation multiple for U.S. Equities (as measured by the price to trailing-12-month operating earnings for the S&P 500) ended the year at 19.7x, which was down from its valuation of 23.0x at the end of 2021. Overall, despite the decline in the U.S. Equity in 2022, U.S. stock valuations remain relatively high, with the long-term Cyclically Adjusted Price-to-Earnings Ratio of the S&P 500 (a measure that looks at inflation-adjusted 10-year earnings of the S&P 500 companies versus the Index's price level) ending 2022 at 28.5x compared to 38.3x at the end of 2021 and a 50-year average of 21.3x.

Fixed Income Markets - Domestic and Global

With supply chains for consumer goods challenged in 2020-2021, along with fiscal stimulus that supported spending on goods (versus services) while many U.S. consumers worked from home, "core goods" (i.e., goods excluding food and energy goods, which represent roughly 20% of the Consumer Price Index or CPI) inflation was high (10.2%) entering 2022, peaked at 12.4% in February and declined throughout the year, ending at 2.2% in December. While supply-chain issues subsided throughout 2022, helping "core goods" inflation to decline throughout the year, the progressive reopening of the U.S. economy shifted U.S. consumer spending from core goods to services. As this happened, "core services" (i.e., services excluding energy services, which represent approximately 60% of CPI) inflation picked up throughout the year. Indeed, "core services" inflation entered 2022 at 3.7%, rose throughout the year and ended at 7.0% in December. The progressively higher core services inflation offset declines in core goods inflation to keep overall core inflation (i.e., inflation across goods and services but excluding food and energy inflation) higher at the end of 2022 (5.7%) than it was at the end of 2021 (5.5%).

The heightened inflationary environment caused the Federal Reserve to raise interest rates, beginning in March, seven times throughout 2022, increasing the effective Federal Funds rate from 0.1% at the beginning of the year to 4.3% by the end of the year. This rapid rise in interest rates caused the prices of fixed-rate debt, the vast majority of investments in traditional fixed-income portfolios, to decline as the prices of fixed-rate debt are inversely related to the level of interest rates. For example, if a fixed-rate bond is issued at 5% (i.e. pays $5 in fixed interest per $100 in face value) and the market rate rises to 10%, the value of the bond must decline to $50 in order for the $5 in fixed-rate interest to represent 10% of the bond's value. Accordingly, fixed income portfolios that were more exposed to interest-rate risk (a.k.a. duration risk), which is higher for longer-term (i.e. higher duration) fixed-rate bond portfolios, were hurt the most as interest rates rose. Moreover, due to the expected decline in economic activities and tighter credit conditions brought on by higher interest rates, credit spreads widened, producing a one-two punch for U.S. fixed income investments in 2022. Accordingly, the Bloomberg U.S. Aggregate Bond Index (a broad measure of investment grade fixed income including approximately 45% in U.S. Treasuries), which has an effective duration of approximately 6.3, lost 13.0% in 2022. Meanwhile, the lower duration and lower credit quality Bloomberg U.S. Corporate High Yield Index (effective duration of 4.1) lost 11.2%. The lower loss in U.S. high yield last year compared to its investment-grade counterpart (Bloomberg U.S. Aggregate Bond Index) reflected the lower duration (and lower interest-rate risk) of the high-yield index and higher-interest-paying debt in this index, offset somewhat by the widening of high-yield credits spreads, which began the year at 3.1%, peaked at 6.0% in July, and ended the year at 4.8%.

Inflation was also an issue in International markets, most notably in the U.K. and Europe, that experienced supply-chain and energy-supply issues brought on by the Russian invasion of Ukraine. Accordingly, the U.K. and European Central Banks progressively hiked interest rates last year, causing the prices of fixed-rate debt to decline as interest rates rose off a low base. In addition, investor risk aversion caused by the war in Ukraine, heightened inflation and interest rates, as well as the potential economic fallout from these factors, caused credit spreads to widen and weakness in global currencies versus the U.S. Dollar. Given these factors, the FTSE World Government Bond Index excluding the U.S. (a global benchmark of non-U.S. sovereign debt - 7.6 effective duration) declined 18.3% in 2022.

Real Estate Markets[1]

Against a backdrop of historically high inflation and rapidly rising interest rates, the US real estate market was able to make small positive gains. The NCREIF Open End Diversified Core Equity Index returned 7.47% for the year. After a record-breaking year in 2021, 2022 slowed down to more normal levels in terms of annual rental growth in multifamily (+3.8% in 2022 vs 17.6% in 2021). Occupancy rates decreased by 250 bps to 95.05% and effective rents increased 57% in 2022 compared to 14.6% in 2021[2]. The slowdown in growth was driven by slowing household formations, which was indirectly influenced by historically high inflation and rapidly rising interest rates. The industrial sector continues to be robust, with low single digit vacancy rates (3.6% in 2022 vs 3.9% in 2021). Fundamentals for the industrial sector remain strong, as the demand for warehouse and logistics space continues to grow faster than supply. However, the demand may slow down next year as persistently high interest rates could slow down economic activities. The office sector continued to struggle three years post pandemic with vacancy rates remaining around 17.2% vs 16.4% last year.[3] Questions remain about how the workplace will be long-term, given the increased demand for remote work. The retail sector continued to show signs of resiliency with total US retail sales increasing 8.2% in 2022.[4] Despite changes in consumer trends, the retail sector has shown resiliency as property owners diversify space use and focus on specific tenancy.

Private Equity (PE) Markets[5]

After 10+ years of unprecedented growth, the PE markets finally showed signs of slowing down in 2022. The Federal Reserve rapidly increased interest rates to combat persistently high inflation which marked the end of cheap debt, the main factor driving all the activities in the PE markets. PE activities were down across all metrics in 2022 compared to 2021: Capital invested was $645B vs $1.02T, exits totaled $565B vs $969B, and fund-raising reached $347B vs $413B.

The global dry powder (i.e., uncalled capital) across the PE spectrum was already at all-time highs in recent years. With the slowdown in activities in 2022, the global dry powder has accumulated to staggering $3.7 trillion (vs $3.4 trillion in 2021). For reference, in 2011 the global dry powder was around $1.1 trillion. Despite the slowdown in deal activities, the average EBITDA purchase price multiple in the US remained near historical highs at 11.9x compared to 12.3x in 2021 as dry powder remains abundant. Exits were also way down in 2022 due to tighter credit conditions and a large pullback in public equities. There were half the amount of US IPOs in 2022 compared to 2021 (1,671 vs 3,260).

Despite the slowdown in 2022, private equity continues to demonstrate its value as a diversified source of investment return, as the asset class continues to perform above public equities across several time horizons using Public Market Equivalent (PME) measures. Although the gap has been closing between private and public returns in recent years, in 2022 the gap grew much wider due to the poor performance of the public markets compared to the positive returns within the overall private markets. Whether the private markets will "catch-up" to the recent poor public market performance remains to be seen.

Absolute Return Markets

Absolute return markets (i.e., hedge funds), as measured by the HFRI Fund of Funds Composite Index, were challenged by volatility and losses in the equity and fixed income/credit markets in 2022. This is because these strategies are often net long equity and/or credit risk and rely on orderly markets that can become disorderly when there is heightened volatility. As a result, hedge funds (as measured by the HFRI Fund of Funds Composite Index) have a meaningful (i.e., 0.3) beta to

1 Source: Callan LLC, Verus Advisory Inc.

2 Source: Heitman.

3 Source: Heitman.

4 Source: US Census Bureau.

5 Source: Bain & Company.

global equities (i.e., for every 1% move, up or down, in global equities, the HFRI Fund of Funds Composite moves directionally with global equities by 0.3%) and a meaningful correlation (i.e., 0.8, with perfect correlation being 1.0) to global equities, such that they can produce positive returns when global equities are volatile and produce losses. Accordingly, the HFRI Fund of Funds Composite Index lost 5.3% in 2022, its worst loss since 2011 (when it lost 5.72%). Moreover, similar to the U.S. Equity asset class that had performed exceptionally well between 2009 and 2021, 2022 was only the third calendar year since 2008 in which the HFRI Fund of Funds Composite Index had a negative return.

The market volatility and losses in 2022 were most difficult for equity hedged and event-driven strategies with the HFRI Equity-Hedged (Total) Index losing 10.1% (its worst year since 2008) and the HFRI Event-Driven (Total) Index losing 4.8% (its worst year since 2008). Within Equity-Hedged strategies, strategies that contained net equity risk, particularly in growth stocks, were hit the hardest with the HFRI Equity Hedged Long/Short Directional Index losing 11.2% (worst since 2008) and the HFRI Equity-Hedged Fundamental Growth Index losing 17.5% (worst since 2008). Within event-driven strategies, activist strategies (i.e., taking an influential ownership position in a company and influencing the company to make desired changes) and strategies with multiple event-driven strategies within them, generated the largest losses with the HFRI Event-Driven Activist Index losing 16.4% (worst return since 2008) and the HFRI Event-Driven Multi-Strategy Index losing 9.4% (worst since 2008).

On the other hand, relative value strategies, which typically hedge equity and credit risk, weathered the 2022 storm well and macro strategies thrived amid down-trending equity markets, up-trending interest rates, and trending prices in commodities. Accordingly, the HFRI Relative Value (Total) Index returned –0.7% and the HFRI Macro (Total) Index generated a positive 9.0% return last year. Within macro, strategies that benefitted from trends across asset classes, particularly systematic strategies, were the most profitable with the HFRI Trend Following Directional Index returning 10.3%, the HFRI Macro Systematic Directional Index returning 12.2%, and the HFRI Trend Following Directional Index returning 10.3%.

Real Assets Markets

Real Assets investments, in this report covering infrastructure, natural resources, and commodity investments, gained ground in 2022 despite meaningful losses experienced in the traditional equity and fixed income asset classes. In addition to the continued reopening of the post-COVID-19 global economy, which strengthened commodity demand, the supply of commodities was also disrupted by the Russian invasion in Ukraine. These factors pushed commodity prices higher, helping the Bloomberg Commodity index ("BCOM") rise 16.1% in 2022. The BCOM's strong 2022 result followed a 27.1% gain in 2021. This back-to-back-year-performance strength made commodities the best performing major asset class over the 2021-2022 period. Last year, gains in commodities were most meaningful in the energy and agricultural sectors, the two commodity sectors most impacted by the Russia/Ukraine conflict, with the energy sector within the BCOM (roughly a 30% weighting) producing a 36.2% gain and the agricultural sector (30%) producing a gain of 15.6%.

Due to the rise in commodity prices, the value of equity investments in companies that produce commodities and benefit from an increase in commodity prices, rose, with the S&P Global LargeMidCap Commodity and Resources Index (a global index of equities exposed to commodity production) rising 15.5% despite the broader rout in global stocks. This 2022 return in global natural resources stocks followed a strong 27.1% return in 2021.

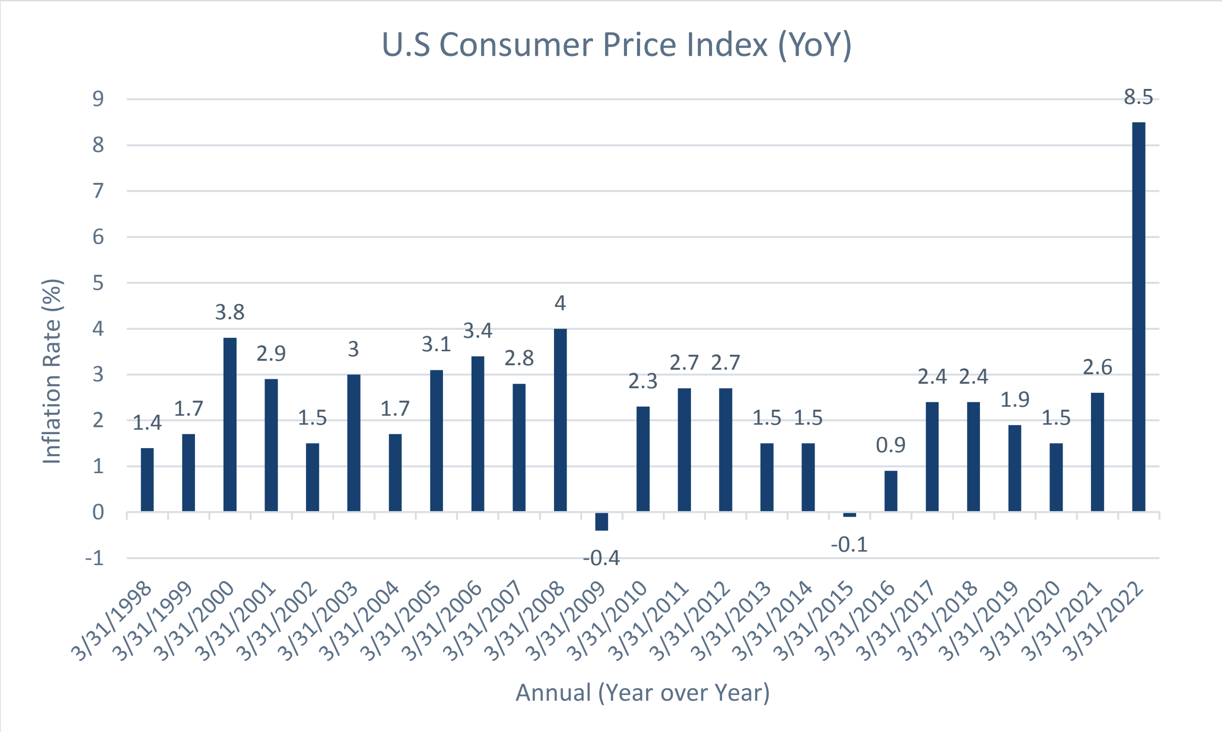
On the other hand, performance of infrastructure investments was muted in 2022. Infrastructure investments are typically insensitive to economic cycles and benefit from business models that can adjust to higher rates of inflation without harming their bottom line. However, these investments, when stabilized (i.e., have a stable forward-looking cash-flow profile), typically utilize a high level of leverage within their capital structures, which can impact their performance if the debt must be refinanced at higher interest rates. Given these factors, along with pressure in the broader equity markets, the infrastructure market, as measured by the S&P Global Infrastructure Index (a global index of infrastructure stocks), returned –0.2% in 2022, following an 11.9% return in 2021.

Private Credit Markets

In 2022, the Private Credit markets, defined in this report as private direct lending to corporations, continued to grow in assets under management ("AUM") and prominence in financing middle-market private equity buyout deals. According to Bain & Company, the annual compound growth rate of AUM in private direct lending funds was 29% for the ten years ended 2022. Moreover, though fundraising for private direct lending funds declined 11% in 2022 compared to 2021, the average annual growth of fundraising for these funds was 37% over the preceding 2017-2021 period. These strong growth rates reflect expansion in investor commitments to private equity buyout funds, and the retrenchment of bank capital, brought on by regulatory changes since the Great Financial Crisis, that previously financed these buyout transactions. It is also reflective of the relative benefits of private financing versus financing through loans originated through banks and bank-originated, syndicated leveraged loans. The relative benefits include certainty of financing at privately-negotiated deal terms (especially when the public debt markets are volatile) and the added flexibility, via unitranche (a form of debt that combines characteristics of senior-secured and unsecured debt into one loan) financing and other bespoke deal terms, that are afforded by private buyout financing. (Typically, a leveraged buyout is financed 50% from an equity investment from the private equity sponsor and 50% from debt financing that can include senior-secured and unsecured debt.) Moreover, investors have increasingly flocked to this asset class because: 1) most loans are floating rate loans, making these investments, unlike fixed-rate debt, immune to interest-rate risks; 2) have historically produced low default rates (approximately 2.5%) with average recovery rates from defaulted loans of approximately 0.70x; 3) the strategies have produced higher returns than traditional fixed-rate debt while interest rates have been low; and 4) the private loans typically include creditor protections that have become scarce in the syndicated leveraged loan market.

In 2022, the private credit market largely produced positive results. While the data for full-year 2022 private direct lending returns are not available at the time of this writing, ACERA benchmarks its private, direct lending portfolio using a syndicated leveraged loan index (S&P/LSTA U.S. Leveraged Loan 100 Index) plus 175 basis points (representing an illiquidity premium) per year. Using this benchmark (-0.7% 2022 return for the S&P/LSTA U.S. Leveraged Loan 100 Index plus 175 basis points = 1.05% return), private direct lending produced a 1.05% return in 2022. The first half of the year was very active, with private equity deal making activities continuing its strong momentum from 2021. (As roughly 80% of private direct lending goes to finance private equity deal activities, the private direct lending market is dependent upon activities in the private equity deal making.) Due to rising interest rates and their potential impact on deal financing costs and economic growth, however, private equity activities dried up in the second half of the year. As a result, according to Bain & Company, the financing of buyouts from direct lending funds declined from approximately $55 billion in 2021 to $44 billion in 2022, with 2022's tally still the second highest year ever. In addition, the share of private direct lending funds financing middle-market buyouts (versus financing from syndicated leveraged loans) rose to 80% in 2022 versus 75% in 2021 and 49% in 2017. Overall, 2022 started with ample new loan issuance but at lower credit standards and at low interest rates. As the year's second half progressed, new loans were made at higher credit standards and interest income on outstanding, floating-rate loans increased as interest rates rose. However, due to the broader capital market volatility that pushed down prices of publicly traded leveraged loans, valuations of private direct lending portfolios also declined to reflect the lower marks of publicly-traded comparable loans. Thus, a combination of lower loan valuations offset by rising interest income resulted in a marginally positive return for private direct lending in 2022.

ECONOMIC OUTLOOK FOR 2023 AND BEYOND



U.S Economic growth slipped in the first quarter of 2023 in the midst of still-high inflation and rising interest rates, adding to worries about a possible recession later in the year. Gross domestic product, a measure of the value of all the goods and services produced in the country, rose at an inflation adjusted and seasonally adjusted 1.1% annual rate in the first quarter of 2023. When compared to the 2.6% GDP in the fourth quarter of 2022, the first quarter's growth rate signaled a significant slowdown in the economy. Early in 2023, businesses have pulled back, drawing down inventories and reducing equipment purchases. When companies bring down inventory, there is less of a need to produce or make new purchases to meet customer demands. Even consumer spending, which has long been the main driver of the U.S. economy fueled by a solid labor market and low unemployment, has start to show signs of tapering.

With inflation remaining high at 4.2% at the end of the first quarter of 2023, well above the federal reserve's target of 2%, the central bank is likely to increase its benchmark fed-funds rate to a range between 4.75-5%. This continues to add pressure to the cooling U.S. economy, and possibly the world economy. Therefore, many economists expect the U.S. economy to slow even more as the year progresses, predicting a recession in the second half of 2023.

While predicting the near-term direction of the U.S. economy and stock price levels has the attention of many investors, ACERA, an institutional investor, maintains the long term viewpoint. We consider prospective returns in the next 5 to 10 years. Here we see a more productive and likely more profitable opportunities in the U.S. While 2022's market storm has seemingly intensified, and has no clear end in sight (consider, for example, the implosion of regional banks Silicon Valley Bank, in March, followed by First Republic Bank's collapse in May), our experience has taught us that market volatilities can create opportunities. Historically, disciplined diversified strategies are rewarded. Past volatile markets such as the Great Financial Crisis of 2008-2009, were followed by market gains. The peak pandemic fears in 2020 and now the 2022 macro-economic driven dislocations should see similar upturns. The ACERA board has adopted a long-term allocation strategy with eight asset classes, of which five of them are considered private asset classes which help diversify the total fund into a truly all-weather portfolio. This positions us well for an eventual recovery, particularly in the U.S. As the legendary investor Warren Buffet has stated, "I have yet to see a time when it made sense to make a bet against America."[1] We, at ACERA, do not wish to second guess Mr. Buffet's kernel of wisdom.

GENERAL INFORMATION

Institutional investment management firms manage ACERA's assets. Professional investment consultants, along with ACERA's investment staff, closely monitor the activities of these managers and assist the Board with the implementation of investment policies and long-term strategies. ACERA's goal remains to achieve a level of performance that will rank the Fund in the upper quartile of comparable pension funds on a risk-adjusted basis. ACERA also seeks to be as fully funded as possible so that its benefit costs do not become a burden upon future generations of members and taxpayers.

Summary of ACERA's General Investment Guidelines, Policies and Procedures (General Policy)

The General Policy was last amended and approved in 2022. This Policy can be found at https://www.acera.org/download/general-investment-guidelines-policies-and-procedures

SUMMARY OF ACERA'S OTHER INVESTMENT - RELATED POLICIES

Environmental, Social, and Governance (ESG) Investment Policy

In 2021, the ACERA Board approved the Environmental, Social, and Governance (ESG) Policy. There have been no amendments to this Policy since then. The ESG Policy can be found at https://www.acera.org/download/environmental-social-and-governance-esg-investment-policy.

Private Equity Policy

The Private Equity (PE) Policy was last amended and approved in 2021. The PE Policy can be found at https://www.acera.org/download/private-equity-investment-policy

Absolute Return Policy

The Absolute Return (AR) Policy was last amended and approved in 2021. The AR Policy can be found at https://www.acera.org/download/absolute-return-policy

Real Estate Investment Guidelines, Policies, and Procedures (Real Estate Policy)

The Real Estate Policy was last amended and approved in 2021. The Real Estate Policy can be found at https://www.acera.org/download/real-estate-policy

Emerging Investment Manager Policy

In 2022, the ACERA Board approved amendments to the Emerging Investment Manager (EIM) Policy. This Policy can be found at https://www.acera.org/post/emerging-managers-policy

Directed Brokerage Policy

The Directed Brokerage was last amended and approved in 2014. There have been no amendments to this Policy since then. This Policy can be found at https://www.acera.org/directed-brokerage-program.

Real Assets Policy

The Real Assets Policy was last amended and approved in 2020. There have been no amendments to this Policy since then. This Policy can be found at https://www.acera.org/investment-update/real-assets-policy.

Private Credit Policy

The Private Credit Policy was last amended and approved in 2019. There have been no amendments to this Policy since then. This Policy can be found at https://www.acera.org/download/private-credit-investment-policy.

1 Warren Buffet, the legendary investor, stated in his 2022 annual letter to Berkshire Hathaway investors: "I have been investing for 80 years- more than one-third of our country's lifetime. Despite our citizens' penchant- almost enthusiasm-for self-criticism and self-doubt, I have yet to see a time when it made sense to make a long-term bet against America."

Proxy Voting Guidelines and Procedures (Proxy Guidelines)

The Proxy Voting Guidelines Policy was last amended and approved in 2022. There have been no amendments to this Policy since then. This Policy can be found at https://www.acera.org/investment-update/proxy-voting-guidelines-and-procedures

Placement Agent Disclosure Policy

The Placement Agent Policy[*] was last amended and approved in 2012. There have been no amendments to this Policy since then. This Policy can be found at https://www.acera.org/download/placement-agent-disclosure-policy.

SPECIFIC INVESTMENT RESULTS FOR 2022

In summary, after paying for its annual members' benefits and ACERA's administrative expenses, ACERA's Total Fund was down –11.5% and finished 2022 with a market value of $10.25 billion.

Respectfully Submitted,

Betty Tse, CPA, CGMA, MBA
Chief Investment Officer, ACERA
June 1, 2023

* The Placement Agent Disclosure Policy is another investment-related policy on the ACERA website that covers due diligence on managers and not the making of investments.

Investment Consultant's Report

Verus

Memorandum

To: Alameda County Employees' Retirement Association
From: Verus
Date: March 10, 2023
RE: 2022 Review and Outlook

Executive Summary

For the year of 2022, the narrative was a "tale of two halves" as some assets performed strongly in the first half, but experienced price pullback in the second half of the year. Selling pressure beginning in early 2022 continued for the remainder of the year, driving historically poor calendar year performance. Higher interest rates due to inflation drove losses across both bonds and equities, creating a particularly difficult environment as bonds failed to hedge assets and equities drew down. Higher rates and tighter economic policy also spurred fears of a global recession, depressing investor sentiment even further.

While 2022 was an incredibly difficult year, recent narratives paint a more optimistic picture of the future. First, inflation may have peaked from the highs in June, helping to reduce the price pressure on consumers and allowing the Federal Reserve to slow its tightening pace. Additionally, China's rapid pivot away from their nearly three-year "Zero Covid" policy is providing a tailwind to global economic growth. Lastly, for investors with a long-term perspective, expected returns have significantly increased as valuations have come back to more normal levels and bond yields have moved higher, which should help many investors to reach their return goals without necessarily needing to stretch into more complex or illiquid alternatives.

U.S. Equity

U.S. equities finished 2022 down -18.1%, notching the worst calendar year performance for the S&P 500 since 2008 (and the seventh worst calendar year return for U.S. equities over the past 100 years). Inflation, and the Federal Reserve's response to it, continued to be the driving narrative for domestic equities. While inflation has gradually moved lower from the four-decade peak of 9.1% observed in June, the Federal Reserve has remained steadfast in its effort to bring inflation back towards the two percent long-term target range. Higher inflation impacts domestic equity valuations in two major ways. The first is due to the discounting mechanism investors use to price equities. Future cash flows are discounted back to present values, so a higher discount rate diminishes the value of cash flows further out in the future. The second impact of a higher rate environment is the fear of a U.S. recession induced by the Federal Reserve. Slowing economic growth involves lowering the demand for goods and services, which decreases the pressure on prices. Investors fear that this slowdown will make its way into company earnings, dampening future cash flows.

Looking at style factor performance during 2022, value stocks significantly outperformed growth stocks, reversing the trend of past years. Despite this outperformance, both the Russell 1000 Value and Growth indices were down -7.5% and -29.1%, respectively. Investors flocked to more conservative names, as the larger more growth focused outperformers of the past (i.e., FAANG (Facebook, Apple, Amazon, Netflix, and Google) stocks, or more recently, MAMAA (Meta

Platforms (formerly Facebook), Amazon, Apple, Microsoft and Alphabet (formerly Google) stocks were hit harder by the valuation impacts mentioned above.

International Equity

International equities faced their own unique challenges through the calendar year including: the continued war in Ukraine, China's "Zero-Covid" policy (and rapid pivot), and turbulence around the United Kingdoms' fiscal policy, producing a British pound 'flash crash' and ultimately resulting in the election of a new Prime Minister. As these themes were some of the largest drivers of performance in 2022, international equities participated in the broader global sell-off, as international developed and emerging market shares fell -14.5% and -20.1%, respectively, in dollar terms.

The war in Ukraine dominated the narrative in international developed equities. Investor sentiment slumped as possibilities of a broader conflict increased. While the war is currently contained within the borders of Ukraine, the associated economic shocks spread widely across Europe. The largest impact has been on Europe's energy complex, which saw prices for oil and natural gas spike to record highs due to Europe's reliance on Russian energy exports. Fears subsided a bit in recent months as needed supplies have been refilled and weather forecasts called for a milder winter, which alongside favorable currency movements, helped push the MSCI EAFE index up +17.3% in the fourth quarter. Despite recent positive performance, most believe Europe still faces a difficult path forward with rising core inflation forcing the European Central Bank to tighten despite already stagnating economies within the European Union.

Within emerging markets, the largest story has been the continuation of China's rapid pivot away from a "Zero Covid" policy in late October. The reopening of its economy provided a large boost to Chinese equities, which in turn helped fuel a broader rally in emerging market shares. However, with reopening came an influx of new Covid cases, which makes forecasting the timeline for a full Chinese economic opening difficult. Additional questions remain around the future impacts of a reopened China – the main concern being a renewed rise in global prices. Despite the ongoing decline in global inflation, price stability remains fragile and susceptible to a rapid ramp up in demand from the world's largest consumer.

Fixed Income

Inflation and interest rates were likely the largest driving forces in markets over the calendar year. Record high inflation amongst many developed economies led a wave of central bank tightening, resulting in a rising rate environment. Within the U.S., short-term rates rose 4.25% in the calendar year, marking one of the fastest tightening cycles in history. While rates moved abruptly higher, inflation remains materially elevated above the Federal Reserve's 2% inflation range target, leaving the door open for additional rate hikes in 2023. Per the Federal Reserve's most recent quarterly Summary of Economic Projections, FOMC participants see rates at 5.1% by the end of 2023.

A rapid rise in rates provided an incredibly poor performance environment for fixed income. Core fixed income (Bloomberg U.S. Aggregate) fell -13.0% over the calendar year, marking the index's worst calendar year performance dating back to 1977. These losses, mixed with the large drawdown in U.S. equities, provided a rare situation where bonds failed to insulate and protect investors with multi-asset portfolios.

As recession fears increased, investors became increasingly concerned about credit risk. All major credit sub-asset classes finished lower in the calendar year. Despite fears, credit spreads remained relatively subdued. Corporate investment grade spreads ticked up slightly from 92 bps to 130 bps over the full year, while high yield spreads saw a little widening, but ended 2022 at 469 bps – nowhere near the blowouts (i.e., spreads above 800 bps) seen during the Covid-19 pandemic and the 2008-2009 Global Financial Crisis. However, U.S. high yield and emerging market debt, in both hard and local currency terms, saw losses in the double digits.

Default activity has also been historically low, although activity slightly increased during the second half of the year. Defaults were concentrated within the Healthcare sector, which made up around 36% of the total dollar default volume over 2022.The one bright spot within credit was Bank Loans, where variable rate characteristics helped mitigate against the large duration hit taken by other credit exposures. Despite this outperformance, Bank Loans still delivered a -0.6% return during the calendar year.

Commodities

Commodities were in the headlines for much of 2022. The asset class gained attention due to rising inflation, and then commodities took center stage following the initial invasion of Ukraine by Russia. Energy prices jumped dramatically as supply was significantly disrupted, with other sectors, including agriculture, seeing price spikes. These large movements at the start of the year helped drive a +18.4% gain for the Bloomberg Commodity Index in the first half of the year.

Despite the hot start to the year, commodities started to tick lower after large gains in energy began to moderate due to Europe's rapid ability to backfill supply, and much milder than expected winter conditions. Additionally, increased probabilities for a global recession hurt prices, as a slowdown in economic growth negatively impacted expected demand. Commodities saw a tale of two halves in 2022, as the index fell -2.0% in the second half. Despite these losses in the second half, the Bloomberg Commodity index delivered a +16.1% gain over the full calendar year, marking the best performance among the major asset classes.

Currency

In our last letter, we described a strong U.S. dollar as a major theme of 2022. While that momentum carried forward in the third quarter, currency markets saw a sharp reversal in the fourth quarter. The dollar had initially marched higher largely due to the Federal Reserve's quick tightening cycle relative to global peers; however, U.S. dollar momentum began to slow as other major central banks increased their rates to subdue inflation in their respective economies. Dollar strength turned to weakness as U.S. inflation showed signs of easing, and markets began pricing in a softer Fed tightening cycle. The falling dollar played a large role in performance over the quarter, exemplified by international developed equities, which saw a +17.3% return in unhedged terms versus +9.7% for hedged performance.

Outlook

The outlook for 2023 remains challenging, although inflation and recession will likely continue to be key themes. Within the U.S., the possibility of an economic soft landing has resurged, as inflation moderated from 9.1% to 6.5% at year-end, and the economy has shown resilience. If inflation continues to fall, that could open the door for the Federal Reserve to ease their tightening cycle, which would provide a tailwind to economic growth. From an international perspective, China's re-opening surely seems to be a positive to the global growth outlook, but the net impact of a full re-opening on global prices remains a risk. In Europe, high inflation and hawkish central banks challenge already subdued growth, although companies and consumers have also shown resilience. Uncertainty remains high, but the most recent drawdown and increase in interest rates seems to have propelled investors out of the "low return environment" of recent years, potentially providing long-term investors with more flexibility in their portfolio allocation decisions.

ACERA 2022 Highlights: Investment Guidelines, Policies, and Initiatives

2022 was a highly productive year in terms of updating policies and procedures and special initiatives for the Plan. After adopting an ESG policy in 2021, an implementation plan for that policy was presented and subsequently adopted by the Board in early 2022. The implementation policy outlined changes to proxy voting guidelines, the most impactful way of implementing ACERA's ESG policy. The implementation policy also outlined several next steps, including the addition of ESG assessment criteria to investment manager due diligence, evaluation, and monitoring and annual ESG reporting. In March, the Board heard from Verus regarding the Russia Ukraine war and its impacts on the economy and on investments.

Investment staff and Verus also reviewed ACERA's General Investment Guidelines, Policies, and Procedures. Changes to the Investment Policy Statement (IPS) included enhanced language for asset allocation and rebalancing, adding objectives to the Private Credit asset class, additional detail regarding the Plan's overlay program, references to ACERA's ESG policy, and additional clarification regarding performance monitoring. Following the review of the Investment Policy Statement, the Plan reviewed its Emerging Investment Manager (EIM) program and changes were incorporated, chief of which was to raise the maximum aggregate EIM exposure to 10% from the previous 5% target.

In an ongoing project, ACERA is currently reviewing its international equity asset class structure. The Board received education regarding the structure in the fall of 2022. The Investment Committee will revisit the structure discussion in early 2023. Additionally, structure implementation alternatives and plans will be discussed and decided upon by the Committee for ultimate Board approval.

Investment Objectives

The plan had a difficult year in 2022; unsurprising given the overall "nowhere-to-hide" nature of the markets, where nearly all asset classes had negative performance. The total fund returned -11.6% on a net-of-fees basis, modestly underperforming the policy index return of -10.1%. ACERA ranked in the 55th percentile of its peers (Investment Metrics Public DB >$1B) over the year. Public Equities were particularly challenged, given the dual threats of falling valuations and increased probability of a recession brought about one of the fastest Fed tightening cycles in history.

The total fund's 3-year return was 4.9%, net, which ranked in the 43rd percentile of its peers, yet lagged the Policy return of 5.6%. Over longer annualized time periods (7- and 10-years), ACERA has ranked in the 32nd and 28th percentile, respectively, versus its peers. The annualized 7- and 10-year returns also exceeded ACERA's assumed rate of return of 7.0% as of 12/31/22. The effect of last year's negative performance will be magnified for more recent time periods on an annualized basis; however, on a 15-year timeframe, the Plan ranks in the 22nd percentile, making it a top-quartile performer among public fund peers.

During the year, the Plan once again met its goals of complying with applicable fiduciary standards, and of continuously enhancing its investment portfolio. Most importantly, ACERA continues to have the availability of sufficient funds to pay vested benefits and maintain supplemental benefits for its participants.

Asset Allocation

	PERCENTAGE TARGET	12/31/22 ACTUAL**
US EQUITY	24%	24.6%
NON-US EQUITY	24%	24.7%
FIXED INCOME	14%	15.2%
REAL ESTATE*	9%	7.9%
PRIVATE EQUITY*	11%	9.6%
ABSOLUTE RETURN	8%	8.3%
REAL ASSETS	6%	6.3%
PRIVATE CREDIT*	4%	2.6%
CASH	0%	0.9%

* ACERA's asset allocation target was adopted by the Board in June 2021. Increases to private markets investments are funded over a multi-year period.
** Total may not add to 100.0% due to rounding

Investment Results*

	ANNUALIZED		
DOMESTIC EQUITY	**2022**	**THREE YEARS**	**FIVE YEARS**
Total Domestic Equity	-19.66%	6.85%	8.87%
Median	-18.11%	7.03%	8.56%
Benchmark: Russell 3000	-19.21%	7.07%	8.79%
INTERNATIONAL EQUITY			
Total International Equity	-18.98%	0.06%	1.45%
Median	-16.71%	0.61%	1.23%
Benchmark: MSCI ACWI ex US IMI	-16.15%	0.65%	1.32%
FIXED INCOME			
Total Fixed Income	-13.65%	-1.58%	0.58%
Median	-11.38%	-1.53%	0.72%
Benchmark: Hybrid Index	-14.20%	-3.21%	-0.37%
REAL ESTATE			
Total Real Estate	6.56%	9.92%	8.83%
Benchmark: NCREIF ODCE	7.47%	9.93%	8.68%
PRIVATE EQUITY			
Total Private Equity	-1.96%	18.32%	16.42%
Benchmark: Refinitiv C|A Global All PE 1 QTR Lag	-3.83%	19.38%	16.72%

Verus

ABSOLUTE RETURN	2022	THREE YEARS	FIVE YEARS
Total Absolute Return	6.17%	6.66%	3.85%
Benchmark: HFRI Fund of Funds Composite	-5.30%	3.69%	3.01%
REAL ASSETS			
Total Real Assets	7.39%	8.23%	4.15%
Benchmark: 5% Bloomberg Commodity/ 60% S&P Global Infrastructure/ 35% S&P Global Large Mid Commodity & Resource	5.87%	7.14%	5.68%
TOTAL FUND			
ACERA Total Fund	-11.62%	4.91%	5.53%
Median	-11.12%	4.89%	5.78%
Benchmark: Policy Index	-10.13%	5.61%	5.98%

*NOTE: Returns are net of fees. Returns for periods greater than one year are annualized. Monthly return calculations are time-weighted, and market value based. Results of all publicly traded investments are presented in a format consistent with the CFAI Global Investment Performance Standards®.

Despite last year's challenging markets, ACERA's investment strategy continues to meet or exceed expected portfolio returns over longer time periods, both on an absolute and relative basis. Over longer-term annualized periods measured as of year-end 2022, ACERA has achieved its actuarial expected return of 7.0% and has ranked competitively versus other public fund plans. The Plan continues to further diversify its holdings while seeking a modest increase to expected returns. Planned discussion and review items for 2023 include not only the aforementioned international equity asset class structure but also education on implementation strategies related to Private Equity and potential additional commitments to existing ACERA private markets allocations. ACERA will continue to follow best practices in decision making for public fund investors to prudently benefit the Plan and its participants and beneficiaries.

Eileen Neill

Eileen Neill, CFA
Managing Director and Senior Investment Consultant
Verus

Verus

Asset Allocation

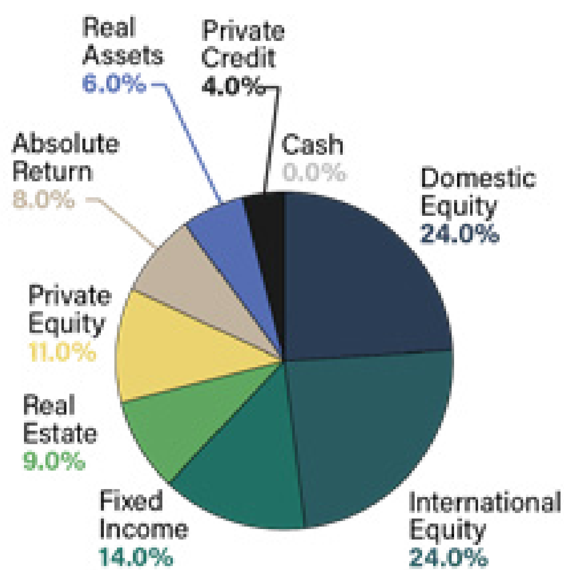
As of December 31, 2022

Investment Asset Class	Actual Asset Allocation[1]	Target Asset Allocation	Actual Allocation Over/ Under Target Allocation
Domestic Equity	24.5%	24.0%	0.5%
International Equity	24.6%	24.0%	0.6%
Fixed Income	15.2%	14.0%	1.2%
Real Estate	8.1%	9.0%	-0.9%
Private Equity	9.7%	11.0%	-1.3%
Absolute Return	8.3%	8.0%	0.3%
Real Assets	6.0%	6.0%	0.0%
Private Credit	2.6%	4.0%	-1.4%
Cash	1.0%	0.0%	1.0%
Total	**100.0%**	**100.0%**	**0%**

1 Based on total investment assets under management including receivable and payable balances as reported on the Statement of Fiduciay Net Position.

Actual Asset Allocation

Target Asset Allocation



Investment Professionals

For the Year Ended December 31, 2022

INVESTMENT MANAGERS

Domestic Equities

- Aristotle Capital Management
- BlackRock Institutional Trust Company, N.A.
- Kennedy Capital Management, Inc.
- TCW Asset Management Company
- William Blair Investment Management, LLC

International Equities

- Bivium Capital Partners, LLC
- BlackRock Institutional Trust Company, N.A.
- Capital Group Institutional Investment Services
- Franklin Templeton Institutional
- Mondrian Investment Partners Ltd.
- William Blair Investment Management, LLC

Fixed Income

- Baird Advisors
- Brandywine Global Investment Management, LLC
- Loomis, Sayles & Company, L.P.

Cash Overlay

- Parametric Portfolio Associates LLC

REAL ESTATE (SEPARATE & COMMINGLED FUNDS)

- AEW Capital Management
- Angelo, Gordon & Co.
- Artemis Real Estate Partners
- CBRE Investment Management
- CIM Group
- Clarion LIT
- Heitman Capital Management
- J.P. Morgan Asset Management
- Jamestown Premier Property
- MetLife Investment Management
- Prudential Real Estate Investors
- RREEF America, LLC
- Starwood Capital Group
- UBS Realty Investors LLC

PRIVATE EQUITY

- ABRY Partners, LLC
- Altas Partners
- Angeles Equity Partners
- Angelo, Gordon, & Co.
- Audax Group, L.P.
- Avista Capital Partners
- Bernhard Capital Partners Management, LP
- Bridgepoint Credit Limited
- Canvas Ventures
- CapVest Equity Partners
- Catalyst Fund Limited Partnerships
- Centerbridge Partners, L.P.
- Clayton, Dubilier & Rice, LLC
- General Catalyst Partners
- Genstar Capital
- Great Hill Partners
- Insight Equity
- JLL Partners
- Khosla Ventures
- KPS Capital Partners, L.P.
- Lindsay Goldberg
- New Enterprise Associates
- Oak Hill Advisors, L.P.
- Partners Group
- Peak Rock Capital, LLC
- Strategic Value Partners
- Summit Partners
- Sycamore Partners
- Third Rock Ventures
- Vista Equity Partners
- Warburg Pincus, LLC

REAL ASSETS

- Brookfield
- CIM Group
- EQT Partners
- I Squared Capital Advisors, LLC
- Quantum Energy Partners
- State Street Global Advisors
- Taurus Fund Management Pty Limited
- Tiger Infrastructure Partners
- Vision Ridge Partners, LLC
- Warburg Pincus Energy, LLC

ABSOLUTE RETURN

- Angelo, Gordon & Co.
- Blackstone Alternative Solutions, LLC
- Lighthouse Strategic Alpha
- Morgan Stanley - Riverview Strategic Alpha
- Neuberger Berman (DYAL)
- P/E Investments

PRIVATE CREDIT

- Ares Management Corporation
- BlackRock
- HPS Investment Partners, LLC
- Monroe Capital Management Advisors LLC
- Owl Rock Capital Partners

INVESTMENT CONSULTANTS

- Abel Noser Solutions – (Trading Cost & Directed Brokerage)
- Callan LLC – (Real Estate Investment)
- Capital Institutional Services – (Third-Party Directed Brokerage Administrator)
- Cortex Applied Research, Inc. (RFP Consultant)
- Institutional Shareholder Services – (Proxy Voting)
- Parametric Portfolio Associates LLC (Rebalancing Consultant)
- Verus Advisory, Inc – (General Investment and Private Equity and Alternatives)

CUSTODIAL AND SECURITIES LENDING BANK

- State Street Bank and Trust Company

Investment Summary

As of December 31, 2022 (Dollars in Thousands)

Investment Asset Class		Fair Value	Percentage of Total Fair Value
Short-Term Investments	$	220,268	2.14%
Domestic Securities		512,795	4.99%
International Securities		1,103,928	10.74%
Domestic & Int'l Equity Commingled Funds		3,468,210	33.74%
Fixed Income Securities		1,411,794	13.73%
Real Estate - Separate Properties		55,578	0.54%
Real Estate - Commingled Funds		780,660	7.60%
Private Equity		993,108	10.86%
Absolute Return		851,556	8.29%
Real Assets		620,459	5.64%
Private Credit		260,764	1.73%
Total Investments at Fair Value	**$**	**10,279,120**	**100.00%**

This schedule excludes Investment receivable and payable balances as of December 31, 2022.

Brokerage Commissions

For the Year Ended December 31, 2022

Brokerage Firm	Rank		Commissions (in Thousands)	Shares/Par Value Traded (in Thousands)		Commission Per Share
Goldman Sachs & Co.	1	$	90	12,594	$	0.007
Morgan Stanley & Co.	2		88	4,202		0.021
Jefferies LLC	3		40	2,929		0.014
JP Morgan Securities Inc.	4		33	8,451		0.004
Capital Institutional Svcs Inc.	5		22	1,620		0.014
Credit Suisse Securities LLC	6		22	3,849		0.006
Virtu Americas LLC	7		21	3,017		0.007
Ubs Securities LLC	8		18	1,630		0.011
Merrill Lynch & Co Inc.	9		16	3,430		0.005
Piper Jaffray & Co.	10		16	3,573		0.004
Liquidnet Inc.	11		14	24,741		0.001
Instinet LLC	12		14	859		0.016
Pershing LLC	13		13	935		0.014
Raymond James & Associates Inc.	14		13	1,150		0.011
Citigroup Global Markets Inc.	15		12	3,462		0.003
Exane Inc.	16		12	960		0.013
Btig, LLC	17		12	3,618		0.003
Clsa Securities Ltd.	18		11	464		0.024
Macquarie Capital Inc.	19		10	667		0.015
Credit Lyonnais Securities	20		8	533		0.015
Top 20 Firms by Commission Dollars			**485**	**82,684**		**0.006**
All Other Brokerage Firms			143	23,081		0.006
Total Brokerage Commissions			**628**	**105,765**		**0.006**
Brokerage Commission Recapture			(5)	-		-
Net Brokerage Commission		**$**	**623**	**105,765**	**$**	**0.006**

Investment Manager Fees

For the Year Ended December 31, 2022 (Dollars in Thousands)

Investment Asset Class		2022
Domestic Equity	$	5,157
International Equity		7,014
Fixed Income		2,634
Real Estate		18,700
Private Equity		(12,293)
Absolute Return		3,369
Real Assets		8,516
Private Credit		3,066
Cash Overlay		144
Total Investment Manager Fees	**$**	**36,307**

Investment Assets Under Management (Fair Value)

As of December 31, 2022 (Dollars in Thousands)

Investment Asset Class		2022
Domestic Equity	$	2,522,902
International Equity		2,528,231
Fixed Income		1,563,171
Real Estate		836,238
Private Equity		992,946
Absolute Return		851,556
Real Assets		620,259
Private Credit		260,764
Cash		105,778
Total Investment Assets Under Management	**$**	**10,281,845**

This schedule includes investment receivable and payable balances as of December 31, 2022.

Largest Stock Holdings[1]

As of December 31, 2022 (Dollars in Thousands)

Rank	Shares	Issuer	Fair Value	Percentage of Holdings
1	848,687	UNITED OVERSEAS BANK LTD	$ 19,426	1.202%
2	594,500	TAKEDA PHARMACEUTICAL CO LTD	18,523	1.146%
3	2,868,300	CK HUTCHISON HOLDINGS LTD	17,217	1.065%
4	2,911,527	BP PLC	16,632	1.029%
5	124,100	FUJITSU LIMITED	16,568	0.025%
6	580,200	NIPPON TELEGRAPH + TELEPHONE	16,543	0.023%
7	3,009,692	ENEL SPA	16,157	0.999%
8	118,720	NOVO NORDISK A/S B	15,982	0.989%
9	5,287,782	BANCO SANTANDER SA	15,816	0.978%
10	28,242,821	LLOYDS BANKING GROUP PLC	15,427	0.954%
Total of Largest Stock Holdings			**168,291**	**10.41%**
Total Stock Holdings			**$ 1,616,723**	**100.00%**

1 The Holdings Schedules pertain to holdings of individual securities; they do not reflect ACERA's investments in commingled funds. A complete list of portfolio holdings is available upon request.

Largest Bond Holdings[1]

As of December 31, 2022 (Dollars in Thousands)

Rank	Shares	Issuer	Maturity Date	Interest Rate	Fair Value	Percentage of Holdings
1	48,800,000	US TREASURY N/B	8/31/2028	4.250%	$ 41,667	2.951%
2	31,700,000	US TREASURY N/B	11/15/2025	6.875%	30,003	2.125%
3	38,500,000	US TREASURY N/B	2/15/2045	4.625%	28,985	2.053%
4	43,075,000	US TREASURY N/B	11/15/2040	5.625%	28,004	1.984%
5	34,525,000	US TREASURY N/B	8/15/2031	5.000%	27,995	1.983%
6	28,950,000	US TREASURY N/B	5/15/2043	3.000%	23,629	1.674%
7	24,325,000	US TREASURY N/B	3/31/2029	6.500%	22,119	1.567%
8	21,750,000	US TREASURY N/B	2/15/2025	10.500%	20,474	1.450%
9	26,575,000	US TREASURY N/B	8/15/2050	8.050%	14,766	1.046%
10	12,665,000	US TREASURY N/B	1/31/2024	5.400%	12,152	0.861%
Total of Largest Bond Holdings					**249,794**	**17.69%**
Total Bond Holdings					**$ 1,411,794**	**100.00%**

1 A complete list of portfolio holdings is available upon request.

Actuarial

Actuary's Certification Letter – Pension Plan

Segal

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June 6, 2023

Board of Retirement
Alameda County Employees' Retirement Association
475 14th Street, Suite 1000
Oakland, California 94612-1900

Re: Alameda County Employees' Retirement Association
December 31, 2021 Actuarial Valuation of the Statutory Retirement Plan Benefits for Funding Purposes

Dear Members of the Board:

Segal prepared the December 31, 2021 actuarial valuation of the statutory Retirement Plan benefits of the Alameda County Employees' Retirement Association (ACERA) for funding purposes. We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices and ACERA's funding policy that was adopted by the Board on September 18, 2014 (and revised by the Board on October 21, 2021).[1] In particular, it is our understanding that the assumptions and methods used for funding purposes meet the parameters set by Actuarial Standards of Practice (ASOPs). (A discussion of the assumptions and methods used in the separate December 31, 2022 actuarial valuation for financial reporting purposes under Governmental Accounting Standards Board (GASB) Statement No. 67 is presented at the end of this letter.)

December 31, 2021 Actuarial Valuation for Funding Purposes

Actuarial valuations are performed on an annual basis with the last valuation completed as of December 31, 2021. The actuarial calculations presented in the valuation report have been made on a basis consistent with our understanding of the historical funding methods used in determination of the liability for statutory retirement benefits.

The December 31, 2021 actuarial valuation is based on the plan of benefits verified by ACERA and on participant and financial data provided by ACERA. Segal conducted an examination of all participant data for reasonableness and we concluded that it was reasonable and consistent with the prior year's data. Summaries of the employee data used in performing the actuarial valuations over the past several years are provided in our valuation report.

We did not audit the Association's financial statements. For actuarial valuation purposes, Retirement Plan assets are valued at actuarial value. Under this method, the assets used to determine employer contribution rates take into account fair (or market) value by recognizing the differences between the total return at fair value and the expected investment return over 10 six-month periods.

[1] The October 2021 changes were reflected in the December 31, 2021 actuarial valuation.

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Page 2

One funding objective of the Plan is to establish rates, which, over time, will remain level as a percentage of payroll unless Plan benefit provisions are changed. Actuarial funding is based on the Entry Age Cost Method. Under this method, the employer contribution rate provides for current cost (normal cost) plus a level percentage of payroll to amortize any unfunded actuarial accrued liability (UAAL). With the exception of the UAAL for the Alameda County Office of Education (ACOE), the UAAL is amortized as a level percentage of payroll using a layered approach. Prior to January 1, 2012, the total UAAL was amortized on a 30-year decreasing period, with 21 years remaining as of December 31, 2011 (and 11 years remaining as of December 31, 2021). On or after January 1, 2012, any new UAAL resulting from plan amendments are amortized over separate decreasing 15-year periods; early retirement incentive programs (ERIPs) are amortized over separate decreasing 5-year periods; assumption and method changes are amortized over separate decreasing 20-year periods; and experience gains/losses are also amortized over separate decreasing 20-year periods. For ACOE, their UAAL is amortized as a level dollar amount under the declining employer payroll policy. The Voluntary County Safety UAAL Contributions are amortized over a 13-year period effective July 1, 2021. The Voluntary Livermore Area Recreation and Park District (LARPD) General UAAL Contributions are amortized over a 16-year period effective July 1, 2021. Effective December 31, 2021, the existing LARPD General UAAL layers are amortized over 15.5 years.[2] The progress being made towards meeting the funding objective through December 31, 2021 is illustrated in the Schedule of Funding Progress.

Segal prepared all of the supporting schedules in the actuarial section of the Association's Annual Comprehensive Financial Report ("Annual Report" or ACFR) based on the results of the December 31, 2021 actuarial valuation for funding purposes. A listing of the supporting schedules related to the statutory retirement plan benefits that Segal prepared for inclusion in the actuarial and statistical sections of the Association's Annual Report is provided below. ACERA's staff prepared the remaining trend data schedules in the statistical section.

<u>Actuarial Section (for Funding Purposes)</u>

Exhibit I	Schedule of Active Member Valuation Data;[3]
Exhibit II	Retirees and Beneficiaries Added to and Removed from Retiree Payroll;[3]
Exhibit III	Schedule of Funded Liabilities by Type;
Exhibit IV	Actuarial Analysis of Financial Experience;
Exhibit V	Schedule of Funding Progress;

<u>Statistical Section (for Funding Purposes)</u>

Exhibit VI	Schedule of Average Benefit Payments for Retirees and Beneficiaries;[3]
Exhibit VII	Schedule of Participating Employers and Active Members Statistics;[3]
Exhibit VIII	Schedule of Benefit Expenses by Type;[3]
Exhibit IX	Schedule of Retiree Members by Type of Benefit and Option Selected;[3] and
Exhibit X	Employer Contribution Rates.

[2] The LARPD General cost sharing group has a surplus of $248,000 on a Valuation Value of Assets (VVA) basis as of December 31, 2021. In order to calculate the proper offset available to LARPD from the LARPD General UAAL Advance Reserve, we have reamortized the existing LARPD UAAL amortization layers so that they will have the same amortization period as the LARPD General UAAL Advance Reserve (15.5 years remaining as of December 31, 2021).

[3] As permitted by the Actuarial Standard of Practice No. 4 (Measuring Pension Obligations), Segal has utilized participant data provided by ACERA as of November 30, 2021 with age and years of service adjusted to December 31, 2021 in calculating the liabilities for the December 31, 2021 valuation.

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Segal

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Alameda County Employees' Retirement Association
June 6, 2023
Page 3

Actuarial Assumptions for Funding Valuation

The non-economic valuation assumptions included in the Actuarial Section were adopted by the Retirement Board based on our recommendations following the November 30, 2019 Experience Analysis. The Board adopted a 7.00% investment return assumption for the December 31, 2021 valuation. The other changes in economic assumptions were documented in our November 30, 2019 Actuarial Experience Study report.

As we disclosed in our December 31, 2021 funding valuation report, the 7.00% investment return assumption that the Board approved for determining the liabilities for funding purposes and used for establishing the employer and employee contribution rates was developed without considering the impact of any future 50/50 excess earnings allocation. This is based on our understanding that Article 5.5 of the Statute, which authorizes the allocation of 50% of excess earnings to the SRBR, does not allow for the use of a different investment return for funding than is used for interest crediting. This would appear in effect to preclude the prefunding of the SRBR through the use of an assumption lower than the market earnings assumption of 7.00%.

As required by the Actuarial Standard of Practice (ASOP) No. 4 ("Measuring Pension Obligations and Determining Pension Plan Costs or Contributions"), we performed a stochastic model, as detailed in our November 30, 2019 Experience Study report, to estimate the impact of the 50% allocation of future excess earnings to the SRBR. The results of our model indicated that the 50/50 allocation of future excess earnings would have about the same impact as an "outflow" (i.e., assets not available to fund the benefits included in the funding valuation) that would average approximately 0.65% of assets over time. For informational purposes only, when we applied the results of our stochastic model to this valuation, we estimated that such an annual outflow would increase the Actuarial Accrued Liability (AAL) measured in this valuation using a 7.00% investment return assumption from $10.93 billion to $11.81 billion (for a difference of $0.88 billion) and would increase the employer's contribution rate by about 5% - 6% of payroll.

It is our opinion that the assumptions used in the December 31, 2021 valuation produce results, which, in aggregate, reflect the future experience of the statutory Retirement Plan. An experience analysis is performed every three years, and the actuarial assumptions adopted by the Board resulting from the experience analysis performed as of November 30, 2019 first became effective in the valuation as of December 31, 2020. The next experience analysis is due to be performed as of November 30, 2022, and the assumptions adopted from that study would first become effective in the valuation as of December 31, 2023.

Valuation Results

In the December 31, 2021 valuation, the ratio of the valuation assets to actuarial accrued liabilities (funded percentage) increased from 76.2% to 86.5%. The average employer rate[4] decreased from 31.45% of payroll to 23.41% of payroll, while the average employees' rate increased from 9.98% of payroll to 10.00% of payroll. The increase in the funded percentage was the result of additional voluntary County Safety and LARPD General contributions made by the two employers to reduce their UAAL and associated contribution rates, the gain on the VVA

[4] For employers with active member payroll.

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from the recognition of past and current years' investment gains after smoothing and the expected increase due to contributions made to pay down the unfunded liability, offset somewhat by the loss due to actual contributions lower than expected,[5] higher than expected cost-of-living adjustments for continuing retirees and higher than expected salary increases for active members. The decrease in the average employer contribution rate was primarily due to the contribution credit from additional voluntary Safety and LARPD General contributions to reduce their UAAL and associated contribution rates, higher than expected return on investments after smoothing, and the effect of amortizing the prior year's UAAL over a larger than expected total projected payroll, offset somewhat by actual contributions lower than expected, higher than expected cost-of-living adjustments for continuing retirees and higher than expected salary increases for active members.

Under the actuarial value of assets method, the total unrecognized net investment gain as of December 31, 2021 is $1,132.9 million. This net investment gain will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years, and will offset any investment losses that may occur after December 31, 2021. This implies that if the Association earns the assumed net rate of investment return of 7.00% per year on a fair value basis, it will result in investment gains on the actuarial value of assets in the next few years. So, if the actual market return is equal to the assumed 7.00% rate and all other actuarial assumptions are met, the contribution requirements would generally decrease in the next few years.

The net deferred gain of $1,132.9 million represents 9.6% of the fair value of assets as of December 31, 2021. Unless offset by future investment losses or other unfavorable experience, the recognition of the $1,132.9 million market gains is expected to have an impact on the Association's future funded percentage and contribution rate requirements. Under an approach which takes into account the size of the valuation and the SRBR reserves, this potential impact may be illustrated as follows:

- If a proportion of the net deferred gain that is commensurate with the size of the valuation reserves were recognized immediately in the valuation value of assets, the funded percentage would increase from 86.5% to 92.8%.
- If a proportion of the net deferred gain that is commensurate with the size of the valuation reserves were recognized immediately in the valuation value of assets, the average employer rate[6] would decrease from 23.41% to about 20.0% of payroll.

To the best of our knowledge, the December 31, 2021 funding valuation report is complete and accurate and in our opinion presents the Plan's current funding information.

December 31, 2022 GASB Statement 67 Actuarial Valuation for Financial Reporting Purposes

Segal also prepared the December 31, 2022 GASB Statement 67 actuarial valuation for financial reporting purposes. The valuation was performed in order to comply with GASB Statement 67 and we certify that the assumptions and methods used for financial reporting

[5] Including scheduled lag in implementing contribution rates after the date of the valuation.

[6] For employers with active member payroll.

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Alameda County Employees' Retirement Association
June 6, 2023
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purposes meet the parameters set by ASOPs and our understanding of generally accepted accounting principles (GAAP) applicable in the United States of America as promulgated by GASB. The GASB rules only define pension liability and expense for financial reporting purposes, and do not apply to contribution amounts for pension funding purposes.

When measuring pension liability, GASB uses the same actuarial cost method (Entry Age) and the same type of discount rate (expected return on assets) as ACERA uses for funding. This means that the Total Pension Liability (TPL) measure for financial reporting is determined on generally the same basis as ACERA's AAL measure for funding. The Net Pension Liability (NPL) is equal to the difference between the TPL and the Plan's Fiduciary Net Position. The Plan's Fiduciary Net Position is equal to the fair value of assets and therefore, the NPL measure is very similar to a UAAL calculated on a fair value basis.

As stated in the funding valuation subsection herein entitled Actuarial Assumptions for Funding Valuation, the investment return assumption used in the funding valuation excludes the impact of any future 50/50 excess earnings allocation to the SRBR. For the December 31, 2021 funding valuation, the investment return assumption adopted by the Board was 7.00%, as noted earlier. For the December 31, 2022 funding valuation, the Board carried forward the 7.00% investment return assumption, and that assumption was also used for the December 31, 2022 GASB 67 valuation discussed in this section. In order to estimate the impact of the 50% allocation of future excess earnings to the SRBR for the December 31, 2022 valuation, we used our stochastic model and the results of our model indicated that the 50% allocation would have about the same impact as an "outflow" (i.e., assets not available to fund the benefits included in the determination of the TPL) that would average approximately 0.65% of assets over time. For financial reporting purposes, we have taken the 0.65% "outflow" and incorporated that into our GASB crossover test (Appendix A in the GASB Statement 67 valuation report)[7] along with the additional future employer contributions that would result from those future allocations of excess earnings to the SRBR under ACERA's funding policy.

The NPLs measured as of December 31, 2022 and 2021 were determined by rolling forward the TPLs as of December 31, 2021 and December 31, 2020, respectively. The TPL for the funded benefits is $11,344.3 million as of December 31, 2022, which was calculated by rolling forward the AAL for the funded benefits as of December 31, 2021. Similar to last year, we have included in the total TPL as of December 31, 2022 the non-OPEB SRBR unlimited AAL of $144.8 million related to the non-vested Supplemental COLA and retired member death benefit, which was calculated by rolling forward the total unlimited non-OPEB SRBR AAL as of December 31, 2021.

It should be noted that as of December 31, 2022, the deferred investment loss for the entire Plan was $794.1 million. The proportionate share of the net deferred investment loss as of December 31, 2022 for the Pension Plan was equal to $716.5 million, and in calculating the Plan's Fiduciary Net Position we have adjusted the Pension Plan's valuation value of assets of

[7] The purpose of the GASB crossover test is to determine if the full expected return (or 7.00% in this case) can be used as the discount rate to determine the TPL and the NPL. That is, if there is no crossover point where the projected benefit payments would exceed the plan's fiduciary net position, then the full expected return assumption can be used. As detailed in the GASB Statement 67 valuation report, ACERA does pass the crossover test, which means that the full 7.00% investment rate of return assumption can be used as the discount rate to determine the TPL and the resulting NPL.

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Board of Retirement
Alameda County Employees' Retirement Association
June 6, 2023
Page 6

$9,923.0 million in the funding valuation to reflect that amount. The Plan's Fiduciary Net Position related to the funded benefit is $9,206.5 million as of December 31, 2022.

We have continued the practice of adjusting the Plan's Fiduciary Net Position as of December 31, 2022 to include the $54.9 million set aside by the Retirement Board in the SRBR reserve to pay non-OPEB SRBR as of December 31, 2022.[8] We have subtracted from the Plan's Fiduciary Net Position the proportionate share of the net deferred investment loss that is commensurate with the size of the non-OPEB SRBR reserve, or $3.6 million. The net effect of the adjustments to the Plan's Fiduciary Net Position as of December 31, 2022 for non-OPEB SRBR benefits was an addition of $51.3 million.

The $2,137.8 million difference between the $11,344.3 million of TPL for the funded benefits and the net $9,206.5 million of Plan's Fiduciary Net Position related to the funded benefit as of December 31, 2022 represents the NPL attributable to the funded benefits. The $93.5 million difference between the $144.8 million added to the TPL and the net $51.3 million added to the Plan's Fiduciary Net Position as of December 31, 2022 represents the NPL attributable to the non-OPEB SRBR benefits. The total NPL as of December 31, 2022 is therefore $2,231.3 million.

Note number 5 to the Basic Financial Statements and the Required Supplementary Information included in the Financial Section of the Annual Report were prepared by the Association based on the results of the GASB Statement No. 67 actuarial valuation as of December 31, 2022 prepared by Segal.

The undersigned are members of the American Academy of Actuaries and meet the qualification requirements to render the actuarial opinion contained herein.

Sincerely,

Andy Yeung, ASA, EA, MAAA, FCA
Vice President & Actuary

Eva Yum, FSA, EA, MAAA
Vice President & Actuary

DNA/elf
Enclosures

[8] We have excluded the liability and the assets associated with the OPEB component of the SRBR reserve account because it is our understanding that those amounts are reportable under GASB 74/75.

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Segal

Actuary's Certification Letter – SRBR

Segal

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June 6, 2023

Board of Retirement
Alameda County Employees' Retirement Association
475 14th Street, Suite 1000
Oakland, California 94612-1900

Re: Alameda County Employees' Retirement Association
December 31, 2021 Actuarial Valuation of the Discretionary SRBR Benefits for Sufficiency Purposes

Dear Members of the Board:

Segal prepared the December 31, 2021 actuarial valuation of the discretionary benefits provided through the Supplemental Retiree Benefits Reserve (SRBR) of the Alameda County Employees' Retirement Association (ACERA) for sufficiency purposes. We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices. In particular, it is our understanding that the assumptions and methods used for sufficiency purposes with regard to the Other Postemployment Benefits (OPEB) and non-OPEB benefits provided by the SRBR meet the parameters set by Actuarial Standards of Practice (ASOPs).

A discussion of the assumptions and methods used in the separate December 31, 2022 actuarial valuation for financial reporting purposes under GASB Statement No. 74 for the discretionary OPEB benefits provided by the SRBR is presented on page 3 of this letter. In addition, we have also provided a discussion of the assumptions and methods used for financial reporting purposes under GASB Statement No. 67 for the statutory Retirement Plan benefits and the discretionary non-OPEB benefits provided by the SRBR at the end of our actuarial certification letter pertaining to the statutory Retirement Plan benefits dated June 6, 2023. The pertinent GASB Statement No. 67 information from that letter pertaining to the non-OPEB benefits provided by the SRBR is also provided herein.

December 31, 2021 Actuarial Valuation for Sufficiency Purposes

Actuarial valuations are performed on an annual basis with the last valuation completed as of December 31, 2021. The actuarial calculations were based upon the benefits provided under the terms of the substantive plan in effect at the time of the December 31, 2021 valuation. The December 31, 2021 actuarial valuation is based on the plan of benefits verified by ACERA and on participant, premium, and financial data provided by ACERA. Segal conducted an examination of all participant data for reasonableness and we concluded that it was reasonable

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June 6, 2023
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and consistent with the prior year's data. A summary of the average OPEB for new retired members, by years of service, is attached as Exhibit IV.

We did not audit the Association's financial statements. For the actuarial valuation for sufficiency purposes, SRBR assets are valued at actuarial value. Under this method, the assets used to determine the liabilities of the SRBR and the number of years the SRBR can continue to pay its current level of benefits (i.e., the sufficiency) take into account fair value by recognizing the differences between the total return at fair value and the expected investment return over 10 six-month periods. It should be noted that under the actuarial value of assets method, the total unrecognized net investment gain as of December 31, 2021 is $1,132.9 million. This net investment gain will be recognized in the determination of the actuarial value of assets in the next few years (i.e., deferred), and it will offset any investment losses that may occur after December 31, 2021.

The discretionary benefits provided through the SRBR include OPEB and non-OPEB. Benefits classified under OPEB include postretirement medical, dental, and vision benefits. Benefits classified under non-OPEB include supplemental COLAs and retired member death benefits.

For valuation purposes, the total cost of providing future postemployment benefits is projected, using actuarial assumptions that are common for both the statutory retirement and the discretionary SRBR benefits (e.g. turnover, mortality, disability, retirement, etc.), and assumptions that are unique to the discretionary SRBR OPEB (e.g., health care trend assumptions, etc.). The liabilities associated with providing non-OPEB SRBR benefits are disclosed together with the statutory Retirement Plan benefits under GASB 67. The liabilities associated with providing OPEB SRBR benefits are disclosed under GASB 74.

Based on the actuarial value of assets available as of December 31, 2021, the SRBR would only be able to pay benefits until 2046 for OPEB and until 2043 for non-OPEB. As noted above, the Association had deferred investment gains of $1,132.9 million that were not yet recognized in determining the combined actuarial value of assets for the Retirement Plan and the SRBR Plan as of December 31, 2021. The deferred gains of $1,132.9 million represent 9.6% of the fair value of assets as of December 31, 2021, and when recognized will increase the rate of return on the actuarial value of assets over the next few years, which may extend the sufficiency period of the SRBR.

Segal prepared all of the supporting schedules in the actuarial section of the Association's Annual Comprehensive Financial Report ("Annual Report" or ACFR) based on the results of the December 31, 2021 actuarial valuation for sufficiency purposes. A listing of the supporting schedules related to the discretionary SRBR benefits that Segal prepared for inclusion in the actuarial and statistical sections of the Association's Annual Report is provided below. ACERA's staff prepared the remaining trend data schedules in the statistical section.

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Actuarial Section (for Sufficiency Purposes)

Exhibit I	Schedule of Active Member Valuation Data;[1]
Exhibit II	Retirees Added to and Removed from OPEB Payroll;[1]
Exhibit III	Member Benefit Coverage Information (OPEB) and Schedule of Funded Liabilities by Type (non-OPEB); and

Statistical Section (for Sufficiency Purposes)

Exhibit IV	Schedule of Average Other Postemployment Benefits (OPEB).

The non-economic valuation assumptions included in the Actuarial Section were adopted by the Retirement Board based on our recommendations following the November 30, 2019 Experience Analysis and specific health care related assumptions recommended for the December 31, 2021 SRBR valuation. The Board adopted a 7.00% investment return assumption for the December 31, 2021 valuation. The other changes in economic assumptions were documented in our November 30, 2019 Actuarial Experience Study report. Note that the investment return assumption for sufficiency purposes was developed without taking into consideration the impact of the 50/50 excess earnings allocation between the statutory retirement and SRBR asset pools.

The actuarial assumptions common to both the statutory retirement and discretionary SRBR benefits are provided in the Actuarial Section. Additional assumptions specific to the OPEB are included as an attachment to this letter (Schedule of Actuarial Assumptions). It is our opinion that the assumptions used in the December 31, 2021 valuation produce results, which, in aggregate, reflect the future experience of the SRBR. An experience analysis is performed every three years, and the actuarial assumptions adopted by the Board resulting from the experience analysis performed as of November 30, 2019 first became effective in the valuation as of December 31, 2020. The next experience analysis is due to be performed as of November 30, 2022, and the assumptions adopted from that study would first become effective in the valuation as of December 31, 2023.

To the best of our knowledge, the December 31, 2021 valuation report is complete and accurate and in our opinion presents the Plan's current sufficiency information.

December 31, 2022 GASB Statement No. 74 Actuarial Valuation for Financial Reporting Purposes for the Discretionary OPEB Benefits Provided by the SRBR

Segal also prepared the December 31, 2022 GASB Statement No. 74 actuarial valuation for financial reporting purposes, which included information for the OPEB benefits payable from the

[1] As permitted by the Actuarial Standard of Practice No. 4 (Measuring Pension Obligations), Segal has utilized participant data provided by ACERA as of November 30, 2021 with age and years of service adjusted to December 31, 2021 in calculating the liabilities for the December 31, 2021 valuation.

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Segal

Board of Retirement
Alameda County Employees' Retirement Association
June 6, 2023
Page 4

SRBR. The valuation was performed in order to comply with GASB Statement No. 74 and we certify that the assumptions and methods used for financial reporting purposes meet the parameters set by ASOPs and our understanding of generally accepted accounting principles applicable in the United States of America as promulgated by the GASB. For the December 31, 2021 SRBR sufficiency valuation, the investment return assumption adopted by the Board was 7.00%, as noted earlier. For the December 31, 2022 GASB Statement No. 74 (OPEB) and Statement No. 67 (non-OPEB) financial reporting valuations, the Board continued the use of a 7.00% investment return assumption. In addition, the results of the December 31, 2022 GASB Statement No. 74 valuation reflect the health care cost trend assumptions recommended for the sufficiency study for the SRBR as of December 31, 2022, which were provided in our letter dated May 17, 2023.

The Total OPEB Liability (TOL) measured as of December 31, 2022 of $1.232 billion has been determined by rolling forward the liability results used in determining the sufficiency of the SRBR to provide medical, dental, and vision subsidy benefits as of December 31, 2021.[2] That TOL has been adjusted to reflect the health care cost trend assumptions recommended for the sufficiency study for the SRBR as of December 31, 2022 (reference: our letter dated May 17, 2023) and the assumptions adopted by the Board resulting from the experience analysis as of November 30, 2019 (including the 7.00% investment return assumption). The changes in health care cost trend assumptions from the December 31, 2021 sufficiency of the SRBR OPEB valuation to the December 31, 2022 GAS 74 valuation reflect the actual Medicare Part B premium decrease of 3.06% from calendar year 2022 to 2023[3], and raised the non-Medicare plan's first year trend rate to 7.50% in 2023 then graded down by 0.25% each year until reaching an ultimate rate of 4.50% after 12 years.

We have also continued the practice of adjusting the Plan's Fiduciary Net Position of $1.041 billion as of December 31, 2022 to include the $1.115 billion set aside by the Retirement Board in the SRBR reserve to pay OPEB benefits as of December 31, 2022. This includes $1.106 billion in the OPEB-related SRBR reserve (after reducing the reserve by the $8.0 million SRBR implicit subsidy transfer), and $9.0 million in the 401(h) reserve. It should be noted that as of December 31, 2022, the deferred investment loss for the entire Plan was $794.1 million. Consequently, we have subtracted from the Plan's Fiduciary Net Position the proportionate share of the net deferred investment loss that is commensurate with the size of the OPEB SRBR reserve, or $74.0 million (which will cause the future interest crediting rate to the SRBR reserve to drop below 7.00% per year).

Note number 7 to the Basic Financial Statements and the Required Supplementary Information included in the Financial Section of the Annual Report were prepared by the Association based

[2] When measuring OPEB liability, GASB uses the same actuarial cost method (Entry Age) and, for benefits that are being fully funded on an actuarial basis, the same type of discount rate (expected return on assets) as ACERA uses for funding. See discussions on page 2 of the December 31, 2022 GASB Statement No. 74 actuarial valuation regarding the source of funding for payment of OPEB SRBR benefits not covered by current OPEB Plan's Fiduciary Net Position in the SRBR.

[3] The trend rates for Medicare plans after calendar year 2023 were unchanged and are listed on page 124.

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Segal

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June 6, 2023
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on the results of the GASB Statement No. 74 actuarial valuation as of December 31, 2022 prepared by Segal.

December 31, 2022 GASB Statement No. 67 Actuarial Valuation for Financial Reporting Purposes for the Discretionary Non-OPEB Benefits Provided by the SRBR

As noted in our actuarial certification letter for the statutory Retirement Plan benefits dated June 6, 2023, Segal also prepared the December 31, 2022 GASB Statement No. 67 actuarial valuation for financial reporting purposes, which included information for the non-OPEB benefits payable from the SRBR. The valuation was performed in order to comply with GASB Statement No. 67 and we certify that the assumptions and methods used for financial reporting purposes meet the parameters set by ASOPs and our understanding of generally accepted accounting principles applicable in the United States of America as promulgated by the GASB.

For the statutory Retirement Plan benefits, the Net Pension Liabilities (NPLs) measured as of December 31, 2022 and 2021 were determined by rolling forward the Total Pension Liabilities (TPLs) as of December 31, 2021 and December 31, 2020, respectively.[4] The TPL for the statutory funded benefits is $11,344.3 million as of December 31, 2022, which was calculated by rolling forward the Actuarial Accrued Liability (AAL) for the funded benefits as of December 31, 2021. Similar to last year, we have included in the total TPL as of December 31, 2022 the non-OPEB SRBR unlimited AAL of $144.8 million related to the non-vested Supplemental COLA and retired member death benefit, which was calculated by rolling forward the total unlimited non-OPEB SRBR AAL as of December 31, 2021.

It should be noted that as of December 31, 2022, the deferred investment loss for the entire Plan was $794.1 million. The proportionate share of the net deferred investment loss as of December 31, 2022 for the Pension Plan was equal to $716.5 million, and in calculating the Plan's Fiduciary Net Position we have adjusted the Pension Plan's valuation value of assets of $9,923.0 million in the funding valuation to reflect that amount. The Plan's Fiduciary Net Position related to the funded benefit is $9,206.5 million as of December 31, 2022.

We have continued the practice of adjusting the Plan's Fiduciary Net Position as of December 31, 2022 to include the $54.9 million set aside by the Retirement Board in the SRBR reserve to pay non-OPEB SRBR as of December 31, 2022.[5] We have subtracted from the Plan's Fiduciary Net Position the proportionate share of the net deferred investment loss that is commensurate with the size of the non-OPEB SRBR reserve, or $3.6 million. The net effect of the adjustments to the Plan's Fiduciary Net Position as of December 31, 2022 for non-OPEB SRBR benefits was an addition of $51.3 million.

[4] When measuring pension liability, GASB uses the same actuarial cost method (Entry Age) and the same type of discount rate (expected return on assets) as ACERA uses for funding of the statutory Retirement Plan benefits.

[5] We have excluded the liability and the assets associated with the OPEB component of the SRBR reserve account because it is our understanding that those amounts are reportable under GASB 74/75.

5751163v4/05579.001

Segal

Board of Retirement
Alameda County Employees' Retirement Association
June 6, 2023
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The $2,137.8 million difference between the $11,344.3 million of TPL for the funded benefits and the net $9,206.5 million of Plan's Fiduciary Net Position related to the funded benefit as of December 31, 2022 represents the NPL attributable to the funded benefits. The $93.5 million difference between the $144.8 million added to the TPL and the net $51.3 million added to the Plan's Fiduciary Net Position as of December 31, 2022 represents the NPL attributable to the non-OPEB SRBR benefits. The total NPL as of December 31, 2022 is therefore $2,231.3 million.

Note number 5 to the Basic Financial Statements and the Required Supplementary Information included in the Financial Section of the Annual Report were prepared by the Association based on the results of the GASB Statement No. 67 actuarial valuation as of December 31, 2022 prepared by Segal.

The undersigned are members of the American Academy of Actuaries and meet the qualification requirements to render the actuarial opinion contained herein.

Sincerely,

Andy Yeung

Andy Yeung, ASA, EA, MAAA, FCA
Vice President & Actuary

Eva Yum

Eva Yum, FSA, EA, MAAA
Vice President & Actuary

Mary Kirby

Mary Kirby, FSA, FCA, MAAA
Senior Vice President and Consulting Actuary

DNA/elf
Enclosures

5751163v4/05579.001

Segal

Summary of Actuarial Assumptions and Methods

Assumptions For Pension Plan

The following assumptions have been adopted by the Board of Retirement for the December 31, 2021, valuation based on the November 30, 2019, triennial experience study.

Summary of Assumptions

Actuarial Assumed Interest Rate	7.00%
Inflation Rate	2.75%
Payroll Growth Increase	3.25%
Projected Salary Increases	
General:	8.35% to 3.65%
Safety:	11.25% to 4.05%
These rates include inflation and real across-the-board salary increases.	
Retiree Cost-of-Living Adjustment (Basic)	
for Tier 1 and 3 members:	2.75%
for Tier 2 and 4 members:	2.00%
Employee Contribution Crediting Rate	7.00%

Net Investment Return

For valuation purposes, the assumed rate of return on the valuation value of assets was 7.00%, net of administration and investment expenses.

Employee Contribution Crediting Rate

7.00%, compounded semi-annually, subject to the availability of net earnings. ACERA operates under the Alternate Financial Provisions of Article 5.5 of the 1937 Act. The employee contribution crediting rate is the assumed actuarial investment rate of return to the extent that "net earnings" as defined in Article 5.5 are available. In addition, whenever there is a remaining balance of "net earnings", after all other required crediting, a portion of that remaining balance is also credited, as described in Article 5.5.

Actuarial Value of Assets

The Actuarial Value of Assets is determined by taking Market Value of Assets (MVA) less unrecognized returns in each of the last ten six-month interest crediting periods. Unrecognized returns are equal to the difference between the actual market return and the expected return on the market value, and are recognized semi-annually over a five-year period. The actuarial value of asset (AVA) is limited by a 40% corridor; the AVA cannot be less than 60% of MVA, nor greater than 140% of MVA.

Post-Retirement Mortality

The actuarial valuation uses the Pub-2010 General and Safety Healthy Retiree Amount-Weighted Above-Median Mortality Tables (separate tables for males and females) for healthy General and Safety retirees (and for employee contribution rate purposes), respectively, and the Pub-2010 Non-Safety and Safety Disabled Retiree Amount-Weighted Mortality Tables (separate tables for males and females) for disabled General and Safety retirees, respectively, projected generationally with the two-dimensional mortality improvement scale MP-2019 adjusted as shown below. For beneficiaries, the actuarial valuation uses the Pub-2010 General Contingent

Survivor Amount-Weighted Above-Median Mortality Tables (separate tables for males and females) projected generationally with the two-dimensional mortality improvement scale MP-2019 adjusted as shown below.

Post-Retirement Mortality

(A) HEALTHY*	
General Members	No adjustments.
Safety Members	No adjustments.
(B) DISABILITY*	
General Members	With rates decreased by 10% for females.
Safety Members	With rates increased by 5% for males.
(C) BENEFICIARIES*	
All Beneficiaries	With rates increased by 5% for males.
(D) FOR EMPLOYEE CONTRIBUTION RATE PURPOSES	
General Members	Projected 30 years (from 2010) with two-dimensional mortality improvement Scale MP-2019, weighted 30% male and 70% female.
Safety Members	Projected 30 years (from 2010) with two-dimensional mortality improvement Scale MP-2019, weighted 75% male and 25% female.

* The Pub-2010 mortality tables and adjustments as shown above reasonably reflect the mortality experience as of measurement date. These mortality tables were adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

Assumed Retirement and Termination Rates

The rates shown for each cause represent the likelihood that a given member will terminate at a particular age or with the particular service for the indicated reason. For example, if the rate of retirement for a General Tier 1 member age 50 is 2.00, then it is assumed that 2.00 percent of the General Tier 1 members in this age bracket will receive service retirement during the year.

The following schedule indicates the assumed retirement rates.

Assumed Retirement Rates

	Rates (%)[1]									
Age	General Tier 1	General Tier 2[2] <30	General Tier 2[2] 30+	General Tier 3	General Tier 4	Safety Tier 1[3]	Safety Tier 2,2D[2] <30	Safety Tier 2,2D[2] 30+	Safety Tier 2C[3]	Safety Tier 4
49	0.00	0.00	0.00	0.00	0.00	0.00	12.00	18.00	0.00	0.00
50	2.00	2.00	4.00	10.00	0.00	35.00	12.00	18.00	4.00	4.00
51	4.00	2.00	4.00	10.00	0.00	30.00	10.00	24.00	2.00	2.00
52	4.00	2.00	4.00	10.00	4.00	25.00	10.00	24.00	2.00	2.00
53	5.00	2.00	4.00	10.00	2.00	35.00	10.00	25.00	3.00	3.00
54	5.00	2.00	4.00	10.00	2.00	45.00	12.00	27.00	6.00	6.00
55	6.00	2.00	4.00	12.00	5.00	45.00	12.00	29.00	10.00	10.00
56	10.00	2.50	4.50	14.00	2.50	45.00	14.00	32.00	12.00	12.00
57	12.00	4.00	5.00	16.00	3.50	45.00	16.00	32.00	20.00	20.00
58	12.00	4.00	5.00	18.00	3.50	45.00	18.00	30.00	10.00	10.00
59	14.00	4.50	8.00	20.00	4.50	45.00	18.00	30.00	15.00	15.00
60	20.00	8.00	8.50	20.00	5.00	45.00	25.00	30.00	60.00	60.00
61	20.00	9.00	13.50	20.00	5.00	45.00	25.00	30.00	60.00	60.00
62	35.00	15.00	22.50	30.00	18.00	45.00	25.00	30.00	60.00	60.00

Assumed Retirement Rates (continued)

	Rates (%)[1]									
Age	General Tier 1	General Tier 2[2] <30	General Tier 2[2] 30+	General Tier 3	General Tier 4	Safety Tier 1[3]	Safety Tier 2,2D[2] <30	Safety Tier 2,2D[2] 30+	Safety Tier 2C[3]	Safety Tier 4
63	30.00	15.00	22.50	25.00	15.00	45.00	25.00	30.00	60.00	60.00
64	30.00	18.00	27.00	25.00	17.00	45.00	30.00	30.00	60.00	60.00
65	30.00	25.00	27.50	50.00	25.00	100.00	100.00	100.00	100.00	100.00
66	30.00	30.00	33.00	50.00	30.00	100.00	100.00	100.00	100.00	100.00
67	30.00	30.00	33.00	50.00	30.00	100.00	100.00	100.00	100.00	100.00
68	30.00	30.00	33.00	50.00	30.00	100.00	100.00	100.00	100.00	100.00
69	35.00	35.00	38.50	50.00	35.00	100.00	100.00	100.00	100.00	100.00
70	40.00	40.00	40.00	65.00	25.00	100.00	100.00	100.00	100.00	100.00
71	40.00	40.00	40.00	65.00	25.00	100.00	100.00	100.00	100.00	100.00
72	40.00	40.00	40.00	65.00	25.00	100.00	100.00	100.00	100.00	100.00
73	40.00	40.00	40.00	65.00	25.00	100.00	100.00	100.00	100.00	100.00
74	40.00	40.00	40.00	65.00	25.00	100.00	100.00	100.00	100.00	100.00
75 & Over	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

1 The retirement rates only apply to members that are eligible to retire at the age shown.

2 Different retirement rates are assumed for General Tier 2 and Safety Tier 2 & 2D members who have accrued less than 30 years of service and those who have accrued at least 30 years of service.

3 Retirement rate is 100% after a member accrues a benefit of 100% of final average earnings.

Assumed Termination Rates Before Retirement

The following schedules indicate the assumed rates before retirement for disability, termination, and mortality.

Disability

	Rate (%)	
Age	General[1]	Safety[2]
20	0.00	0.00
25	0.01	0.03
30	0.03	0.26
35	0.07	0.64
40	0.09	1.22
45	0.16	1.50
50	0.26	2.10
55	0.33	2.65
60	0.38	3.80

1 65% of General disabilities are assumed to be service connected disabilities. The other 35% are assumed to be non-service connected disabilities.

2 100% of Safety disabilities are assumed to be service connected disabilities.

Termination Rate (%)

Years of Service[1]	General	Safety
0-1	12.00	4.00
1-2	9.00	4.00
2-3	8.00	4.00
3-4	6.00	3.50
4-5	6.00	3.00
5-6	6.00	2.00
6-7	5.25	1.80
7-8	4.25	1.70
8-9	3.75	1.60
9-16	3.50	1.50
16-17	3.40	1.40
17-18	3.30	1.30
18-19	3.20	1.20
19-20	3.10	1.10
20 or more	3.00	1.00

1 For members with less than five years of service, 55% of all terminated members are assumed to choose a refund of contribution and the other 45% are assumed to choose a deferred vested benefit. For members with five or more years of service, 30% of all terminated members are assumed to choose a refund of contributions and the other 70% are assumed to choose a deferred vested benefit. No termination is assumed after a member is eligible for retirement.

Mortality[1]

	Rate (%)			
	General[2]		Safety[2]	
Age	Male	Female	Male	Female
20	0.04	0.01	0.04	0.02
25	0.02	0.01	0.03	0.02
30	0.04	0.01	0.04	0.02
35	0.04	0.02	0.04	0.03
40	0.06	0.03	0.05	0.04
45	0.09	0.05	0.07	0.06
50	0.13	0.08	0.10	0.08
55	0.19	0.11	0.15	0.11
60	0.28	0.17	0.23	0.15
65	0.41	0.27	0.35	0.20

1 Generational projections beyond the base year (2010) are not reflected in the above mortality rates. All pre-retirement deaths are assumed to be non-service connected.

2 Based on Pub-2010 General and Safety Employee Amount-Weighted Above-Median Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019.

Salary Increases

The annual rate of compensation increase has three components: inflation, across-the-board salary increases (other than inflation), and merit/promotion increases based on service.

Inflation at 2.75%, plus

Across-the-board salary increase of 0.50% per year, plus

Merit and promotion increases:

Years of Service	General	Safety
0-1	5.10%	8.00%
1-2	5.10%	8.00%
2-3	4.50%	8.00%
3-4	2.90%	4.90%
4-5	2.10%	3.70%
5-6	1.60%	2.10%
6-7	1.50%	1.30%
7-8	1.50%	1.20%
8-9	1.00%	0.90%
9-10	0.90%	0.90%
10-11	0.70%	0.80%
11 and Over	0.40%	0.80%

Actuarial Cost Method

Entry Age Actuarial Cost Method. Entry Age is the age on valuation date minus years of service. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are based on costs allocated as a level percentage of compensation, as if the current benefit formula for each individual has always been in effect.

Amortization Method

Unfunded Actuarial Accrued Liability (UAAL) is amortized as a level percentage of payroll (3.25% payroll growth assumed).

Prior to January 1, 2012, the total UAAL was amortized on a 30-year decreasing period, with 21 years remaining as of December 31, 2011 (and 11 years remaining as of December 31, 2021).

On or after January 1, 2012, any new UAAL resulting from plan amendments are amortized over separate decreasing 15-year periods; early retirement incentive programs (ERIPs) are amortized over separate decreasing 5-year periods; assumption and method changes are amortized over separate decreasing 20-year periods; and experience gains/losses are also amortized over separate decreasing 20-year periods.

Alameda County Office of Education's UAAL amortization under the declining employer payroll policy is level dollar.

The voluntary County Safety UAAL contributions are amortized over a 13-year period effective July 1, 2021. The voluntary LARPD General UAAL contributions are amortized over a 16-year period effective July 1, 2021. Effective December 31, 2021, the existing LARPD General UAAL layers are amortized over 15.5 years.

Consumer Price Index (San Francisco Bay Area)

Inflation assumption is 2.75% per year. Retiree COLA increases due to CPI are subject to 2.75% maximum change per year for General Tier 1, General Tier 3 and Safety Tier 1; and 2% maximum change per year for General Tier 2, General Tier 4, Safety Tier 2, Safety Tier 2C, Safety Tier 2D, and Safety Tier 4. (For General Tier

1, General Tier 3, and Safety Tier 1 members with a sufficient COLA bank, withdrawals from the bank can be made to increase the retiree COLA up to 3% per year.)

Actuarial Experience Study

The postretirement and preretirement demographic assumptions are based on the plan's actuarial experience through the last triennial experience study from December 1, 2016 through November 30, 2019, which was approved by the Board of Retirement on October 15, 2020.

Retirement Age and Benefit for Deferred Vested Members

For deferred vested members, retirement age assumptions are as follows:

General	Age 61
Safety	Age 55

For future deferred vested members who terminate with less than five years of service and are not vested are assumed to retire at age 70 for both General and Safety if they decide to leave their contributions on deposit.

It is assumed that 25% of future General and 50% of future Safety deferred vested members will continue to work for a reciprocal employer. For reciprocals, 3.65% and 4.05% compensation increases are assumed per annum for General and Safety, respectively.

Future Benefit Accruals

One year of service per year of employment plus 0.003 years of additional service for General members and 0.007 years of additional service for Safety members, to anticipate conversion of unused sick leave for each year of employment.

Inclusion of Deferred Vested Members

All deferred vested members are included in this valuation.

Data Adjustments

Data as of November 30 has been adjusted to December 31 by adding one month of age and, for active members, one month of service.

Form of Payment

All active and inactive vested members are assumed to elect the unmodified option at retirement.

Percent of Members Married

70% of male members and 50% of female members.

Age and Gender of Spouse

For all active and inactive members, male member are assumed to have a female spouse who is 3 years younger than the member and female members are assumed to have a male spouse who is 2 years older than the member.

Unknown Data for Members

Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.

Payroll Growth

Inflation of 2.75% per year plus real "across-the-board" salary increases of 0.50% per year.

Increase in Internal Revenue Code Section 401(a)(17) Compensation Limit

Increase of 2.75% per year from valuation date.

Increase in Section 7522.10 Compensation Limit

Increase of 2.75% per year from valuation date.

Additional Cashout Assumptions

Additional pay elements are expected to be received during a member's final average earnings period. The percentages, added to the final average salary, used in this valuation are:

Membership Category	Service Retirement	Disability Retirement
General Tier 1	7.50%	6.50%
General Tier 2	3.00%	1.40%
General Tier 3	7.50%	6.50%
General Tier 4	N/A	N/A
Safety Tier 1	7.50%	6.40%
Safety Tier 2	2.50%	1.90%
Safety Tier 2C	2.50%	1.90%
Safety Tier 2D	2.50%	1.90%
Safety Tier 4	N/A	N/A

CHANGES IN ACTUARIAL ASSUMPTIONS OR METHODS

The amortization policy has changed since the prior valuation. The amortization policy in the prior valuation was as follows:

Prior to January 1, 2012, the total UAAL was amortized on a 30-year decreasing period, with 21 years remaining as of December 31, 2011 (and 11 years remaining as of December 31, 2021).

On or after January 1, 2012, any new UAAL resulting from plan amendments are amortized over separate decreasing 15-year periods; early retirement incentive programs (ERIPs) are amortized over separate decreasing 5-year periods; assumption and method changes are amortized over separate decreasing 20-year periods; and experience gains/losses are also amortized over separate decreasing 20-year periods.

ACOE's UAAL amortization under the declining employer payroll policy is level dollar.

Active Member Valuation Data – Pension Plan (Actuary's Exhibit I)

Valuation Date[1]	No. of Participating Agencies	Plan Type	Number	Annual Payroll ($)[2]	Annual Average Pay ($)	% Increase in Average Pay[3]
12/31/2013	7	General	9,485	772,431,136	81,437	0.24%
		Safety	1,392	144,373,236	103,716	1.75%
		Total	**10,877**	**916,804,372**	**84,288**	**0.42%**
12/31/2014	7	General	9,617	800,224,521	83,209	2.18%
		Safety	1,408	148,623,609	105,557	1.78%
		Total	**11,025**	**948,848,130**	**86,063**	**2.11%**
12/31/2015	7	General	9,634	812,636,114	84,351	1.37%
		Safety	1,437	156,897,481	109,184	3.44%
		Total	**11,071**	**969,533,595**	**87,574**	**1.76%**
12/31/2016	7	General	9,673	839,157,054	86,753	2.85%
		Safety	1,438	164,494,775	114,391	4.77%
		Total	**11,111**	**1,003,651,829**	**90,330**	**3.15%**
12/31/2017	7[4]	General	9,887	884,429,873	89,454	3.11%
		Safety	1,436	171,231,780	119,242	4.24%
		Total	**11,323**	**1,055,661,653**	**93,232**	**3.21%**
12/31/2018	7	General	9,960	920,863,594	92,456	3.36%
		Safety	1,389	172,872,084	124,458	4.37%
		Total	**11,349**	**1,093,735,678**	**96,373**	**3.37%**
12/31/2019	7	General	9,960	952,171,197	95,600	3.40%
		Safety	1,376	177,005,751	128,638	3.36%
		Total	**11,336**	**1,129,176,948**	**99,610**	**3.36%**
12/31/2020	7	General	9,960	975,689,541	97,961	2.47%
		Safety	1,362	180,006,107	132,163	2.74%
		Total	**11,322**	**1,155,695,648**	**102,075**	**2.47%**
12/31/2021	7	General	9,903	1,010,957,679	102,086	4.21%
		Safety	1,423	193,541,750	136,010	2.91%
		Total	**11,326**	**1,204,499,429**	**106,348**	**4.19%**
12/31/2022	7	General	9,901	1,052,932,032	106,346	4.17%
		Safety	1,445	205,097,227	141,936	4.36%
		Total	**11,346**	**1,258,029,259**	**110,879**	**4.26%**

1 *As permitted by the Actuarial Standard of Practice No. 4 (Measuring Pension Obligations), the actuarial valuation has been prepared based on participant data provided by ACERA as of November 30.*

2 *Projected compensation was calculated by increasing the prior calendar year's compensation (assuming every employee will work full time) by the salary increase assumption.*

3 *Reflects the increase in average salary for members at the beginning of the year versus those at the end of the year. It does not reflect the average salary increases received by members who worked the full year.*

4 *Starting with the December 31, 2017 valuation date, there were no active members from the Alameda County Office of Education; however, there were still retired members from that participating agency.*

Retirees and Beneficiaries Added To and Removed From Retiree Payroll (Actuary's Exhibit II)

Valuation Date (December 31)[1]	Added to Rolls		Removed from Rolls		Rolls at End of Year				
	Number	Annual Allowance[2] (in $000's)	Number	Annual Allowance (in $000's)	Number	Annual Allowance (in $000's)	% Increase in Retiree Allowance	Average Annual Allowance	Change in Average Annual Allowance
2013	625	$ 33,150	(234)	$ (6,182)	8,566	$ 353,847	8.25%	$ 41,308	3.31%
2014	498	28,677	(251)	(7,156)	8,813	375,368	6.08%	42,593	3.11%
2015	469	27,312	(292)	(9,125)	8,990	393,555	4.85%	43,777	2.78%
2016	523	31,922	(271)	(8,778)	9,242	416,699	5.88%	45,088	2.99%
2017	512	32,718	(275)	(8,112)	9,479	441,305	5.90%	46,556	3.26%
2018	583	36,805	(279)	(10,484)	9,783	467,626	5.96%	47,800	2.67%
2019	590	40,287	(295)	(10,784)	10,078	497,129	6.31%	49,328	3.20%
2020	540	40,256	(326)	(13,288)	10,292	524,097	5.42%	50,923	3.23%
2021	580	41,581	(336)	(14,580)	10,536	551,098	5.15%	52,306	2.72%
2022	588	43,835	(326)	(13,735)	10,798	581,198	5.46%	53,825	2.90%

1 As permitted by the Actuarial Standard of Practice No. 4 (Measuring Pension Obligations), the actuarial valuation has been prepared based on participant data provided by ACERA as of November 30.

2 Includes data adjustments and automatic cost-of-living adjustments granted on April 1.

Actuarial Analysis of Financial Experience (Actuary's Exhibit IV)

(Dollars in Millions)

	Plan Years									
	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Prior Valuation Unfunded/(Prefunded) Actuarial Accrued Liability	$ 2,500	$ 2,195	$ 2,137	$ 2,157	$1,802	$1,791	$1,911	$1,651	$1,729	$1,491
Salary Increase Greater (Less) than Expected	25	(13)	13	16	(10)	(8)	(36)	(37)	(72)	(92)
COLA Increase Greater (Less) than Expected	28	-	-	-	-	-	(15)	-	-	-
Asset Return Less (Greater) than Expected	(208)	57	66	(17)	(11)	22	(61)	(145)	(33)	300
Other Experience (Including Scheduled UAAL Payment)	(868)[1]	(61)	(21)	(19)	(20)	(3)	(8)	(18)	27	30
Economic and Non-economic Assumption Changes	-	322	-	-	396	-	-	460	-	-
Ending Unfunded/(Prefunded) Actuarial Accrued Liability	**$1,477**	**$2,500**	**$2,195**	**$2,137**	**$2,157**	**$1,802**	**$1,791**	**$1,911**	**$1,651**	**$1,729**

1 Of this amount $(813) is due to voluntary County Safety & LARPD General UAAL contributions.

Schedule of Funded Liabilities by Type - Pension Plan[1] (Actuary's Exhibit III)

(Dollars in Thousands)

	Aggregate Accrued Liabilities for				Portion of Accrued Liabilities Covered by Reported Assets			
Valuation Date	Active Member Contributions	Retired/ Vested Members	Active Members (Employer Financed Portion)	Total	Valuation Value of Assets	Active Member Contributions	Retired/ Vested Members	Active Members (Employer Financed Portion)
12/31/2012	$ 930,649	$ 4,006,969	$ 1,675,311	$ 6,612,929	$ 4,883,872	100%	99%	0%
12/31/2013	916,196	4,307,763	1,637,728	6,861,687	5,210,944	100%	100%	0%
12/31/2014	994,870	4,785,190	1,812,012	7,592,072	5,681,097	100%	98%	0%
12/31/2015	1,070,157	4,966,693	1,838,170	7,875,020	6,083,536	100%	100%	3%
12/31/2016	1,122,671	5,210,571	1,904,473	8,237,715	6,436,138	100%	100%	5%
12/31/2017	1,173,799	5,662,738	2,150,524	8,987,061	6,830,379	100%	100%	0%
12/31/2018	1,223,983	5,939,611	2,212,803	9,376,397	7,239,327	100%	100%	3%
12/31/2019	1,258,309	6,266,979	2,269,731	9,795,019	7,599,977	100%	100%	3%
12/31/2020	1,296,260	6,730,506	2,457,414	10,484,180	7,984,241	100%	99%	0%
12/31/2021	1,362,455	7,051,592	2,515,888	10,929,935	9,453,108	100%	100%	41%

1 The exhibit includes actuarially funded liabilities and assets. The non-valuation reserves such as Supplemental Retirees Benefit Reserve, Death Benefit and Reserve for Interest Fluctuation, etc., are not included.

Events affecting year-to-year comparability:

12/31/12 - Modification to Entry Age cost method from aggregate basis to individual basis for normal cost calculation.

12/31/14 - Change in non-economic assumptions. Investment return assumption reduced from 7.80% to 7.60%; inflation assumption decreased from 3.50% to 3.25%.

12/31/17 - Change in non-economic assumptions (including merit and promotional salary increase assumptions and terminal pay assumptions). Investment return assumption reduced from 7.60% to 7.25%; inflation assumption decreased from 3.25% to 3.00%.

12/31/20 - Change in non-economic assumptions (including merit and promotional salary increase assumptions and terminal pay assumptions). Investment return assumption reduced from 7.25% to 7.00%; inflation assumption decreased from 3.00% to 2.75%.

12/31/21 - The County made voluntary County Safety contributions of $800 million on around June 29, 2021 to reduce their Safety UAAL and associated contribution rates. LARPD also made voluntary LARPD General contributions of $12.611 million on around June 29, 2021 to reduce their General UAAL and associated contribution rates.

Schedule of Funding Progress – Pension Plan (Actuary's Exhibit V)

(Dollars in Thousands)

Actuarial Valuation Date	Valuation Value of Assets[1] (a)	Actuarial Accrued Liability (AAL)[2] (b)	Unfunded (Overfunded) AAL (UAAL) (b–a)	Funded Ratio (%) (a/b)	Annual Covered Payroll (c)	UAAL as a % of Annual Covered Payroll (%) (b–a) /c
12/31/2012	$ 4,883,872	$ 6,612,929	$ 1,729,057	73.9	$ 906,500	190.7
12/31/2013	5,210,944	6,861,687	1,650,743	75.9	916,803	180.1
12/31/2014	5,681,097	7,592,072	1,910,975	74.8	948,848	201.4
12/31/2015	6,083,536	7,875,020	1,791,484	77.3	969,534	184.8
12/31/2016	6,436,138	8,237,715	1,801,577	78.1	1,003,651	179.5
12/31/2017	6,830,379	8,987,061	2,156,682	76.0	1,055,661	204.3
12/31/2018	7,239,327	9,376,397	2,137,070	77.2	1,093,735	195.4
12/31/2019	7,599,977	9,795,019	2,195,042	77.6	1,129,175	194.4
12/31/2020	7,984,241	10,484,180	2,499,939	76.2	1,155,697	216.3
12/31/2021	9,453,108	10,929,935	1,476,827	86.5	1,204,499	122.6

1 Excludes assets for SRBR and other non-valuation reserves. Includes the following amounts transferred from the SRBR to the employers' advance reserve to compensate the County for the implicit subsidy: (estimate provided by ACERA) 2012 $7,370; 2013 $6,993; 2014 $5,215; 2015 $5,325; 2016 $8,865; 2017 $5,830; 2018 $6,940; 2019 $6,511; 2020 $7,549 and 2021 $5,653.

2 Excludes liabilities for SRBR and other non-valuation reserves.

The actuarially determined contributions and actual contributions received from the participating employers are presented in the Schedule of Employer Contributions, included in the Required Supplementary Information Section.

Assumptions for Other Postemployment Benefits (OPEB) Plan

The actuarial assumptions used for the OPEB plan are consistent with those assumptions approved by the Retirement Board for the December 31, 2021, pension valuation, including the use of a 7.00% investment return assumption. For a complete list of actuarial assumptions, refer to the summary of assumptions and methods for the pension plan. The actuarial assumptions that are specific to the OPEB plan are as follows:

Per Capita Health Costs

The combined monthly per capita dental and vision claims cost for plan year 2022 was assumed to be $48.12. The monthly Medicare Part B premium reimbursement for 2022 is $170.10. For calendar year 2022, medical costs for a retiree were assumed to be as follows:

Medical Plan[1]	Election Assumption	Monthly Premium	Maximum Monthly Medical Allowance[2]
Under Age 65[3]			
Kaiser HMO	75%	$ 843.16	$ 596.73
United Healthcare HMO Current Network	7%	1,184.32	596.73
Via Benefits Individual Insurance Exchange[4]	15%	N/A[4]	596.73
United Healthcare HMO SVA Network	3%	781.42	596.73
Age 65 and Older			
Kaiser Senior Advantage	75%	$ 344.44	$ 596.73
Via Benefits Individual Insurance Exchange	25%	316.18[5]	457.13

1 There are other plans available to retirees under 65, and age 65 and older, that have a range of premiums. The same costs as Kaiser HMO and Kaiser Senior Advantage are assumed for current non-Medicare and Medicare retirees, respectively.

2 The Maximum Monthly Medical Allowance of $596.73 ($457.13 for retirees purchasing individual insurance from the Medicare exchange) is subject to the following subsidy schedule:

Completed Years of Service	Percentage Subsidized
10-14	50%
15-19	75%
20+	100%

3 Current retirees under 65 are assumed to elect medical plans in the same proportion as future retirees upon age 65.

4 Via Benefits individual insurance coverage is available to retirees under age 65 residing outside of ACERA medical plans' coverage area. It is assumed that these current retirees under 65 will draw the Maximum Monthly Subsidy ($596.73).

5 The derivation of amounts expected to be paid in 2022 from the Health Reimbursement Account for members with 20 plus years of service is provided in the following table. In the table, the amounts expected to be paid for members with 10-14 and 15-19 years of service is also provided.

Derivation of Via Benefits Monthly Per Capita Costs

Years of Service Category	10-14	15-19	20+
1 Maximum MMA for 2021	$ 221.64	$ 332.46	$ 443.28
2 Total of Maximum MMA (From Jan. 2021 to Dec. 2021)	$506,891	$794,247	$5,169,531
3 Total of Actual Reimbursement (From Jan. 2021 to Dec. 2021)	$384,211	$579,536	$3,154,976
4 Ratio of Actual Reimbursement to Maximum 2021 MMA [(3)/(2)]	75.80%	72.97%	61.03%
5 Average Monthly Per Capita Cost for 2021 [(1)*(4)]	$ 168.00	$ 242.60	$ 270.53
6 Maximum MMA for 2022	$ 228.57	$ 342.85	$ 457.13
7 Increased for Expected Medical Trend (6.25%) from 2021 to 2022 [(5)*1.0625]	$ 178.50	$ 257.76	$ 287.44
8 Increase for Additional 10% Margin for 2021 Expenses Incurred in 2021 but Reimbursed after December 2021 [(7)*1.10]	**$ 196.35**	**$ 283.54**	**$ 316.18**

Implicit Subsidy

The estimated average per capita premium for retirees under age 65 is $10,429 per year. Because premiums for retirees under age 65 include active participants for purposes of underwriting, the retirees receive an implicit subsidy from the actives. Had the retirees under age 65 been underwritten as a separate group, their age-based premiums would be higher for most individuals. The excess of the age-based premium over the per capita premium charged makes up the subsidy.

Below is a sample of the age-based costs for the retirees under age 65.

Age-Based Average Medical Costs for Retirees Under Age 65

	Retiree		Spouse	
Age	Male	Female	Male	Female
50	$ 12,570	$ 14,317	$ 8,780	$ 11,496
55	14,928	15,415	11,749	13,307
60	17,728	16,612	15,728	15,433
64	20,339	17,623	19,855	17,370

Not all ACERA employers are receiving an implicit subsidy reimbursement from the Association. For SRBR sufficiency purposes, an adjustment of 0.83 (17% reduction of the cost shown above) for the projected implicit subsidy payments has been applied to account for this fact, based on data provided by the County of Alameda's health consultant.

The adjustment mentioned above has not been applied in the calculation of Actuarial Present Value of Projected Benefits and Actuarial Accrued Liability (AAL).

2022 medical and prescription drug age-based claims costs for retirees age 65 and over are shown below at selected ages:

Kaiser Senior Advantage				
	Retiree		Spouse[1]	
Age	Male	Female	Male	Female
65	$ 3,946	$ 3,354	N/A	N/A
70	4,573	3,615	N/A	N/A
75	4,929	3,891	N/A	N/A
80+	5,307	4,195	N/A	N/A
Via Benefits				
	Retiree		Spouse[1]	
Age	Male	Female	Male	Female
65	$ 3,532	$ 3,002	N/A	N/A
70	4,094	3,235	N/A	N/A
75	4,411	3,483	N/A	N/A
80+	4,751	3,755	N/A	N/A

1 Spouses are only eligible for implicit subsidy while under age 65.

Health Care Cost Trend Rates

Health care trend measures the anticipated overall rate at which health plan costs are expected to increase in future years. The rates shown below are "net" and are applied to the net per capital costs shown above. The trend shown for a particular plan year is the rate that is to be applied to the premium for the shown calendar year to calculate the next calendar year's projected premium. For example, the projected 2023 calendar year premium for Kaiser (under age 65) is $909.74 per month ($843.16 increased by 7.90%).

Calendar Year	Rate (%) United Healthcare HMO & Kaiser HMO Early Retiree [2]	Via Benefits & Kaiser Senior Advantage[3]	Dental[4]	Vision[5]	Medicare Part B
2022	7.50[1]	6.50[1]	0.00[1]	0.00[1]	4.50
2023	7.25	6.25	4.00	0.00	4.50
2024	7.00	6.00	4.00	0.00	4.50
2025	6.75	5.75	4.00	4.00	4.50
2026	6.50	5.50	4.00	4.00	4.50
2027	6.25	5.25	4.00	4.00	4.50
2028	6.00	5.00	4.00	4.00	4.50
2029	5.75	4.75	4.00	4.00	4.50
2030	5.50	4.50	4.00	4.00	4.50
2031	5.25	4.50	4.00	4.00	4.50
2032	5.00	4.50	4.00	4.00	4.50
2033	4.75	4.50	4.00	4.00	4.50
2034 & Later	4.50	4.50	4.00	4.00	4.50

1 The actual trends are shown below, based on premium renewals for 2023 as reported by ACERA.

Kaiser HMO Early Retiree	United Health-care HMO Signature Value Early Retiree	United Health-care HMO Signature Value Advantage Early Retiree	Kaiser Senior Advantage	Dental	Vision
7.90%	9.00%	8.00%	-8.02%	16.06%	16.62%

2 Non-Medicare plans.

3 Medicare plans.

4 First year reflects three-year rate guarantee, premiums fixed at 2021 level.

5 First three years reflect five-year rate guarantee, premiums fixed at 2021 level.

Assumed Increase in Annual Maximum Benefits

For the "substantive plan design" shown in this report, actuary has assumed:

- Maximum medical allowances for 2023 will increase to $616.12 per month, then increase with 50% of trend for medical plans, or 3.125% graded down to the ultimate rate of 2.25% over 7 years. If different types of medical plans have different initial trend rates, it is assumed that the future increase in MMA will be linked to the plan with the lowest projected medical trend;
- Dental and vision premium reimbursement will increase with full trend; and,
- Medicare Part B premium reimbursement will increase with full trend.

Participation and Coverage Election

Retired members and beneficiaries as of valuation date:

	Under Age 65	Upon Attaining Age 65
Medical Plan Subsidy (MMA)		
MMA on Record		
Current Retirees Under 65	100%	100% and assumed to choose carrier in same proportion as future retirees
Current Retirees 65 and Over	N/A	100%
No MMA on Record		
Less than 10 Years of Service	0%	0%
10+ Years of Service		
Current Retirees Under 65	0%	50%
Current Retirees 65 and Over	N/A	0%
Medicare Part B Premium Subsidy		
MMA on Record		
Current Retirees Under 65	N/A	100%
Current Retirees 65 and Over	N/A	100% if Part B reimbursement on record or purchasing individual insurance from the Medicare exchange
No MMA on Record		
Less than 10 Years of Service	N/A	0%
10+ Years of Service		
Current Retirees Under 65	N/A	50%
Current Retirees 65 and Over	N/A	0%
Implicit Subsidy	Current Retirees, married dependents and surviving beneficiaries under age 65 and enrolled in an ACERA non-Medicare plan are assumed to have an implicit subsidy liability.	
Dental and Vision Subsidy	Current retirees not self-paying ("Voluntary" or "Under 10 YOS" dental or vision code).	

Active and inactive vested members as of valuation date:

	Under Age 65	Upon Attaining Age 65
Medical Plan Subsidy (MMA)	80% of eligible members.	90% of eligible members.
Medicare Part B Premium Subsidy	80% of eligible members. (disabled only)	90% of eligible members.
Implicit Subsidy	68% of eligible members under age 65 are assumed to have an implicit subsidy liability.	
Dental and Vision Subsidy	100% of eligible members.	

Dependents

Demographic data was available for spouses of current retirees. For future retirees, male members were assumed to be three years older than their wives and female members were assumed to be one year younger than their husbands. Of the future retirees who elect to continue their medical coverage at retirement, 40% of males and 20% of females were assumed to have an eligible spouse who also opts for health coverage at that time.

These assumptions are based on historical and current demographic data, adjusted to reflect the plan design, estimated future experience and professional judgment.

Please note that these assumptions are only used to determine the cost of the implicit subsidy:

Plan Design

Development of plan liabilities was based on the plan of benefits in effect as described in Exhibit II and III of the December 31, 2021, sufficiency valuation report.

Administrative Expenses

An administrative expense load was not added to projected incurred claim costs in developing per capita health costs.

Missing Participant Data

Any missing census items for a given participant was set to equal to the average value of that item over all other participants of the same membership status for whom the item is known.

Active Member Valuation Data – OPEB (Actuary's SRBR Exhibit I)

Valuation Date[1]	No. of Participating Agencies	Plan Type	Number	Annual Payroll ($)[2]	Annual Average Pay ($)	% Increase in Average Pay[3]
12/31/2013	7	General	9,485	772,431,136	81,437	0.24%
		Safety	1,392	144,373,236	103,716	1.75%
		Total	**10,877**	**916,804,372**	**84,288**	**0.42%**
12/31/2014	7	General	9,617	800,224,521	83,209	2.18%
		Safety	1,408	148,623,609	105,557	1.78%
		Total	**11,025**	**948,848,130**	**86,063**	**2.11%**
12/31/2015	7	General	9,634	812,636,114	84,351	1.37%
		Safety	1,437	156,897,481	109,184	3.44%
		Total	**11,071**	**969,533,595**	**87,574**	**1.76%**
12/31/2016	7	General	9,673	839,157,054	86,753	2.85%
		Safety	1,438	164,494,775	114,391	4.77%
		Total	**11,111**	**1,003,651,829**	**90,330**	**3.15%**
12/31/2017	7[4]	General	9,887	884,429,873	89,454	3.11%
		Safety	1,436	171,231,780	119,242	4.24%
		Total	**11,323**	**1,055,661,653**	**93,232**	**3.21%**
12/31/2018	7	General	9,960	920,863,594	92,456	3.36%
		Safety	1,389	172,872,084	124,458	4.37%
		Total	**11,349**	**1,093,735,678**	**96,373**	**3.37%**
12/31/2019	7	General	9,960	952,171,197	95,600	3.40%
		Safety	1,376	177,005,751	128,638	3.36%
		Total	**11,336**	**1,129,176,948**	**99,610**	**3.36%**
12/31/2020	7	General	9,960	975,689,541	97,961	2.47%
		Safety	1,362	180,006,107	132,163	2.74%
		Total	**11,322**	**1,155,695,648**	**102,075**	**2.47%**
12/31/2021	7	General	9,903	1,010,957,679	102,086	4.21%
		Safety	1,423	193,541,750	138,010	2.91%
		Total	**11,326**	**1,204,499,429**	**106,348**	**4.19%**
12/31/2022	7	General	9,901	1,052,932,032	106,346	4.17%
		Safety	1,445	205,097,227	141,936	4.36%
		Total	**11,346**	**1,258,029,259**	**110,879**	**4.26%**

1 *As permitted by the Actuarial Standard of Practice No. 4 (Measuring Pension Obligations), the actuarial valuation has been prepared based on participant data provided by ACERA as of November 30.*

2 *Projected compensation was calculated by increasing the prior calendar year's compensation (assuming every employee will work full time) by the salary increase assumption.*

3 *Reflects the increase in average salary for members at the beginning of the year versus those at the end of the year. It does not reflect the average salary increases received by members who worked the full year.*

4 *Starting with the December 31, 2017 valuation date, there were no active members from the Alameda County Office of Education; however, there were still retired members from that participating agency.*

Retirees Added To and Removed From OPEB Payroll (Actuary's SRBR Exhibit II)

	Added to Rolls		Removed from Rolls		Rolls at End of Year				
Valuation Date[1] (December 31)	Number	Annual Allowance (in $000's)	Number	Annual Allowance[2] (in $000's)	Number	Annual Allowance (in $000's)	% Increase in OPEB Allowance	Average Annual Allowance	Change in Average Annual Allowance
2013	537	$ 2,430	(179)	$ (1,699)	7,411	$ 33,418	2.24%	$ 4,509	-2.70%
2014	421	1,725	(189)	(735)	7,643	34,408	2.96%	4,502	-0.16%
2015	388	1,745	(229)	(424)	7,802	35,729	3.84%	4,579	1.71%
2016	426	1,801	(207)	(870)	8,021	36,660	2.61%	4,571	-0.17%
2017	443	1,979	(197)	365	8,267	39,004	6.39%	4,718	3.22%
2018	497	2,243	(212)	844	8,552	42,091	7.91%	4,922	4.32%
2019	516	2,255	(229)	776	8,839	45,122	7.20%	5,105	3.72%
2020	459	2,160	(251)	136	9,047	47,417	5.09%	5,241	2.66%
2021	466	2,035	(272)	(2,144)[3]	9,241	47,308	-0.23%	5,119	-2.33%
2022	500	2,353	(256)	(1,218)	9,485	48,443	2.40%	5,107	-0.23%

1 As permitted by the Actuarial Standard of Practice Statement No. 4 (Measuring Pension Obligations), the actuarial valuation has been prepared based on participant data provided by ACERA as of November 30.

2 Also reflects changes in benefit for continuing members.

3 The large reduction is primarily due to the decrease in the Kaiser Senior Advantage premium from calendar year 2020 to 2021.

Note: Beneficiaries are not eligible for OPEB. The allowances include medical, dental, vision and Medicare Part B premium subsidies but do not include any implicit subsidy costs valued for SRBR sufficiency or valuation liabilities.

Member Benefit Coverage Information - OPEB
(Actuary's SRBR Exhibit III)
Actuarial Accrued Liability Not Limited to Actuarial Value of Assets[1]

(Dollars in Thousands)

	Aggregate Accrued Liabilities for				Portion of Accrued Liabilities Covered by Reported Assets			
Valuation Date	Active Member Contributions	Retired/ Vested Members[2]	Active Members (Employer Financed Portion)[2]	Total[2]	Actuarial Value of Assets	Active Member Contributions	Retired/ Vested Members[3]	Active Members (Employer Financed Portion)[3]
12/31/2012								
Scenario A	N/A	$ 432,005	$ 322,833	$ 754,838	$ 545,429	N/A	100%	35%
Scenario B	N/A	432,005	322,833	754,838	549,655	N/A	100%	36%
12/31/2013	N/A	428,851	295,725	724,576	617,627	N/A	100%	64%
12/31/2014	N/A	489,588	341,746	831,334	759,200	N/A	100%	79%
12/31/2015	N/A	511,694	389,287	900,981	822,858	N/A	100%	80%
12/31/2016	N/A	544,660	365,696	910,356	837,185	N/A	100%	80%
12/31/2017	N/A	585,466	416,176	1,001,642	858,005	N/A	100%	65%
12/31/2018	N/A	595,608	411,780	1,007,581	883,013	N/A	100%	70%
12/31/2019	N/A	631,644	442,548	1,074,192	888,184	N/A	100%	58%
12/31/2020	N/A	633,137	459,683	1,092,820	891,580	N/A	100%	56%
12/31/2021	N/A	680,657	512,070	1,192,727	1,082,704	N/A	100%	79%

1 When the actuarial accrued liabilities were limited to the current assets, the UAALs were $0. Similarly, the funded ratios were 100%.

2 Accrued liabilities have not been limited to benefits expected to be paid before the exhaustion of actuarial value of assets.

3 Assuming actuarial value of assets is first used to entirely fund the liabilities for retired/vested members before it is used to fund the liabilities for active members.

Events affecting year-to-year comparability:

12/31/12 - Scenario A excludes benefits and assets associated with the $750 lump sum death benefit, whereas Scenario B includes benefits and assets associated with the $750 lump sum death benefit. Both of these scenarios reflect the discontinuance of the Active Death Equity Benefit and the $4,250 Lump Sum Death Benefit. These two scenarios were provided per the request of ACERA'S management to explore different options of consolidating or reclassifying the Death Benefit Reserve. The Board acted on July 18, 2013 to maintain the 2014 MMA at the 2013 level.

12/31/13 - The Board acted on July 17, 2014 to maintain the 2015 MMA at the 2014 level.

12/31/14 - Changes in non-economic assumption. Investment return assumption decreased from 7.80% to 7.60%; inflation assumption decreased from 3.50% to 3.25%. The Board acted on July 16, 2015 to increase the 2015 MMA by 3.5% for 2016.

12/31/15 - The Board acted to leave the 2016 MMA unchanged for 2017 and 2018.

12/31/17 - Changes in non-economic assumption. Investment return assumption decreased from 7.60% to 7.25%; inflation assumption decreased from 3.25% to 3.00%. The Board acted to increase the 2018 MMA for 2019. The maximum MMA for ACERA sponsored plans and individual (out-of-area) non-Medicare plans becomes $558.00 and the maximum MMA for individual Medicare plans becomes $427.46 for 2019.

12/31/18 - The maximum MMA for ACERA sponsored plans and individual (out-of-area) non-Medicare plans becomes $578.65 and the maximum MMA for individual Medicare plans becomes $443.28 for 2020.

12/31/19 - The Board acted to leave the 2020 MMA unchanged for 2021.

12/31/20 - Changes in non-economic assumption. Investment return assumption decreased from 7.25% to 7.00%; inflation assumption decreased from 3.00% to 2.75%. The maximum MMA for ACERA sponsored plans and individual (out-of-area) non-Medicare plans becomes $596.76 and the maximum MMA for individual Medicare plans becomes $457.13 for 2022.

12/31/21 - The maximum MMA for ACERA sponsored plans and individual (out-of-area) non-Medicare plans becomes $616.12 and the maximum MMA for individual Medicare plans becomes $471.99 for 2023.

Note: At each valuation date, health care cost trend rates have been updated and starting premium costs have been revised to reflect updated data.

Schedule of Funded Liabilities by Type - Non-OPEB (Actuary's SRBR Exhibit III) Continued
Actuarial Accrued Liability Not Limited to Actuarial Value of Assets[1]

(Dollars in Thousands)

	Aggregate Accrued Liabilities for				Portion of Accrued Liabilities Covered by Reported Assets			
Valuation Date	Active Member Contributions	Retired/ Vested Members[2]	Active Members (Employer Financed Portion)[2]	Total[2]	Actuarial Value of Assets	Active Member Contributions	Retired/Vested Members[3]	Active Members (Employer Financed Portion)[3]
12/31/2012								
Scenario A	N/A	$ 69,698	$ 93,636	$ 163,334	$ 24,174	N/A	35%	0%
Scenario B	N/A	71,785	94,132	165,917	26,018	N/A	36%	0%
12/31/2013	N/A	81,814	96,985	178,799	26,870	N/A	33%	0%
12/31/2014	N/A	73,728	80,371	154,099	32,570	N/A	44%	0%
12/31/2015	N/A	83,016	84,635	167,651	35,194	N/A	42%	0%
12/31/2016	N/A	100,279	89,264	189,543	36,162	N/A	36%	0%
12/31/2017	N/A	84,063	65,558	149,621	37,517	N/A	45%	0%
12/31/2018	N/A	113,097	68,543	181,640	39,366	N/A	35%	0%
12/31/2019	N/A	124,174	71,375	195,549	40,430	N/A	33%	0%
12/31/2020	N/A	76,651	31,404	108,055	41,677	N/A	54%	0%
12/31/2021	N/A	101,298	32,725	134,023	51,921	N/A	51%	0%

1 When the actuarial accrued liabilities were limited to the current assets, the UAALs were $0. Similarly, the funded ratios were 100%.

2 Accrued liabilities have not been limited to benefits expected to be paid before the exhaustion of actuarial value of assets.

3 Assuming actuarial value of assets is first used to entirely fund the liabilities for retired/vested members before it is used to fund the liabilities for active members.

Events affecting year-to-year comparability:

12/31/12 - Scenario A excludes benefits and assets associated with the $750 lump sum death benefit, whereas Scenario B includes benefits and assets associated with the $750 lump sum death benefit. Both of these scenarios reflect the discontinuance of the Active Death Equity Benefit and the $4,250 Lump Sum Death Benefit. These two scenarios were provided per the request of ACERA's management to explore different options of consolidating or reclassifying the Death Benefit Reserve.

12/31/13 - Increase in lump sum death benefit from $750 to $1,000.

12/31/14 - Changes in non-economic assumption. Investment return assumption decreased from 7.80% to 7.60%; inflation assumption decreased from 3.50% to 3.25%.

12/31/17 - Changes in non-economic assumption. Investment return assumption decreased from 7.60% to 7.25%; inflation assumption decreased from 3.25% to 3.00%.

12/31/20 - Changes in non-economic assumption. Investment return assumption decreased from 7.25 to 7.00%; inflation assumption decreased from 3.00% to 2.75%.

Summary of Plan Provisions

Benefits Sections 31676.1, 31676.12, 31676.18, 31664, 31664.1, and 31664.2 Of The County Employees Retirement Law Of 1937 ("1937 Act") and Government Code Sections 7522.20(a) for General Tier 4 and 7522.25(d) for Safety Tier 4

Briefly summarized below are major provisions of the 1937 Act and the California Government Code as amended through December 31, 2021, and as adopted by Alameda County or other participating employers.

Membership Eligibility

With the exception of Alameda Health System, all full-time employees of participating employers who are appointed to permanent positions are statutorily required to become members of ACERA. With the passage of AB1008 in 2013, employees of newly acquired hospitals by Alameda Health System are not eligible for membership unless they are subject to an existing Memorandum of Understanding. Effective October 31, 2013, all newly hired unrepresented employees of any Alameda Health System facility are prohibited from membership.

Membership with ACERA usually begins with the second pay period following appointment to a full-time County or participating employer position, except for Housing Authority of the County of Alameda and Livermore Area Recreation & Park District. Membership for these employees is effective on the first day of employee's hire in an ACERA covered position. ACERA members who change from full-time to part-time are required to continue membership at ACERA (with future contributions and benefits adjusted accordingly).

Tiers (Benefit Levels)

General and Safety Tier 1 include, depending on the employer, all General and Safety members hired on or before June 30, 1983. For Housing Authority and LARPD General members the hire dates are on or before September 30, 2011 and on or before September 30, 2008, respectively (instead of June 30, 1983). General and Safety Tier 2 include, depending on the employer, General and Safety members hired after June 30, 1983. For Housing Authority General members, the hire date is after September 30, 2011 (instead of June 30, 1983). General Tier 3 was effective October 1, 2008 for electing General active members of the Livermore Area Recreation and Park District (LARPD). LARPD adopted a benefit improvement for all service under the 2.5% @ 55 formula as an option to their employees. The County adopted Safety Tier 2 formulas, 2% @ 50 (Safety Tier 2C) and 3% @ 55 (Safety Tier 2D), for new hires starting October 17, 2010. General and Safety Tier 4 include all General and Safety members hired on or after January 1, 2013. See page 150 and page 151 for employer and employee contribution rates.

Final Compensation for Benefit Determination ("Final Average Salary")

Final Average Salary (FAS) is defined as the highest consecutive 12 months of compensation earnable for Tier 1 and Tier 3; and the highest consecutive 36 months of compensation earnable for Tier 2. For Tier 4 members, FAS is defined as the highest consecutive 36 months of pensionable compensation.

Return of Contributions

If a member should resign or die before becoming eligible for retirement, his or her contributions plus interest will be refunded upon request. In lieu of receiving a return of contributions, a vested member or member terminated after January 1, 2003, may elect to leave his or her contributions on deposit and receive a deferred vested benefit when eligible for retirement.

Eligibility for Service Retirement

General non-Tier 4 members are eligible to retire: at age 50 with 5 years of service and a total of 10 years of qualifying membership; or at age 70 regardless of years of service, or at any age with 30 years of service. General Tier 4 members are eligible to retire at age 52 with 5 years of service or at age 70 regardless of service. Safety non-Tier 4 members are eligible to retire: at age 50 with 5 years of service and a total of 10 years of qualifying membership; or at age 70 regardless of years of service; or at any age with 20 years of service. Safety Tier 4 members are eligible to retire at age 50 with 5 years of service or at age 70 regardless of service.

Eligibility for Deferred Service Retirement

Vested deferred members are terminated members who have completed five years of service and leave accumulated contributions in the retirement fund. Vested deferred members are entitled to receive retirement benefits upon meeting the eligibility requirements.

Service Retirement Benefit

The monthly service retirement benefit depends on age at retirement and is based on a percentage of the final average salary (divided by 12 or 36 depending on Tier to get a monthly amount) multiplied by years of service. It is illustrated below for selected age-at-retirement figures.

For non-Tier 4 members integrated with Social Security, the benefit is reduced by one-third of the percentage shown below times the first $350 of monthly final average salary per year of service credited after January 1, 1956.

Percentage of Final Average Salary for Selected Age-at-Retirement

	General				Safety				
Age-at-Retirement	Tier 1	Tier 2	Tier 3	Tier 4	Tier 1	Tier 2	Tier 2C	Tier 2D	Tier 4
50	1.34%	1.18%	2.00%	N/A	3.00%	3.00%	2.00%	2.29%	2.00%
52	1.49%	1.30%	2.20%	1.00%	3.00%	3.00%	2.22%	2.54%	2.20%
55	1.77%	1.49%	2.50%	1.30%	3.00%	3.00%	2.62%	3.00%	2.50%
57	2.00%	1.64%	2.50%	1.50%	3.00%	3.00%	2.62%	3.00%	2.70%
60	2.34%	1.92%	2.50%	1.80%	3.00%	3.00%	2.62%	3.00%	2.70%
62	2.62%	2.09%	2.50%	2.00%	3.00%	3.00%	2.62%	3.00%	2.70%
65	2.62%	2.43%	2.50%	2.30%	3.00%	3.00%	2.62%	3.00%	2.70%
67 and over	2.62%	2.43%	2.50%	2.50%	3.00%	3.00%	2.62%	3.00%	2.70%

Maximum Benefit

The maximum basic benefit payable to a non-Tier 4 member or beneficiary is 100% of highest average compensation. There is no maximum basic benefit payable to Tier 4 members.

Disability Benefit

Members with five years of service, regardless of age, are eligible to apply for non-service connected disability benefits. As with the service retirement benefit, the disability benefit is based on a percentage of final compensation.

The disability benefit is 1.8% of final compensation per year of service for General Tier 1 and Tier 3 members; and 1.5% final compensation per year of service for General Tier 2 and Tier 4 members. If the benefit does not exceed one-third of final compensation, the service is projected to age 62 for General Tier 1 and Tier 3, and to age 65 for General Tier 2 and Tier 4, but the total benefit cannot be more than one-third of final compensation.

The disability benefit is 1.8% of final compensation per year of service for Safety members. If the benefit does not exceed one-third of final compensation, the service is projected to age 55, but the total benefit cannot be more than one-third of final compensation.

If the disability is service connected ("job-related"), then there is no age or service requirement. This benefit is the greater of 50% of final compensation, or the benefit amount derived from the member's age, years of service, and salary.

Members who apply for disability retirement benefits must be able to prove they are permanently unable to perform the usual duties of their current job. In addition, those who apply for a service connected disability must prove their incapacity to perform their duties was job-related.

Active Member Death Benefit

In addition to the return of employee contributions with credited interest, a lump sum death benefit is payable to the member's beneficiary or estate equal to one month's compensation for each completed year of service under the retirement system, based on the final year's average salary, but not to exceed six month's compensation.

If a member dies while eligible for service retirement or non-service connected disability, the eligible surviving spouse/domestic partner may elect to receive 60% of the greater of service or non-service connected disability retirement allowance that the member would have received for retirement on the day of his or her death in lieu of the refund of employee contributions with interest and a lump sum death benefit.

Service Connected Death Benefit

If a member dies in the performance of duty, the eligible surviving spouse/domestic partner may elect to receive 50% of the member's final compensation (or 100% of the service retirement benefit, if greater).

Retired Member Death Benefit

If a member dies after retirement, a lump sum amount of $1,000 is paid to the beneficiary or estate. This benefit is excluded from the pension plan funding valuation, but is included in the SRBR non-OPEB sufficiency valuation.

In addition, if the retirement was for service connected disability, 100% of the member's allowance as it was at death is continued to the qualified surviving spouse/domestic partner for life.

If the retirement was for other than service connected disability, 60% of the member's unmodified allowance is continued to the qualified surviving spouse/domestic partner for life.

Basic Cost-of-Living Adjustments (COLA)

The basic Cost-of-Living Adjustments are based on the change in the San Francisco Bay Area Consumer Price Index (CPI) for the calendar year prior to the April 1 effective date. The basic COLA increase in retirement allowance is up to 3% per year for Tier 1 and Tier 3; and up to 2% for Tier 2 and Tier 4 members. For any year in which the CPI exceeds the COLA percentage cap for a member, the excess percentage is accumulated ("banked") for that member and subsequently applied as an increase to the allowance in a later year when the CPI figure falls short of the relevant cap.

Supplemental Benefits Excluded from Actuarial Valuation

Non-vested supplemental COLA and retiree healthcare program benefits are paid to eligible retirees and survivors. These supplemental benefits have been excluded from the pension plan funding valuation, but are included in the SRBR, OPEB and non-OPEB sufficiency valuation.

Contribution Rates

Basic member contribution rates are based on a formula reflecting the age at entry into the Association. The rates are such as to provide, for each year of service, an average annuity at age 60 of 1/100 of FAS for General members under Tier 1; at age 60 of 1/120 of FAS for General members under Tier 2; at age 55 of 1/100 of FAS for General members under Tier 3; 50% of the total Normal Cost rate for General Tier 4 members; at age 50 of 1/100 of FAS for non-Tier 4 Safety members; and 50% of the total Normal Cost rate for Safety Tier 4 members.

Note that in estimating FAS, an assumption to anticipate how much unused vacation would be available for conversion at retirement is included for non-Tier 4 members. Member cost of living contribution rates are actuarially determined to pay for one-half of future cost of living liabilities.

For non-Tier 4 members whose benefits are integrated with Social Security, the above contributions are reduced by one-third of that portion of such contribution payable with respect to the first $161 of biweekly salary. Member contributions are refundable upon termination from employment.

Employer contribution rates are actuarially determined to provide for the balance of the contributions needed to fund the benefits promised under the pension plan.

Exemption from Contributions After Thirty Years of Service

Non-Tier 4 Safety members with 30 or more years of service and General members hired on or before March 7, 1973, with 30 or more years of service are exempt from paying member contributions. However, Safety members in Tiers 1, 2 and 2D are required to continue paying the 3% cost-sharing contribution after 30 years of service.

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Statistical

Statistical

This section provides additional historical perspective, context, and detail in order to provide a more comprehensive understanding of this year's financial statements, note disclosures, and supplementary information, covering pension plan benefits, postemployment medical benefits and non-OPEB. This section also provides multi-year trend of financial and operating information to facilitate comprehensive understanding of how the organization's financial position and performance has changed over time. More specifically, the financial and operating information provides contextual data for the fiduciary net position, benefits, refunds, contribution rates and different types of retirement benefits. This information was produced by either ACERA's actuary or from ACERA's member database.

Additions to Fiduciary Net Position by Source

(Dollars in Millions)

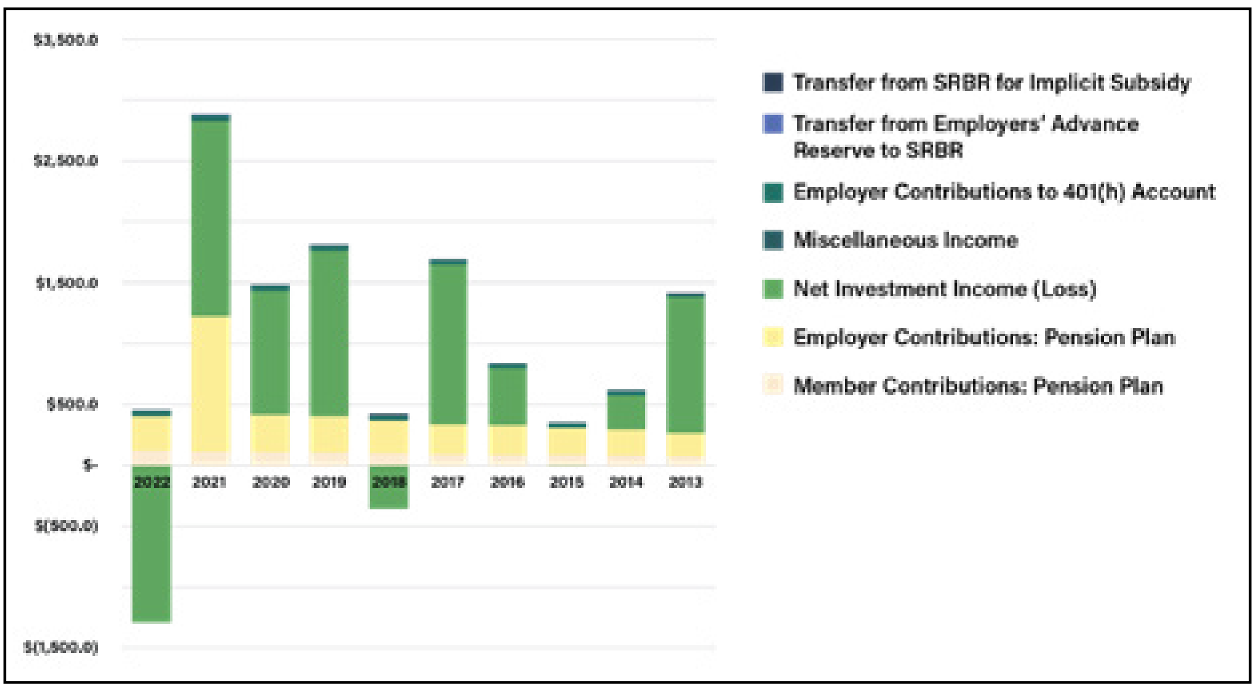
Year Ended December 31	Member Contributions	Employer Contributions	Net Investment Income (Loss)	Misc. Income	Employer Contributions to 401(h) Account	Transfer from Employers' Advance Reserve to SRBR[1]	Transfer from SRBR for Implicit Subsidy	Total Additions
2022	$ 120.7	$ 281.6	$ (1,289.8)	$ 0.1	$ 47.5	$ 1.7	$ 5.6	$ (832.6)
2021	111.1	1,116.6[2]	1,601.2	1.0	46.8	1.5	7.5	2,885.7
2020	106.1	309.8	1,017.3	0.3	45.5	1.4	6.4	1,486.8
2019	103.1	298.5	1,358.2	1.2	44.9	1.4	6.9	1,814.2
2018	94.7	269.7	(356.0)	1.4	43.8	1.2	5.8	60.6
2017	89.3	247.1	1,308.2	0.9	38.3	1.2	8.8	1,693.8
2016	85.8	241.7	470.0	0.5	33.8	1.2	6.0	839.0
2015	82.9	224.6	(6.5)	2.0	36.5	1.2	5.3	346.0
2014	79.7	213.3	280.6	0.4	34.0	1.1	7.0	616.1
2013	76.2	191.2	1,109.7	0.2	32.2	1.1	7.4	1,418.0

1 *Effective July 1, 2011, ACERA adopted Section 31618.5 of the 1937 Act. In compliance with this law, employers allocate a portion of their contribution to the 401(h) account for estimated administrative cost of these benefits, in addition to contributions for the Postemployment Medical Benefits.*

2 *Includes voluntary advance UAAL contributions of $800.0 million for County Safety and $12.6 million for LARPD General to reduce their respective UAAL and associated contribution rates.*

Additions to Fiduciary Net Position by Source

(Dollars in Millions)

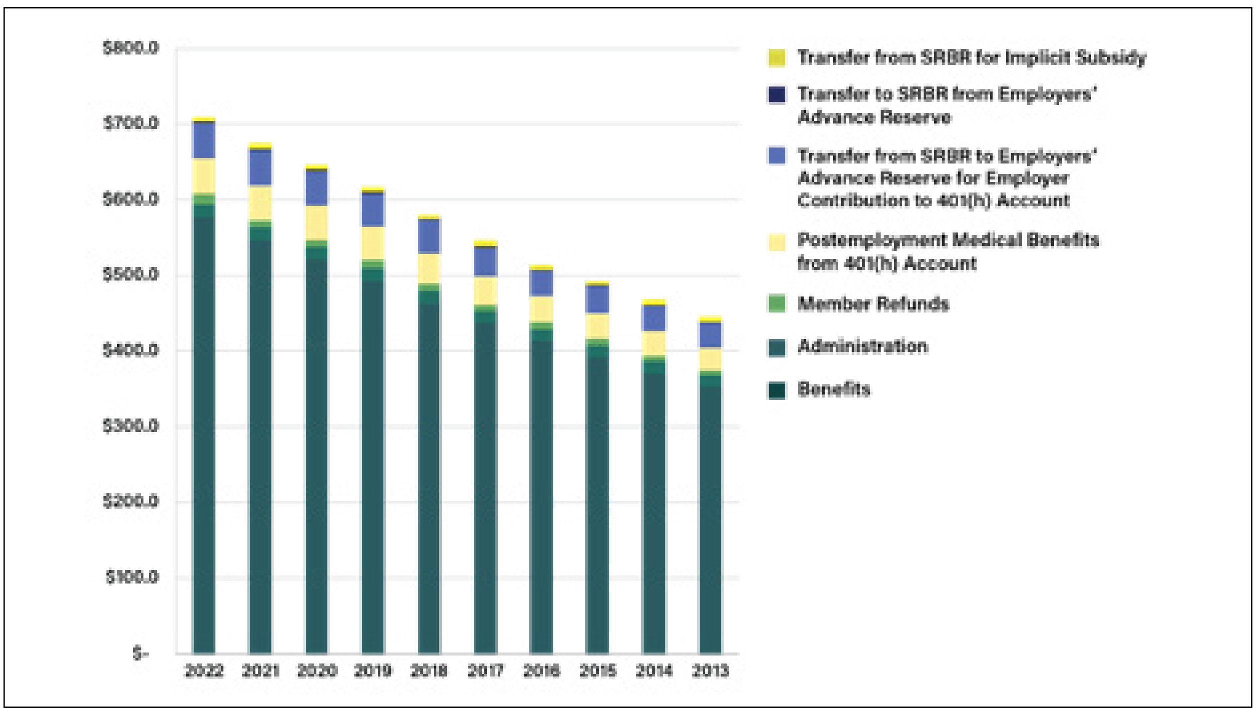


Deductions from Fiduciary Net Position by Type
(Dollars in Millions)

Year Ended December 31	Benefits	Administration	Member Refunds	Postemployment Medical Benefits from 401(h) Account	Transfer from SRBR to Employers' Advance Reserve for Employer Contribution to 401(h) Account	Transfer to SRBR from Employers' Advance Reserve[1]	Transfer from SRBR for Implicit Subsidy	Total Deductions
2022	$ 577.6	$ 17.0	$ 13.7	$ 46.7	$ 47.5	$ 1.7	$ 5.6	$ 709.8
2021	546.6	16.6	9.7	45.9	46.8	1.5	7.5	674.6
2020	521.6	16.2	9.2	46.0	45.5	1.4	6.4	646.3
2019	493.4	16.6	10.7	43.6	44.9	1.4	6.9	617.5
2018	463.2	16.5	8.7	40.9	43.8	1.2	5.8	580.1
2017	437.4	15.8	7.9	37.9	38.3	1.2	8.8	547.3
2016	413.8	15.8	8.5	34.9	33.8	1.2	6.0	514.0
2015	392.3	15.4	9.0	33.7	36.5	1.2	5.3	493.4
2014	371.2	15.0	7.5	32.6	34.0	1.1	7.0	468.4
2013	353.6	14.7	6.3	30.6	32.2	1.1	7.4	445.9

1 Effective July 1, 2011, ACERA adopted Section 31618.5 of the 1937 Act. In compliance with this law, employers allocate a portion of their contribution to the 401(h) account for estimated administrative cost of these benefits, in addition to contributions for the Postemployment Medical Benefits.

Deductions from Fiduciary Net Position by Type
(Dollars in Millions)



Changes in Pension Plan Net Position
Last Ten Fiscal Years

For the Years Ended December 31 (Dollars in Millions)

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
ADDITIONS										
Member Contributions	$ 120.7	$ 111.1	$ 106.1	$ 103.1	$ 94.7	$ 89.3	$ 85.8	$ 82.9	$ 79.7	$ 76.2
Employer Contributions	234.1	1,069.8[2]	264.3	253.6	225.9	208.8	207.9	188.1	179.3	159.0
Total Contributions	**354.8**	**1,180.9**	**370.4**	**356.7**	**320.6**	**298.1**	**293.7**	**271.0**	**259.0**	**235.2**
Investment and Miscellaneous Income (Net of Expenses)	(1,289.7)	1,602.2	1,017.6	1,359.4	(354.6)	1,309.1	470.5	(4.5)	281.0	1,116.0
Transfer from SRBR for Employers Contributions to 401(h) Account	47.5	46.8	45.5	44.9	43.8	38.3	33.8	36.5	34.0	32.2
Transfer from SRBR for Employers Implicit Subsidy	5.6	7.5	6.4	6.9	5.8	8.8	6.0	5.3	7.0	7.4
Earnings Allocated to Postemployment Medical Benefits Reserve	(86.6)	(242.6)	(56.8)	(55.2)	(72.8)	(64.5)	(58.8)	(102.8)	(179.4)	(109.8)
Earnings Allocated to Non-OPEB Reserve	(4.2)	(11.4)	(2.6)	(2.5)	(3.2)	(2.7)	(2.5)	(4.4)	(7.8)	(4.9)
Total Additions	**(972.6)**	**2,583.4**	**1,380.5**	**1,710.2**	**(60.4)**	**1,587.1**	**742.7**	**201.1**	**393.8**	**1,276.1**
DEDUCTIONS										
Benefit Payments	576.4	545.4	520.3	492.0	461.9	436.0	412.3	390.5	369.1	351.4
Refunds	13.7	9.7	9.2	10.7	8.7	7.9	8.5	9.0	7.5	6.3
Administration Expenses	15.3	15.1	14.8	15.2	15.3	14.6	14.6	14.2	13.9	13.6
Transfer to SRBR from Employers' Advance Reserve[1]	1.7	1.5	1.4	1.4	1.2	1.2	1.2	1.2	1.1	1.1
Total Deductions	**607.1**	**571.7**	**545.7**	**519.3**	**487.1**	**459.7**	**436.6**	**414.9**	**391.6**	**372.4**
Changes in Pension Plan Net Position	**$(1,579.7)**	**$2,011.7**	**$ 834.8**	**$1,190.9**	**$ (547.5)**	**$ 1,127.4**	**$ 306.1**	**$ (213.8)**	**$ 2.2**	**$ 903.7**

1 Effective July 1, 2011, ACERA adopted Section 31618.5 of the 1937 Act. In compliance with this law, employers allocate a portion of their contribution to the 401(h) account for estimated administrative cost of these benefits, in addition to contributions for the Postemployment Medical Benefits.

2 Includes voluntary advance UAAL contributions of $800.0 million for County Safety and $12.6 million for LARPD General to reduce their respective UAAL and associated contribution rates.

Changes in Postemployment Medical Benefits Net Position
Last Ten Fiscal Years

For the Years Ended December 31 (Dollars in Millions)

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
ADDITIONS										
Employer Contributions	$ 47.5	$ 46.8	$ 45.5	$ 44.9	$ 43.8	$ 38.3	$ 33.8	$ 36.5	$ 34.0	$ 32.2
Earnings Allocated to Postemployment Medical Benefits	86.6	242.6	56.8	55.2	72.8	64.5	58.8	102.8	179.4	109.8
Transfer from Employers' Advance Reserve to SRBR[1]	1.7	1.5	1.4	1.4	1.2	1.2	1.2	1.2	1.1	1.1
Transfer from SRBR Non-OPEB Reserve	-	-	-	-	-	-	-	-	-	34.1
Total Additions	**135.8**	**290.9**	**103.7**	**101.5**	**117.8**	**104.0**	**93.8**	**140.5**	**214.5**	**177.2**
DEDUCTIONS										
Administrative Expenses[1]	1.7	1.5	1.4	1.4	1.2	1.2	1.2	1.2	1.1	1.1
Postemployment Medical Benefits Payments[2]	46.7	45.9	46.0	43.6	40.9	37.9	34.9	33.7	32.6	30.6
Transfer to Employers' Advance Reserve from SRBR for Employer Contributions to 401(h) Account	47.5	46.8	45.5	44.9	43.8	38.3	33.8	36.5	34.0	32.2
Transfer to Employers' Advance Reserve for Implicit Subsidy	5.6	7.5	6.4	6.9	5.8	8.8	6.0	5.3	7.0	7.4
Total Deductions	**101.5**	**101.7**	**99.3**	**96.8**	**91.7**	**86.2**	**75.9**	**76.7**	**74.7**	**71.3**
Changes in Postemployment Medical Benefits Net Position	**$ 34.3**	**$ 189.2**	**$ 4.4**	**$ 4.7**	**$ 26.1**	**$ 17.8**	**$ 17.9**	**$ 63.8**	**$ 139.8**	**$105.9**

1 *Effective July 1, 2011, ACERA adopted Section 31618.5 of the 1937 Act. In compliance with this law, employers allocate a portion of their contribution to the 401(h) account for estimated administrative cost of these benefits, in addition to contributions for the Postemployment Medical Benefits.*

2 *Postemployment Medical Benefits are paid from the 401(h) account.*

Changes in Non-OPEB Net Position
Last Ten Fiscal Years

For the Years Ended December 31 (Dollars in Millions)

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
ADDITIONS										
Earnings Allocated to Non-OPEB	$ 4.2	$ 11.4	$ 2.6	$ 2.5	$ 3.2	$ 2.7	$ 2.5	$ 4.4	$ 7.8	$ 4.9
Dispersal of the Death Benefit-Burial Reserve	-	-	-	-	-	-	-	-	-	(6.1)
Transfer to SRBR OPEB Reserve	-	-	-	-	-	-	-	-	-	(34.1)
Total Additions	**4.2**	**11.4**	**2.6**	**2.5**	**3.2**	**2.7**	**2.5**	**4.4**	**7.8**	**(35.3)**
DEDUCTIONS										
Non-OPEB Payments	1.2	1.2	1.3	1.4	1.3	1.4	1.5	1.8	2.1	2.2
Total Deductions	**1.2**	**1.2**	**1.3**	**1.4**	**1.3**	**1.4**	**1.5**	**1.8**	**2.1**	**2.2**
Changes in Non-OPEB Net Position	**$ 3.0**	**$ 10.2**	**$ 1.3**	**$ 1.1**	**$ 1.9**	**$ 1.3**	**$ 1.0**	**$ 2.6**	**$ 5.7**	**$(37.5)**

Benefit and Refund Deductions Combined from Pension Plan, Postemployment Medical Benefits[1], and Non-OPEB Net Position by Type
Last Ten Fiscal Years
For the Years Ended December 31 (Dollars in Thousands)

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Type of Benefit										
Age and Service Benefits:										
Retirees	$ 526,779	$ 502,012	$ 482,905	$ 456,754	$429,651	$ 406,234	$ 383,144	$362,618	$344,463	$329,273
Survivors	33,271	30,587	27,232	26,448	24,699	22,962	21,226	21,878	20,070	17,357
Death in Service Benefits:										
Survivors	4,181	4,394	3,140	3,052	3,050	2,967	2,809	2,797	2,791	2,786
Disability Benefits:										
Retirees - Duty	50,371	46,297	45,597	42,219	38,996	35,691	33,964	31,543	29,948	28,678
Retirees - Non-duty	4,966	4,815	4,409	4,775	4,199	4,115	4,264	4,165	3,944	3,728
Supplemental Disability	55	53	78	78	53	72	220	121	19	70
Survivors	4,712	4,384	4,239	3,696	3,465	3,258	3,052	2,871	2,592	2,296
Total Benefits	**$624,335**	**$592,542**	**$567,600**	**$537,022**	**$504,113**	**$475,299**	**$448,679**	**$425,993**	**$403,827**	**$384,188**
Type of Refund										
Death	$ 2,849	$ 2,948	$ 2,492	$ 1,940	$ 2,154	$ 1,822	$ 1,501	$ 1,542	$ 313	$ 1,825
Miscellaneous	13	93	37	135	21	56	295	14	25	130
Separation	10,851	6,603	6,655	8,650	6,534	6,015	6,675	7,435	7,115	4,364
Total Refunds	**$ 13,713**	**$ 9,644**	**$ 9,184**	**$ 10,725**	**$ 8,709**	**$ 7,893**	**$ 8,471**	**$ 8,991**	**$ 7,453**	**$ 6,319**

1 Postemployment Medical Benefits are paid from the 401(h) account.

Benefit and Refund Deductions from Pension Plan Net Position by Type
Last Ten Fiscal Years

For the Years Ended December 31 (Dollars in Thousands)

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Type of Benefit										
Age and Service Benefits:										
Retirees	$ 485,024	$ 460,979	$ 441,185	$417,295	$392,589	$371,716	$351,440	$331,998	$ 314,702	$301,372
Survivors	32,645	29,909	26,492	25,707	23,974	22,191	20,406	20,937	19,041	16,370
Death in Service Benefits:										
Survivors	4,134	4,351	3,096	3,000	2,993	2,908	2,744	2,730	2,715	2,698
Disability Benefits:										
Retirees - Duty	45,541	41,602	41,363	38,169	35,250	32,296	30,667	28,302	26,727	25,461
Retirees - Non-duty	4,376	4,212	3,848	4,197	3,654	3,606	3,753	3,638	3,424	3,218
Supplemental Disability	55	53	78	78	52	72	220	121	19	69
Survivors	4,665	4,330	4,170	3,616	3,391	3,188	2,984	2,811	2,536	2,234
Total Benefits	**$576,440**	**$545,436**	**$520,232**	**$492,062**	**$461,903**	**$435,977**	**$412,214**	**$390,537**	**$369,164**	**$351,422**
Type of Refund										
Death	$ 2,849	$ 2,948	$ 2,492	$ 1,940	$ 2,154	$ 1,822	$ 1,501	$ 1,542	$ 313	$ 1,825
Miscellaneous	13	93	37	135	21	56	295	14	25	130
Separation	10,851	6,603	6,655	8,650	6,534	6,015	6,675	7,435	7,115	4,364
Total Refunds	**$ 13,713**	**$ 9,644**	**$ 9,184**	**$ 10,725**	**$ 8,709**	**$ 7,893**	**$ 8,471**	**$ 8,991**	**$ 7,453**	**$ 6,319**

Benefit and Refund Deductions from Postemployment Medical Benefits Net Position by Type[1]
Last Ten Fiscal Years

For the Years Ended December 31 (Dollars in Thousands)

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Type of Benefit										
Age and Service Benefits:										
Retirees	$ 41,525	$ 40,811	$ 41,440	$ 39,127	$36,720	$ 34,116	$31,239	$30,050	$29,030	$27,051
Survivors	-	-	-	-	-	-	-	-	-	-
Disability Benefits:										
Retirees - Duty	4,623	4,526	4,044	3,890	3,643	3,310	3,209	3,152	3,094	3,068
Retirees - Non-duty	563	580	537	545	515	478	479	484	466	449
Supplemental Disability	-	-	-	-	1	-	-	-	-	1
Survivors	-	-	-	-	-	-	-	-	-	-
Total Benefits	**$46,711**	**$45,917**	**$46,021**	**$43,562**	**$40,879**	**$37,904**	**$34,927**	**$33,686**	**$32,590**	**$30,569**

1 Postemployment Medical Benefits are paid from the 401(h) account.

Benefit and Refund Deductions from Non-OPEB Net Position by Type
Last Ten Fiscal Years

For the Years Ended December 31 (Dollars in Thousands)

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Type of Benefit										
Age and Service Benefits:										
Retirees	$ 230	$ 222	$ 280	$ 332	$ 342	$ 402	$ 465	$ 570	$ 731	$ 850
Survivors	626	678	740	741	725	771	820	941	1,029	987
Death in Service Benefits:										
Survivors	47	43	44	52	57	59	65	67	76	88
Disability Benefits:										
Retirees - Duty	207	169	190	160	103	85	88	89	127	149
Retirees - Non-duty	27	23	24	33	30	31	32	43	54	61
Supplemental Disability	-	-	-	-	-	-	-	-	-	-
Survivors	47	54	69	80	74	70	68	60	56	62
Total Benefits	**$ 1,184**	**$ 1,189**	**$ 1,347**	**$ 1,398**	**$ 1,331**	**$ 1,418**	**$ 1,538**	**$ 1,770**	**$ 2,073**	**$ 2,197**

Benefit Expenses by Type
(Actuary's Exhibit VIII)

For the Years Ended December 31[1] (Dollars in Thousands)

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Service Retirement Payroll										
Basic	$ 369,103	$ 352,518	$ 337,357	$ 321,874	$ 304,103	$ 290,499	$ 275,935	$ 263,509	$ 253,426	$ 240,582
COLA	117,864	110,264	103,891	96,957	89,585	82,757	75,702	69,398	64,455	59,502
Total	**486,967**	**462,782**	**441,248**	**418,831**	**393,688**	**373,256**	**351,637**	**332,907**	**317,881**	**300,084**
Disability Retiree Payroll										
Basic	37,865	34,979	33,707	31,974	30,196	27,674	26,572	24,793	23,583	22,187
COLA	12,226	11,334	10,669	9,929	9,335	8,569	8,003	7,385	6,987	6,424
Total	**50,091**	**46,313**	**44,376**	**41,903**	**39,531**	**36,243**	**34,575**	**32,178**	**30,570**	**28,611**
Beneficiaries and Survivors										
Basic	26,117	24,986	23,116	21,904	20,697	19,179	18,643	17,495	16,675	15,550
COLA	18,023	17,017	15,357	14,491	13,710	12,627	11,844	10,975	10,242	9,602
Total	**44,140**	**42,003**	**38,473**	**36,395**	**34,407**	**31,806**	**30,487**	**28,470**	**26,917**	**25,152**
Total	**$ 581,198**	**$ 551,098**	**$ 524,097**	**$ 497,129**	**$ 467,626**	**$ 441,305**	**$ 416,699**	**$ 393,555**	**$ 375,368**	**$ 353,847**

1 As permitted by the Actuarial Standard of Practice No. 4 (Measuring Pension Obligations), the actuarial valuation has been prepared based on participant data provided by ACERA as of November 30.

Retired Members by Type of Benefit and Option Selected
Summary of Monthly Allowances Being Paid for the Month of December 31, 2022[1]
(Actuary's Exhibit IX)

		Monthly Allowance		
	Number	Basic	Cost of Living	Total
GENERAL MEMBERS				
Service Retirement				
Unmodified	6,166	$ 20,598,248	$ 6,493,443	$ 27,091,691
Option 1	518	1,479,974	324,728	1,804,702
Option 2	464	1,262,573	322,650	1,585,223
Option 3	24	67,342	22,143	89,485
Option 4	33	92,065	19,167	111,232
Total	**7,205**	**23,500,202**	**7,182,131**	**30,682,333**
Disability				
Unmodified	580	1,300,976	525,913	1,826,889
Option 1	26	50,613	15,110	65,723
Option 2	4	8,270	1,201	9,471
Option 3	3	7,686	1,953	9,639
Option 4	1	2,862	359	3,221
Total	**614**	**1,370,407**	**544,536**	**1,914,943**
Beneficiaries	1,010	1,459,254	1,046,157	2,505,411
Total General	**8,829**	**$ 26,329,863**	**$ 8,772,824**	**$ 35,102,687**

		Monthly Allowance		
	Number	Basic	Cost of Living	Total
SAFETY MEMBERS				
Service Retirement				
Unmodified	1,099	$ 6,439,394	$ 2,448,134	$ 8,887,528
Option 1	50	255,638	47,112	302,750
Option 2	119	517,992	133,915	651,907
Option 3	4	31,934	8,848	40,782
Option 4	2	13,441	1,819	15,260
Total	**1,274**	**7,258,399**	**2,639,828**	**9,898,227**
Disability				
Unmodified	380	1,747,540	462,484	2,210,024
Option 1	6	21,547	5,474	27,021
Option 2	2	3,371	893	4,264
Option 3	3	8,303	5,144	13,447
Option 4	1	4,239	349	4,588
Total	**392**	**1,785,000**	**474,344**	**2,259,344**
Beneficiaries	303	717,181	455,756	1,172,937
Total Safety	**1,969**	**$ 9,760,580**	**$ 3,569,928**	**$ 13,330,508**
Total General and Safety	**10,798**	**$ 36,090,443**	**$ 12,342,752**	**$ 48,433,195**

1 As permitted by the Actuarial Standard of Practice No. 4 (Measuring Pension Obligations), the actuarial valuation has been prepared based on participant data provided by ACERA as of November 30.

Note: Results may not add due to rounding.

Retired Members by Type of Benefit – Pension Plan
As of December 31, 2022

		Type of Benefit							Option Selected				
Amount of Monthly Benefit	Number of Retired Members	Duty Disability Retirement	Non-Duty Disability Retirement	DRO Lifetime Annuity	Service Retirement	Survivorship	Continuance	Supplemental Disability	Unmodified—60% Contingent Joint & Survivor	Option 1—Single Life	Option 2—100% Contingent Joint & Survivor	Option 3—50% Contingent Joint & Survivor	Option 4—33% Contingent Joint & Survivor
$ 1 to $ 1,000	1,155	9	12	75	821	27	211	-	960	78	108	4	5
1,001 to 2,000	1,875	41	76	52	1,426	52	228	-	1,602	128	132	4	9
2,001 to 3,000	1,774	249	48	30	1,280	19	148	-	1,545	128	89	6	6
3,001 to 4,000	1,400	155	16	21	1,070	14	123	1	1,242	85	61	6	6
4,001 to 5,000	1,015	122	5	11	782	5	90	-	905	57	46	3	4
5,001 to 6,000	794	130	1	6	608	4	45	-	710	44	33	2	5
6,001 to 7,000	627	36	2	4	547	4	34	-	546	48	31	-	2
7,001 to 8,000	526	24	1	1	475	1	24	-	469	23	33	-	1
8,001 to 9,000	397	19	-	1	352	-	25	-	374	11	10	-	2
9,001 to 10,000	310	17	-	-	280	2	11	-	287	10	12	1	-
Over $10,000	891	39	-	1	822	1	28	-	820	23	43	3	2
Total	**10,764**	**841**	**161**	**202**	**8,463**	**129**	**967**	**1**	**9,460**	**635**	**598**	**29**	**42**

Retired Members by Type of Benefit – Postemployment Medical Benefits
As of December 31, 2022

		Type of Benefit							Option Selected				
Amount of Monthly Benefit	Number of Retired Members	Duty Disability Retirement	Non-Duty Disability Retirement	DRO Lifetime Annuity	Service Retirement	Survivorship	Continuance	Supplemental Disability	Unmodified - 60% Contingent Joint & Survivor	Option 1 - Single Life	Option 2 - 100% Contingent Joint & Survivor	Option 3 - 50% Contingent Joint & Survivor	Option 4 - 33% Contingent Joint & Survivor
$ 1 to $ 300	3,135	358	82	-	2,695	-	-	-	2,737	160	214	14	10
301 to 600	4,288	263	63	-	3,962	-	-	-	3,806	287	164	8	23
601 to 900	960	218	3	-	739	-	-	-	832	73	47	3	5
Total	**8,383**	**839**	**148**	**-**	**7,396**	**-**	**-**	**-**	**7,375**	**520**	**425**	**25**	**38**

Retired Members by Type of Benefit – Non-OPEB

As of December 31, 2022

		Type of Benefit								Option Selected			
Amount of Monthly Benefit	Number of Retired Members	Duty Disability Retirement	Non-Duty Disability Retirement	DRO Lifetime Annuity	Service Retirement	Survivorship	Continuance	Supplemental Disability	Unmodified - 60% Contingent Joint & Survivor	Option 1 - Single Life	Option 2 - 100% Contingent Joint & Survivor	Option 3 - 50% Contingent Joint & Survivor	Option 4 - 33% Contingent Joint & Survivor
$ 1 to $ 300	434	123	20	1	173	18	99	-	414	12	8	-	-
301 to 600	42	3	1	-	12	1	25	-	41	1	-	-	-
601 to 900	10	-	-	-	3	1	6	-	10	-	-	-	-
901 to 1,200	15	4	-	-	1	-	10	-	15	-	-	-	-
1,201 to 1,500	2	-	-	-	-	1	1	-	2	-	-	-	-
1,501 to 1,800	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	**503**	**130**	**21**	**1**	**189**	**21**	**141**	**-**	**482**	**13**	**8**	**-**	**-**

Average Pension Benefit Payments (Actuary's Exhibit VI) Last Ten Fiscal Years

Retirement Effective Dates[1]	Years of Service							Incomplete Data
	0–4	5–9	10–14	15–19	20–24	25–29	30+	
Period 1/1/13–12/31/13								
Average Monthly Pension Benefit	$ 1,214	$ 1,133	$ 1,755	$ 2,412	$ 3,933	$ 5,029	$ 6,764	N/A
Average Final Average Salary	$ 9,387	$ 5,454	$ 6,766	$ 6,470	$ 7,592	$ 8,074	$ 8,211	N/A
Number of Retired Members Added	20	48	113	53	150	88	103	50
Period 1/1/14–12/31/14								
Average Monthly Pension Benefit	$ 851	$ 1,230	$ 1,874	$ 2,904	$ 3,481	$ 5,438	$ 6,204	N/A
Average Final Average Salary	$ 9,411	$ 6,884	$ 6,929	$ 7,397	$ 7,290	$ 8,700	$ 8,095	N/A
Number of Retired Members Added	21	36	102	59	85	89	62	44
Period 1/1/15–12/31/15								
Average Monthly Pension Benefit	$ 1,004	$ 1,642	$ 1,912	$ 2,722	$ 3,682	$ 5,164	$ 6,238	N/A
Average Final Average Salary	$ 9,461	$ 7,007	$ 6,933	$ 7,198	$ 7,752	$ 8,271	$ 8,205	N/A
Number of Retired Members Added	24	45	92	62	76	63	68	39
Period 1/1/16–12/31/16								
Average Monthly Pension Benefit	$ 998	$ 1,820	$ 1,742	$ 2,737	$ 3,456	$ 5,217	$ 6,164	N/A
Average Final Average Salary	$ 13,095	$10,334	$10,108	$ 7,775	$ 7,960	$ 9,002	$ 8,324	N/A
Number of Retired Members Added	22	54	89	76	82	81	75	44
Period 1/1/17–12/31/17								
Average Monthly Pension Benefit	$ 597	$ 1,749	$ 2,051	$ 2,527	$ 3,896	$ 4,624	$ 7,324	N/A
Average Final Average Salary	$ 8,571	$ 7,388	$ 7,629	$ 7,037	$ 7,679	$ 7,751	$ 9,185	N/A
Number of Retired Members Added	30	50	87	76	83	82	69	35
Period 1/1/18–12/31/18								
Average Monthly Pension Benefit	$ 983	$ 1,565	$ 1,988	$ 2,985	$ 4,179	$ 4,590	$ 6,873	N/A
Average Final Average Salary	$ 8,091	$ 7,099	$ 7,238	$ 7,636	$ 8,163	$ 7,878	$ 9,204	N/A
Number of Retired Members Added	20	64	101	97	87	92	87	35
Period 1/1/19–12/31/19								
Average Monthly Pension Benefit	$ 846	$ 1,459	$ 2,315	$ 3,140	$ 4,329	$ 5,528	$ 7,080	N/A
Average Final Average Salary	$ 10,462	$ 8,150	$ 7,943	$ 8,143	$ 8,278	$ 9,036	$ 9,143	N/A
Number of Retired Members Added	43	61	89	88	95	93	98	23
Period 1/1/20–12/31/20								
Average Monthly Pension Benefit	$ 1,170	$ 1,782	$ 2,439	$ 3,396	$ 4,639	$ 5,139	$ 7,717	N/A
Average Final Average Salary	$ 9,793	$ 8,479	$ 9,045	$ 8,413	$ 9,378	$ 8,605	$ 9,925	N/A
Number of Retired Members Added	21	60	80	73	102	65	107	32
Period 1/1/21–12/31/21								
Average Monthly Pension Benefit	$ 886	$ 1,508	$ 2,723	$ 3,095	$ 4,750	$ 6,506	$ 7,300	N/A
Average Final Average Salary	$ 9,948	$ 8,952	$ 9,165	$ 7,774	$ 9,576	$10,321	$ 9,661	N/A
Number of Retired Members Added	35	65	77	78	113	63	101	48
Period 1/1/22–12/31/22								
Average Monthly Pension Benefit	$ 680	$ 1,682	$ 2,638	$ 3,611	$ 4,875	$ 6,245	$ 6,991	N/A
Average Final Average Salary	$ 9,359	$ 8,726	$ 9,219	$ 9,495	$ 9,532	$ 9,989	$ 9,260	N/A
Number of Retired Members Added	22	62	99	63	140	76	96	30

1 As permitted by the Actuarial Standard of Practice No. 4 (Measuring Pension Obligations), the actuarial valuation has been prepared based on participant data provided by ACERA as of November 30.

Average Monthly Other Postemployment Benefits (OPEB)
(Actuary's SRBR Exhibit IV)
Last Ten Fiscal Years
Includes Monthly Medical Allowance, Dental, Vision, and Medicare Part B

Retirement Effective Dates[1]	Years of Service						
	0–4	5–9	10–14	15–19	20–24	25–29	30 & Over
Period 1/1/13–12/31/13							
Average OPEB	$ 46	$ 46	$ 221	$ 349	$ 463	$ 491	$ 489
Number of Retired Members Added	15	39	100	43	137	88	115
Period 1/1/14–12/31/14							
Average OPEB	$ 0[2]	$ 0[2]	$ 207	$ 298	$ 498	$ 471	$ 484
Number of Retired Members Added	18	31	95	54	78	77	68
Period 1/1/15–12/31/15							
Average OPEB	$ 0	$ 0	$ 273	$ 326	$ 461	$ 483	$ 538
Number of Retired Members Added	23	34	79	53	67	58	74
Period 1/1/16–12/31/16							
Average OPEB	$ 0	$ 0	$ 205	$ 337	$ 504	$ 502	$ 567
Number of Retired Members Added	21	48	76	69	63	74	75
Period 1/1/17–12/31/17							
Average OPEB	$ 0	$ 0	$ 227	$ 398	$ 509	$ 528	$ 522
Number of Retired Members Added	26	40	76	72	75	78	76
Period 1/1/18–12/31/18							
Average OPEB	$ 0	$ 0	$ 207	$ 389	$ 483	$ 527	$ 565
Number of Retired Members Added	16	52	87	85	75	83	99
Period 1/1/19–12/31/19							
Average OPEB	$ 0	$ 0	$ 195	$ 373	$ 498	$ 544	$ 541
Number of Retired Members Added	37	55	71	81	84	86	102
Period 1/1/20–12/31/20							
Average OPEB	$ 0	$ 0	$ 199	$ 380	$ 545	$ 574	$ 542
Number of Retired Members Added	18	52	67	62	88	59	113
Period 1/1/21–12/31/21							
Average OPEB	$ 0	$ 6	$ 203	$ 341	$ 469	$ 547	$ 584
Number of Retired Members Added	30	55	65	63	97	53	103
Period 1/1/22–12/31/22							
Average OPEB	$ 0	$ 0	$ 213	$ 369	$ 523	$ 503	$ 593
Number of Retired Members Added	19	52	83	55	129	61	101

1 As permitted by the Actuarial Standard of Practice Statement No. 6 (Measuring Retiree Group Benefit Obligations), the actuarial valuation has been prepared based on participant data provided by ACERA as of November 30.

2 Dental and vision subsidies ended in 2014 for most retired members with less than 10 years of service.

Note: The "Average Final Average Salary" is not provided since these benefits are not dependent on salary.

Participating Employers and Active Members (Actuary's Exhibit VII) - Last Ten Years

As of November 30[1]

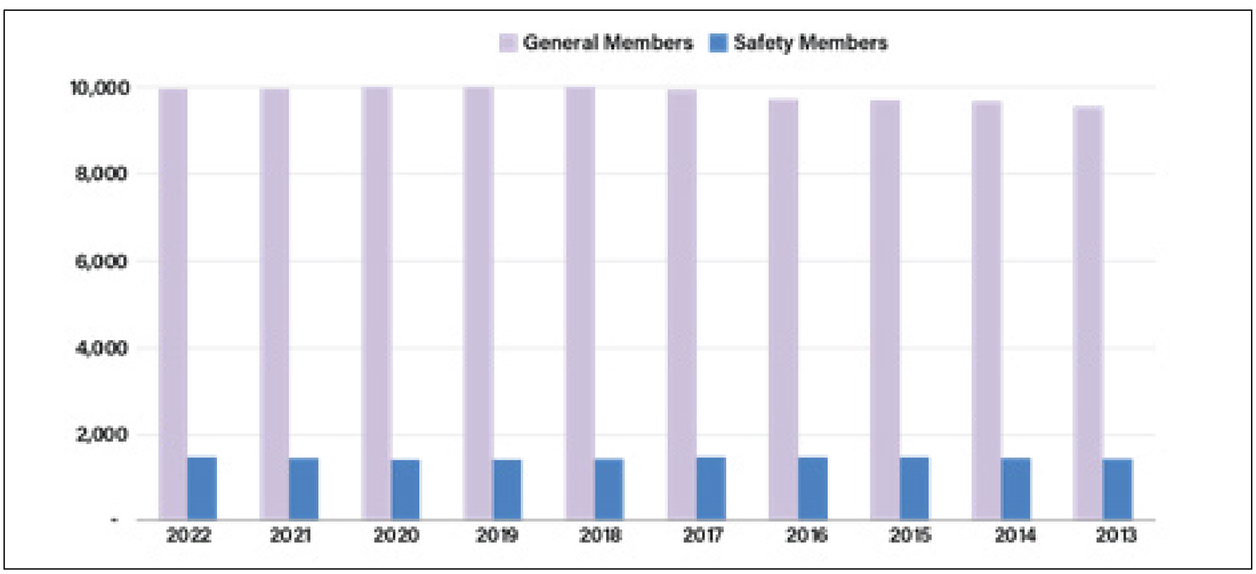
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
County of Alameda										
General Members	6,554	6,655	6,680	6,707	6,708	6,681	6,606	6,601	6,584	6,448
Safety Members	1,445	1,423	1,362	1,376	1,389	1,436	1,438	1,437	1,408	1,392
Total	**7,999**	**8,078**	**8,042**	**8,083**	**8,097**	**8,117**	**8,044**	**8,038**	**7,992**	**7,840**
Other Participating Employers (General Members)										
Alameda Health System[2]	2,571	2,486	2,451	2,409	2,430	2,431	2,246	2,205	2,231	2,203
Alameda County Office of Education[3]	-	-	-	-	-	-	1	1	1	1
First 5 Alameda County	67	69	70	67	62	60	55	52	50	60
Housing Authority of the County of Alameda	61	60	60	59	61	57	59	62	61	63
Livermore Area Recreation & Park District	38	41	43	51	58	56	62	65	63	62
The Superior Court of California for the County of Alameda	610	592	656	667	641	602	644	648	627	648
Total	**3,347**	**3,248**	**3,280**	**3,253**	**3,252**	**3,206**	**3,067**	**3,033**	**3,033**	**3,037**
Total Active Membership										
General Members	9,901	9,903	9,960	9,960	9,960	9,887	9,673	9,634	9,617	9,485
Safety Members	1,445	1,423	1,362	1,376	1,389	1,436	1,438	1,437	1,408	1,392
Total	**11,346**	**11,326**	**11,322**	**11,336**	**11,349**	**11,323**	**11,111**	**11,071**	**11,025**	**10,877**

1 As permitted by the Actuarial Standard of Practice No. 4 (Measuring Pension Obligations), the actuarial valuation has been prepared based on participant data provided by ACERA as of November 30.

2 Formerly named Alameda County Medical Center.

3 Starting with the December 31, 2017 valuation, there were no active members from the Alameda County Office of Education; however, there were still retired members from that participating agency as of that date.

Total Active Membership



Principal Participating Employers for Pension Plan, Postemployment Medical Benefits and Non-OPEB - Current Year and Nine Years Ago

As of December 31

Participating Employers	2022			2013		
	Covered Employees	Rank	Percentage of Total System	Covered Employees	Rank	Percentage of Total System
County of Alameda	7,955	1	70.5 %	7,852	1	72.3 %
Alameda Health System	2,560	2	22.7	2,197	2	20.2
The Superior Court of California for the County of Alameda	609	3	5.4	632	3	5.8
First 5 Alameda County	67	4	0.6	60	6	0.5
Housing Authority of the County of Alameda	61	5	0.5	63	4	0.6
Livermore Area Recreation & Park District	38	6	0.3	62	5	0.6
Alameda County Office of Education	-	-	-	1	7	-
Total	**11,290**		**100 %**	**10,867**		**100 %**

Employee Contribution Rates (Percent of Payroll) Last Ten Years

Fiscal Year Beginning July 1 - Effective month of September

	County and Other Participating Employers									
	General Member				Safety Member					
Year	Tier 1	Tier 2	Tier 3[1]	Tier 4	Tier 1	Tier 2	Tier 2C	Tier 2D[2]	Tier 4	Aggregate
2013/2014	9.02	7.32	12.78	8.25	11.53	14.77	12.50	16.43	13.75	8.60
2014/2015	8.97	7.28	12.69	8.12	12.24	14.72	12.57	16.39	16.77	8.58
2015/2016	9.02	7.41	12.89	8.09	12.59	15.08	12.76	16.73	15.25	8.75
2016/2017	9.23	7.36	13.15	8.06	10.71	15.04	12.67	16.48	14.65	8.77
2017/2018	9.19	7.36	13.15	8.10	12.22	15.04	12.53	16.32	14.20	8.80
2018/2019	9.59	7.81	13.56	8.76	11.57	15.84	13.52	16.42	15.75	9.37
2019/2020	9.54	7.75	13.99	8.80	8.55	15.85	13.38	16.15	15.58	9.34
2020/2021	9.43	7.70	14.41	8.85	9.96	15.81	13.48	16.09	15.42	9.34
2021/2022	9.86	8.22	15.00	9.21	3.00	16.95	14.65	17.17	16.93	9.94
2022/2023	9.79	8.17	15.07	9.23	3.00	16.91	14.60	17.04	17.01	10.00

1 Tier 3 rate only applies to LARPD effective from October 1, 2008.

2 Rate includes the 5% cost-sharing contribution (with less than 5 years of vesting service) and 3% (with 5 or more years of vesting service).

Employer Contribution Rates (Percent of Payroll)
(Actuary's Exhibit X)
Last Ten Years

Fiscal Year Beginning July 1 - Effective month of September

	County									
	General Member			Safety Member						
Year	Tier 1	Tier 2	Tier 4[1]	Tier 1	Tier 2	Tier 2C[2]	Tier 2D[2]	Tier 4[1]	Aggregate[3]	
2013/2014	19.86	19.19	17.77	62.25	48.91	51.05	46.61	47.27	26.04	
2014/2015	19.58	18.66	17.45	66.88	49.57	52.29	47.01	50.68	25.65	
2015/2016	20.86	20.11	19.22	71.82	54.00	55.81	51.41	52.72	27.67	
2016/2017	20.22	19.39	18.54	70.87	52.73	54.05	50.10	50.89	26.96	
2017/2018	20.10	19.37	18.63	68.31	53.25	54.64	51.11	50.90	27.09	
2018/2019	22.30	21.57	20.90	76.41	61.19	62.54	59.64	57.92	30.57	
2019/2020	22.31	21.40	20.83	80.60	62.34	63.63	61.60	59.20	30.46	
2020/2021	22.90	21.92	21.43	83.07	63.66	64.94	63.31	60.49	30.98	
2021/2022[4]	25.54	24.05	23.79	88.95	69.15	73.87	69.83	66.52	33.86	
2022/2023	24.75	23.20	23.01	43.64	23.84	29.18	24.60	21.44	23.15	

	AHS, Superior Court and First 5			Other Participating Employers	Housing Authority	Housing Authority / Alameda County Office of Education[5]	LARPD[6]		
	General Member			General Member			General Member		
Year	Tier 1	Tier 2	Tier 4[1]	Tier 1	Tier 2	Tier 4[1]	Tier 1	Tier 3	Tier 4[1]
2013/2014	20.27	19.60	18.18	25.38	24.71	23.29	-	30.94	24.06
2014/2015	20.08	19.16	17.95	25.32	24.40	23.19	-	30.37	23.69
2015/2016	21.42	20.67	19.78	26.69	25.94	25.05	-	29.32	22.87
2016/2017	20.84	20.01	19.16	26.22	25.39	24.54	-	26.17	19.29
2017/2018	20.81	20.08	19.34	26.21	25.48	24.74	-	26.39	19.76
2018/2019	23.06	22.33	21.66	28.32	27.59	26.92	-	29.77	23.12
2019/2020	23.13	22.22	21.65	28.34	27.43	26.86	33.62	38.41	32.14
2020/2021	23.77	22.79	22.30	28.97	27.99	27.50	38.07	43.82	36.60
2021/2022[4]	26.48	24.99	24.73	31.72	30.23	29.97	42.96	48.02	41.21
2022/2023	25.72	24.17	23.98	30.93	29.38	29.19	10.97	16.41	9.23

1 *Resulting from CalPEPRA legislation. Tier 4 became effective January 1, 2013.*

2 *New Sheriff's Department employees (excluding Probation Officers) hired on or after October 17, 2010.*

3 *The aggregate rate is based on payroll as of the prior December 31 date.*

4 *Employer rates for County Safety and LARPD General groups were adjusted effective FY 2021/2022 to reflect the voluntary UAAL contributions made by the County and LARPD, respectively, in June 2021. The adjusted employer rates are as follows:*

County - Safety					LARPD - General		
Tier 1	Tier 2	Tier 2C	Tier 2D	Tier 4	Tier 1	Tier 3	Tier 4
46.10%	26.30%	31.02%	26.98%	23.67%	14.88%	19.94%	13.13%

5 *Rate applied to Alameda County Office of Education (ACOE) before the December 31, 2018 valuation. Effective with the December 31, 2018 valuation, ACOE's contribution is expressed as a level dollar amount based on the declining employer payroll policy.*

6 *Tier 1 rate combined with Other Participating Employers before the December 31, 2018 valuation.*

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Compliance

WILLIAMS ADLEY

Independent Auditor's Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

Board of Retirement
Alameda County Employees' Retirement Association
Oakland, California

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Alameda County Employees' Retirement Association (ACERA), as of and for the year ended December 31, 2022, and the related notes to the financial statements, which collectively comprise ACERA's basic financial statements, and have issued our report thereon dated June 23, 2023.

Report on Internal Control Over Financial Reporting

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

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

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

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WILLIAMS ADLEY

Report on Compliance and Other Matters

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

Purpose of this Report

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

Williams, Adley & Company-CA, LLP

Oakland, California
June 23, 2023